

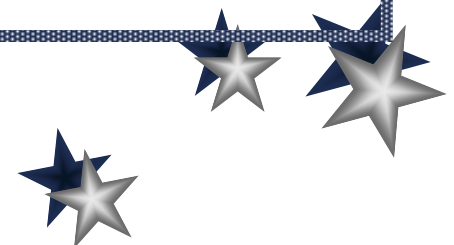
GOOD PRACTICE GUIDE AMBIENT AIR QUALITY MONITORING

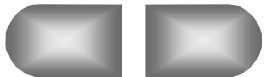
SECTIONS 2 & 3

PAUL SHELDON

***ENVIRONMENTAL MONITORING
CO-ORDINATOR***

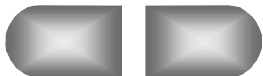
NELSON CITY COUNCIL





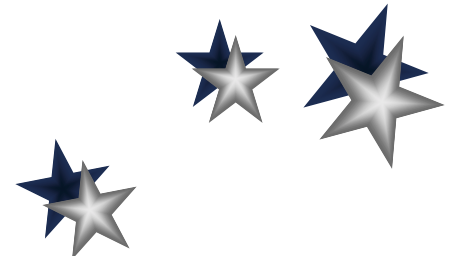
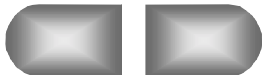
SECTION 2 – WHY MONITOR

- ◆ **Assessment of Regional Monitoring Needs**
- ◆ **Air Quality Issues and Regional Plans**
- ◆ **Regional Monitoring Objectives**
- ◆ **National Monitoring Objectives**



