Index of Environmental Indicators

The indicators in this report show improvements in many areas that are of environmental concern including the quality of air and water, the use of natural resources, and the management of solid wastes. This section presents an index that measures improvement or deterioration in overall environmental quality for Canada, which will be discussed in some detail, followed by an index for each of the United States, Mexico, the United Kingdom, and South Korea. The index shows that the relative severity of most environmental problems is decreasing in Canada, the United States, and the United Kingdom. Environmental quality in most categories is improving in these countries relative to the quality in 1980. Environmental quality has improved in South Korea relative to 1985, the earliest year for which data is available. Data are incomplete for Mexico before 1990. Relative to that year, however, overall environmental quality in Mexico is about the same.

Methodology

To aggregate individual environmental indicators such as lead, phosphorus, and soil erosion into a single measure of environmental quality, a common unit of measure is required. To create the index of environmental indicators, annual values within each of the four main categories (air quality, water quality, natural resources, and solid waste) are converted to the base year 1980. This makes it possible to compare environmental quality in later years to the base year. It is important to note that this approach allows a comparison of relative values only. The base-80 values do not provide any information about the absolute level of environmental quality. This is unavoidable as assessments of absolute environmental quality are value judgments, beliefs about the "state of nature" that are social constructs varying among societies and over time.[1]

Base-80 values are comparable across categories because they are measured in the same units. For the same reason, these values can be averaged. A second technical issue arises when determining the weight assigned to each indicator. For example, it is difficult to quantify the respective weights to be given to air pollution and water pollution. For this reason, no attempt is made to give relative weights to each indicator. For each year, base-80 values are averaged within each of the four environmental categories (air quality, water quality, natural resources, and solid waste). The category averages are then weighted equally to arrive at an over-all average for each year.[2] The resulting time series represents the general trend in environmental quality for each nation.

It was necessary to account for missing data in many categories because the available time-series environmental data are often incomplete. Straightforward linear regression techniques are used to estimate missing values. In cases where trends are improving, however, the law of diminishing marginal returns may begin to have a significant effect. This means that future improvements may be more difficult to achieve than past ones. In such cases, linear projections would overestimate the rate of environmental improvement. For this reason, linear projections are used only to interpolate, that is, to fill gaps between known data points and years without data. Forward projections are conservatively estimated: they use the last known data point as an estimator for later years with missing data. This technique ensures that no additional environmental improvement is assumed where data are missing. In cases where backward projections are necessary, missing data are also conservatively estimated. As a result, the index of environmental indicators likely underestimates the actual improvement in environmental quality relative to 1980.

Results

Indices 1 through 5 show the base-80 values for each environmental indicator as well as category and overall averages for Canada, the United States, Mexico, the United

Kingdom, and South Korea. The category averages are presented graphically in figures 1 and 2. The trends for Canada, the United States, the United Kingdom, and South Korea are clear: environmental problems are declining in severity in most categories relative to the base-year available. On average, overall environmental problems in Canada in these categories were 17% less severe in 1999 than in 1980. The United States showed a decrease of 19% between 1980 and 1995, the United Kingdom a decrease of over 10% between 1980 and 1996, and South Korea a decrease of 9% between 1985 and 1997. In Mexico, overall environmental quality remained the same between 1990 and 1996.

The greatest improvements in the environment in Canada were in air quality and water quality. In Canada, overall ambient air quality improved by 27% while water quality improved by 50% between 1980 and 1999. The improvement in water quality, however, should be taken with a note of caution as the available data represent only a small fraction of the number of rivers, lakes and streams in each country.

While these trends are encouraging, a few indicators showed a decrease in environmental quality. For example, ground-level ozone levels deteriorated in Canada in the 1980s and 1990s. Because ground-level ozone is the result of many factors, its reduction remains a particularly difficult regulatory problem. In addition, freshwater consumption in Canada increased relative to renewable freshwater resources. However, since Canada has abundant water resources and since consumption of freshwater could be drastically reduced if it were sold at market value, this trend may not be of great concern.

Municipal waste generation has increased substantially since 1980; recycling rates, however, have increased as well. While Canadians produced increasing amounts of refuse, fewer economically valuable resources were being sent to landfills and incinerators. In addition, using the total amount of waste generated as an indicator of environmental quality may overstate the waste problem, as there is no shortage of landfill space in Canada.

Conclusion

The index of environmental indicators for Canada, the United States, Mexico, the United Kingdom, and South Korea shows that fears about increasing environmental degradation in these countries are unfounded. Environmental quality is getting better, not worse. While it is impossible to determine the exact magnitude of the improvement in the environment due to the difficulty in determining how overall environmental quality should be measured as well as the lack of data for some important categories, the direction of the change in quality is clear. While there are still some serious environmental problems that need to be addressed, overall environmental quality continues to improve.

Index 1: Relative Severity of Environmental Problems in Canada (base year 1980)[1]

Annual values >1 represent a decline in environmental quality; annual values <1 represent an improvement

