



THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

LITTER MONITORING BODY ANNUAL REPORT FOR 1999/2000

MAY 2000

Prepared for:

The Department of the Environment and Local Government,
Custom House,
Dublin 1.

Prepared by:

The Litter Monitoring Body,
Tobin Environmental Services Ltd.,
23 Ballsbridge Terrace,
Ballsbridge,
Dublin 4

Tobin Environmental Services Ltd.
Consulting Engineers-----

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EXECUTIVE SUMMARY

Tobin Environmental Services Ltd. (TES) was appointed the National Litter Monitoring Body (the Monitoring Body) for the National Litter Pollution Monitoring System (the Monitoring System) in May 1999 and now presents its first Annual Report for the period 10th May 1999 to 26th May 2000.

The principal objective of the Monitoring System is to provide continuous and objective assessment of Ireland's litter problems, so that these problems can be reduced and eliminated. The key participants in the Monitoring System are:

- The Department of the Environment & Local Government;
- The local authorities (88 in number); and
- The Monitoring Body.

The Monitoring Body reports to a Steering Group drawn from the Department of the Environment and Local Government, Carlow County Council, Cork Corporation, Dublin Corporation and Waterford County Council.

The functions of the Monitoring Body are:

- To provide a framework for consistent and accurate self-assessment by the local authorities of their efforts to deal with litter;
- To provide guidance on enforcement and awareness; and
- To develop policies for litter management and reduction.

In fulfilling these functions, our objective is to create the broadest possible consensus by widespread consultation with stakeholders in this arena. A National Conference was held in September 1999 to explain the monitoring methodology recommended to local authorities. The objective of the Monitoring System is to enable the authorities to set a baseline or benchmark of the current litter position in order that they can measure future performance. The system will identify potential litter generators, sites and activities, enabling the prioritising of litter management resources.

In addition, the Monitoring Body has assessed the 74 current Litter Management Plans prepared by local authorities. The Assessment Protocol developed for this purpose combined the most relevant elements of the Litter Pollution Act, 1997 with key aspects of international and Irish litter management best practice. This initial assessment procedure, which is a baseline or benchmark appraisal, indicated that some of the strengths of current Litter Management Plans include:

- ◆ Setting objectives and targets for litter management planning over the coming years;
- ◆ Recognition of the litter problem and commitment to improvement;
- ◆ Understanding of general litter problems experienced and the impact they have on the environment;
- ◆ Allocation of responsibilities; and
- ◆ Acknowledgement of/ support for the co-operation of non-local authority personnel.

Some of the areas which need to be addressed by the authorities in the upcoming reviews of their Litter Management Plans include:

- ◆ Identification of the specific locations of litter blackspots;
- ◆ Circulation of Litter Management Plans to the public;
- ◆ Communication with the public regarding their opinions on litter pollution; and
- ◆ Preparation for litter emergencies.

The Monitoring Body recommends greater co-ordination between and within local authorities in litter abatement and collection. Better co-ordination between local authorities and state and semi-state agencies is also recommended. A clear focus on keeping public buildings litter-free forms a key part of this strategy.

Enforcement, awareness and education are viewed as interlinked components in reducing the national litter problem. The need for situation-specific balancing of these different elements is indicated. It is also recommended that consideration be given to the introduction of a sliding scale for litter fines. In addition, the need for consideration of additional services such as bulky waste collections is discussed, as is the importance of consistent and ongoing national advertising and educational media campaigns.

Activities for the coming year will entail:

- The circulation to the authorities of a manual outlining the litter survey methodology;
- The mapping, by the authorities, of the locations of potential litter-generating premises and existing litter blackspots;
- The completion, by the authorities, of baseline or benchmark litter surveys which examine the origin of the litter deposited around the country and the extent and severity of the pollution arising; and
- The preparation of a summary report, by the Monitoring Body, outlining the findings of the 3,800 litter surveys undertaken by the authorities over the summer months.

1. INTRODUCTION

Tobin Environmental Services Ltd. was appointed the Litter Monitoring Body for the National Litter Pollution Monitoring System on 10th May 1999. The Monitoring Body subsequently met with Mr Dan Wallace TD, the Minister of State at the Department of the Environment and Local Government, on the 18th May 1999, and with the Steering Group for the project on 8th June 1999.

The proposal originally submitted to the Department of the Environment and Local Government as to the most appropriate approach to the development of a national Monitoring System recommended that the system be developed along the lines of an Environmental Management System (EMS). In other words, it was suggested that the national system should not simply assess absolute performance at a given location on a particular day but should instead identify the level of ongoing improvement versus the local authority's own individual performance benchmark.

The main aim of any EMS is to facilitate continuous assessment of an environmental problem, which in turn allows for its continuous improvement in a structured and pro-active manner. In the case of the National Monitoring System, environmental improvement is defined as the reduction, and then elimination, as far as practicable, of litter pollution across the country.

It is the aim of the Litter Monitoring Body that the Monitoring System should form a framework for consistent, co-ordinated and accurate self-assessment by the local authorities – irrespective of the nature and size of their functional areas. For example, the Monitoring System will consolidate all of the highly-localised litter-related data currently held across the country into a single, standardised and documented format.

The Monitoring System must be general enough to meet the needs of each of the different types of local authorities (i.e. County Councils, City Corporations, Borough Corporations and Urban District Councils) while remaining flexible enough to accommodate the specific local conditions which they need to deal with. This requires that the system to be implemented must be sophisticated enough to accommodate all possible eventualities. The consequence of this sophistication is that a certain level of complexity is necessary in the setting-up of the system to ensure that it will be capable of evolving to meet the changing needs of national litter management over the coming years.

This Annual Report summarises the key activities which have been undertaken by the Litter Monitoring Body (in consultation with the project's Steering Group) over the past year to facilitate the development of an efficient and effective national monitoring mechanism. Some of the activities described include stakeholder consultation, the development of a customised litter survey methodology and the assessment of current Litter Management Plans.

In addition, this report also outlines priorities for action over the coming year – as regards each of the key players of the Monitoring System (namely, the Litter Monitoring Body, the local authorities and the Department of the Environment and Local Government).

2. ACTIVITIES UNDERTAKEN IN YEAR ONE

The different activities outlined in this section have been grouped into six categories, namely:

1. Stakeholder consultation undertaken by the Litter Monitoring Body;
2. Monitoring system pre-conditions – including the sampling regime chosen;
3. Development of the survey methodology;
4. The implementation plan for the Monitoring System;
5. Review of international litter management and control best practice; and
6. Litter Management Plan assessment results.

2.1 Stakeholder Consultation

2.1.1 A Circular Letter announcing the appointment of the Litter Monitoring Body was issued to the authorities by the Department of the Environment and Local Government on the 8th July 1999. The letter requested that each authority nominate an individual to act as liaison to the Monitoring Body. Responses from each of the country's 88 local authorities were duly received and a database of Litter Liaison Officers developed. Each of the Liaison Officers was contacted personally by the Monitoring Body, and the local authority's Litter Management Plan was requested.

Letter of Introduction

2.1.2 In view of the wide level of stakeholder (other than local authority) interest in the litter problem in Ireland, the Litter Monitoring Body recommended that a letter of introduction be sent to the most important stakeholders. The letter outlined the role and responsibilities of the Monitoring Body, as well as requesting that stakeholders respond with their ideas and suggestions as to litter management best practice. A list of 78 stakeholders was subsequently drawn up, in consultation with the project's Steering Group, ranging from Coillte to the IFA. A list of the stakeholders consulted, as well as a copy of the letter issued, is included in Attachment One of this report.

2.1.3 A total of seven stakeholders¹ responded to the letter of introduction. One of the respondees, Coillte, requested a follow-up meeting to discuss potential co-operation between the local authorities and the regional Coillte offices. The Monitoring Body subsequently met with Coillte to discuss their difficulties with litter pollution and a summary of those discussions was presented to the Steering Group in a subsequent progress report (this information is reproduced as Attachment Two).

IBAL

2.1.4 Two meetings have been held between the Monitoring Body and IBAL (Irish Businesses Against Litter). The first of these (15th September 1999) took place in the Custom House and involved a general discussion of the Department's plans for the Monitoring System. In addition, potential opportunities for IBAL to link their sponsorship fund allocation to the results obtained from the Monitoring Body's activities were outlined. An important topic of discussion at this meeting was the issue of performance ranking or league tables. It was indicated to IBAL at the meeting that it was not the proposal of the Monitoring Body that we monitor the absolute performance of the authorities in such a way that the results can be allocated to a league table. Rather, it is the intent to produce, if necessary, a ranking of local authority performance versus their own benchmark – i.e. an **Improvement Ranking**.

¹ Coillte, Corrib Conservation Centre, Dublin City Centre Business, Dublin Tourism, Garda Síochána, the IEI and the Tree Council of Ireland.

2.1.5 The second IBAL meeting (Conrad Hotel, Dublin, 26th November 1999) involved a presentation by the Monitoring Body to the IBAL Committee on the exact methodology to be utilised for the local authority monitoring regime. The aim of the meeting was to provide IBAL with the necessary information to allow them to make a decision as to the appropriateness of tying-in their funding allocation with the Monitoring System's results. The results of the Committee's deliberations have not yet been communicated to the Litter Monitoring Body.

National Conference

2.1.6 At the commencement of the project, the Monitoring Body suggested to the Steering Group that a national conference be organised in the autumn of 1999 to present the proposed monitoring methodology to the local authorities, and to allow the latter to participate in the development of the Monitoring System. This conference was subsequently held on the 23rd/24th September 1999 in the Rochestown Park Hotel, Cork. The conference was attended by 109 local authority delegates, with the Department of the Environment and Local Government subsidising the costs of their attendance.

2.1.7 The agenda for the national conference was divided into two main sessions. The first, held on the 23rd September 1999, involved the presentation of the proposed monitoring methodology to the delegates by the Monitoring Body. The results of the trials undertaken during the summer months by Carlow and Waterford County Councils were also described. The second session, held on the 24th September, required that the delegates divide into five workgroups. Each workgroup was assigned a local authority moderator to chair the session, and a Monitoring Body rapporteur to record and report on the discussions of the workshop. A report summarising the main discussion points of each of the conference workshops was subsequently prepared by the Monitoring Body and submitted to the Steering Group.

2.1.8 The workshops were designed in such a way that a substantial amount of specific and detailed feedback was obtained from the delegates. This important feedback was consequently taken into careful consideration during the finalisation of the monitoring methodology by the Monitoring Body. Indeed, the consultation exercise has very much guided the final stages of the development of the methodology.

Information Updates

2.1.9 The Litter Monitoring Body recognises the need to involve the authorities as much as possible in the development of the Monitoring System, in order to engender a sense of shared ownership for the methodology and for the results arising from the litter surveys. In light of this, it was agreed that the authorities should be kept as up-to-date as possible on the progress of the Monitoring System's development and implementation. To facilitate this goal, a series of quarterly Information Updates is envisaged. The aims of these Updates are to:

- 1.** Provide a summary of the key activities undertaken by the Litter Monitoring Body in the preceding quarter;
- 2.** Describe the progress of implementation of the National Litter Pollution Monitoring System (e.g. percentage of authorities who have completed their mapping exercise, and the results of Litter Quantification Surveys and Litter Pollution Surveys);
- 3.** Address any issues which arise during the systems' implementation;
- 4.** Facilitate information dissemination between local authorities. This will comprise a series of case studies or success stories from around the country. Practical

information on costings, set-up requirements and results will be provided, as well as contact information for the relevant authority¹; and

5. Provide additional information and request feedback as required.

The first of these Information Updates was issued to the authorities on the 21st April 2000, with the second being due for circulation at the end of July.