SECTION 3 – WHAT TO MONITOR

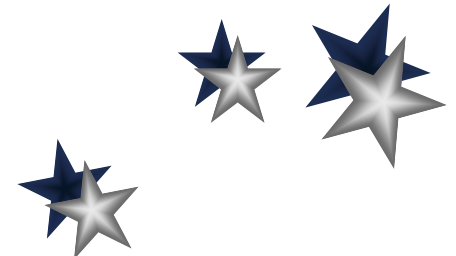
- ◆ Indicators
- ◆ Guidelines



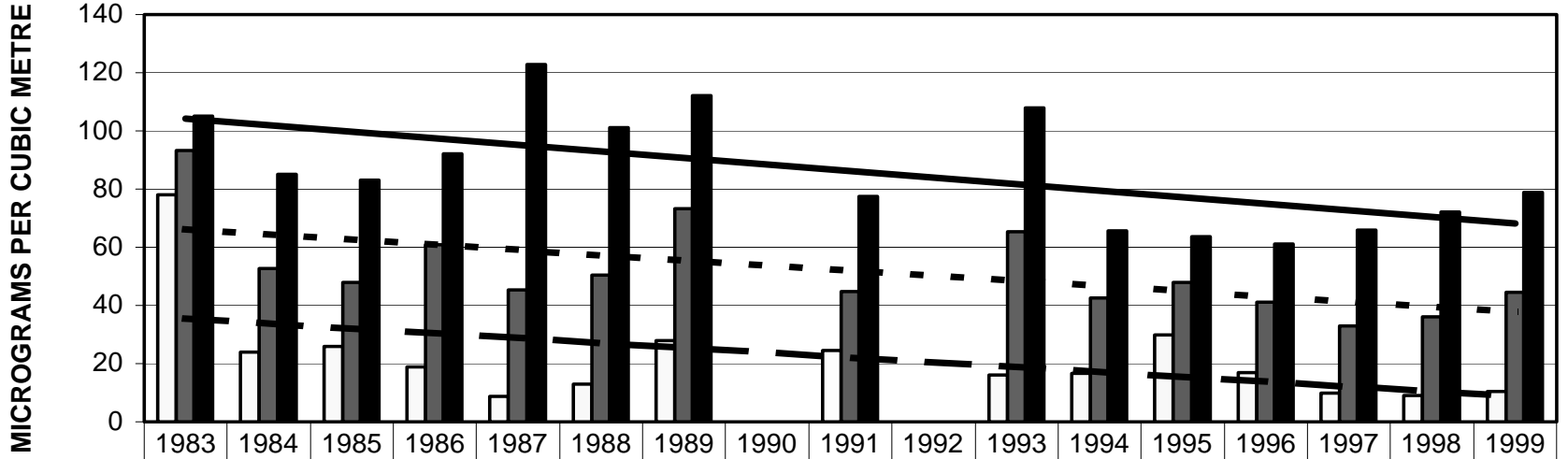


Understanding air quality issues is an iterative process. Each of the stages outlined above and below are not mutually exclusive and should be part of the ongoing regional planning process

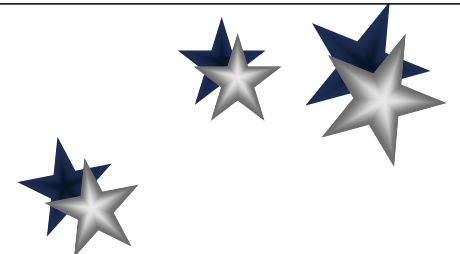
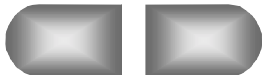
(Good practice Guide P6)



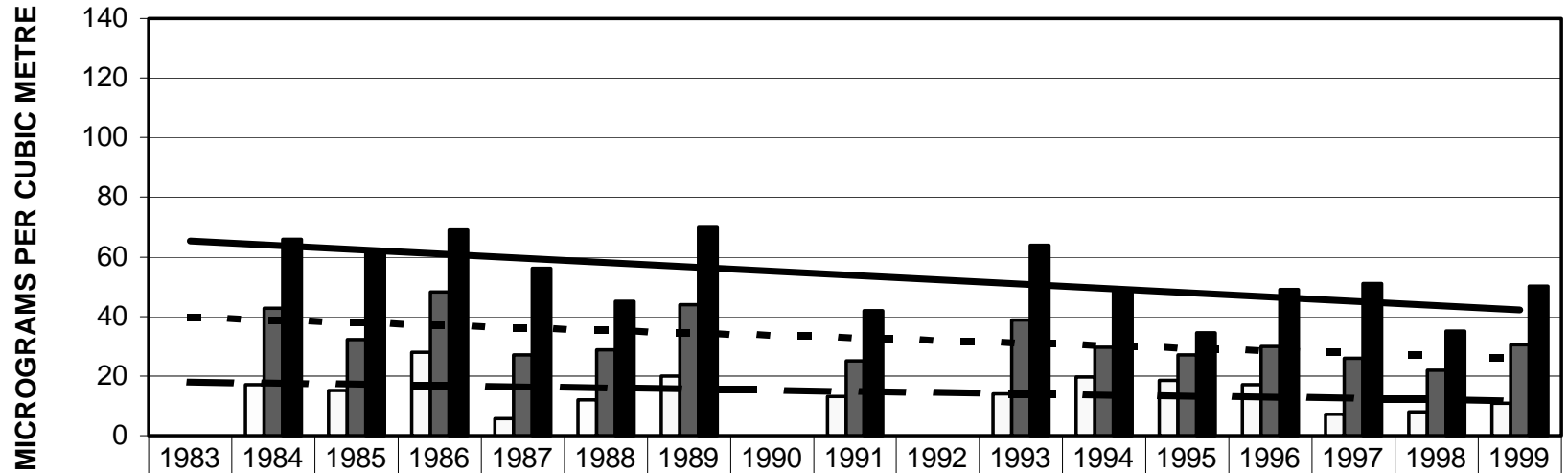
TREND WINTER SMOKE LEVELS - VANGUARD STREET 1983 - 1999



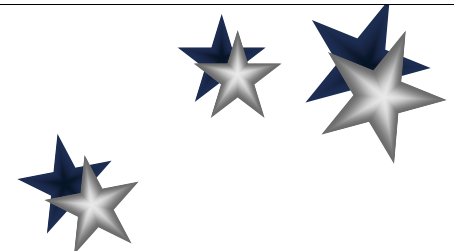
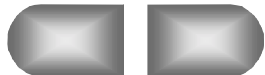
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
□ L90	78	24	26	19	9	13	28		25		16	17	30	17	10	9	10
■ AVERAGE	93	53	48	61	45	51	73		45		65	43	48	41	33	36	44
■ L10	105	85	83	92	123	101	112		78		108	66	64	61	66	72	79