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Net change[2]
Air Quality[3]																					
Sulphur Dioxide	1.00	0.92	0.83	0.70	0.73	0.63	0.63	0.54	0.68	0.69	0.70	0.51	0.54	0.58	0.52	0.46	0.53	0.58	0.62	0.57	–0.433
Nitrogen Dioxide	1.00	0.92	0.92	0.88	0.92	0.84	0.88	0.92	0.84	0.88	0.84	0.8	0.72	0.76	0.72	0.68	0.68	0.68	0.72	0.6	–0.400
Ozone	1.00	0.95	1.03	1.05	1.06	1.06	1.04	1.04	1.19	1.17	1.10	1.25	1.11	1.25	1.32	1.30	1.33	1.37	1.41	1.50	0.500
Carbon Monoxide	1.00	1.00	0.87	0.80	0.67	0.67	0.60	0.60	0.60	0.60	0.53	0.53	0.47	0.47	0.40	0.40	0.40	0.40	0.41	0.37	–0.633
Total Suspended Particulates[4]	1.00	0.88	0.78	0.71	0.70	0.64	0.64	0.70	0.66	0.66	0.58	0.57	0.53	0.54	0.52	0.52	0.53	0.55	0.53	0.57	–0.428
Lead	1.00	0.94	0.79	0.74	0.68	0.53	0.44	0.29	0.18	0.18	0.06	0.06	0.06	0.06	0.03	0.03	0.06	0.24	0.12	0.76	–0.235
Average	1.00	0.94	0.87	0.81	0.79	0.73	0.71	0.68	0.69	0.70	0.64	0.62	0.57	0.61	0.58	0.57	0.59	0.64	0.64	0.73	–0.272
Water Quality																					
Exceedances[5]	1.00	1.00	1.00	1.00	1.00	1.02	1.02	1.02	0.97	0.97	0.78	0.75	0.78	0.84	0.79	0.87	0.87	0.89	0.89	0.89	–0.11
% of population without wastewater treatment	1.00	1.00	1.00	1.00	0.99	0.99	0.98	0.88	0.78	0.68	0.55	0.52	0.43	0.35	0.26	0.19	0.21	0.18	0.15	0.12	–0.882
DDE (Coastal)	1.00	0.96	0.92	0.88	0.84	0.77	0.68	0.59	0.51	0.52	0.51	0.61	0.72	0.96	0.67	0.58	0.49	0.45	0.42	0.42	–0.580
PCB (Coastal)	1.00	0.89	0.78	0.66	0.55	0.53	0.52	0.52	0.52	0.52	0.42	0.48	0.50	0.44	0.39	0.36	0.34	0.35	0.35	0.35	–0.646
Dioxins & Furans (Coastal)	1.00	1.03	1.06	1.09	1.12	1.16	1.08	1.01	0.93	0.87	0.86	0.82	0.90	0.87	0.84	0.84	0.84	0.84	0.84	0.84	–0.159
Average (Coastal)[6]	1.00	0.97	0.94	0.91	0.88	0.86	0.82	0.75	0.68	0.65	0.58	0.60	0.64	0.65	0.54	0.49	0.47	0.45	0.44	0.43	–0.567
Nitrate/Nitrite (Great Lakes)	1.00	1.05	1.08	1.11	1.12	1.15	1.15	1.18	1.13	1.12	1.12	1.18	1.20	1.21	1.21	1.21	1.21	1.21	1.21	1.21	0.206
Phosphorus (Great Lakes)	1.00	0.69	0.79	0.68	0.76	0.74	0.79	0.58	0.54	0.61	0.69	0.69	0.61	0.70	0.59	0.59	0.59	0.59	0.59	0.59	–0.405
DDE (Great Lakes)	1.00	1.32	1.36	0.67	0.78	0.75	0.68	0.42	0.54	0.58	0.62	0.74	0.67	0.81	0.66	0.48	0.48	0.49	0.43	0.42	–0.582
PCBs (Great Lakes)	1.00	1.24	1.24	0.73	0.80	0.67	0.55	0.37	0.45	0.57	0.50	0.48	0.44	0.50	0.47	0.39	0.35	0.39	0.36	0.33	–0.671
HCBs (Great Lakes)	1.00	1.22	0.98	0.56	0.72	0.58	0.60	0.34	0.50	0.48	0.34	0.34	0.46	0.36	0.36	0.26	0.44	0.20	0.16	0.22	–0.780
Average (Great Lakes)[7]	1.00	1.10	1.09	0.75	0.84	0.78	0.76	0.58	0.63	0.67	0.65	0.69	0.67	0.72	0.66	0.59	0.61	0.58	0.55	0.55	–0.447
Average[8]	1.00	1.02	1.01	0.92	0.93	0.91	0.89	0.81	0.77	0.74	0.64	0.64	0.63	0.64	0.56	0.53	0.54	0.52	0.51	0.50	–0.501
Solid Waste																					
Waste Generation	1.00	1.05	1.11	1.16	1.21	1.27	1.32	1.38	1.43	1.43	1.43	1.44	1.44	1.70	1.30	1.23	1.17	1.17	1.17	1.17	0.17
Recycling Rate[9]	1.00	1.00	0.99	0.99	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.91	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	–0.11
Average	1.00	1.03	1.05	1.08	1.10	1.13	1.15	1.17	1.19	1.19	1.18	1.18	1.17	1.30	1.10	1.06	1.03	1.03	1.03	1.03	0.03
Land																					
Developed Land[10]	1.00	0.99	1.00	1.00	1.01	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.03	1.03	1.03	1.03	1.03	0.03
Protected Areas[11]	1.00	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.95	0.95	0.95	0.94	–0.06
Average	1.00	0.99	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	0.99	0.99	0.99	0.99	–0.02

(Index 1 continued)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Net change[2]
Natural Resources																					
Freshwater[12]	1.00	1.05	1.08	1.10	1.13	1.16	1.19	1.20	1.22	1.24	1.25	1.27	1.28	1.30	1.31	1.33	1.33	1.33	1.33	1.33	0.330
Energy																					
Crude Oil Production[13]	1.00	0.79	0.77	0.80	0.98	1.02	0.95	0.98	0.96	0.94	0.98	1.05	1.12	1.19	1.28	1.29	1.33	1.34	1.34	1.31	0.305
Energy Efficiency[14]	1.00	0.94	0.92	0.88	0.90	0.88	0.89	0.88	0.88	0.89	0.88	0.87	0.87	0.88	0.88	0.86	0.88	0.82	0.81	0.80	–0.20
Average	1.00	0.87	0.85	0.84	0.94	0.95	0.92	0.93	0.92	0.91	0.93	0.96	0.99	1.03	1.08	1.08	1.10	1.08	1.07	1.05	0.05
Forests																					
Harvesting Levels[15]	1.00	0.92	0.81	1.09	1.20	1.21	1.15	1.20	1.19	1.22	0.94	0.93	1.00	1.11	1.16	1.19	1.15	1.17	1.15	1.15	0.147
Replanting[16]	1.00	0.96	0.92	0.89	0.88	0.85	0.82	0.75	0.73	0.69	0.56	0.55	0.63	0.67	0.64	0.68	0.69	0.68	0.68	0.68	–0.322
Average	1.00	0.94	0.86	0.99	1.04	1.03	0.98	0.97	0.96	0.96	0.75	0.74	0.82	0.89	0.90	0.94	0.92	0.93	0.92	0.91	–0.087
Average (land, freshwater, energy, and forests)	1.00	0.96	0.95	0.98	1.03	1.04	1.02	1.03	1.03	1.03	0.98	0.99	1.02	1.05	1.07	1.08	1.09	1.08	1.08	1.07	0.07
Overall Average[17]	1.00	0.99	0.97	0.95	0.96	0.95	0.94	0.92	0.92	0.91	0.86	0.86	0.85	0.90	0.83	0.81	0.81	0.82	0.81	0.83	–0.17

Note 1: Except where otherwise noted, missing data were either extrapolated backward using the earliest available data point or extrapolated forward using the last available data point. See text for explanation.

Note 2: Net change equals the 1999 base-80 value minus the 1980 base-80 value; multiply by 100 to obtain a percentage change. Any slight discrepancies between the net change column and the difference between the 1999 and 1980 columns are due to rounding-off.

Note 3: Ambient levels.

Note 4: For Canada, the TSP measure was used, which is broader than the PM-10 category monitored in the United States.

Note 5: An "exceedance" is an instance of a reported failure to comply with a standard. This line shows the percentage of readings failing to meet local standards. For Canada, this is an average of responses from British Columbia, Alberta, Saskatchewan, Manitoba, and New Brunswick.