National Anti-Litter Forum

2.1.10 The Chairman of the National Anti-Litter Forum requested that the Monitoring Body make a presentation to the Forum Members detailing the various elements of the Monitoring System and discussing the rationale behind those elements. The presentation was subsequently made on 14th December 1999 at the Custom House, and was followed by a short Question and Answer Session. Following on from that presentation, the Forum requested that the Monitoring Body provide their members with copies of a report summarising the main elements of the system. The report which was duly prepared by the Monitoring Body also addressed some of the main questions raised by the Forum Members during the Q&A Session.

2.2 Monitoring System Pre-Conditions

International Experience

2.2.1 One of the first tasks undertaken by the Monitoring Body was a review of international experience with respect to national litter monitoring systems. This review indicated that no internationally accepted template for national monitoring systems exists which could be adapted for use in the Irish situation. Indeed, a national litter monitoring system has not been implemented in any other European country to-date. It should be noted that a Dutch monitoring mechanism was initiated two years ago, but was not implemented successfully. Attempts to re-commence the Dutch monitoring system are currently being made, and further updates will be communicated as information becomes available.

Experience in the UK

2.2.2 Failing the identification of a template to guide the development of the Irish monitoring regime, consideration was then given to the experience of the only other European country which has produced customised litter-related guidance for its local government – the UK. The results of that review indicated that the UK Government has not prepared specific monitoring guidelines for local government, although it has identified four *cleanliness standards*, and a number of target *response times* within which a local authority must restore a littered location to cleanliness.

2.2.3 Although our review identified no nationally-administered local authority monitoring mechanism, it did reveal that litter monitoring was being extensively undertaken in the UK by the *Tidy Britain Group* (a national voluntary organisation). As well as monitoring specific types of areas for the government (such as national parks and major cities), the Group has also developed a monitoring mechanism which local authorities can purchase to monitor the performance of their cleansing contractors. In other words, the Tidy Britain Group's survey methodology is suitable only for the monitoring of the activities of one party by another. However, in the Irish system the

¹ Of the many successful initiatives undertaken across the country by local authorities, Cork County Council kindly agreed to write an article on the highly-successful Cork Anti-Litter Challenge for the first issue of the Information Update. Future issues will also contain articles written by authorities who have volunteered to provide information.

authorities will be monitoring their own functional areas – i.e. a self-monitoring system is required.

- 2.2.4 In conclusion, a review of international litter monitoring experience indicated that although second-party monitoring of litter pollution is being undertaken in the UK, there are no international examples of self-monitoring mechanisms which can be adapted for use in the Irish context.

The Requirements of a Self-Monitoring System

- 2.2.5 The next step in the development of the National Litter Pollution Monitoring System was the identification of the key elements of a self-monitoring mechanism. Particularly important were any pre-conditions which would facilitate the generation of credible and accurate statistics within the constraints set by the resources of authorities across the country. Challenges identified include the need for:

- ◆ Objective monitoring procedures;
- ◆ A large enough number of sample locations to facilitate statistical analysis; and
- ◆ The minimum level of resource and time input from the local authorities without compromising the accuracy and usefulness of the national data.

- 2.2.6 In order to meet these challenges, the Monitoring Body identified two key pre-conditions which must be satisfied by any self-monitoring mechanism, namely:

1. An **external auditor** must be appointed with responsibility for verifying the monitoring results and ensuring their continuing accuracy and quality. In the case of the Irish Monitoring System, this condition has been met by the appointment of an independent Litter Monitoring Body; and
2. A **representative sampling regime** must be chosen.

The Sampling Regime

- 2.2.7 The second pre-condition for a self-monitoring mechanism involves the identification of representative samples for monitoring by the authorities. To facilitate this goal, it was concluded that the locations with the highest risk of being littered must be monitored by each authority to ensure that the worst possible situations in their functional areas are routinely examined. It was recognised, in addition, that other sample locations chosen by the authorities must represent the entire range of littered situations found across the country, while still allowing local government the flexibility to target monitoring efforts on areas which are felt to merit more detailed observation. To this end, the sampling regime for the National Litter Pollution Monitoring System litter surveys requires that three distinct types of survey area are examined, namely:

1. Pre-set points which represent the locations with the highest possible risk of being polluted (e.g. in town- and city-centres, near groups of fast-food outlets and outside schools). These locations are termed *High-Risk Survey Areas*;
2. Completely randomly-chosen locations – chosen by a computerised random selection tool. These survey areas are termed *Random Survey Areas*; and
3. Locations which are specifically identified by the authorities themselves as meriting assessment.

The Random Survey Areas and survey areas to be chosen by the authorities themselves are relatively easy to accommodate for. However, the High-Risk Survey Areas are rather more problematic to identify. It should be noted that High-Risk Survey Areas are not necessarily those which are badly littered at any one time –

instead they are those which, due to a number of factors, are the *most likely* to give rise to litter.

High-Risk Survey Areas

- 2.2.8** The method which the Litter Monitoring Body has developed to identify High-Risk Survey Areas involves the use of a Geographical Information Systems (GIS) package – a computerised mapping technique which allows for the visualisation of a large amount of spatial information. The position of every *Potential Litter Generator*¹ (e.g. fast-food outlets and bank ATM machines) in a functional area will be identified by each local authority and logged onto GIS maps. An automated analysis tool then applies a number of weightings and calculates the relative risk of litter pollution occurring at each location within the larger functional area. The map product generated shows the highest risk locations in red and the lowest risk locations in blue.

The types of Potential Litter Generators to be included on the maps were chosen after an assessment of the results of national litter surveys which have been undertaken in the past. For example, these surveys indicated that items such as fast-food packaging and plastic shopping bags were common litter pollutants. The Monitoring Body thus identified all of the premises which would be likely to generate these common littering items (a copy of the Potential Litter Generator List is reproduced in Attachment Three of this report). It should be noted, however, that the inclusion of a Potential Litter Generator on a local authority map does not in any way imply that litter pollution has arisen from that premises in the past.

Litter Generation Potential Maps

- 2.2.9** Once completed, these GIS maps (termed Litter Generation Potential Maps) will identify where significant clusters of pollution risk occur in an authority's functional area. Some of those clusters will be obvious to anyone with a detailed knowledge of the local area, but others will be less obvious and not detectable by a simple visual inspection. It is from these clusters that the High-Risk Survey Areas will be chosen. It should be noted that the production of these maps is a once-off exercise only. However, the maps can, and should, be updated on a continuous basis as new information about specific Potential Litter Generators becomes available.
- 2.2.10** It is not the intent of the Monitoring Body that the maps thus produced will be used for the purposes of choosing monitoring locations alone. Instead, it will also eventually be possible to map the location of a number of important aspects of a litter management system, as follows:

- ◆ The locations of litter bins (provided by both the authority and by private parties);
- ◆ Cleansing and Litter Warden routes;
- ◆ Premises which have been the subject of prosecutions or convictions;
- ◆ The location of Litter Control Areas; and
- ◆ The location of survey areas which have scored particularly poorly in Litter Pollution Surveys. Alternatively, the authorities may choose to log the scores and locations of *all* of their litter surveys onto the maps.

As such, the Litter Generation Potential Maps will form a key element of the authorities' litter management systems – effectively comprising a constantly-updated

¹ *Potential Litter Generator* is the collective term given to premises, sites or activities which are likely to give rise to litter pollution. Examples include fast-food outlets, derelict land, tourist attractions and secondary schools.

management tool which will be used to formalise the accumulated knowledge of the local authorities and which should allow for pro-active tackling of the litter problem.

2.2.11 This proposed methodology was presented to the local authorities at the national conference in September 1999 (Section 2.1.6). The feedback obtained from the delegates on the methodology related to the need for GIS expertise to undertake the mapping elements of the system set-up. Specifically, the need for dedicated GIS personnel for the preparation of Litter Generation Potential Maps was thought to constitute a potential barrier to the swift and complete uptake of the Monitoring System by the authorities. Following on from the conference, the Monitoring Body assessed options to alleviate the GIS expertise requirements of the Monitoring System.

After consideration of the available options, the Monitoring Body recommended to the Steering Group that the most appropriate way forward was to transfer the complexity of the mapping exercise from the authorities to another party. The most obvious choice for the latter was the Local Government Computer Services Board (LGCSB) who have already gained significant experience with such a mapping approach during the development of the Road Accidents GIS Package.

2.2.12 The LGSCB was subsequently commissioned to develop and test a customised *Litter Monitoring GIS Package*. This package will:

- ◆ Allow each authority to map their specific Potential Litter Generators in a standardised manner (i.e. consistent symbols placed at a consistent point within each building);
- ◆ Calculate the Litter Generation Potential Score¹ for every DED;
- ◆ Produce a league table for each authority indicating the Litter Generation Potential Score of each of their DEDs;
- ◆ Identify randomly-selected survey areas;
- ◆ Identify the 'hottest' spots (i.e. those locations which demonstrate the greatest potential to produce litter) in each functional area; and
- ◆ Greatly reduce the amount of GIS-personnel time and expertise required by each authority – although a small amount of specialist training on the package will still be required.

2.2.13 The Computer Services Board has prepared a final Project Specification for the Litter Monitoring GIS and the development project for the package will proceed on a phased basis for approximately six months (commenced in January 2000). The project will cost an estimated £50,000 to complete, and the LGCSB will act as a sub-contractor to the Litter Monitoring Body.

¹ A score assigned to each DED within a given authority area. It provides a rough measure of the likelihood of litter pollution occurring in each DED. The formula used to calculate the score combines population density, number of Potential Litter Generators and tourism levels.

2.3 Development of the Survey Methodology

The rationale behind the litter surveys developed for the National Litter Pollution Monitoring System is described in the following paragraphs. Specifically, two key issues are addressed – namely:

- ◆ Identification of the origin and type of national litter pollution; and
- ◆ Determination of the severity and extent of that pollution.

Litter Origin and Type

2.3.1 The first question which must be answered by the litter surveys relates to the composition and origin of the litter being deposited across the country. There are a number of ways in which this information might be obtained – including:

1. Analysis of the litter which has been removed from a finite area; or
2. Assessment of the litter items while still *in situ*.

The first approach is highly time-consuming as dust, leaves and gravel must be removed from the litter sample before it can be weighed. In addition, a suitable covered area is required for the weighing exercise, as well as transport vehicles and weighing equipment. The second approach, on the other hand, involves the visual inspection and counting of the litter items contained within a given area without interfering with those items. As such it is significantly quicker and easier to accomplish.

2.3.2 The second option – counting litter items while they remain on the ground – has been chosen for the national Monitoring System, as the most practicable and easy-to-implement approach. It should be noted that it is vital that the largest possible sample size is chosen for these surveys, in order that the results are as accurate as possible. The largest sample size is obtained, in this Monitoring System, by surveying at the locations with the highest risk of pollution (i.e. the clusters or hotspots identified by the Litter Generation Potential Maps) and by surveying prior to the next scheduled cleansing sweep to further increase the chances of a large sample size.