TREND WINTER SMOKE LEVELS - QUARANTINE ROAD 1983 - 1999



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
□ L90		17	15	28	6	12	20		13		14	20	19	17	7	8	11
■ AVERAGE		43	32	48	27	29	44		25		39	30	27	30	26	22	31
■ L10		66	61	69	56	45	70		42		64	48	35	49	51	35	50

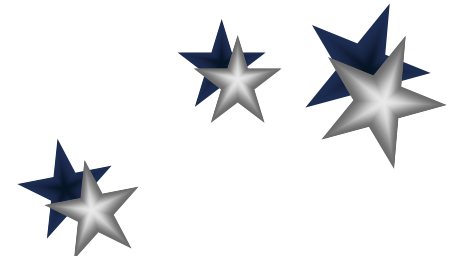


REGIONAL POLICY STATEMENT

OPERATIVE 1994

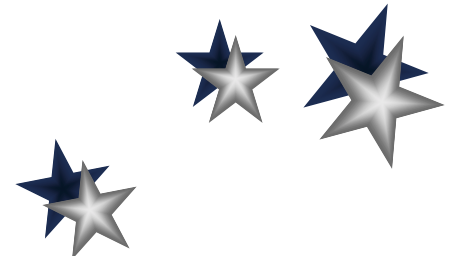
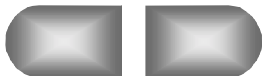
OBJECTIVE -

**Improvement in Nelson's ambient
air quality**

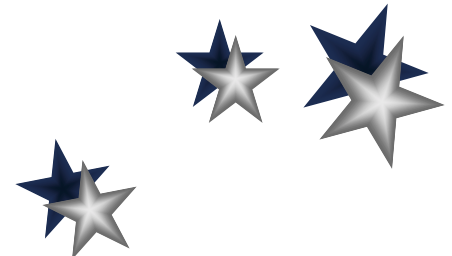


POLICIES

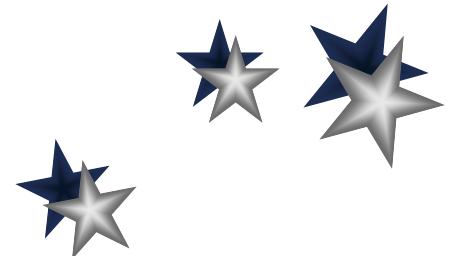
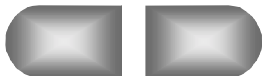
- 1. To set minimum ambient air quality standards that are at levels which ensure that adverse effects on people or ecosystems at ground level are avoided or mitigated**



2. Where existing air quality is higher than the standards set under the above policy, no significant degradation to existing ambient air quality shall be permitted



3. To control and/or reduce the volume or concentration of point source discharges so that the adverse effects on people or ecosystems at ground level are avoided or mitigated



4. To ensure industrial, commercial, rural and domestic discharges avoid significant adverse effect on the environment, including people, plants and animals

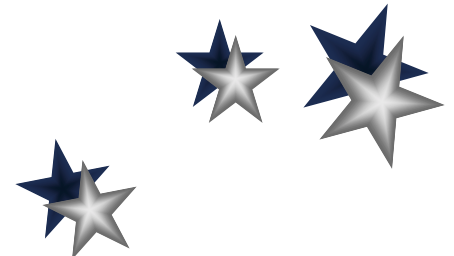
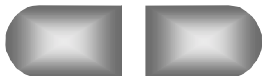


