Notes

Primary Indicators

1 Canada also has standards for hydrogen fluoride and is proposing standards for hydrogen sulphide.

2 Air monitoring stations operate in most Canadian cities with populations over 50,000; they are located in residential, industrial and commercial areas.

3 Standards are more stringent for longer time periods. For example, the 1-hour desirable level for sulphur dioxide is 172 ppb, whereas the annual desirable level is 11 ppb.

4 The three stations that have reported annual means above the maximum acceptable level in the past two years are located in Windsor, Hamilton, and Calgary.

5 The one exception is a station located in Quebec, which is situated near a lead mine. When the mine reopened in 1997, the station's annual mean was 1.51 $\mu g/m^3$, though it declined to .77 $\mu g/m^3$ in 1999.

6 The four stations that have continued to record lead levels have been selected because of specific regional concerns over lead levels. For instance, one station is located near a lead mine.

7 Eutrophication, or nutrient enrichment, is the oversupply of inorganic nutrients that cause algae and plants to multiply rapidly; when they die and decompose, the water's dissolved oxygen content is depleted. Dissolved oxygen, which is derived from photosynthesis by aquatic plants and atmospheric exchange, is essential to ensure the maintenance of aquatic life and self-purification processes in natural water systems.

8 Bioaccumulation in aquatic organisms occurs when a persistent, fat-soluble, contaminant enters the organism's body through the skin or by ingestion. If consumption exceeds the organism's ability to metabolize or eliminate the contaminant, over time it accumulates in the tissues.

9 Contaminant levels in herring-gull eggs are a good water quality indicator since these pollutants are bio-accumulative; as fish-eaters, herring gulls will have the highest concentration of these pollutants in their systems.

10 The harbour is not used for recreational purposes, such as swimming, so the comparison to this standard is somewhat tenuous.

11 Long-term monitoring has been carried out by DIAND, Environment Canada and the territorial governments. DIAND operated 21 stations in the Yukon up to 1996 and about 50 stations are operating in the NWT. Data from these stations is presently collected into a database, though not analyzed.

12 Nunavut is looking to update its guidelines with more current objectives though no time frame has been set for this.

13 The data for Lake Michigan is available only since 1976 and the data for Lake Ontario is available only up to 1996. The changes reported in percentage for Lake Superior for DDE and PCBs are from their peak levels in 1975.

14 DDT (dichloro-diphenyl-trichloro-ethane) is a persistent, bioaccumulative, synthetic insecticide. Its use was heavily restricted in the 1970s and prohibited after 1990. The breakdown product, DDE, is most easily measured in the fat of animals or in the eggs of birds. Most other pesticides in use today are not as persistent and hence are not transported to the same degree as DDT.

15 PCBs were once used extensively in many parts of the electrical and transmission industry, in flame retardants, water-proofing agents, printing inks, and adhesives. They were also spread on roads to prevent airborne dust. In the 1980s, tight restrictions al-

lowed PCBs to be used only in closed electrical equipment. Safe incineration technologies now are used to destroy those currently in storage. They have been associated with declining fish populations in some locations.

16 HCBs are used in fungicides, dye manufacturing, and wood preservatives. They are also produced as a waste by-product of chemical manufacturing. The region of the Great Lakes is at risk from HCB contamination since numerous chlorine plants are located near the Lakes on both sides of the border.

17 These declines have not been without cost. In 1982, for example, more than 450,000 kg of PCB contaminated sediment was dredged from the Weukegan harbour at a cost of 24 million dollars (Environment Canada & USEPA 1997a).

18 While summarizing research into the toxic effects of pollution in the Great Lakes in 1997, the United States Agency for Toxic Substances and Disease Registry concluded that both wildlife and human populations are being affected by exposure to toxic substances (IJC 1997). The background paper on toxic contaminants from the State of the Lakes Ecosystem Conferences (SOLEC) reports that water-quality objectives for the protection of human health are exceeded at current levels. It also recommends further reductions in pollutant concentrations (Environment Canada & USEPA 1995b: 1).

19 Target loads for phosphorus are defined in the 1978 Great Lakes Water Quality Agreements (in metric tones per year) as: Lake Superior 3,400, Lake Michigan 5,600, Lake Huron 4,300, Lake Erie 11,000, and Lake Ontario 7,000.

20 During the Toronto city council meeting debating the proposal, one opponent of the plan, Grand Chief Carol McBride, said protests against the decision will "make Oka look like a Sunday picnic" (Lindgren 2000).

21 While this illustrates the area needed to house Canada's garbage, it oversimplifies the situation somewhat because not all land is equal when it comes to landfills. Even given modern engineering techniques like landfill liners and leachate-capture systems, some types of land are clearly more economical or practical for use as landfills: one would want a site with clay sub-soil, distant from major water supplies, and located away from major population centers but still close enough for cost-efficient transportation of waste.

22 In Canada, municipal waste is all waste that is not construction and demolition debris. See OECD 1999: 165.

23 There are some prominent examples of situations where recycling is clearly the most cost-effective and environmentally friendly direction to follow, notably with aluminum and steel. However, it is unnecessary to have a government program for recycling these materials since companies are willing to pay for the return of them.

24 Estimates for urban space range from 0.2 percent to 1 percent depending on the definition.

25 Cropland is the amount of land used to grow field crops, fruit, vegetables, nursery products, and sod.

26 Since lands left in summerfallow are more likely to sustain erosion and to promote salinization, this decrease is a positive one. The decline in erosion rates is partly attributed to this trend in summerfallow.