Litter Quantification Surveys

2.3.3 This accounting survey is termed the Litter Quantification Survey and a series of these surveys is undertaken once annually, as a minimum, by each authority. Once the minimum requirement has been met, the authorities may conduct additional surveys at their own discretion, as often as they require. Each survey, which takes approximately 20 minutes to complete, involves the counting of all of the litter items occurring within a 50m stretch of roadway or footpath. The minimum number of surveys required of any local authority is two, whereas the maximum is 12. The results of the survey will be logged on a standardised form, and the national results analysed and reported upon by the Litter Monitoring Body. The Litter Quantification Survey Form is reproduced as Attachment Four of this report.

- 2.3.4 A minimum of 390 **Litter Quantification Surveys** will be undertaken across the country, at the following locations:

	Type of Survey Location	Number of Surveys to be Completed
1.	Inner City	46
2.	Urban	94
3.	Suburban	58
4.	Rural	82
5.	Public Roads	76
6.	Beaches	36
	ALL LOCATIONS	392

- 2.3.5 The first ever round of these surveys to be undertaken nationally (in the implementation year, 2000) will be termed the *Benchmark Litter Quantification Surveys* and will form the basis for comparison with all subsequent survey results. The data obtained during the surveys will be combined into statistics on a number of litter categories. For example, the percentage of the litter items which are comprised of paper, plastic, packaging and food will be documented. These data can subsequently be analysed in greater detail to allow for the identification of the sources or origin of the different litter items. In this way, the information obtained from the surveys carried out across the country will allow the authorities to identify the litter sources which are most important in their specific local context, as well as to ascertain the effectiveness of their targeted anti-litter measures.

Litter Extent and Severity

- 2.3.6 The second question which must be answered by the Monitoring System relates to the distribution and extent of litter pollution nation-wide. The manner in which the requisite information will be obtained in the national Monitoring System involves the completion of a number of *Litter Pollution Surveys*. These surveys are effectively visual inspections of a given location to ascertain how polluted it is.

Litter Pollution Surveys

- 2.3.7 There are two main ways in which these surveys might be completed, as follows:

1. The first approach involves the surveyor making a personal judgement about the condition of the survey area – in other words, the surveyor is asked to identify the exact level of litter pollution at a given location. The difficulty with this approach is that it is highly subjective and, as such, will neither be reproducible nor consistent across the country; or
2. The second surveying approach, which has been specifically developed by the Litter Monitoring Body for the national Monitoring System, involves the surveyor making a series of less subjective judgements as to whether or not a number of *Indicator Litter Items* are present in the survey area. These Indicator Items include fast-food packaging, dog-fouling, household refuse, plastic bags, beverage cans and cigarette-related litter. The presence or absence of each of the indicator items is then used to calculate the level of litter pollution (termed the *Litter Pollution Index*) prevailing at that point on that day.

- 2.3.8 A customised questionnaire has been designed by the Litter Monitoring Body for the purposes of this survey, and this questionnaire requests information not only on the

status of key indicator items but also on the possible causes of the litter, and the surveyor's opinion as to potential solutions. The survey area is comprised of a 50m section of path or a 500m section of motorway, and each survey takes a few minutes to complete. The Litter Pollution Index of the surveys undertaken by the authorities will be calculated using a standardised formula, and the data sent to the Litter Monitoring Body for central analysis and documentation. The national survey results will indicate the percentage of survey locations which were unpolluted, or which exhibited some level of pollution (from low to severe). The Litter Pollution Survey Questionnaire is reproduced as Attachment Five of this report.

- 2.3.9** A minimum of 3,190 **Litter Pollution Surveys** will be carried out each year between the months of May and October, as shown below, with the first series of surveys comprising the *Benchmark Litter Pollution Surveys* against which all future survey results will be compared.

	Type of Local Authority	Number of Surveys to be Completed	Percentage of Total Number of Surveys Completed
1.	City Corporations	998	32%
2.	Urban District Councils	354	11%
3.	Borough Corporations	64	2%
4.	County Council	1,774	55%
	ALL AUTHORITIES	3,190	100%

The numbers indicated above are the minimum requirement for the country, with the authorities having discretion to undertake additional surveys at the frequencies and locations of their choice. The national results of the Litter Pollution Surveys will be used to develop an improvement matrix for the authorities – with each authority being measured only against its last series of surveys, and not against any other authority.

- 2.3.10** It should be noted that the Benchmark Litter Quantification Surveys and Benchmark Litter Pollution Surveys are scheduled to begin in July 2000.

2.4 Implementation Plan for the National Litter Pollution Monitoring System

There are three distinct phases involved in the implementation of the national Monitoring System by the local authorities. These are:

1. The **Set-up Phase**. This once-off phase, completed only in the year 2000, involves the identification of Potential Litter Generators and the mapping of their locations using specially-designed GIS software. This results in the production of a set of Litter Generation Potential Maps for each authority. The maps are then used in the year 2000 and following years to identify locations for litter surveys;
2. The **Benchmark Phase**. The first Litter Quantification and Litter Pollution Surveys (see steps 4-9 of Phase Two overleaf) will be the benchmark surveys for each authority. For the purpose of the national system, the results of each

year's litter surveys will be compared not only with the preceding years' surveys, but with the first ever survey results.

3. The **Survey Phase**. Litter Quantification Surveys and Litter Pollution Surveys will be carried out each year using locations chosen from the Litter Generation Potential Maps. The results of these surveys will then be compared with the results obtained in the Phase Two (benchmark) surveys.

In 2000, the implementation year, Phases One and Two are undertaken. Once the Monitoring System has been implemented, however, Phase Three *only* is repeated annually.

The specific activities involved in each of the three phases are outlined below.

PHASE ONE: SET-UP PHASE (2000)

<u>Step</u>	<u>Description</u>
1.	Identify Potential Litter Generators.
2.	Log x,y co-ordinates of Generators onto basic digital maps.
3.	Produce the Litter Generation Potential Maps using the Litter Monitoring GIS Software.

PHASE TWO: BENCHMARK PHASE (2000)

<u>Step</u>	<u>Description</u>
4.	Consult tables provided in Monitoring Manual to identify the number of surveys required.
5.	Identify suitable High-Risk Survey Areas ¹ .
6.	Identify a number of Random Survey Areas ² .
7.	Choose a number of locations which are deemed to merit detailed observation (e.g. known problem areas).
8.	Carry out between two and 12 Benchmark Litter Quantification Surveys.
9.	Carry out pre-set number of Benchmark Litter Pollution Surveys over the summer/autumn months.
10.	Enter Litter Survey Results into Microsoft Access Database ³ .
11.	Electronically transmit the results to the Litter Monitoring Body for central analysis and the production of national litter survey reports.

¹ These locations, which represent the areas which are most likely to be littered, are assessed during the Litter Pollution Surveys.

² These locations are surveyed during the Litter Pollution Surveys to ensure that representative coverage of each authority's area is obtained.

³ The format for this database will be circulated to the authorities by the Monitoring Body as part of the Monitoring Manual.

PHASE THREE: SURVEY PHASE (2001 ONWARDS)

<u>Step</u>	<u>Description</u>
12.	Identify (from the Litter Generation Potential Maps) suitable High-Risk Survey Areas .
13.	Identify (using the GIS Application and the Litter Generation Potential Maps) a number of Random Survey Areas .
14.	Choose a number of survey areas which are deemed to merit detailed observation (e.g. known problem areas).
15.	Carry out between two and 12 Litter Quantification Surveys.
16.	Carry out pre-set number of Litter Pollution Surveys over the summer/autumn months.
17.	Enter Litter Survey Results into Microsoft Access Database.
18.	Electronically transmit the results to the Litter Monitoring Body for central analysis and the production of national litter survey reports.

For this first year (2000), the steps shown in Phases One and Two above cannot be completed sequentially. This reflects the fact that the LGCSB requires several months to develop and test the Litter Monitoring GIS Application. If we were to hold off the implementation of the system until the GIS was fully developed we would miss the summer/ autumn 2000 litter survey window. Rather than do that, the Monitoring System will be implemented via a number of steps which, although they do not reflect the exact order of events described in the preceding paragraphs, allow the local authorities to progress their activities while giving the LGCSB the development time it requires. A full timetable for both Year One and ensuing years is provided in Sections 3.4.1 and 3.4.2 of this report.

2.5 Review of International Litter Management Best Practice

2.5.1 Detailed requests for litter-related information have been sent to the Environment Departments of each of the countries in continental Europe. Very little information has been forthcoming from these requests, however, as many countries do not even recognise the word 'litter'. The information request was subsequently translated into each of the appropriate European languages in order to bypass the problem of terminology. Very few of the countries responded to the request and those who did provided us with little or no useful information.

2.5.2 This paucity of information would appear to reflect a number of factors, including the absence of specific litter-related legislation and guidance in these countries (with the exception of the UK and the Netherlands). It would appear that litter is covered under the broader heading of 'waste' in most countries. In addition, the specific management of litter seems to have been de-centralised almost completely to the authorities responsible for municipalities and provinces and is not guided by a standardised national strategy. Further information on the Dutch system is currently being sought.

2.5.3 An overview of the UK's experience as regards litter management and monitoring has been compiled by the Litter Monitoring Body via a combination of literature reviews

and telephone interviews with the UK's Department of the Environment, Transport and the Regions, as well as with the Tidy Britain Group and some of the individual UK local authorities. The main conclusions of that review process are summarised in Sections 2.2.2 to 2.2.4 of this report.

- 2.5.4** It should be noted that internet searches on international litter management experience have also been undertaken by the Litter Monitoring Body, as well as direct requests for information from the US and Singapore. Useful information has not been forthcoming from these sources, however.
- 2.5.5** It is thus the conclusion of the Litter Monitoring Body that there is little or no experience of litter pollution monitoring in the international context (with the exception of the UK), and that litter management efforts are almost always co-ordinated and controlled by municipal authorities rather than by central governments.

2.6 Local Authority Litter Management Plan Assessment

2.6.1 Under the Litter Pollution Act, 1997 local authorities are required to prepare Litter Management Plans for their functional areas at three-yearly intervals. The legislation prescribes the specific minimum components of a Litter Management Plan, requiring information on litter prevention and control activities and the setting of appropriate objectives and targets for the period covered by the Plan.

2.6.2 One of the key tasks undertaken by the Litter Monitoring Body over the past year has been the assessment of current Litter Management Plans. There are three main reasons why such an assessment exercise was undertaken, namely:

1. To assess the Plans with respect to the core functions prescribed for such documents under the Litter Pollution Act, 1997, and to determine how local authorities have discharged those functions;
2. To ascertain whether or not current Litter Management Plans act as appropriate frameworks for the anti-litter activities to be undertaken by the authorities over the succeeding three years; and
3. To identify best practice as regards litter management planning in this country. This will ensure that future Plans benefit from the experience gained by all of the authorities across the country.

2.6.3 To facilitate this assessment procedure, an Assessment Protocol was devised by the Litter Monitoring Body in consultation with the project's Steering Group. This detailed protocol, containing almost ninety questions, was devised by combining:

- ◆ The most salient clauses of the Litter Pollution Act, 1997;
- ◆ The planning aspects of the Environmental Management System approach; and
- ◆ Best practice as regards communication with the public.

Assessment Protocol

2.6.4 There are two separate parts to the protocol – the first aimed at statutory compliance and the second at best practice. The first part, *Part A*, is a straight-forward checklist relating to the items prescribed in the Litter Pollution Act, 1997. For example, is the Plan dated? Are litter-related objectives set? The second part, *Part B*, on the other hand, relates to the non-statutory aspects of litter management planning. The

questions in the second part deal with those characteristics of an effective planning document aimed at the public, as identified by best practice internationally and the Environmental Management Systems approach. For example, has a helpline or other mechanism for recording litter-based complaints been provided? How does the authority plan to finance its proposed litter-related measures? Is training provided for Litter Wardens? As would thus be expected, the questions in Part B of the protocol are less straightforward to answer than those in Part A.