Chart 1 Particulate Levels Fire Station Site May-August 2000

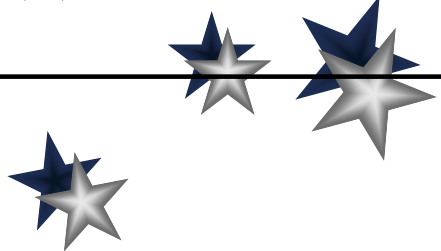
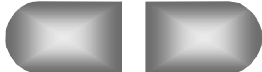
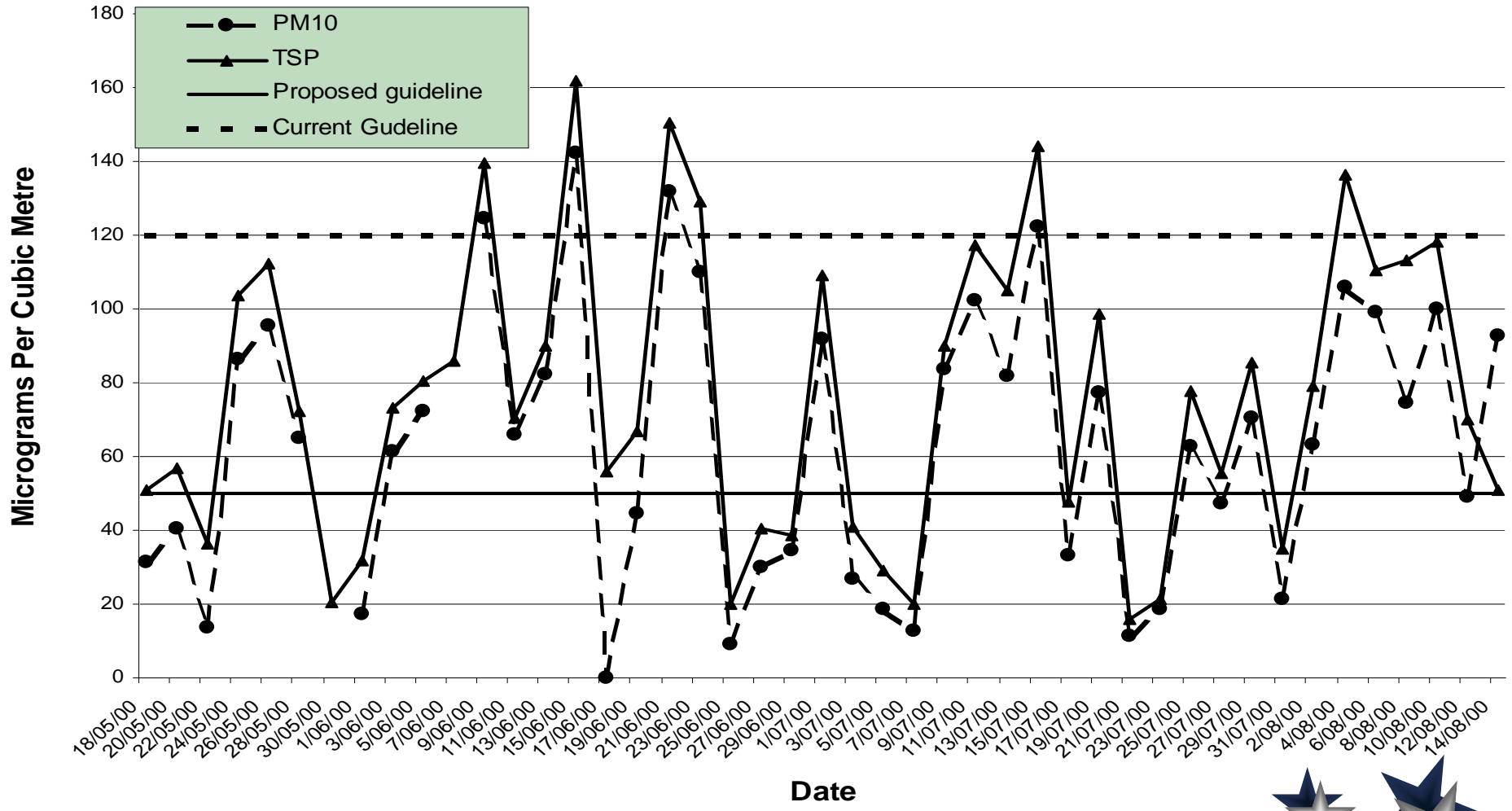
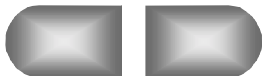
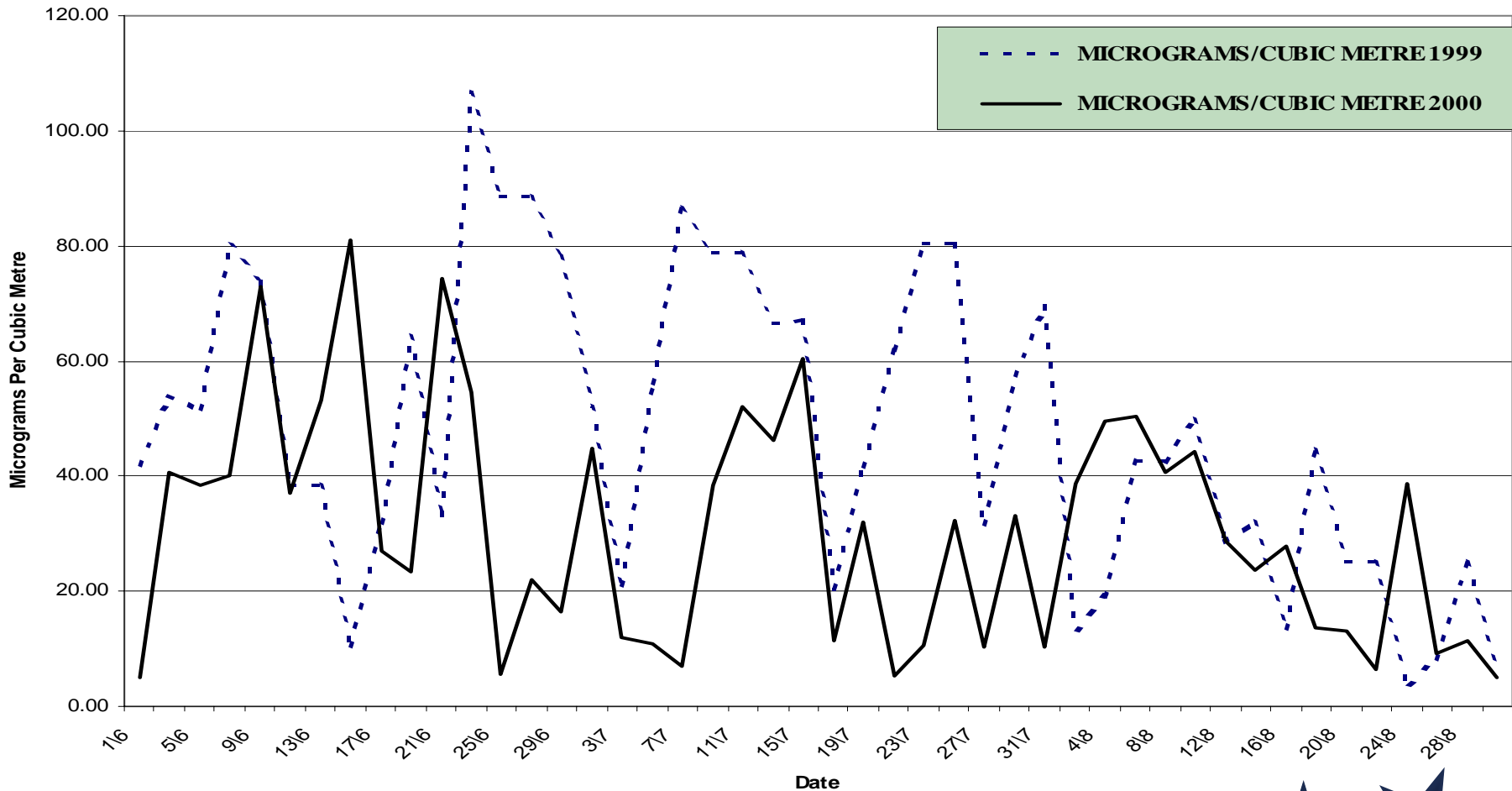