Note 6: Average of DDE, PCB, and Dioxins and Furans in the Straight of Georgia, Bay of Fundy, and the St. Lawrence estuary.

Note 7: Average of Nitrate/Nitrite, Phosphorus, DDE, PCBs, and HCBs in the Great Lakes.

Note 8: Average of the lines "Exceedances," "% of Population without Wastewater Treatment," "Average (Coastal)," and "Average (Great Lakes)."

Note 9: Recycling rate is an average of the recycling rates for paper and cardboard and for glass; rate is inverted to express the proportion of waste not recycled.

Note 10: Total urban and agricultural area in Canada.

Note 11: The percentage of the land mass of Canada that is not protected.

Note 12: Ratio of withdrawals to renewable resources.

Note 13: Crude oil production as a percentage of remaining established reserves.

Note 14: Energy consumption per $ of real GDP.

Note 15: Harvest levels as a percent of Annual Allowable Cut (AAC).

Note 16: The total area replanted divided by the total area harvested each year.

Note 17: Overall average is the average of the lines "Average (air quality)," "Average (water quality)," "Average (solid waste)," and "Average (land, freshwater, energy, and forests)."

Index 2: Relative Severity of Environmental Problems in the United States (base year 1980).[1]

Annual values >1 represent an increase in environmental degradation; annual values <1 represent a decrease.

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Net change[2]
Air quality[3]																	
Sulphur Dioxide	1.00	0.94	0.86	0.84	0.84	0.84	0.83	0.81	0.82	0.79	0.73	0.72	0.67	0.65	0.62	0.52	–0.477
Nitrogen Dioxide	1.00	0.98	0.96	0.94	0.95	0.94	0.95	0.94	0.95	0.92	0.88	0.88	0.83	0.81	0.86	0.83	–0.168
Ozone	1.00	0.92	0.89	1.00	0.89	0.88	0.85	0.89	0.96	0.82	0.80	0.81	0.76	0.77	0.77	0.80	–0.199
Carbon monoxide	1.00	0.97	0.88	0.88	0.87	0.79	0.76	0.72	0.69	0.68	0.63	0.60	0.56	0.53	0.54	0.48	–0.516
PM-10s[4]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.91	0.90	0.82	0.79	0.80	0.78	–0.220
Lead	1.00	0.83	0.65	0.51	0.45	0.32	0.22	0.20	0.13	0.10	0.10	0.07	0.06	0.06	0.05	0.05	–0.949
Average	1.00	0.94	0.88	0.86	0.84	0.80	0.77	0.76	0.76	0.72	0.68	0.66	0.62	0.60	0.61	0.58	–0.421
Water quality																	
"Exceedances"[5]	1.00	0.92	0.94	0.88	0.77	0.75	0.71	0.55	0.70	0.69	0.66	0.46	0.60	0.57	0.68	0.68	–0.322
Phosphorus (Gr. Lakes)	1.00	0.96	0.91	0.87	0.83	0.78	0.78	0.87	0.80	0.74	0.78	0.74	0.74	0.78	0.61	0.61	–0.391
Nitrogen (Gr. Lakes)	1.00	1.03	1.06	1.08	1.11	1.14	1.15	1.18	1.13	1.12	1.13	1.18	1.19	1.19	1.19	1.19	0.194
DDE (Gr. Lakes)	1.00	1.32	1.36	0.67	0.78	0.75	0.68	0.42	0.54	0.58	0.62	0.75	0.67	0.77	0.69	0.48	–0.523
PCB (Gr. Lakes)	1.00	1.24	1.23	0.73	0.80	0.67	0.55	0.37	0.45	0.57	0.50	0.48	0.44	0.34	0.48	0.39	–0.610
HCB (Gr. Lakes)	1.00	1.22	0.98	0.56	0.72	0.58	0.60	0.34	0.50	0.48	0.34	0.34	0.46	0.33	0.36	0.26	–0.740
Average (Great Lakes)[6]	1.00	1.15	1.11	0.78	0.85	0.78	0.75	0.64	0.69	0.70	0.67	0.70	0.70	0.68	0.67	0.59	–0.414
Average[7]	1.00	1.04	1.02	0.83	0.81	0.77	0.73	0.59	0.69	0.69	0.70	0.58	0.65	0.63	0.67	0.63	–0.368
Natural resources																	
Forests[8]	1.00	1.01	1.02	1.02	1.03	1.04	1.05	1.05	1.06	1.06	1.07	1.07	1.07	1.07	1.07	1.07	0.071
Water[9]	1.00	0.98	0.96	0.94	0.92	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	–0.100
Energy[10]	1.00	1.00	0.96	0.99	0.97	0.97	0.98	0.99	1.02	1.00	0.96	0.94	0.95	1.00	0.98	1.00	0.000
Developed Land[11]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.004
Soil erosion	1.00	1.00	1.00	0.99	0.97	0.96	0.95	0.93	0.90	0.86	0.83	0.79	0.76	0.76	0.76	0.76	–0.243
Average	1.00	1.00	0.99	0.99	0.98	0.97	0.97	0.98	0.97	0.97	0.95	0.94	0.93	0.94	0.94	0.94	–0.056
Solid waste																	
Waste generation	1.00	1.02	1.03	1.05	1.07	1.09	1.13	1.17	1.21	1.25	1.29	1.32	1.34	1.36	1.38	1.38	0.381
Recycling rate[12]	1.00	1.00	0.99	0.99	0.99	0.97	0.95	0.93	0.91	0.89	0.87	0.86	0.85	0.83	0.82	0.82	–0.179
Average	1.00	1.01	1.01	1.02	1.03	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.09	1.10	1.10	1.10	0.101
Overall average[13]	1.00	1.00	0.98	0.93	0.91	0.89	0.88	0.84	0.87	0.86	0.85	0.82	0.82	0.82	0.83	0.81	–0.186

Note 1: Except where otherwise noted, missing data were either extrapolated backward using the earliest available data point or extrapolated forward using the last available data point. See text for explanation.

Note 2: Net change equals the 1995 base-80 value minus the 1980 base-80 value; multiply by 100 to obtain a percentage change. Any slight discrepancies between the net change column and the difference between the 1995 and 1980 columns are due to rounding-off.

Notes continued on next page.

Note 3: Ambient levels.

Note 4: For Canada the TSP measure was used; for the United States, the narrower category of PM-10 is monitored and has thus been included in the study.

Note 5: An "exceedance" is an instance of a reported failure to comply with a standard. This line shows the percentage of readings failing to meet local standards.

Note 6: Average of phosphorus, nitrogen, DDE, PCB, and HCB.

Note 7: Average of the line "Exceedances" and the line "Average (Great Lakes)."

Note 8: In index 2, this is the ratio of harvest to growth; in Index 1 this is the ratio of annual allowable cut (AAC) to growth.