Assessment Procedure

- 2.6.5** During the assessment procedure, full compliance is achieved if there is evidence that a Plan completely satisfies the requirements of a particular question. A non-compliance grade is assigned if the relevant information is missing, and partial compliance arises if there is inadequate information provided, as follows:

Description of Available Evidence	Conclusion	Score
Definite evidence in the affirmative – i.e. ‘yes’	‘Fully Compliant’	2
Insufficient evidence to answer yes or no – i.e. ‘maybe’	‘Partially Compliant’	1
Definite evidence in the negative – i.e. ‘no’	‘Non-Compliant’	0

Therefore, a **Litter Management Plan only satisfies a particular question if there is sufficient evidence contained *within* the actual text of the document itself, irrespective of the level of activity on the ground.** This important distinction between local authority *action* and local authority *planning* is a key element of the assessment methodology developed by the Monitoring Body.

- 2.6.6** It should be noted that the Litter Management Plans were assessed by one member of the Litter Monitoring Body (the Assessor) and then verified by a second member (the Verifier) to ensure uniformity of approach.

Benchmarking Litter Management Planning

- 2.6.7** 27% (or 20) of the Litter Management Plans received to-date were prepared prior to the enactment of the Litter Pollution Act, 1997. It would thus be unreasonable to expect such Plans to fully satisfy all of the salient legislative requirements. To this end, this first Litter Management Plan Assessment is termed the **Benchmark Assessment** as it provides a yardstick for current national litter management planning. It also facilitates the development of a ‘blueprint’ for a successful Litter Management Plan. The results of future Litter Management Plan assessments will thus be directly compared with the benchmark performance identified in this first assessment.

Current Status of National Litter Management Planning

- 2.6.8** 84 Litter Management Plans have been, or are in the process of being, prepared by the country’s 88 local authorities. These include the three joint Plans which have been prepared to-date (Louth County Council, Drogheda Corporation and Dundalk UDC; Sligo County Council and Corporation; Kilkenny County Council and Corporation). Of these 84 Litter Management Plans, 74 (88%) have been received and assessed by the Litter Monitoring Body, seven (8%) have not yet been prepared and a further three (4%) have been requested but not received. It should be noted that a number of reminders have been issued to the authorities who have not yet provided the Litter

Monitoring Body with a copy of their Plan. A summary of the Plans received and outstanding is included as Attachment Six of this report.

Assessment Results and Conclusions

2.6.9 The results of the assessment exercise indicated that current Litter Management Plans scored, overall, quite well on Part A of the protocol (which assessed the requirements prescribed in the Litter Pollution Act, 1997). The Plans were rather less successful in satisfying the requirements of Part B (Best Practice) of the assessment protocol, however.

2.6.10 Specifically, some of the **strengths** of the current Plans include:

- ◆ Recognition of the litter problem and commitment to improvement;
- ◆ Understanding of general litter problems experienced and the impact they have on the environment;
- ◆ Allocation of responsibilities;
- ◆ Acknowledgement of/ support for the co-operation of non-local authority personnel;
- ◆ Setting objectives and targets for litter management planning over the coming years; and
- ◆ Provision of information on litter-related education and litter prevention measures.

For example, 95% (or 70) of the Plans demonstrated a commitment to continual improvement and the prevention of litter pollution, while 78% (or 58 Plans) set adequate improvement goals for the three-year period covered by the Plan.

2.6.11 Some of the rather more **weak** areas identified for the current Litter Management Plans include the following:

- ◆ Setting frameworks for reviewing targets;
- ◆ Identification of the specific locations of litter blackspots;
- ◆ Dissemination of Litter Management Plans to the public;
- ◆ Consideration of Local Development Plans;
- ◆ Identification of the necessary resources for anti-litter measures;
- ◆ Training and awareness;
- ◆ Communication with the public regarding their opinions on litter pollution; and
- ◆ Preparation for litter emergencies.

For example, only 3 of the Plans (or 4%) assessed current litter management practices (including enforcement and litter control) in the authority's functional area. Similarly, 95% (or 70) of the Plans failed to identify performance indicators relating to litter prevention and control.

2.6.12 It is recommended that authorities whose Litter Management Plans are deficient in respect to any of the elements of Part A of the protocol address those deficiencies in the next review of their Plan. On the other hand, the elements of Part B of the protocol relate to measures and items which the authorities *may wish to consider* including in future reviews of Plans.

Reporting the Assessment Results

2.6.13 The results of the national Benchmark Litter Management Plan Assessment were summarised in a draft report which was presented to the Steering Group on 6th December 1999. It should be noted that this report did not identify any authorities by name – rather the aim was to give a national overview of the authorities’ collective performance versus the assessment protocol. This approach was chosen following consultation with the Steering Group.

2.6.14 The final assessment report issued to each individual authority was effectively a composite report – comprised of two separate parts, as follows:

- ◆ **Part One:** This contained the national, collective results, and did not identify individual authorities. Rather, it incorporated a series of bar charts showing the proportion of Plans which were in full, partial or non-compliance with each of the questions in the Assessment Protocol. A description of the assessment methodology used was also included, as was an overview of current planning strengths and weaknesses; and
- ◆ **Part Two:** This presented the assessment results for the Litter Management Plan of the specific authority (i.e. each authority receives only their own specific assessment results). In this section, the results of the assessment of the authority’s own Plan were shown side-by-side with the most common national score for each individual question. This allows the authority to gain an immediate perspective of their level of performance versus the national norm. An extract from one such individual assessment feedback report is shown below.

Table 2.1 Extract from an Individual Authority Assessment Feedback Form

<i>Section Five: Management Programmes and Measures</i>	INDIVIDUAL RESULTS	NATIONAL RESULTS
37 Are the resources required to implement the measures identified?	2	0
38 Are measures to encourage public awareness described?	2	2
39 Are measures to satisfy the specific objectives identified?	2	2
40 Are measures to prevent litter pollution described?	2	2
41 Are measures to improve the authority's performance described?	2	2
42 Are education (and especially for youth) measures described?	2	2
43 Are enforcement measures identified?	2	2
44 Have measures related to sensitive habitats been identified?	0	0
45 How appropriate are the measures to the scale of the problem?	1	1
46 Do the stated measures reflect an appropriate prioritisation?	1	0
47 Are the measures realistic, tangible and measurable?	2	1

In other words, each authority received a customised assessment report comprising the national overview and their own specific results. In this way the assessment

protocol effectively forms a blueprint for future litter management planning by local government in this country – with every authority being given specific feedback on their own Plan, and guidance on the preparation of a more effective and informative Plan in the future.

- 2.6.15** It should be noted that the circulation of the Litter Management Plan assessment results in May 2000 was particularly timely as this coincides closely with the three-year review date set for local authority Litter Management Plans by the Litter Pollution Act, 1997. In this way, the results of the benchmark assessment can be taken into consideration by the authorities during their three-year Litter Management Plan review.

3. ACTIVITIES TO BE UNDERTAKEN IN YEAR TWO

The key activities to be undertaken over the next twelve months are briefly described in this section.

3.1 Overview

In general terms, the most important activities required of the key players of the Monitoring System (namely, the authorities, the Monitoring Body and the Department of the Environment and Local Government) are summarised in Table 3.1 below. More detailed timetables are provided in subsequent paragraphs.

Table 3.1 Overview of Monitoring System Activities for Year Two

	Description of Activity	Responsibility	Envisaged Date of Completion
1	Completion of Monitoring Manual	Litter Monitoring Body	July 2000
2	Identification of Potential Litter Generators Completed*	Local Authorities	End July 2000
3	Litter Monitoring GIS Software Issued	LGCSB	End July 2000
4	Benchmark Litter Quantification Surveys Completed	Local Authorities	End August 2000
5	Litter Generation Potential Maps Prepared	Local Authorities	End September 2000
6	Benchmark Litter Pollution Surveys Completed	Local Authorities	End November 2000
7	Report on Benchmark Litter Survey Results Prepared	Litter Monitoring Body	December 2000

* With the exception of the five City Corporations who will identify their Potential Litter Generators on a timetable identified by themselves in consultation with the Litter Monitoring Body.

The remainder of this section of the report is structured as follows:

1. Activities to be undertaken by the Litter Monitoring Body;
2. Activities to be undertaken by the Local Government Computer Services Board;
3. Activities required of the local authorities; and
4. Activities to be undertaken by the Department of the Environment and Local Government.

3.2 Litter Monitoring Body Activities

3.2.1 One of the most important tasks to be completed by the Litter Monitoring Body is the completion, by July 2000, of a *Litter Monitoring Manual* for use by the local authorities. This manual will describe the main elements of the Monitoring System and will clearly identify the responsibilities of the authorities – as well as highlighting the deliverables expected of them. In addition, the manual will explain, in some detail, the exact methodology to be followed in the preparation of Litter Generation Potential Maps and for Litter Quantification and Pollution Surveys.

3.2.2 The Litter Monitoring Manual will be divided into three parts, as follows:

- ◆ **Part One** – This will be comprised of an *Introduction Section* and a section describing the *Identification of Potential Litter Generators*. The introduction will provide an overview of the Monitoring System and will explain the rationale behind the choices made for the system;
- ◆ **Part Two** – This will include a detailed description of the methodology to be utilised in the set-up of the project – i.e. the once-off GIS mapping exercise to produce *Litter Generation Potential Maps*. The methodology involved in the *Litter Quantification Surveys* will also be described; and
- ◆ **Part Three** – This will detail the exact methodology to be utilised for the *Litter Pollution Surveys*, as well as outlining the reporting procedures for survey results.

3.2.3 This phased circulation of the Monitoring Manual has been chosen as a result of the recommendations made by both the Steering Group and the Local Government Computer Services Board. Their feedback indicated that there is likely to be as low as a 70% uptake and implementation of the Monitoring System unless some element of continuous promotion is undertaken – particularly during the first six to nine months of implementation.

It was thus suggested that the manual be divided into a number of self-contained parts – each of which will only be issued to the authorities once the deliverables of the preceding part have been successfully progressed. In this way, the impetus of the project will be maintained, with the authorities being required to complete a small number of discrete tasks within a specified time, rather than having to complete all of the different elements of the system on a timetable identified by themselves. It should thus be easier for the Monitoring Body to monitor and guide the progress of the implementation process by the authorities.

3.2.4 It is envisaged that the three parts of the manual will be issued on the following provisional dates:

- ◆ **Part One** – June 2000;
- ◆ **Part Two** – June 2000; and
- ◆ **Part Three** – July 2000.

The first part of the manual will be circulated in June 2000 to the authorities by the Litter Monitoring Body under cover of a Department of the Environment and Local Government Circular Letter outlining the timetable for the completion of the various implementation activities.

3.2.5 It should be noted that it is our intention to publish the Manual in an A5 format, to be bound in a ring-binder. Each of the individual parts will be issued to the local authorities on a different coloured paper and will be pre-punched for easy inclusion in

the manual's binder. This approach should facilitate possible future changes to the manual arising from feedback obtained from the authorities themselves.

- 3.2.6** In addition to the production of the Litter Monitoring Manual, there are a number of other important tasks which will be undertaken by the Monitoring Body over the coming year. These are summarised in Table 3.2 below.