Chart 2 Smoke Data Comparison Vanguard Street 1999-2000 June to August



**Total Suspended Particulate (TSP), Inhalable Particulate (PM₁₀) and Smoke Data
Nelson City Council**

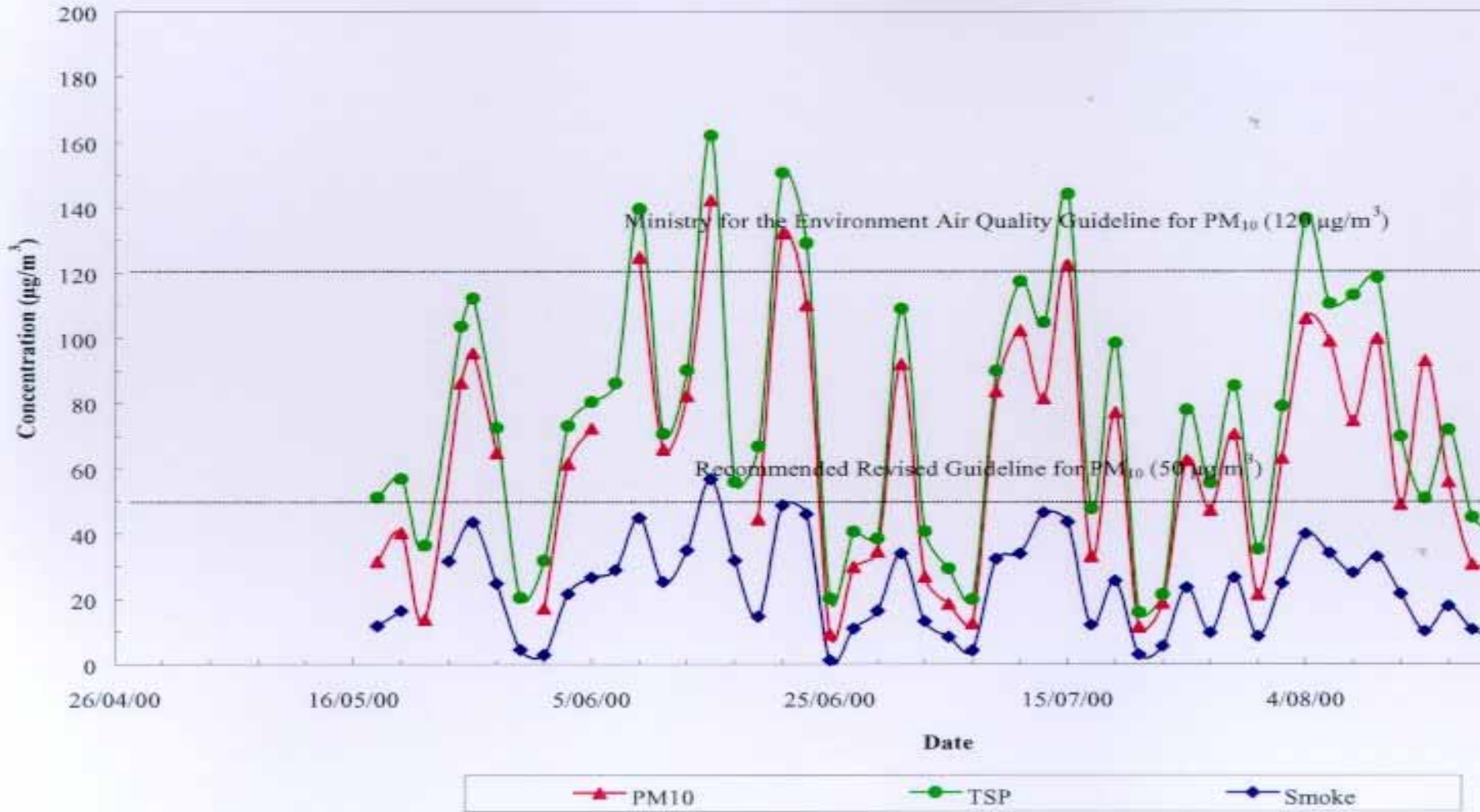
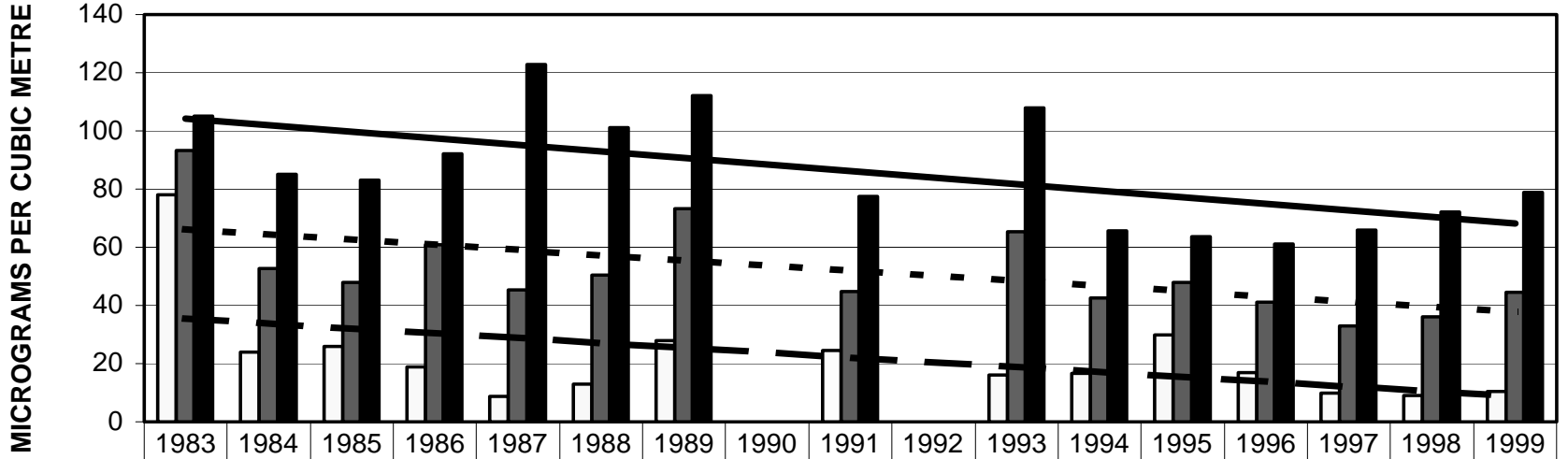
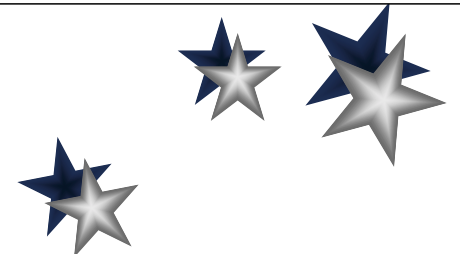