Note 9: Ratio of withdrawals to renewable resources.

Note 10: Ratio of consumption to production.

Note 11: Developed Land (urban + agricultural) as a proportion of total land base.

Note 12: Recycling rate is an average of the recycling rate for paper and cardboard and the recycling rate for glass; rate is inverted to express the proportion of waste not recycled.

Note 13: Overall average is the average of the lines "Average (air quality)," "Average (water quality)," "Average (natural resources)," and "Average (solid waste)."

Index 3: Relative Severity of Environmental Problems in Mexico (base year 1990).[1]

Annual values >1 represent an increase in environmental degradation; annual values <1 represent a decrease.

	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Air Quality[3]								
Sulphur Dioxide								
Mexico City	1.00	1.07	0.89	0.56	0.41	0.56	0.56	–0.444
Guadalajara	1.00	1.00	1.00	1.00	1.00	0.77	0.70	–0.300
Monterrey	1.00	1.00	1.00	1.00	1.06	0.94	1.18	0.176
Average[4]	1.00	1.02	0.96	0.85	0.82	0.75	0.81	–0.189
Nitrogen Dioxide								
Mexico City	1.00	0.93	0.87	1.00	1.03	0.95	1.15	0.148
Guadalajara	1.00	1.00	1.00	1.00	1.00	1.09	1.11	0.114
Monterrey	1.00	1.00	1.00	1.00	1.00	0.89	0.96	–0.036
Average[5]	1.00	0.98	0.96	1.00	1.01	0.98	1.08	0.075
Ozone								
Mexico City	1.00	1.12	1.06	0.96	1.02	1.00	0.95	–0.047
Toluca	1.00	1.00	1.00	1.00	1.00	0.97	1.43	0.434
Monterrey	1.00	1.00	1.00	1.00	0.82	0.79	0.91	–0.091
Average[6]	1.00	1.04	1.02	0.99	0.95	0.92	1.10	0.099
Carbon Monoxide								
Mexico City	1.00	1.11	0.86	0.54	0.53	0.76	0.78	–0.224
Guadalajara	1.00	1.00	1.00	1.00	1.00	0.88	0.90	–0.098
Monterrey	1.00	1.00	1.00	1.00	0.96	0.80	0.84	–0.160
Average[7]	1.00	1.04	0.95	0.85	0.83	0.82	0.84	–0.161
Total Suspended Particulates								
Mexico City	1.00	0.73	0.69	0.89	0.81	1.10	1.25	0.250
Guadalajara	1.00	1.00	1.00	1.00	1.00	1.05	0.83	–0.175
Monterrey	1.00	1.00	1.00	1.00	1.17	0.84	0.88	–0.116
Average[8]	1.00	0.91	0.90	0.96	1.00	1.00	0.99	–0.014
Lead (Mexico national)	1.00	0.67	0.38	0.24	0.20	0.17	0.18	–0.825
Average[9]	1.00	0.94	0.86	0.81	0.80	0.77	0.83	–0.169
Water Quality								
Nitrates in Rivers								
Bravo	1.00	2.02	1.34	0.93	1.11	0.89	0.89	–0.107
Lema	1.00	1.25	2.66	3.86	1.11	1.11	1.11	0.114
Panuco	1.00	1.20	2.70	1.70	2.60	1.50	1.50	0.500
Grijalva	1.00	2.21	0.58	0.43	0.21	0.32	0.32	–0.683

(Index 3 continued)	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Average[10]	1.00	1.67	1.82	1.73	1.26	0.96	0.96	–0.044
Phosphorus in Rivers								
Lema	1.00	0.50	0.60	0.70	2.12	2.12	2.12	1.125
Panuco	1.00	0.93	0.39	0.67	0.83	0.87	0.87	–0.130
Grijalva	1.00	0.10	0.09	0.32	0.07	0.21	0.21	–0.789
Balsas	1.00	1.05	0.94	1.02	1.72	1.72	1.72	0.719
Average[11]	1.00	0.65	0.51	0.68	1.18	1.23	1.23	0.231
Ammonium in Rivers								
Bravo	1.00	2.60	0.72	1.08	1.24	0.12	0.12	–0.884
Lema	1.00	0.83	1.25	2.75	7.06	7.06	7.06	6.057
Panuco	1.00	0.80	0.60	0.40	0.50	0.30	0.30	–0.700
Grijalva	1.00	0.20	0.10	0.05	0.05	0.10	0.10	–0.900
Average[12]	1.00	1.11	0.67	1.07	2.21	1.89	1.89	0.893
Copper in Rivers								
Panuco	1.00	0.75	0.50	0.50	0.50	0.50	0.50	–0.500
Biochemical Oxygen Demand in Rivers								
Bravo	1.00	0.89	0.86	1.00	1.22	0.86	0.86	–0.139
Lema	1.00	0.21	1.13	1.19	0.71	0.71	0.71	–0.289
Panuco	1.00	1.04	1.08	1.12	0.92	0.86	0.86	–0.145
Grijalva	1.00	1.05	1.36	1.68	1.73	0.91	0.91	–0.091
Average[13]	1.00	0.80	1.11	1.25	1.15	0.83	0.83	–0.166
Phosphorus in Lakes								
Chapala	1.00	1.17	1.13	1.23	1.33	1.33	1.33	0.333
Patzcuaro	1.00	1.33	1.66	0.84	0.01	0.01	0.01	–0.989
Catemaco	1.00	0.56	0.11	0.08	0.06	0.04	0.04	–0.956
Average[14]	1.00	1.02	0.97	0.72	0.47	0.46	0.46	–0.537
Nitrogen in Lakes								
Chapala	1.00	2.40	1.20	1.37	1.53	1.53	1.53	0.533
Catemaco	1.00	1.13	0.63	1.06	1.50	0.50	0.50	–0.500
Average[15]	1.00	1.76	0.91	1.21	1.52	1.02	1.02	0.017
Average[16]	1.00	1.11	0.93	1.02	1.18	0.98	0.98	–0.015
Natural Resources								
Forests[17]	1.00	0.94	0.88	0.82	0.76	0.70	0.70	–0.298
Water[18]	1.00	1.02	1.03	1.05	1.07	1.09	1.09	0.088
Energy[19]	1.00	1.00	1.02	1.01	1.04	1.04	1.04	0.043
Developed Land[20]	1.00	1.01	1.02	1.02	1.02	1.02	1.02	0.020
Average	1.00	0.99	0.99	0.98	0.97	0.96	0.96	–0.037

(Index 3 continued)	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Solid Waste								
Waste Generation	1.00	1.00	1.04	1.33	1.40	1.45	1.45	0.449
Recycling Rate[21]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.000
Average	1.00	1.00	1.02	1.17	1.20	1.22	1.22	0.224
Overall Average[22]	1.00	1.01	0.95	1.00	1.04	0.99	1.00	0.001

Note 1: Except where otherwise noted, missing data were either extrapolated backward using the earliest available data point or extrapolated forward using the last available data point. See text for explanation.

