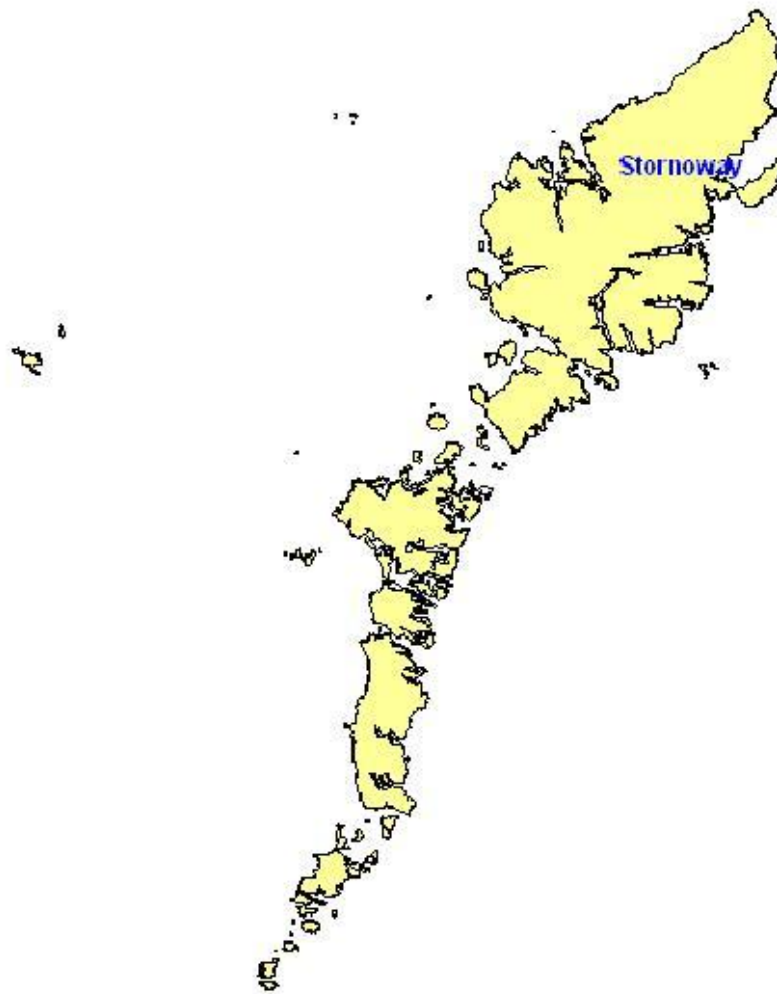




**Comhairle Nan Eilean Siar**  
**Air Quality in the Western Isles**



**Local Air Quality Progress Report**  
**April 2005**

## Chapter 1: Introduction

Part IV of the Environment Act 1995 introduced Local Air Quality Management, whereby local authorities have a statutory duty to carry out reviews and assessments of local air quality as prescribed. Local Air Quality Management has an important role in helping to deliver the air quality objectives, which are set out in the Air Quality Strategy for Scotland (January 2000) and the Air Quality (Scotland) Regulations 2000 (as amended).

The first review and assessment in the Western Isles was completed in 1999. This concluded that the air quality was likely to meet the national objectives.

A further detailed Update and Screening Assessment Report was completed in January 2004. The purpose of this report was to update the findings in the previous report and assess whether any of the air quality objectives will be exceeded in the Western Isles by 2010. The report concluded that the air quality in the Western Isles was likely to meet the national objectives.

The main findings of the Update and Screening Assessment completed in January 2004 are summarised below:

Pollutant	Conclusions
1,3-Butadiene Benzene Carbon Monoxide Lead (Pb) Nitrogen Dioxide PM10 (small particles) Sulphur Dioxide	<p>The Screening assessment indicates that the air quality for these seven pollutants are likely to be met.</p> <p><b>Comhairle Nan Eilean Siar will not be required to proceed to a Detailed Assessment</b></p> <p><b>The Comhairle also concluded that it would not be necessary to declare an Air Quality Management Area (AQMA) in the Western Isles</b></p>

This Progress Report is a requirement of Government guidance issued in 2003 (LAQM.PG(03)) which sets out the timescales of the various reports on air quality. Those local authorities, which identified that there was no need for a Detailed Assessment in their previous Update and Screening Assessment, are required to publish a Progress Report in April 2005.