Table 3.2 Summary of Litter Monitoring Body Activities for Year Two

	Description of Activity	Date
1	The circulation of 88 Litter Management Plan Assessment Reports – 74 of which will incorporate customised feedback on current Litter Management Plans	May 2000
2	The management of the LGCSB contract for the development of the Litter Monitoring GIS Package. This will require ongoing close liaison with the Board to ensure that the Package completely matches the requirements of the system and of the local authorities themselves. The Monitoring Body will also be closely involved in the trials to be undertaken by the Board, as well as in reporting on progress to the Steering Group	Ongoing
3	Continued liaison with the Steering Group via quarterly meetings and Progress Reports	Ongoing
4	Reporting to the Department of the Environment and Local Government on an ongoing basis, including regular progress meetings	Ongoing
5	Ongoing promotion of the Monitoring System by continuous liaison with the authorities as to the progress of implementation. The Monitoring Body will also deal with any non-GIS problems which arise during the uptake and implementation of the system	Ongoing
6	The collection and analysis of the litter survey data generated by all of the authorities. This will require that each of the authorities provides the Monitoring Body with the results of their Benchmark Litter Pollution Surveys and Benchmark Litter Quantification Surveys. These results will subsequently be analysed using the SPSS statistical analysis computer package and a summary report submitted to the Department of the Environment and Local Government. It should be noted that the authorities will transmit the results of the last of the litter surveys to the Litter Monitoring Body in the months of October and November. The Monitoring Body should thus be in a position to prepare a report on the national survey findings by the end of each year	August to December 2000
7	Random litter surveys on local authority functional areas	July to August 2000

3.3 Local Government Computer Services Board Activities

3.3.1 The LGCSB proposes to develop the necessary mapping software package (termed the Litter Monitoring GIS Package) in two separate phases, as follows:

- ◆ **Phase 1** – Development of tools to allow Potential Litter Generators to be logged onto GIS maps in a consistent and nationally-standardised manner. No analysis of the mapped information will be possible at this stage; and
- ◆ **Phase 2** – The tools necessary for the production of the final Litter Generation Potential Maps by each authority will be produced during this phase of the development project.

3.3.2 Each phase of the project will involve the production of a CD-ROM which will be issued to the local authorities after a short period of testing in six trial authorities (namely, Cork Corporation, Dublin Corporation, Galway County Council, Meath County Council, Waterford County Council and Westmeath County Council). Training events will be held after each phase has been completed. In this way, the local authorities will be required to use each phase of the GIS package directly after they have received customised training on that phase. This should facilitate swift and complete implementation of the system.

3.3.3 The LGCSB envisages the following timetable for the development of the Litter Monitoring GIS Software:

- ◆ **Phase 1** – June 2000; and
- ◆ **Phase 2** – End July 2000.

3.4 Local Authority Activities

The various activities required of the local authorities under the national Monitoring System can be grouped into three phases (as described in Section 2.4 of this report):

- ◆ **Phase One – *Set-Up Phase* – involving the identification of Potential Litter Generators and the preparation of Litter Generation Potential Maps;**
- ◆ **Phase Two – *Benchmark Phase* – where the Benchmark Litter Quantification and Litter Pollution Surveys are completed;**
- ◆ **Phase Three – *Survey Phase* – which applies to all ensuing years.**

As described earlier, Phases One and Two are carried out in the implementation year (i.e. 2000) only. From 2001 onwards, only Phase Three is undertaken.

The following paragraphs outline the implementation timetable for the Monitoring System. Two separate timetables are provided – the first is for Year One only, whereas the second applies to all years thereafter.

Timetable 1 – Year One Only (2000)

3.4.1 The following is the envisaged implementation timetable for the National Litter Pollution Monitoring System for this year (i.e. 2000).

Implementation Period	Activities to be Undertaken
June - End July	<ul style="list-style-type: none"> ◆ Identify Potential Litter Generators*
June - August	<ul style="list-style-type: none"> ◆ Log co-ordinates of Potential Litter Generators onto digital maps ◆ Identify number of surveys required ◆ Identify Random Survey Areas ◆ Choose survey areas which merit investigation ◆ Undertake Benchmark Litter Quantification Surveys ◆ Complete first round of Benchmark Litter Pollution Surveys**
August - September	<ul style="list-style-type: none"> ◆ Enter Benchmark Litter Quantification Survey results, and results of first round of Benchmark Litter Pollution Surveys, onto Results Database ◆ Transmit survey results to Litter Monitoring Body
September - November	<ul style="list-style-type: none"> ◆ Produce Litter Generation Potential Maps ◆ Identify High Risk Survey Areas (from Litter Generation Potential Maps) ◆ Complete second round of Benchmark Litter Pollution Surveys**
November - December	<ul style="list-style-type: none"> ◆ Enter results of second round of Benchmark Litter Pollution Surveys onto Results Database ◆ Transmit survey results to Litter Monitoring Body

* It should be noted that this timetable will differ for the five City Corporations. In light of the extensive numbers of properties within their functional areas, it is envisaged that the urbans will, as their first implementation activity, prepare an Implementation Timetable. This timetable will outline the methodology by which Potential Litter Generators will be identified and the estimated completion dates for each stage of the mapping procedure. The timetables will be prepared in consultation with the Litter Monitoring Body.

It is important to note, however, that it is still the aim of the Monitoring Body that the results of the City Corporations' litter surveys will be available to feed into the national results reports to be prepared by the end of the year.

** To allow the LGCSB the necessary GIS software development time, it is necessary to split the Benchmark Litter Pollution Surveys into two separate rounds. The first will involve the authorities surveying randomly-chosen locations and those which they want to survey themselves. The second round will involve the surveying of High-Risk Survey Areas (which can only be identified from the Litter Generation Potential Maps).

Timetable 2 – Year Two Onwards

3.4.2 The following is the timetable for 2001 and subsequent years. These Phase Three activities occur only when the preparatory work required in Phases One and Two has been completed.

Implementation Dates	Activities
May - June	<ul style="list-style-type: none"> ◆ Identify High Risk Survey Areas (from Litter Generation Potential Maps) ◆ Identify Random Survey Areas (from Litter Generation Potential Maps) ◆ Choose survey areas which merit investigation ◆ Carry out between two and twelve Litter Quantification Surveys
May - October	<ul style="list-style-type: none"> ◆ Carry out pre-set number of Litter Pollution Surveys
October - November	<ul style="list-style-type: none"> ◆ Enter results of Litter Quantification Surveys and Litter Pollution Surveys onto Results Database ◆ Transmit survey results to Litter Monitoring Body

3.4.3 The timetable identified for Year One of the Monitoring System's implementation is dependent upon a number of reports and deliverables which must be circulated before the various monitoring activities can be initiated. The dates envisaged for the completion of those deliverables are summarised in Table 3.3 overleaf.

Table 3.3 Key Deliverables from the Monitoring System to the Local Authorities

	Description of Deliverable	Provisional Circulation Date
1	Monitoring Manual, Part One – ‘Introduction’ and ‘Identification of Potential Litter Generators’, accompanied by Department of the Environment and Local Government Circular Letter	June 2000
2	LGCSB GIS Software, Phase 1	June 2000
3	Monitoring Manual, Part Two – ‘Production of Litter Generation Potential Maps’ and ‘Litter Quantification Survey Methodology’	End June 2000
4	Monitoring Manual, Part Three – describing the ‘Litter Pollution Survey Methodology’	July 2000
5	Information Update #2	July 2000
6	LGCSB GIS Software, Phase 3	End July 2000

3.5 Activities of the Department of the Environment and Local Government

The main activities of the Department of the Environment and Local Government as regards the implementation of the National Litter Pollution Monitoring System are as follows:

1. Management of the Litter Monitoring Body contract;
2. Agreement of the implementation timetable for the National Monitoring System and the timetable for activities to be undertaken by the Litter Monitoring Body;
3. Participation in the Monitoring System’s Steering Group; and
4. Review of the reports prepared by the Litter Monitoring Body on litter survey results, the assessment of Litter Management Plans and other litter-related topics.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 General

The random litter surveys required of the Litter Monitoring Body are due to commence in the summer of 2000. Until such time as those surveys have been completed, it will not be possible for the Monitoring Body to comment on the overall type and extent of litter pollution being experienced across the country. However, the Monitoring Body has had extensive discussions with various authorities over the past year, and particularly with those represented on the Steering Group for the Monitoring System. In addition, anecdotal evidence obtained from a number of stakeholders, as well as qualitative data collected over the past year, has allowed a number of conclusions to be drawn.

This chapter briefly summarises some of the most important of those conclusions, with recommendations as to how problem areas might potentially be addressed included where appropriate.

The items discussed in the following paragraphs are grouped into two categories, namely:

1. Litter management and co-ordination; and
2. Enforcement, awareness and educational measures.

4.2 Litter Management and Co-ordination

4.2.1 Litter Abatement Co-ordination

Although it is a common perception that one authority, i.e. the 'local authority,' is responsible for the abatement and control of litter arising in a given area, this is not always the case. The exceptions are small urban centres in predominantly-rural areas. For the major urban centres, however, a variety of local authority and central government departments, and even state-sponsored bodies, may well have a role to play in the cleanliness of a given area (e.g. Office of Public Works and Coillte). In other words, more than one party is often involved in the control of litter in a given area and a failure to co-ordinate the efforts of those parties can have a negative effect on the cleanliness of the area as a whole. In addition, the failure of one party to discharge its duty will often have a deleterious effect on the *perceived* performance of the other parties.

At present, there is little or no co-ordination of the litter-related activities of the local authorities, government departments and state-sponsored bodies such as Coillte and the Port Authorities – either at the local or national level. Indeed, there is often insufficient co-ordination even between different sections within a single local authority.

There are four main consequences of this lack of co-ordination, namely:

1. Staggered cleaning rotas, which mean that at least one section of a given location may be littered at any one time. It is an accepted fact that litter in-situ leads to the deposition of more litter and so every effort should be made to co-ordinate cleaning activities at the local level;
2. Cross-contamination from one part of a location to another by passing traffic, passers-by, animals or weather conditions;
3. Stakeholder frustration at a perceived lack of action in response to litter-related complaints; and
4. An overall deterioration in the *perceived cleanliness* of otherwise clean locations because of their proximity to more littered ones.

The public and other stakeholders perceive that a location is littered or clean on the basis of their appraisal of the cleanliness of all of the smaller ‘sub-sections’ which comprise that location. For example, the perception of the cleanliness of a particular suburban street might be influenced by the levels of litter on the roadway, in the road gully, on the pathway and in the grass verge. In addition, the state of adjoining private properties and any river, canal bank or open public space running alongside the street itself will be taken into consideration by the observer.

Even if the majority of these sub-sections are clean, litter accumulations in any one sub-section can seriously detract from the conclusion drawn by the observer as to the overall cleanliness of the entire area.

This perception of the observer is not in itself problematic. What does create a problem is the fact that although the observer views the location as a single entity, it is not treated as such by the various bodies who have responsibility for its maintenance. In fact, the Monitoring Body’s observations have indicated that this problem may be having a negative effect on the way in which stakeholders appraise the performance of local authorities, and in particular the cleansing sections of the local authorities.

The complexity of the situation is exacerbated by two additional factors. **Firstly**, different sub-sections of an overall area tend to be littered by material from differing sources. (Table 4.1 overleaf outlines the different potential litter sources for the sub-sections of a hypothetical street and its vicinity, as well as indicating the different parties which might be responsible for litter abatement and control in that area.)