Note 2: Net change equals the 1996 base-90 value minus the 1990 base-90 value; multiply by 100 to obtain a percentage change. Any slight discrepancies between the net change column and the difference between and the 1996 and 1990 columns are due to rounding off.

Note 3: Ambient levels.

Note 4: Average of sulphur dioxide levels in Mexico City, Guadalajara, and Monterrey.

Note 5: Average of nitrogen dioxide levels in Mexico City, Guadalajara, and Monterrey.

Note 6: Average of ozone levels in Mexico City, Toluca, and Monterrey.

Note 7: Average of carbon monoxide levels in Mexico City, Guadalajara, and Monterrey.

Note 8: Average of total suspended particulate levels in Mexico City, Guadalajara, and Monterrey.

Note 9: Average of the "Average" lines for sulphur dioxide, nitrogen dioxide, ozone, carbon monoxide, and TSP, and line for Pb (Mexico national).

Note 10: Average of nitrates in the Bravo, Lema, Panuco, and Grijalva Rivers.

Note 11: Average of phosphorus in the Lema, Panuco, Grijalva, and Balsas Rivers.

Note 12: Average of ammonium in the Bravo, Lema, Panuco, and Grijalva Rivers.

Note 13: Average of biochemical oxygen demand in the Bravo, Lema, Panuco, and Grijalva Rivers.

Note 14: Average of phosphorus in the Chapala, Patzcuaro, and Catemaco Lakes.

Note 15: Average of nitrogen in the Chapala and Catemaco Lakes.

Note 16: Average of the "Average" lines for nitrates, phosphorus, ammonium, B.O.D., and the Copper line in rivers, and the "Average" lines for phosphorus and nitrogen in lakes.

Note 17: This is the ratio of harvest to growth.

Note 18: Ratio of withdrawals to renewable resources.

Note 19: Ratio of consumption to production.

Note 20: Developed land (urban + agricultural) as a proportion of total land base.

Note 21: Recycling rate is an average of the recycling rate for paper and cardboard and the recycling rate for glass; rate is inverted to express the proportion of waste not recycled.

Note 22: Overall average is the average of the lines "Average (air quality)," "Average (water quality)," "Average (natural resources)," and "Average (solid waste)."

Index 4: Relative Severity of Environmental Problems in the United Kingdom (base year 1980).[1]

Annual values >1 represent an increase in environmental degradation; annual values <1 represent a decrease.

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Air quality[3]																		
Sulphur Dioxide	1.00	0.78	0.70	0.63	0.59	0.59	0.70	0.52	0.37	0.63	0.52	0.52	0.41	0.37	0.30	0.26	0.22	–0.778
Nitrogen Dioxide[4]	1.00	1.07	1.23	1.40	1.30	1.17	1.07	1.03	0.97	1.07	1.00	0.80	0.80	0.80	0.80	0.77	0.77	–0.233
Ozone	1.00	1.17	1.50	1.92	1.67	1.75	1.75	1.75	2.00	2.00	2.08	2.00	1.92	1.75	1.83	1.83	1.58	0.583
Carbon Monoxide	1.00	1.29	1.35	0.87	0.80	0.51	0.51	0.65	0.80	1.29	1.02	1.07	0.72	0.56	0.50	0.46	0.50	–0.499
Total Suspended Particulates	1.00	1.19	1.10	1.14	1.00	1.00	1.00	0.95	0.90	0.81	0.81	0.76	0.67	0.62	0.52	0.52	0.52	–0.480
Lead	1.00	0.95	0.90	0.85	0.80	0.75	0.42	0.44	0.47	0.34	0.27	0.19	0.15	0.12	0.13	0.09	0.09	–0.906
Average	1.00	1.07	1.13	1.13	1.03	0.96	0.91	0.89	0.92	1.02	0.95	0.89	0.78	0.70	0.68	0.66	0.61	–0.385
Water quality																		
Heavy Metals in Rivers–Cadmium																		
Thames	1.00	0.96	0.92	0.88	0.84	0.80	0.50	0.50	0.40	0.20	0.10	0.30	0.50	0.50	0.20	0.10	0.10	–0.900
Severn	1.00	0.80	0.61	0.41	0.22	0.02	0.03	0.02	0.02	0.04	0.05	0.04	0.02	0.01	0.02	0.01	0.01	–0.990
Clyde	1.00	0.95	0.89	0.84	0.78	0.73	0.55	0.45	0.45	0.45	0.18	0.18	0.36	0.27	0.27	1.09	1.09	0.091
Mersey	1.00	0.85	0.70	0.55	0.40	0.25	0.38	0.25	0.25	0.25	0.38	0.38	0.38	0.13	0.13	0.13	0.13	–0.875
Average[5]	1.00	0.89	0.78	0.67	0.56	0.45	0.36	0.31	0.28	0.24	0.18	0.22	0.31	0.23	0.15	0.33	0.33	–0.669
Heavy Metals in Rivers–Chromium																		
Thames	1.00	0.99	0.97	0.96	0.95	0.93	0.84	0.93	0.78	0.47	0.47	0.79	0.93	0.93	0.16	0.15	0.15	–0.850
Severn	1.00	0.87	0.75	0.62	0.50	0.37	0.35	0.21	0.10	0.07	0.07	0.07	0.04	0.05	0.06	0.05	0.05	–0.947
Clyde	1.00	0.97	0.94	0.91	0.88	0.85	1.28	1.21	0.97	1.26	1.06	0.89	0.78	0.83	0.69	0.68	0.68	–0.316
Mersey	1.00	0.92	0.85	0.77	0.70	0.62	0.72	0.60	0.48	0.55	0.53	0.43	0.28	0.30	0.24	0.25	0.25	–0.750
Average[6]	1.00	0.94	0.88	0.82	0.75	0.69	0.80	0.74	0.58	0.59	0.53	0.55	0.51	0.53	0.29	0.28	0.28	–0.716
Heavy Metals in Rivers–Copper																		
Thames	1.00	1.01	1.02	1.03	1.04	1.05	1.12	1.10	0.83	0.54	0.84	0.79	0.67	0.62	0.51	0.68	0.68	–0.320
Severn	1.00	0.92	0.83	0.75	0.66	0.58	0.54	0.41	0.28	0.29	0.46	0.26	0.23	0.25	0.25	0.25	0.25	–0.755
Clyde	1.00	0.91	0.83	0.74	0.65	0.57	0.55	0.41	0.41	0.26	0.53	0.30	0.34	0.55	0.40	0.90	0.90	–0.098
Mersey	1.00	0.90	0.80	0.69	0.59	0.49	0.54	0.51	0.49	0.58	0.41	0.44	0.46	0.44	0.37	0.36	0.36	–0.640
Average[7]	1.00	0.93	0.87	0.80	0.74	0.67	0.69	0.61	0.50	0.42	0.56	0.45	0.43	0.47	0.38	0.55	0.55	–0.453
Metal Average[8]	1.00	0.92	0.84	0.76	0.68	0.60	0.62	0.55	0.46	0.41	0.42	0.41	0.42	0.41	0.28	0.39	0.39	–0.612
Nutrients in Lakes–Phosphorus																		
Neagh	1.00	1.01	1.03	1.04	1.06	1.06	1.00	0.87	0.83	0.98	0.89	0.93	0.93	1.04	0.62	1.11	1.11	0.111
Lomond	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.56	0.33	1.67	2.11	2.11	2.56	1.67	1.00	1.00	1.00	0.000
Bewl Water	1.00	1.00	1.00	1.00	1.00	1.00	3.26	3.37	3.48	3.52	3.65	3.78	3.91	5.78	10.43	1.30	1.30	0.304
Average[9]	1.00	1.00	1.01	1.01	1.02	1.02	1.72	1.60	1.55	2.06	2.22	2.27	2.46	2.83	4.02	1.14	1.14	0.138