## **Chapter 2: The Progress Report**

Following consultation on the LAQM process, the Government concluded that it was too 'stop-start' and that gaps of several years might occur between air quality reviews. Updating and Screening Assessments are now required at intervals of three years whilst Progress reports maintain continuity and are produced in the intervening years. The detailed timetable is included at Appendix 1.

Progress Reports are designed to ensure continuity in the LAQM process and are intended to assist local authorities by:-

- Helping retain the profile for the LAQM within the authority, including the retention of staff with a knowledge of air quality issues
- Providing a means for communicating air quality information to members and the public
- Maximising the usefulness and interpretation of the monitoring effort being carried out by the local authority
- Maximising the value of the investment in monitoring equipment
- Making the next round of review and assessment that much easier, as there will be readily available up to date source of information
- Helping local authorities respond to request for up-to-date information on air quality
- Providing information to assist in other policy areas, such as transport and land use planning
- Providing a ready source of information on air quality for developers carrying out environmental assessments for new schemes
- Demonstrating progress with implementation of air quality Action Plans and/or air quality strategies
- Providing the timely indication of the need for further measures to improve air quality, rather than delaying until the next full round of review and assessment

## Chapter 3: New Monitoring Results

The Comhairle monitors oxides of nitrogen at a number of diffusion tube sites in Stornoway (see location map in Appendix 2).

### Nitrogen Dioxide

OBJECTIVE: 200 micrograms per cubic metre or less, when expressed as an hourly mean, not to be exceeded more than 18 times per year to be achieved by 31<sup>st</sup> December 2005. 40 micrograms per cubic metre or less, when expressed as an annual mean, to be achieved by 31<sup>st</sup> December 2005.

Diffusion tube data for 2004 is listed at Appendix 4. Tubes are provided and analysed by Gradko International using a 20% TEA (triethanolamine) in water and typically exposed for four week periods.

### Trends

Results for both 2003 (Appendix 3) and 2004 (Appendix 4) indicate that no urban background locations exceeded the annual mean concentration of 40  $\mu\text{g}/\text{m}^3$ . Shown below in Figure 1.0 and Graph 1.0 on page 5.

**Figure 1.0 Predicted NO<sub>2</sub> concentrations in Stornoway in 2003, 2005 and 2010**

Site Reference	Town	Street	Site Category	Easting	Northing	2003	2005	2010
K1	Stornoway	Cromwell Street	Kerbside	142341.4	932863.1	21.9	20.6	16.59
K2	Stornoway	Bank Street	Kerbside	142264.3	932802.2	22.6	20.80	17.12
B3	Stornoway	MacMillan Brae	Background	142075.1	934195.7	3.5	3.27	2.8
B4	Stornoway	Barony Square	Background	143135.6	933503	6.3	5.88	5.04

The concentrations of NO<sub>2</sub>, which were measured between January 2002 and December 2002, have been used to predict levels in, 2003, 2005 and 2010. The resulting predicted levels are shown above for each site.

The 2002 measured NO<sub>2</sub> results were used as they represent the prevailing air quality in the Western Isles prior to the effect of a number of factors that are contributing to improving the quality of air in the Western Isles.

### Factors contributing to air quality in the Western Isles

The contribution of road transport to nitrogen oxides emissions have declined significantly in recent years as a result of the declining population in the Western Isles. It can also be argued that as a result of the introduction of an experimental town centre traffic order in 2003, which introduced a complete ban on vehicles entering Point Street, between Castle Street and Kenneth Street, between the hours of 10.30 am and 6.00 pm every day, has also contributed to the continued low annual NO<sub>2</sub> mean concentrations. It is

anticipated that this trend will continue, and that further reductions are expected up until 2010 and beyond.

**Graph 1.0 - Predicted NO2 concentrations in Stornoway in 2005 and 2010**



## **Chapter 4: New Local Developments**

No new industrial processes (A1, A2 or B) commenced operation or changed significantly during the period 1 January 2004 to 30 April 2005.

There have been no new developments, which impact on air quality, e.g. which have resulted in significantly increased traffic flows.