Secondly, litter occurs in water as well as on land, yet waterborne litter is generally given a very low priority by authorities. Any litter abatement measures aimed at waterborne litter are either undertaken on a sporadic (e.g. National Spring Clean) or reactive basis (i.e. in response to a specific complaint). Similarly, any such abatement efforts tend not to fall under the remit of the cleansing departments of the local authority but are the responsibility of the drainage or environment sections.

In conclusion, this preliminary assessment of national litter management procedures indicates a need for a review of current liaison practice between local government and the other bodies and organisations which play a role in the maintenance of public lands (such as Iarnród Éireann, DART, Coillte and Dúchas). This may also be true for different departments within a single authority – especially as regards the larger local authorities.

Table 4.1 Overview of Litter Control Co-ordination

Sub-Section	Major Direct Sources of Litter	Major Indirect Sources of Litter	Responsible Authority or Party	Problems/ Comments
Roadway	<ul style="list-style-type: none"> ◆ Passing motorists ◆ Accumulations of people ◆ Mobile sources (e.g. skips and mobile fast-food outlets) 	<ul style="list-style-type: none"> ◆ Fly-tipping ◆ Windborne litter ◆ Cross-contamination from paths and other sub-sections 	Cleansing Department of Local Authority	Passing traffic may make it impractical to clean public roads on a regular basis.
Road Gully	<ul style="list-style-type: none"> ◆ Passing motorists ◆ Passing pedestrians 	<ul style="list-style-type: none"> ◆ Sweeping litter onto roadway ◆ Weather conditions ◆ Cross-contamination from paths and other sub-sections 	Cleansing Department of Local Authority	<p>Parked cars often prevent adequate access to gullies, meaning that litter can accumulate in significant amounts.</p> <p>The litter trapped in gullies tends to remain there for some time and can be clearly recognised as old. This lends an overall feel of neglect to the area – irrespective of the cleanliness of the adjoining path.</p>
Path	<ul style="list-style-type: none"> ◆ Passing pedestrians ◆ Accumulations of people ◆ Polluting commercial and industrial premises (e.g. fast-food outlets and industrial estates) ◆ Polluting residential premises ◆ Accumulations of people 	<ul style="list-style-type: none"> ◆ Incorrect refuse presentation ◆ Refuse collection ◆ Overflowing litter bins ◆ Fly-tipping ◆ Cross-contamination from private premises and other sub-sections 	Cleansing Department of Local Authority	
Private Premises	<ul style="list-style-type: none"> ◆ Owners, tenants or other occupiers of premises ◆ Passing motorists or premises 	<ul style="list-style-type: none"> ◆ Cross-contamination from other sub-sections 	Owner or Occupier	More use should be made of the full powers of the Litter Pollution Act, 1997, including in particular Sections 9 and 16.

Table 4.1 (Continued) Overview of Litter Control Co-ordination

Sub-Section	Major Direct Sources of Litter	Major Indirect Sources of Litter	Responsible Authority or Party	Problems/ Comments
Grass Verge	<ul style="list-style-type: none"> ◆ Passing pedestrians ◆ Accumulations of people ◆ Polluting commercial and industrial premises (e.g. fast-food outlets and industrial estates) ◆ Polluting residential premises ◆ Accumulations of people 	<ul style="list-style-type: none"> ◆ Incorrect refuse presentation ◆ Refuse collection ◆ Overflowing litter bins ◆ Fly-tipping ◆ Cross-contamination from private premises and other sub-sections 	Parks Department of Local Authority	<p>Litter abatement tends to be quite low on the priorities' lists of Parks' Departments. As a result, they may clean grass verges at a frequency which is significantly lower than that used by the cleansing department for the adjoining path and gully.</p> <p>In addition, litter is often hidden in long grass during the summer months – only being revealed after the grass is cut by the Parks Department. Once released, this litter can be clearly recognised as being old. This lends an overall feel of neglect to the area – irrespective of the cleanliness of the adjoining path.</p>
Canal/ River and Bank	<ul style="list-style-type: none"> ◆ Accumulations of people, particularly for night-time gatherings ◆ Passing pedestrians ◆ Polluting Premises 	<ul style="list-style-type: none"> ◆ Cross-contamination from paths and other sub-sections 	Dúchas or Environment Section of Local Authority	<p>Certain sections of urban and suburban canals are particularly targeted for littering activities such as night-time drinking parties, for fly-tipping and for use by the homeless. The effect of these activities can be to seriously contaminate surrounding areas and significantly detract from the appearance of the overall area.</p> <p>Such stretches should be identified and special measures put in place to prevent littering.</p>

In terms of solutions, it is likely to be simpler to improve co-ordination within local authorities than it will be between different parties (e.g. Iarnród Eireann and Coillte and the local authorities). Each local authority might consider identifying a litter clean-up co-ordinator who would respond to litter-related complaints by informing the relevant clean-up parties and following-through on the remediation of the problem – rather than leaving it up to the discretion of a number of different persons or sections. Alternatively, special teams might be developed with the ability to respond quickly to all types of litter emergency without having to contact and wait for other sections to respond. Such teams would have to be equally capable of dealing with items as varied as animal carcasses, abandoned cars and fly-tipping.

One possible way of improving national litter co-ordination might be to identify a national litter co-ordinator with the powers to at least approach and enter into dialogue with the different parties involved, with the aim of identifying formal links and procedures for co-operation and liaison between those parties. Such a co-ordinator might suggest minimum cleaning rota requirements to bodies which currently only undertake remediation on a reactive basis. For example, canal-bank cleaning is undertaken on an irregular basis to reflect the lower likelihood of it being littered compared with a heavily-used public pathway. However, canal banks are often used during the summer months at lunchtimes, as well as for late-night drinking sessions and by the homeless. Such sections of the canal bank would thus obviously require a higher frequency of cleaning than others, but no such response system would appear to currently be in place.

In addition, a national co-ordinator might relay information obtained from other sources to the relevant clean-up/ maintenance body – thereby speeding up remediation response times. This would be particularly useful to the public as the procedures in place for cleaning different areas within one authority are often completely different in another – leading to confusion and frustration for the public and other stakeholders.

4.2.2 Public Buildings and Works

It is important that the same standards of cleanliness expected and desired for public places (such as roads and streets) are applied to all public buildings – including local authority depots and smaller offices as well as main headquarters. Similarly, all government buildings should be included on local authority cleansing rotas to ensure that they never become littered. Such constant cleanliness would send an important message to local residents and visitors alike.

In addition, many roadsides are strewn with discarded construction materials left over from road-maintenance and other public works. The clean-up of all surplus materials should be an essential aspect of public works – including those undertaken by the authorities themselves or, on their behalf, by contractors. Cleaning of the completed work area might, for example, be an integral contract condition for contractors working on major public projects.

4.2.3 Fly-tipping (or Illegal Dumping)

Although there is little or no quantitative data on the current prevalence of fly-tipping in this country, qualitative evidence would suggest a substantial increase in the incidence of illegal dumping and fly-tipping in the recent past. Indeed, most authorities cite a dramatic increase in levels of fly-tipping soon after the introduction of charges for municipal waste collection or an increase in landfill gate fees.

The regional Waste Management Strategies and Plans which have been prepared by local authorities across the country are based on the Polluter Pays Principle and recommend the introduction of refuse collection charging and landfill gate fees which reflect the true cost of

this waste management method. It is thus likely that fly-tipping levels are set to increase even more over the coming years as the new charges are introduced. Such a situation was observed in England and Wales upon introduction of the Landfill Tax.

Consideration should thus be pro-actively given to methods of preventing and controlling any such potential escalation in fly-tipping levels. One option might be to consider introducing collection services for bulky items (such as appliances, furniture and other commonly fly-tipped items). It should be noted, however, that evidence to-date suggests that such an approach might be more appropriate in rural than in urban areas. In particular, there may be considerable cost implications involved with the provision of such a service in a large city. A basic assessment of the costs and benefits of bulky refuse collections should thus be undertaken by authorities who choose to introduce such a service. In addition, consideration should be given to the charging system for such a collection service – with the levying of a charge being more in-line with the Polluter Pays Principle. However, for the infrequent service envisaged here, a highly-subsidised charge or the waiving of the charge may be appropriate. It should be noted that such a collection service has been operated by a number of authorities (e.g. Waterford County Council) for some time now, with considerable success.

The introduction of bulky refuse collection services may have a number of advantages for the local authority, including:

1. Less fly-tipping of the items included in the collection service;
2. Cost savings – as the cost of providing such a service is likely to be significantly lower than the cost of clean-ups at a later stage;
3. Positive public relations for the local authority – local residents tend to respond very positively to such services, even if undertaken on a very irregular basis (e.g. annually). As such, it would strengthen links between the local authority and the community; and
4. Social inclusion for outlying villages and towns, which may not be served by any other refuse collection service.

4.2.4 National Information Campaigns

There would appear to be a need for a consistent national anti-litter message to be communicated to the public on an ongoing basis. This might require television, radio and newspaper advertising using a single, highly-recognisable logo and ‘sound-bite’. Very visible advertising options such as on billboards and the sides of bridges and buses might also be considered. In addition, any ‘infomercials’ should target the age groups and social groups which are most likely to litter or to be complacent about littering. For example, children’s TV is a useful vehicle for information aimed at schoolchildren. National celebrities drawn from all walks of life (e.g. sport and entertainment) might be asked to endorse a national information campaign. International experience has shown that such a campaign would have to be run for a considerable period of time before its full impact is likely to become apparent.

In addition, a network of helplines, if implemented correctly, could have considerable potential in the prioritisation of local authority cleansing resources, and the facilitation of speedier response times to emergencies and better public relations for the authorities. Consideration might, therefore, be given to such an approach.

4.3 Enforcement, Awareness and Education

4.3.1 Litter Fines

The system of litter fines is a powerful tool which the local authorities can use to prevent and control litter in specific situations. Statistics published by the Department of the Environment and Local Government to-date indicate that the numbers of fines issued over the past twelve months was significantly higher than for previous years. In addition, the authorities are employing more Litter Wardens to ensure that enforcement remains a national priority.

However, care should perhaps be taken to ensure that litter fines are used only in the correct circumstances and in the proper manner. Specifically, it is the quality of the fines issued which is paramount – rather than the quantity. The latter approach may lead to an over-emphasis on enforcement and the bypassing of important steps such as visits to, and co-operation with, polluting premises and persons.

The issuing of fines in a hasty or incorrect manner reduces the likelihood of successful prosecutions, is damaging to the local authority's anti-litter efforts and is wasteful of court time. In addition, it tends to negatively impact on relations between judges and local authorities, the local community and the authority, and may also even weaken the effectiveness of the threat of prosecution for offenders. This is particularly undesirable as the local authority must co-operate with the community in order to elicit commitment and effort, and the indiscriminate issuing of fines might compromise that goal.

There is a widespread view that increased enforcement of the Litter Pollution Act, 1997 is vital to the reduction of litter pollution levels nationally. In order to further deter littering, therefore, the Minister of State at the Department of the Environment and Local Government duly increased the on-the-spot litter fine from £25 to £50 in January 2000, with the possibility of further increases in the fine envisaged for the future.

The Monitoring Body suggests that the implementation of the higher fine might be monitored before implementing any further increases in the fine. It is also the recommendation of the Monitoring Body that consideration might perhaps be given to the introduction of a sliding scale for litter fines – with both the £25 and £50 fine options being available – and where the most suitable level would be chosen, in-line with the offence, by the Litter Warden or Garda.