(Index 4 continued)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Nutrients in Lakes–Nitrogen																		
Neagh	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.63	1.31	0.54	1.60	1.21	0.79	0.85	0.85	0.88	0.88	–0.125
Lomond	1.00	1.00	1.00	0.97	0.97	0.97	0.90	0.77	0.70	0.53	0.43	0.67	1.20	0.50	0.73	1.30	1.30	0.300
Bewl Water	1.00	0.97	0.93	0.91	0.88	0.85	1.07	1.46	0.86	0.88	1.23	1.99	1.60	1.54	0.67	0.62	0.62	–0.385
Average[10]	1.00	0.99	0.98	0.96	0.95	0.94	0.89	0.95	0.96	0.65	1.09	1.29	1.20	0.96	0.75	0.93	0.93	–0.070
Nutrient Average[11]	1.00	1.00	0.99	0.99	0.98	0.98	1.30	1.27	1.25	1.35	1.65	1.78	1.83	1.90	2.39	1.03	1.03	0.034
Biological Quality of Rivers and Canals[12]																		
England and Wales	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.82	0.72	0.63	0.54	0.54	–0.462
Scotland	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.87	0.80	0.73	0.67	0.67	–0.333
Northern Ireland	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.000
Average[13]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.89	0.84	0.79	0.74	0.74	–0.265
Chemical Quality of Rivers and Canals[14]																		
England and Wales	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.08	1.12	1.16	1.20	1.14	1.08	1.02	0.96	0.90	0.90	–0.100
Scotland	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.000
Northern Ireland	1.00	1.20	1.40	1.60	1.80	2.00	1.93	1.87	1.80	1.73	1.67	2.13	2.60	3.07	3.53	4.00	4.00	3.000
Average[15]	1.00	1.07	1.13	1.20	1.27	1.33	1.32	1.32	1.31	1.30	1.29	1.42	1.56	1.70	1.83	1.97	1.97	0.967
Contaminants in Fish in the Irish Sea–Whiting																		
Mercury	1.00	1.00	1.00	1.21	0.86	0.93	0.93	0.86	0.86	0.93	0.93	0.79	0.86	0.93	0.93	0.93	0.93	–0.071
PCBs	1.00	1.00	1.00	1.05	1.11	1.21	1.04	0.87	1.16	0.92	0.66	0.74	0.62	0.50	0.50	0.50	0.50	–0.500
DDT	1.00	1.00	1.00	0.83	0.67	0.44	0.61	0.78	0.78	0.44	0.33	0.44	0.44	0.44	0.44	0.44	0.44	–0.556
Contaminants in Fish in the Irish Sea–Plaice																		
Mercury	1.00	1.00	1.00	1.17	0.92	0.75	0.92	0.92	1.00	0.83	0.83	0.83	0.83	0.75	0.75	0.75	0.75	–0.250
PCBs	1.00	1.00	1.00	1.00	1.75	1.00	0.75	1.00	1.25	1.25	1.08	0.92	0.75	1.00	0.88	0.75	0.75	–0.250
DDT	1.00	1.00	1.00	1.00	1.18	0.27	0.64	0.64	0.55	0.55	0.48	0.42	0.36	0.64	0.50	0.36	0.36	–0.636
Average[16]	1.00	1.00	1.00	1.04	1.08	0.77	0.81	0.84	0.93	0.82	0.72	0.69	0.64	0.71	0.67	0.62	0.62	–0.377
Contaminants in Fish in the North Sea–Cod																		
Mercury	1.00	1.00	1.00	1.00	0.89	0.89	0.89	0.89	0.89	1.11	1.00	0.67	0.72	0.78	0.78	0.78	0.78	–0.222
PCBs	1.00	1.00	1.00	0.86	0.62	0.38	0.32	0.35	0.44	0.33	0.32	0.32	0.27	0.21	0.35	0.30	0.24	–0.758
DDT	1.00	1.00	1.00	0.40	0.35	0.30	0.30	0.20	0.40	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	–0.800
Contaminants in Fish in the North Sea–Plaice																		
Mercury	1.00	1.00	1.00	1.14	0.86	0.71	0.57	0.71	0.86	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	–0.286
PCBs	1.00	1.00	1.00	1.00	1.20	0.20	0.20	0.20	0.60	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	–0.800
DDT	1.00	1.00	1.00	1.00	1.67	0.67	1.00	1.00	1.67	0.67	0.33	0.33	0.33	0.33	0.33	0.33	0.33	–0.667
Average[17]	1.00	1.00	1.00	0.90	0.93	0.52	0.55	0.56	0.81	0.54	0.46	0.41	0.41	0.41	0.43	0.42	0.41	–0.589
Water quality average[18]	1.00	1.00	0.99	0.98	0.99	0.87	0.93	0.92	0.96	0.90	0.92	0.94	0.96	0.99	1.06	0.86	0.86	–0.140
Natural Resources																		
Forests[19]	1.00	1.01	1.03	1.04	1.05	1.06	1.14	1.22	1.30	1.38	1.46	1.49	1.52	1.55	1.58	1.60	1.60	0.605