## **Chapter 5: Additional Information**

The Comhairle has not declared an Air Quality Management Area and therefore cannot report on the implementation of action plans

The Comhairle does not monitor ozone, polycyclic aromatic hydrocarbons (PAHs) or any other air pollutants. During 2004 there were no complaints regarding odour and dust emissions from regulated industrial sources.

As part of the West of Scotland Environmental Radiation Monitoring Scheme gamma radiation monitoring is undertaken by the Comhairle bi-annually. The results for the Isle of Lewis and Benbecula are given in appendix 5. Results show a similar pattern to those of preceding years and confirm the low background radiation for the Western Isles.

The Comhairle does not intend to draw up a local air quality strategy at the present time but this will be reviewed annually.

Developments that would contribute to a reduction in air quality, such as generators of significant levels of new traffic, will be refused where air quality is likely to be reduced and standards are likely to be breached.

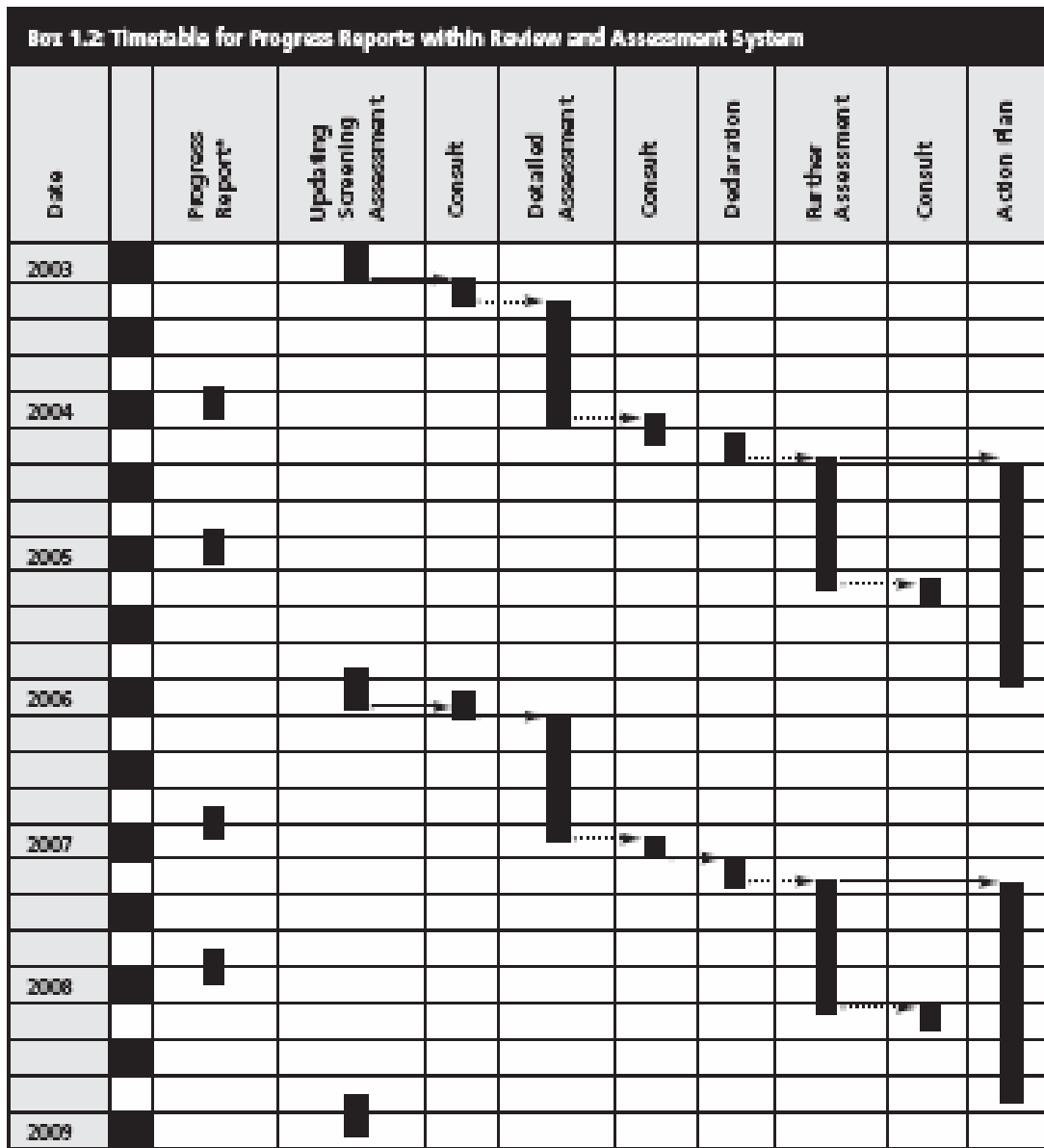
## **Chapter 6: Conclusions**

Measured air quality in the Western Isles currently meets national standards. Concentrations of nitrogen dioxide are predicted to meet the Objectives for 2005.

The next Update and Screening Assessment is due in 2006.

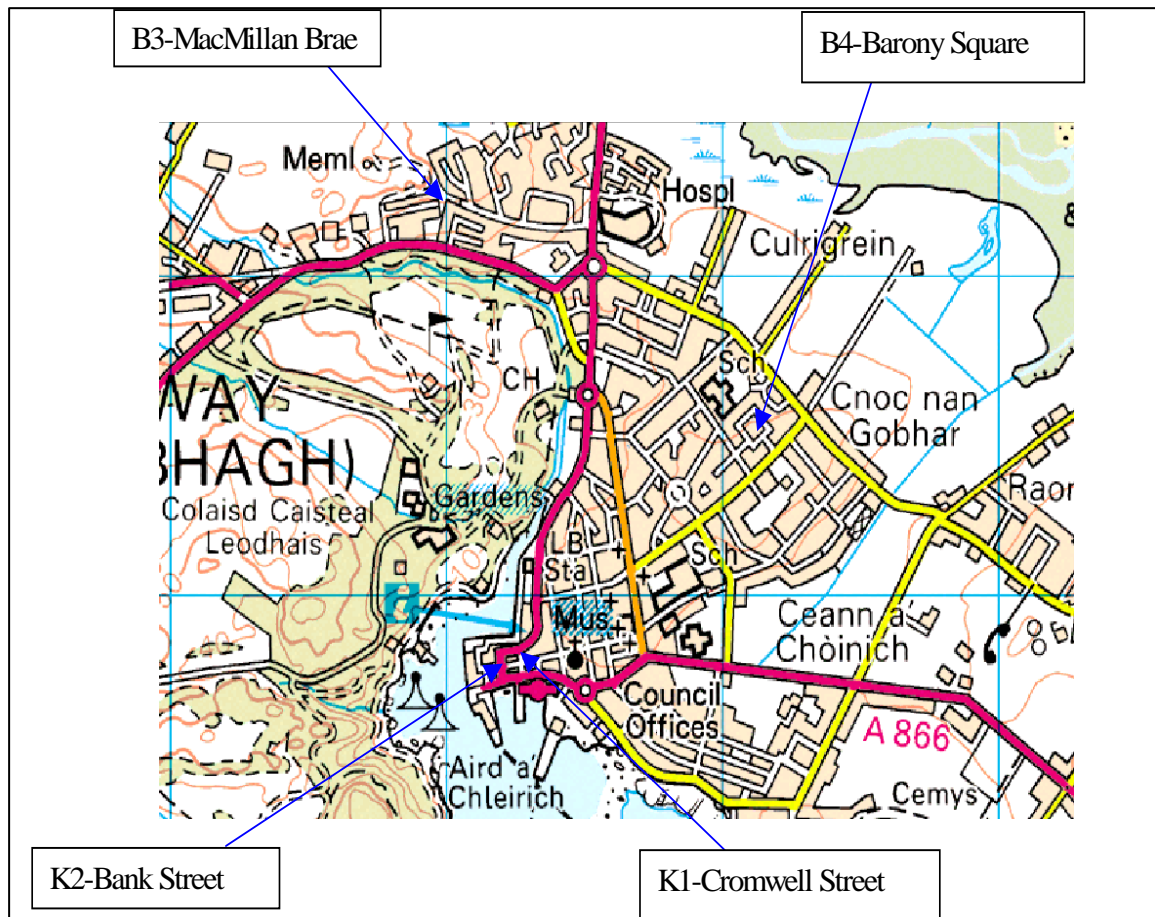
Further information concerning this report or local air quality issues in general may be obtained from Andy M<sup>c</sup>Clements, Senior Environmental Health Officer (Council Offices, Stornoway) on 01851 709492 or e-mail amcclements@cne-siar.gov.uk.