Figure 1: TSP, PM₁₀ and Smoke Data (18 May to 13 September 2000)

TREND WINTER SMOKE LEVELS - VANGUARD STREET 1983 - 1999



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
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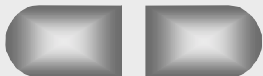
Assessment of Monitoring Needs

1. Local knowledge is the key
2. Local knowledge can include:
 - A good working knowledge of your area
 - Talking to locals about their patch through personal contact workshops meetings and don't forget submissions
 - Talking to health professionals and social service providers

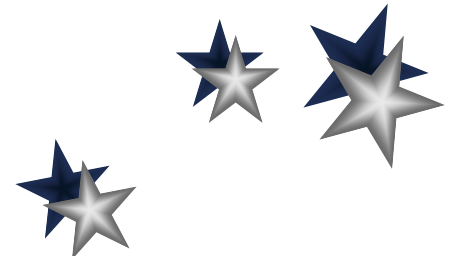


3. Scoping surveys including key sources and sensitive environments

- What historical data exists**
- What does a walk over or visibility survey tell you**
- Where are the sources including houses, road, factories, disturbed ground etc**
- Where will the pollution go when released, topography, meteorology**
- Where are the sensitive areas including people, plants and animals**

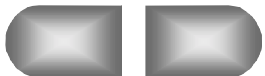
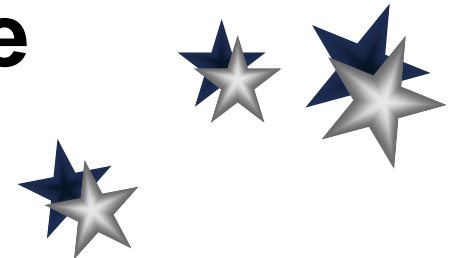


4. Keep an open mind and be prepared to change your ideas as new information comes to light which may challenge your perceptions



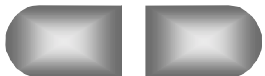
Air Quality Issues and Regional Plans

- 1. Can provide very useful guidance but beware**
 - Most build directly on the Section 6 of the Act**
 - Are a snap shot in time and things have moved on**
 - Monitoring equipment has become more sophisticated**
 - Health effects have been substantiated**
 - Recommended guidelines have become more conservative**



Regional Monitoring Objectives (and Policies)

- 1. Objectives may be a very high level and similar to the Purpose and Principles of the Act**
- 2. Policy and Method development will be needed for any real guidance**
- 3. Are first generation. These are likely to be further refined as experience is gained**

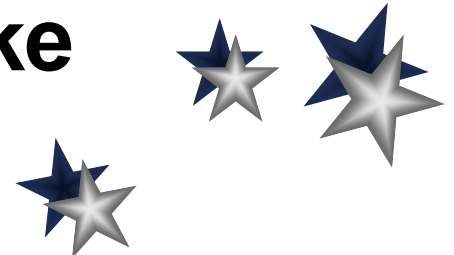


- 4. Need to be policy relevant**
- 5. Need to lead to a useful overview of the state of the environment**
- 6. Need to be realistic. Monitoring air quality costs plenty**
- 7. Need a sound framework so that they can build and build upon each other with little redundancy**
- 8. Are not going to be achieved tomorrow, realistically its going to take a bit longer**



National State of the Environment Monitoring Objectives

- 1. Need to be explicitly recognised and provided for**
- 2. May not all be relevant to a particular areas circumstances**
- 3. Will require a far greater level of monitoring effort than currently exists.
This capacity building will take time**

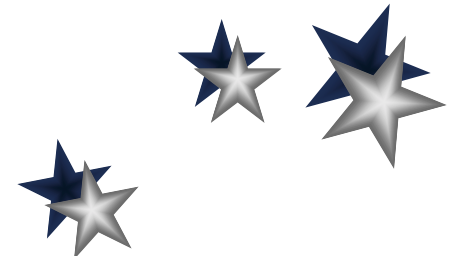
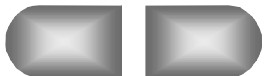


4. Are dependant on constant methodologies and data standards (apples with apples)

The Good Practice Guide is one of these tools

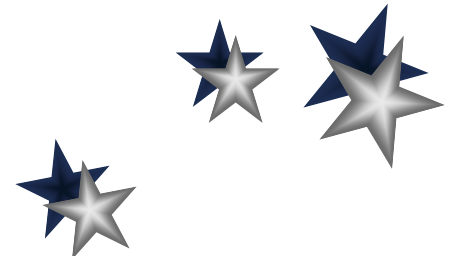
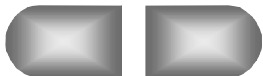
5. Will require co-ordination, agreement and goodwill from all parties

6. Has the potential to make the whole greater than the sum of the individual parts



Indicators

- 1. Need to be chosen in light of local knowledge or scoping**
- 2. Need to bear in mind the cost and practicality of measurement**
- 3. Usually include fine particles**



Guidelines

- 1. Are being provided along with good practice goals**
- 2. Give results a context**
- 3. Change with time as knowledge improves**
- 4. Allow prioritisation of effort**