(Index 4 continued)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Net Change[2]
Water[20]	1.00	0.97	0.94	0.91	0.88	0.85	0.86	0.87	0.88	0.89	0.89	0.85	0.81	0.77	0.73	0.69	0.69	–0.308
Energy[21]	1.00	0.98	0.87	0.82	0.94	0.85	0.84	0.87	0.92	1.02	1.03	1.04	1.03	1.01	0.93	0.88	0.88	–0.117
Developed Land[22]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	–0.010
Average	1.00	0.99	0.96	0.94	0.97	0.94	0.96	0.99	1.02	1.07	1.09	1.09	1.09	1.08	1.06	1.04	1.04	0.042
Solid Waste																		
Waste Generation	1.00	1.02	1.04	1.06	1.08	1.10	1.14	1.17	1.21	1.25	1.29	1.29	1.29	1.29	1.29	1.29	1.29	0.290
Recycling Rate[23]	1.00	1.02	1.02	1.01	1.01	0.98	0.98	0.98	0.98	0.95	0.88	0.88	0.85	0.85	0.83	0.85	0.85	–0.153
Average	1.00	1.02	1.03	1.04	1.04	1.04	1.06	1.07	1.10	1.10	1.09	1.08	1.07	1.07	1.06	1.07	1.07	0.068
Overall Average[24]	1.00	1.02	1.03	1.02	1.01	0.95	0.97	0.97	1.00	1.02	1.01	1.00	0.97	0.96	0.97	0.91	0.90	–0.104

Note 1: Except where otherwise noted, missing data were either extrapolated backward using the earliest available data point or extrapolated forward using the last available data point. See text for explanation.

Note 2: Net change equals the 1996 base-80 value minus the 1980 base-80 value; multiply by 100 to obtain a percentage change. Any slight discrepancies between the net change column and the difference between the 1996 and 1980 columns are due to rounding off.

Note 3: Ambient levels.

Note 4: NO2 was measured at Central London, Cromwell Rd, and Stevenage sites only until 1987. In 1987, more sites were measured.

Note 5: Average of cadmium in the Thames, Severn, Clyde, and Mersey Rivers.

Note 6: Average of chromium in the Thames, Severn, Clyde, and Mersey Rivers.

Note 7: Average of copper in the Thames, Severn, Clyde, and Mersey Rivers.

Note 8: Average of the "Average" lines for cadmium, chromium, and copper.

Note 9: Average of phosphorus in the Neagh, Lomond, and Bewl Water.

Note 10: Average of nitrogen in the Neagh, Lomond, and Bewl Water.

Note 11: Average of the "Average" lines for phosphorus and nitrogen.

Note 12: This expresses the percent of rivers and canals not considered Fair or Good.

Note 13: Average of the biological quality of rivers and canals in England and Wales, Scotland, and Northern Ireland.

Note 14: This expresses the percent of rivers and canals not considered Fair or Good.

Note 15: Average of the chemical quality of rivers and canals in England and Wales, Scotland, and Northern Ireland.

Note 16: Average of the levels of mercury, PCBs, and DDT found in whiting and plaice in the Irish Sea.

Note 17: Average of the levels of mercury, PCBs, and DDT found in cod and plaice in the Irish Sea.

Note 18: Average of the lines "Metal Average" and "Nutrient Average," and the Averages for "Biological Quality of Rivers and Canals," "Chemical Quality of Rivers and Canals," "Contaminants in Fish in the Irish Sea," and "Contaminants in Fish in the North Sea.

Note 19: This is the ratio of harvest to growth.

Note 20: Ratio of withdrawals to renewable resources.

Note 21: Ratio of consumption to production.

Note 22: Developed land (urban + agricultural) as a proportion of total land base.

Note 23: Recycling rate is an average of the recycling rate for paper and cardboard and the recycling rate for glass; rate is inverted to express the proportion of waste not recycled.

Note 24: Overall average is the average of the lines "Average (air quality)," "Average (water quality)," "Average (natural resources)," and "Average (solid waste).

Index 5: Relative Severity of Environmental Problems in South Korea (base year 1985)[1]

Annual values >1 represent an increase in environmental degradation; annual values < 1 represent a decrease

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Net change[2]
Air quality[3]														
Sulphur Dioxide	1.00	0.86	1.00	1.08	1.04	0.96	0.83	0.71	0.52	0.46	0.42	0.33	0.27	–0.73
Nitrogen Dioxide	1.00	1.00	1.00	0.93	0.83	0.86	0.97	0.97	0.97	0.86	1.00	1.03	1.00	0.00
Ozone	1.00	0.72	0.61	0.56	0.50	0.61	0.67	0.78	0.72	0.78	0.78	0.89	0.94	–0.06
Carbon Monoxide	1.00	1.06	1.17	1.06	1.11	0.92	0.83	0.70	0.60	0.61	0.50	0.50	0.43	–0.57
Total Suspended Particulates[4]	1.00	0.88	0.86	0.90	0.76	0.73	0.61	0.52	0.46	0.41	0.42	0.43	0.38	–0.62
Lead (measured since 1993)[5]									1.00	0.89	0.75	0.69	0.52	–0.48
Average (air quality)	1.00	0.92	0.94	0.92	0.87	0.85	0.82	0.78	0.71	0.67	0.65	0.65	0.59	–0.41
Water quality[6]														
Biological Oxygen Demand	1.00	1.14	0.93	1.07	1.34	0.78	0.43	0.47	0.54	0.47	0.82	0.76	1.01	0.01
Chemical Oxygen Demand	1.00	0.81	0.71	0.76	0.68	0.53	0.55	0.72	0.87	1.29	1.22	1.06	1.40	0.40
Phosphorus	1.00	1.00	1.00	1.00	1.00	1.00	1.05	0.63	0.43	0.52	0.21	0.45	0.57	–0.43
Nitrogen	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.18	1.45	1.54	1.68	1.76	0.76
Average (water quality)	1.00	0.99	0.91	0.96	1.01	0.83	0.76	0.69	0.76	0.93	0.95	0.99	1.19	0.19
Solid waste														
Waste generation	1.00	1.00	1.04	1.19	1.29	1.37	1.47	1.33	1.29	1.33	1.32	1.60	1.71	0.71
Recycling rate[7]	1.00	1.00	0.97	0.96	0.91	0.90	1.00	0.85	0.73	0.69	0.59	0.66	0.67	–0.33
Average (solid waste)	1.00	1.00	1.01	1.06	1.10	1.14	1.24	1.09	1.01	1.01	0.96	1.13	1.19	0.19
Natural Resources														
Forest[8]	1.00	0.57	1.00	0.53	0.46	0.52	0.70	0.37	0.55	0.52	0.10	0.46	0.43	–0.57
Energy[9]	1.00	0.95	0.86	0.83	0.76	0.69	0.63	0.6	0.6	0.57	0.55	0.59	0.60	–0.40
Developed Land[10]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	0.99	0.99	0.98	–0.02
Average (natural resources)	1.00	0.84	0.95	0.79	0.74	0.74	0.78	0.65	0.71	0.7	0.55	0.68	0.67	–0.33
Overall Average[11]	1.00	0.94	0.95	0.93	0.93	0.89	0.90	0.80	0.80	0.83	0.78	0.86	0.91	–0.09

Note 1: Except where otherwise noted, missing data were either extrapolated backward using the earliest available data point or extrapolated forward using the last available data point. See text for explanation.