4.3.2 Balancing Enforcement and Education

A mixture of awareness, educational and enforcement measures is required in any given functional area in order to deal with the various types of litter offences and problems which may arise. In addition, the most appropriate mixture will vary considerably between functional areas and must match the prevailing local conditions. As a general rule, however, it would appear that two specific types of functional area can be identified. The **first** type incorporates the majority of the country while the **second** comprises the major urbans during the tourist season and Dublin throughout the entire year.

In the first type of situation (i.e. predominantly rural), offenders are likely to be local residents or frequent visitors. In such a situation, an approach based on verbal warnings and education is most appropriate, with fines being used as a last resort or in more severe cases only. This reflects the fact that Litter Wardens are usually drawn from the very communities which are under their jurisdiction. Most offenders will be personally known to those Wardens and some Wardens have experienced abuse, threats and physical assaults as a result of issuing fines to persons known to themselves. This situation might be alleviated by consideration of one or more of the following measures: ensuring that Litter Wardens have an easily-identifiable uniform, do not use their personal cars for official business, are in constant communication with other Wardens or with their headquarters, or patrol in pairs.

In the second type of area (i.e. the major urbans), however, the situation is very different. Litter Wardens are unlikely to know offenders personally and will not have as much scope for visits to minor offenders to discuss remediation measures. In such situations, heavy reliance on litter fines is likely to be the more appropriate approach.

Litter Wardens

It is important that Litter Wardens across the country exhibit a uniform approach to enforcement. For example, some authorities use slightly different interpretations of the Litter Pollution Act, 1997 or assign priorities to various sections of the Act. Specifically, some may ignore fly-posting while others may vigorously pursue those who fly-post. Such an approach is likely to lead to confusion, frustration and problems for events' co-ordinators and other organisations who may find themselves fined in one functional area for something which is allowed in another.

A more uniform approach might be achieved via the preparation of specific guidance by the Department of the Environment and Local Government on fining procedures and legal considerations or by peer consensus (in consultation with the Department of the Environment and Local Government). The latter approach might be facilitated by the holding of annual or biennial regional meetings of Litter Wardens and anti-litter supervisors to discuss common problems, the litter survey methodology, safety issues and other related topics.

5. ATTACHMENTS

Attachment One – Consultation Letter Issued to Stakeholders, and List of Stakeholders Consulted

A) Consultation Letter

10th August 1999

<Organisation>

<Address 1>

<Address 2>

<Address 3>

Re: National Litter Monitoring Body

Dear Sir/ Madam,

The Department of the Environment and Local Government has developed and implemented a *National Litter Pollution Monitoring System* to assist and monitor the progress of the local authorities in the discharge of their duties under the Litter Pollution Act – with the aim of making Ireland a cleaner and more pleasant place to live in and visit.

On the 10th May 1999, Minister Dan Wallace announced the appointment of Tobin Environmental Services Ltd. as the Litter Monitoring Body to the Department's Monitoring System. Tobin Environmental Services Ltd. are pleased to have been given the opportunity of participating in this novel and innovative approach to the collective tackling of our national litter problem, and are writing to you in order to introduce ourselves and to provide you with an overview of our roles and responsibilities.

The main role of the Litter Monitoring Body will be to:

- A) Assist the local authorities in their efforts to prevent and control litter pollution. This will involve the dissemination of information on litter prevention and control Best Practice (both Irish and international) and the provision of advice on the compilation of Litter Management Plans as required under the Litter Pollution Act, 1997;
- B) Develop and provide guidance on a methodology by which local authorities can survey their own administrative areas in order to allow them to identify litter blackspots, assess the success of their own anti-litter initiatives, and better direct their resources and personnel;
- C) Assess the performance of the local authorities in relation to their duties under the Litter Pollution Act and the objectives of their own Litter Management Plans;
- D) Report on national litter prevention and control progress to the Department of the Environment and Local Government and to the local authorities themselves. The information will subsequently be included in reports to be published by the Department; and
- E) Advise the Department on litter management planning at national level.

We are currently in the process of developing the methodology by which the local authorities can monitor their own activities in an objective and effective manner. The proposed methodology will be completed by early Autumn and will be the subject of a major National Local Authority Conference on the 23rd and 24th September of this year. This conference will allow us to gain consensus on the methodology which the local authorities will themselves have to implement. By gaining consensus and commitment to the methodology early in the

process, we are confident that it will prove an efficient and effective tool in the assessment of national progress towards a cleaner Ireland.

We are currently compiling information on Best Practice with respect to litter prevention and control, with specific emphasis on methods to promote public awareness and partnerships between local authorities and private interests. We would be very pleased to receive any written submissions from your organisation with respect to the identification of examples of Best Practice in litter prevention and control both at home and abroad.

We look forward to hearing from you, and to the challenging times ahead.

Regards.

Dr Bernie Collins
Tobin Environmental Services Ltd.

B) Stakeholder List

1. ACRA (the National Body for Residents' Associations)
2. An Taisce
3. Association of Municipal Authorities of Ireland
4. Beautiful Bray Association
5. Bord Failte
6. Buncrana Environmental Group
7. CERT
8. Chambers of Commerce of Ireland
9. Coillte Teoranta
10. Comhlamh Environment Group
11. Comhar (Sustainable Development)
12. Conservation Volunteers of Ireland
13. Construction Industry Federation
14. Co-operation North Ltd.
15. Cork Environmental Alliance
16. Corrib Conservation Centre
17. County and City Managers Association
18. Crann Woodland Trust
19. Department for Arts, Heritage, Gaeltacht and the Islands
20. Department of Education and Science
21. Department of Regional and Urban Planning
22. Dublin City Centre Business Association
23. Dublin Healthy Cities Project
24. Duchas – National Monuments and Historic Properties Section
25. Duchas – National Parks and Wildlife Section
26. Duchas – Waterways Section
27. Earthwatch
28. East Clare Clean Environment Group
29. Eco-Youth Environmental Conservation Organisation
30. Environmental Action Alliance Dublin
31. Environmental Health Officers Association
32. Environmental Sciences Association of Ireland
33. EPA

34. FAS
35. Garda Siochana
36. General Council of County Councils
37. Global Action Plan
38. Greenpeace
39. Groundwork
40. Health and Safety Authority
41. Inishowen Environmental Group
42. Inland Waterways Association of Ireland
43. Institution of Engineers of Ireland
44. Irish Business Against Litter (IBAL)
45. Irish Business and Employers' Confederation (IBEC)
46. ICMSA
47. IFA
48. Institute of Occupational Health and Safety
49. Irish Coastal Environment Group
50. Irish Countrywomen's Association
51. Irish Farmers Association
52. Irish Hotels' Federation
53. Irish Landscape Institute
54. Irish Planning Institute
55. Irish Small and Medium Enterprises
56. Irish Tourist Industry Confederation
57. Irish Women's Environmental Network
58. Killarney Nature Conservation Group
59. Limerick Civic Trust
60. Macra na Feirme
61. Macroom District Environment Group
62. Mayo Environmental Group
63. Moyville/ Greencastle Environmental Group
64. Moylagh Environmental Residents' Association
65. Muintir na Tire
66. Network of Irish Environmental and Development Organisations
67. North Wicklow Coastal Environmental Group
68. Regional Tourism Organisation
69. Restaurants' Association of Ireland
70. Retail Grocery, Trade and Allied Trade Associations
71. Small Firms' Associations
72. Soft Drink and Beer Bottlers' Association
73. Tidy Towns
74. Town Planning Institute
75. Tree Council of Ireland
76. UCD Environmental Institute
77. Voice of Irish Concern for the Environment (VOICE)
78. Wastewatch

Attachment Two – Summary of Discussions Between Coillte and the Litter Monitoring Body (August 1999)

The following conclusions can be drawn from our discussions with Coillte, as described in Section 2.1.3 of this report:

- a) The main littering items with which Coillte have had a problem are the use of litter bins for household waste, the dumping of burned-out car wrecks and dead farm animals, and fly-tipping of bottles and other waste;
- b) Coillte have (like Dúchas) removed litter bins from nearly all of their forestry holdings in an effort to cut back on the use of such receptacles for household refuse deposition. In addition, a number of security barriers have been erected at the entrances of some of the forestry holdings to prevent unauthorised vehicular access. This has stopped much of the fly-tipping on their lands but has transferred the responsibility for the waste which is now dumped just outside their land to the local authority who is responsible for the public roads involved;
- c) The organisation is reluctant to organise frequent clean-ups as they feel that they should not be charged gate fees at local authority landfills for dumping waste that does not directly arise from their activities. They have, therefore, come to arrangements with specific individuals of local authority cleansing departments with respect to the waiving of gate fees. A difficulty arises, however, as regards the rapid turn-over of local authority personnel which requires that this special allowance for Coillte has to be re-negotiated with new personnel at regular intervals; and
- d) The organisation has recently started contracting the cleaning duties for certain sections of their Wicklow forestry holdings out to retired Coillte personnel who are required to clean their allocated areas on a twice-weekly basis. This contract cleaning trial would appear to be offering significant cost savings to Coillte, who are currently experiencing an embargo on the hiring of new personnel. To this end, their existing staff are assigned to forestry-related duties only and do not have any spare time for litter abatement activities.

In other words, the results of our discussions with Coillte (and also with Dúchas) have indicated that there is an urgent need for some type of formal co-operation between bodies such as these and the senior management of the local authorities, in order to ensure that litter and fly-tipped waste are dealt with as quickly and efficiently as possible.

Attachment Three – Potential Litter Generator List

Class 1 (Potentially Highly Polluting Generators)

1. Areas Where Mobile Fast Food Outlets Operate
2. Bank ATMs (Both Stand-alone and Attached to Banks)
3. Bring Sites and Civic Amenity Sites
4. Bus Stops Close to Secondary Schools
5. Derelict Land and Buildings
6. Illegal Camping and Halting Sites
7. Known Fly-tipping Areas
8. Known Litter Blackspots (e.g. Housing Estates and Stretches of Road and Canal)
9. Landfills
10. Litter Bins Which are Continually Overflowing
11. Major Event Locations (with regular schedules)
12. Open-air Market Venues
13. Newsagents/ Corner Shops/ Sweet Shops
14. Riverside Walks, Nature Trails and Similar Routes
15. Secondary Schools
16. Shopping Malls
17. Supermarkets
18. Takeaways/ Fast-food Outlets
19. Areas Where Groups of People Gather (Other Than Those Cited Above)
20. Polluting Premises Other Than Those Mentioned Above

Class 2 (Potentially Moderately Polluting Generators)

1. Amusement Arcades
2. Beaches
3. Betting Establishments
4. Bus and Train Stations
5. Cinemas
6. Heavily Used Parks
7. Industrial Estates
8. Large Car Parks (stand-alone)
9. Lay-bys
10. Major Event Locations with less frequent event schedules (GAA etc.)
11. Primary Schools
12. Pubs
13. Quarries
14. Theatres
15. Service Station Forecourts
16. Third Level Educational Establishments
17. Tourist Attractions (Location-Specific e.g. Monuments and Buildings)
18. Areas Where Groups of People Gather (Other Than Those Cited Above)
19. Polluting Premises Other Than Those Mentioned Above

Class 3 (Temporary, Seasonal or Sporadic Potential Generators)

1. Locations Where Sporadic Events are Held (e.g. Circuses, Fairs and Annual Events)
2. Major Construction Sites
3. Marts
4. Small Seasonal Car Parks (e.g. at Beaches, Caravan Parks and Tourist Attractions)
5. Areas Where Groups of People Gather (Other Than Those Cited Above)
6. Polluting Premises Other Than Those Mentioned Above

Attachment Four – Litter Quantification Survey Form

LITTER QUANTIFICATION SURVEY**SURVEY FORM**

DED NAME _____

SURVEY LOCATION _____

FROM _____ TO _____

SURVEY AREA TYPE _____

(e.g. Residential, Commercial, Industrial, Agricultural, Motorway)

SURVEY AREA SIZE (50 or 500m) _____

WEATHER CONDITIONS _____

(e.g. Windy, Fair, Stormy, Raining)

SURVEYOR'S NAME _____

DATE _____ DAY _____ TIME _____

TIME TO NEXT CLEANSING SWEEP _____

MAJOR SOURCES OF LITTER IN AREA _____

(e.g. specific takeaways, newsagents, schools or the public in general)

PHOTO IDENTIFICATION # _____

(if applicable)

Notes:

1. Only solid litter waste is counted, liquid spills are not included in this survey.
2. Straw, hay, silage and animal manure (with the exception of dog fouling) are not counted.
3. Count litter items occurring on public paths, roads or open spaces only – litter occurring on the grounds of private premises should not be included on this form. A second form may be used to log the types of litter occurring on private grounds, if required.