## Appendix 1: Review Timetable



Source: Defra Progress Report Guidance LAQM. PRG(03), section 1.06.

**Appendix 2:**  
Map of the area showing the NO<sub>2</sub> diffusion tube locations is shown below.



### Appendix 3: Stornoway diffusion tube data for 2003

Site	Date on	Date off	$\mu\text{g}/\text{m}^3$	$\mu\text{g}$	ppb
K1	04/01/2002	09/01/2003	No Return	No Return	No Return
K2	04/01/2002	09/01/2003	No Return	No Return	No Return
B3, McMillan Brae	04/01/2002	09/01/2003	No Return	No Return	No Return
B4, Barony Square	04/01/2002	09/01/2003	No Return	No Return	No Return
K1	09/02/2003	06/02/2003	No Return	No Return	No Return
K2	09/02/2003	06/02/2003	No Return	No Return	No Return
B3, McMillan Brae	09/02/2003	06/02/2003	No Return	No Return	No Return
B4, Barony Square	09/02/2003	06/02/2003	No Return	No Return	No Return
K1	03/03/2003	00/03/2003	28	1.20	15
K2	03/03/2003	00/03/2003	23	1.03	12
B3, McMillan Brae	03/03/2003	00/03/2003	2	0.30	4
B4, Barony Square	03/03/2003	00/03/2003	10	0.36	5
K1	30/03/2003	06/04/2003	29	1.87	15
K2	30/03/2003	06/04/2003	28	1.65	19
B3, McMillan Brae	30/03/2003	06/04/2003	5	0.39	2
B4, Barony Square	30/03/2003	06/04/2003	10	0.66	5
K1	06/05/2003	03/06/2003	34	0.73	16
K2	06/05/2003	03/06/2003	37	0.85	10
B3, McMillan Brae	06/05/2003	03/06/2003	0	0.22	3
B4, Barony Square	06/05/2003	03/06/2003	6	0.27	3
K1	03/06/2003	02/07/2003	No Return	No Return	No Return
K2	03/06/2003	02/07/2003	14	0.62	9
B3, McMillan Brae	03/06/2003	02/07/2003	5	0.29	3
B4, Barony Square	03/06/2003	02/07/2003	5	0.22	2
K1	02/07/2003	05/08/2003	20	0.90	10
K2	02/07/2003	05/08/2003	20	0.82	10
B3, McMillan Brae	02/07/2003	05/08/2003	3	0.26	2
B4, Barony Square	02/07/2003	05/08/2003	6	0.25	2
K1	05/08/2003	02/09/2003	27	0.82	19
K2	05/08/2003	02/09/2003	25	0.72	18
B3, McMillan Brae	05/08/2003	02/09/2003	3	0.20	2
B4, Barony Square	05/08/2003	02/09/2003	6	0.36	2
K1	02/09/2003	26/09/2003	<19	< 0.80	<10
K2	02/09/2003	26/09/2003	27	0.66	10
B3, McMillan Brae	02/09/2003	26/09/2003	No Return	No Return	No Return
B4, Barony Square	02/09/2003	26/09/2003	12	< 0.70	< 6
K1	06/11/2003	03/12/2003	70	3.24	36
K2	06/11/2003	03/12/2003	30	1.40	16
B3, McMillan Brae	06/11/2003	03/12/2003	6	0.30	3
B4, Barony Square	06/11/2003	03/12/2003	14	0.64	7

Appendix 4: Stornoway diffusion tube data for 2004

## Appendix 5: Gamma radiation monitoring for the Western Isles

Results show a similar pattern to those of preceding years and confirm the low background radiation for the Western Isles.

<b>Isle of Lewis Sites</b>	<b>Date</b>	<b>µG/hr</b>
Laxay	31/03/2004	0.0541
Melbost mixed site	7/07/2004	0.0596
<b>Benbecula</b>	<b>Date</b>	<b>µG/hr</b>
Poll Nan crann	19/05/04	0.0522
Grangehead South Uist	19/05/04	0.040