Note 2: Net change equals the 1997 base-85 value minus the 1985 base-85 value; multiply by 100 to obtain a percentage change. Any slight discrepancies between the net change column and the difference between the 1997 and 1985 columns are due to rounding-off.

Note 3: Ambient levels.

Note 4: For Korea, the TSP measure was used, which is broader than the PM-10 category monitored in the United States.

Note 5: Lead has been measured since 1993.

Note 6: Measurements taken from the major rivers (Han, Naktong, Kum, Yongsan) in South Korea.

Note 7: Recycling rate is an average of the recycling rate for paper and cardboard and the recycling rate for glass; rate is inverted to express the proportion of waste not recycled.

Notes continued on next page.

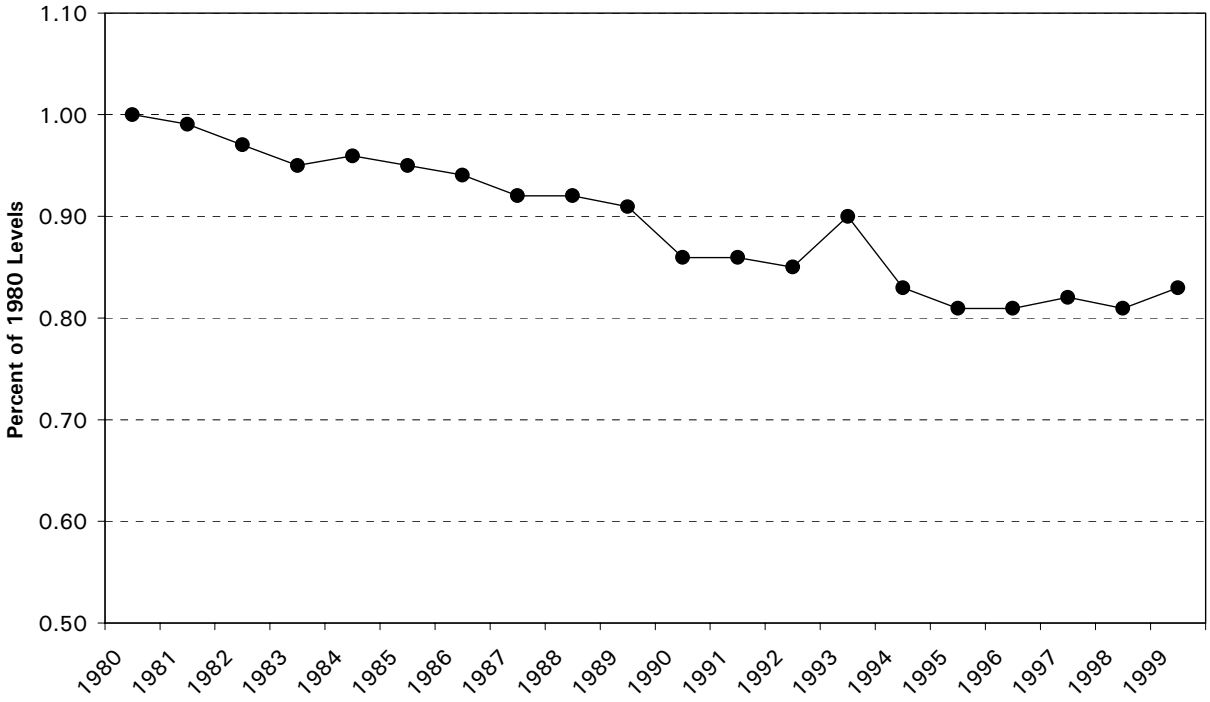
Note 8: Ratio of Annual Allowable Cut to growth.

Note 9: Ratio of consumption to production.

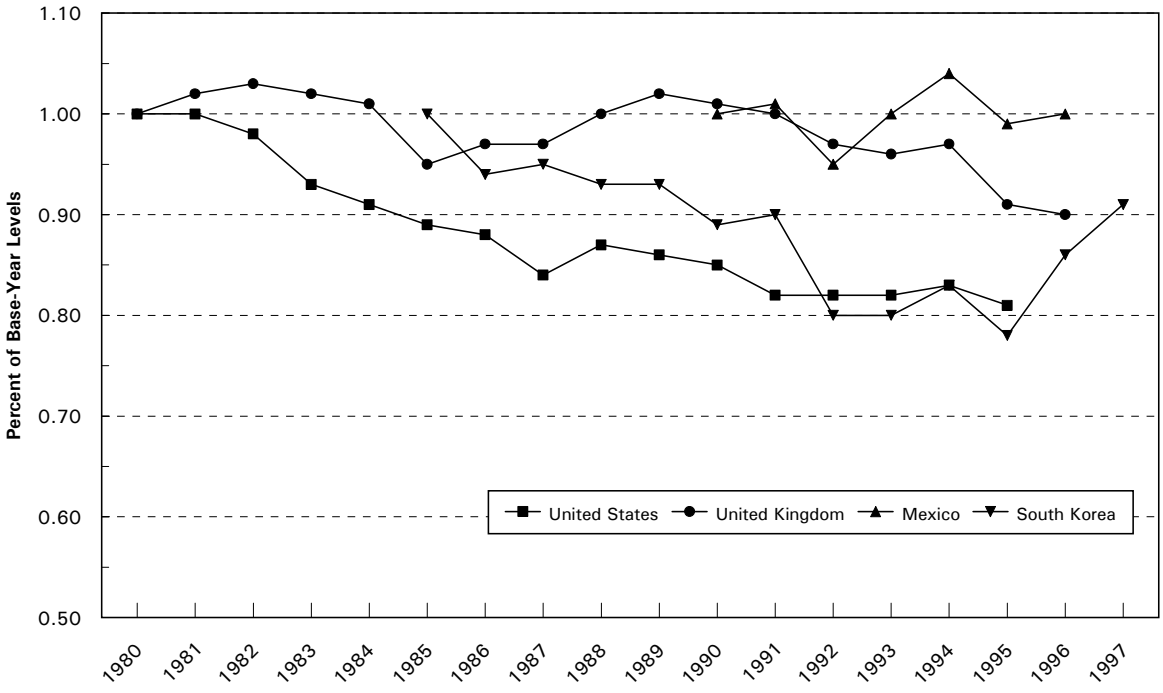
Note 10: Developed land (urban and agricultural) expressed as a proportion of total land base.

Note 11: Overall average is the average of the lines "Average (air quality)," "Average (water quality)," "Average (natural resources)," and "Average (solid waste)."

Index Figure 1: Severity of environmental problems in Canada



Index Figure 2: Relative severity of environmental problems in the United States, the United Kingdom, Mexico, and South Korea



Note: Base year for the United States and the United Kingdom is 1980, for South Korea is 1985, and for Mexico is 1990.