<u>Litter Item</u>	<u>Running Total</u>	<u>TOTAL</u>
1. Food Residues		
• Bread/ biscuits		
• Chewing gum (10m)		
• Remnants of confectionery food		
• Fast-food remnants (e.g. burgers)		
• Fruit/ vegetables		
• Other food litter		
2. Confectionery Packaging		
• Crisp bags		
• Sweet wrappers		
3. Glass Packaging		
• Beverage bottles – alcoholic		
• Beverage bottles – non-alcoholic		
• Jars and other glass containers		

4. Metal Packaging <ul style="list-style-type: none"> • Beverage cans - alcoholic • Beverage cans – non-alcoholic • Food cans • Lids (e.g. from jars) • Metal drums • Tin foil (not sweet wrappers) • Other metal packaging items 		
5. Paper Packaging <ul style="list-style-type: none"> • Aeroboard • Bags • Boxes • Cardboard • Drinks cartons • Other paper packaging items 		
6. Plastic Packaging <ul style="list-style-type: none"> • Bags – shopping • Bags – other (e.g. fertiliser) • Bubble-wrap • Bottles • Plastic film • Plastic sheeting (e.g. silage) • Other plastic packaging 		
7. Takeaway Packaging <ul style="list-style-type: none"> • Bags and wrappers • Drinks cups 		
8. Deleterious Litter Items <ul style="list-style-type: none"> • Dog fouling • Feminine hygiene products • Hazardous Waste (e.g. paint, solvents) • Nappies • Needles/ syringes • Other deleterious litter 		
9. Large Litter Items <ul style="list-style-type: none"> • Appliances (e.g. fridges) • Furniture • Household refuse in bags • Abandoned cars • Other large litter items 		
10. Non-Packaging Paper Litter <ul style="list-style-type: none"> • Bank slips • Flyers and posters • Letters, envelopes and cards • Magazines & brochures • Newspapers • Receipts • Tickets (e.g. bus, lottery) • Tissues 		

<ul style="list-style-type: none"> • Other paper litter (non-packaging) 		
11. Non-Packaging Plastic Litter		
<ul style="list-style-type: none"> • Plastic Items 		
12. Cigarette-related Litter Items		
<ul style="list-style-type: none"> • Cigarette boxes and wrappers • Cigarette ends (10m) • Matchboxes and lighters • Matches 		
13. Fragments (Rough Estimate)		
<ul style="list-style-type: none"> • Bale ties • Fabric • Glass • Metal • Paper • Plastic • Rubber • Wood • Other fragments 		
14. Fly-tipping Incidences		
<ul style="list-style-type: none"> • Very Severe (lorry-load) • Severe (van-load) • Moderate (bin-load) • Mild (less than a bin-load) 		
15. Miscellaneous Litter		
<ul style="list-style-type: none"> • Miscellaneous Items 		

16. Surveyor Observations

a) In your opinion, is the litter observed new or old? _____

b) Did you notice any particular distribution patterns (e.g. fast-food packaging outside a particular takeaway)?

c) Please list the litter items which can be associated with a particular premises (e.g. Tesco plastic bags or takeaway wrappers)?

17. Surveyor's Signature

a) Signed: _____

b) Dated: _____

Attachment Five – Litter Pollution Survey Questionnaire

LITTER POLLUTION SURVEY QUESTIONNAIRE

DED NAME _____

SURVEY LOCATION _____

FROM _____ TO _____

SURVEY AREA TYPE _____

(e.g. Residential, Commercial, Industrial, Agricultural)

SURVEY AREA SIZE (50 or 500m) _____

SURVEY AREA DESCRIPTION:

Footpath Road Lay-by

Park Beach Other _____

WEATHER CONDITIONS _____

(e.g. Windy, Fair, Stormy, Raining)

SURVEYOR'S NAME _____

DATE _____ DAY _____ TIME _____

MAJOR SOURCES OF LITTER IN AREA _____

(e.g. specific takeaways, newsagents, schools or the public in general)

PHOTO IDENTIFICATION # _____

(if applicable)

1. INDICATOR ITEMS

Assess the survey area for the presence or absence of the following litter items. It should be noted that although there may be other types of litter on the ground in the survey area, the assessment should be confined to the items listed below. Information on other important, unlisted litter streams observed during the survey should be included in the surveyor's comments (Section 6).

	<u>PRESENCE</u>		Visible on Close Inspection	<u>LEVELS</u>	
	Yes	No		Obvious	Very Obvious
Packaging Litter					
• Plastic Shopping Bags	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Paper Packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Plastic Packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Takeaway Packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Bottles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Cans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Litter Items					
• Fly-tipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Household Refuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Papers/ Cardboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Dog Fouling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Cigarette-related Litter
- Food Residues

2. SURVEY AREA CLEANLINESS RATING

Please rate the cleanliness of the survey area on a scale of 1 to 5, where 1 approximates the cleanliness of a freshly-swept area and 5 would be expected after a major concert, sporting event or festival.

- 1 2 3 4 5
- **Survey Area Rating**

3. LITTER DISTRIBUTION PATTERNS

- Where is the majority of the litter to be found?

Widespread **Clusters Associated with Particular Premises**

- If clusters are observed, please specify where they occur (e.g. outside Mc Grath's Takeaway):

- Where is the litter located within the survey area?

	Key Locations (Please tick those which apply)	Ranking (Indicate which location is the most important for this survey area, using a 1,2,3 scale where location 1 has the largest accumulation of litter)
Path	<input type="checkbox"/>	<input type="checkbox"/>
Gully	<input type="checkbox"/>	<input type="checkbox"/>
Road	<input type="checkbox"/>	<input type="checkbox"/>
Grass Verge	<input type="checkbox"/>	<input type="checkbox"/>
Trees/ Shrubs	<input type="checkbox"/>	<input type="checkbox"/>
Adjoining Private Premises	<input type="checkbox"/>	<input type="checkbox"/>

Other Locations (Please Specify):

4. LITTER BINS

- Number of Litter Bins in Survey Area
- Number of Full or Overflowing Bins

**Local Authority
Litter Bins**

**Private
Litter Bins**

- Are Anti-Litter Advertising/ Warnings Visible? _____
- Is Cleansing Activity Being Undertaken During the Survey? _____

5. CAUSATIVE FACTORS

Please tick the factors which you believe to be contributing to litter pollution in the survey area.

**Key
Factors**

- Passing Pedestrians**
- Bank ATM**
- Entertainment Event**
- Fast-food Outlet**
- Insufficient Number/ Size of Bins**
- Insufficient Bin-emptying Rate**
- Passing Motorists**
- Fly-tipping/ Dumping**
- Refuse Collection/ Presentation**
- Weather Conditions**

Other (Please Specify):

6. CONCLUSIONS

Please indicate the most appropriate action which (in your opinion) is needed to deal with the types of litter pollution observed during the survey:

Other comments or observations:

Signed: _____

Date: _____

Attachment Six – Overview of National Litter Management Planning Status

A) PLANS RECEIVED AND ASSESSED (74)

1. Arklow Urban District Council
2. Athlone UDC
3. Athy Urban District Council
4. Ballina Urban District Council
5. Ballinasloe Urban District Council
6. Bray Urban District Council
7. Bundoran Urban District Council
8. Carlow County Council
9. Carlow Urban District Council
10. Carrickmacross Urban District Council
11. Carrick-on-Suir Urban District Council
12. Cashel Urban District Council
13. Cavan County Council
14. Cavan Urban District Council
15. Clare County Council
16. Clonakilty Urban District Council
17. Clonmel Corporation
18. Cobh Urban District Council
19. Cork Corporation
20. Cork County Council
21. Donegal County Council
22. Dublin Corporation
23. Dungarvan Urban District Council
24. Dun Laoghaire Rathdown County Council
25. Ennis Urban District Council
26. Enniscorthy Urban District Council
27. Fingal County Council
28. Fermoy Urban District Council
29. Galway Corporation
30. Galway County Council
31. Kerry County Council
32. Kildare County Council
33. Killarney Urban District Council
34. Kilkenny Local Authorities – Kilkenny Corporation and Kilkenny County Council¹
35. Kilrush Urban District Council
36. Kinsale Urban District Council
37. Laois County Council
38. Leitrim County Council
39. Limerick Corporation
40. Limerick County Council
41. Listowel Urban District Council
42. Longford County Council
43. Longford Urban District Council
44. Louth Local Authorities – Drogheda Corporation, Dundalk Urban District Council and Louth County Council¹
45. Macroom Urban District Council
46. Mallow Urban District Council
47. Mayo County Council

¹ Joint Litter Management Plan Prepared

48. Meath County Council
49. Midleton Urban District Council
50. Naas Urban District Council
51. Navan Urban District Council
52. Nenagh Urban District Council
53. New Ross Urban District Council
54. Offaly County Council
55. Roscommon County Council
56. Skibbreen Urban District Council
57. Sligo Local Authorities – Sligo County Council and Sligo Corporation¹
58. South Dublin County Council
59. Templemore Urban District Council
60. Thurles Urban District Council
61. Tipperary North Riding County Council
62. Tipperary South Riding County Council
63. Tipperary Urban District Council
64. Tralee Urban District Council
65. Trim Urban District Council
66. Waterford Corporation
67. Waterford County Council
68. Westmeath County Council
69. Westport Urban District Council
70. Wexford Corporation
71. Wexford County Council
72. Wicklow County Council
73. Wicklow Urban District Council
74. Youghal Urban District Council

B) PLANS PREPARED BUT NOT RECEIVED BY LITTER MONITORING BODY (3)

75. Birr Urban District Council
76. Kells Urban District Council
77. Letterkenny Urban District Council

C) PLANS NOT YET BEEN PREPARED (7)

78. Buncrana Urban District Council
79. Castlebar Urban District Council
80. Castleblayney Urban District Council
81. Clones Urban District Council
82. Monaghan County Council
83. Monaghan Urban District Council
84. Tullamore Urban District Council

¹ Joint Litter Management Plan Prepared