27 Soil quality has been defined by Agriculture and Agri-Food Canada as the "soil's fitness to support crop growth without becoming degraded or otherwise harming the environment" (Acton & Gregorich 1995: xi).

28 Risk is calculated by Agriculture and Agri-food Canada as an indirect measure of changes in soil quality. They assess soil, climate, management factors, prevailing land use, and tillage practices when calculating the indicator.

29 These practices were initially promoted by the National Soil Conservation Program (NSCP) in 1989. From this program came other programs addressing erosion such as the Permanent Cover Program in the Prairies, the Soil and Water Environmental Enhancement Program in Ontario, and the programs of the Eastern Canada Soil and Water Conservation Centre in Atlantic Canada (Acton & Gregorich 1995: 75).

30 Data on the risk of erosion is used instead of the actual amount of soil erosion since erosion levels vary between years largely due to natural conditions. There is also more data available on the risk of erosion.

31 To view the declaration and the names of those who signed, visit http://www.agbioworld.org.

32 Bulk water removal is the removal or transfer of water out of its point of origin by man-made diversions (e.g., canals), tanker ships or trucks, and pipelines. Small-scale removal (e.g., water in small portable containers) is not considered bulk.

33 Roundwood refers to round sections of tree stems such as logs or bolts.

34 For this inventory, old-growth was defined as the following: for coastal British Columbia, 251+ years for all forest types; for interior British Columbia, 141+ years for most forest types, and 121+ years for stands dominated by lodgepole pine or deciduous species. This inventory examined 94 percent of British Columbia's land base. The remaining land is largely privately owned.

35 The amount of old-growth forest that is protected ranges by biogeoclimatic zones. For example, 16 percent of old growth in the Coastal Western Hemlock and Engelmann Spruce-Subalpine Fir zones is protected. In the Ponderosa Pine and Sub-boreal Spruce biogeoclimatic zones only 5 percent is protected.

36 Primary energy is the total energy available for all uses. It includes energy used by final consumers as well as energy needed to make other forms of energy.

37 Total domestic energy is defined here as the sum of total residential, commercial, industrial, transportation, and non-energy uses as well as the energy needed to produce electricity and producer consumption and loses. This calculation is a good approximation of total primary energy.

38 Non-energy uses includes petrochemical feedstock, asphalt, lubricants, etc.

39 These estimates vary depending on assumption for price and advancements on technology.

40 The oil and natural-gas industry is divided into the "upstream" sector—production—and the "downstream" sector—refining and marketing. The upstream sector includes exploration and production companies as well as seismic and drilling contractors, and technical, service, and supply companies. The downstream sector includes pipeline systems, refineries, gas-distribution utilities, wholesalers of oil products, service stations, and petrochemical companies.

Secondary Indicators

1 The atmosphere contains 750 billion tonnes of carbon dioxide; living plants contain 560 billion tonnes, soils 1,400 billion tonnes, ocean sediments 11,000 billion tonnes and the oceans themselves 38,000 billion tonnes. See Environment Canada 1991c: (22) 7.

2 Scientists do not dispute that the increase in equivalent CO_2 has occurred. Since the Industrial Revolution, equivalent CO_2 levels have risen from approximately 290 ppm to nearly 440 ppm in 1994 (Bailey 1995: 87). Humans do not, however, contribute to the main absorbers of infrared light in the atmosphere. Water vapour and clouds are responsible for over 98 percent of the current greenhouse effect (Lindzen 1992: 2).

3 Pesticides contain both "inert" and "active" ingredients. Inert ingredients are not intended to affect the targeted pest. Active ingredients prevent, destroy, repel, or mitigate the actions of, pests. Law requires that active ingredients be identified and the amount, by weight, of active ingredients sold and used be noted.

Index

1 For a comprehensive discussion of the wide variety of beliefs about nature in this century alone, see Bramwell 1989.

2 This two-stage averaging process is necessary to avoid giving exaggerated weight to categories that include a larger number of sub-categories.

References

Ackerman, Bruce A., and William T. Hassler (1981). *Clean Coal, Dirty Air*. New Haven: Yale University Press.

Acton, D. F and L J Gregorich, eds. (1995). *The Health of Our Soils: Towards Sustainable Agriculture in Canada*. Agriculture and Agri-Food Canada Publication 1906/E. Ottawa: Centre for Land and Biological Research.

Agriculture and Agri-food Canada (2000). *The Canadian Bottled-water Industry: Sub-sector Profile*. Ottawa: Agriculture and Agri-food Canada. Digital document: http://www.agr.ca/food/profiles/bottledwater/bottledwater_e.html.

Agriculture and Agri-food Canada (2001). *All about Canada's Agri-food Industry.* Digital document: http://www.agr.ca/cb/factsheets/2indus_e.phtml.

Agriculture Canada, Research Branch (2000). *Environmental Sustainability of Canadian Agriculture.* Ottawa: Agriculture and Agri-food Canada.

Ag-West Biotech Inc. (2000). *Genetically Modified Canola: Information for Producers*. Saskatoon, SK: Ag-West Biotech Inc.

Alberta Environment (2000). *Overview of 1998 Pesticide Sales in Alberta*. Edmonton, AB: Alberta Environment.

Alberta Finance (2001). *Measuring Up 2000/2001 Annual Report*. Government of Alberta.

Allen, Mark, New Brunswick Department of Health and Wellness (2001). Personal communication with Tracy Wates (July 11).

Allen, Scott (1993). Who Else Pollutes? Look Under the Sink. *Boston Globe* (February 15).

Anderson, William, Normand Laflamme, and David Brand (1995). Incorporating Private, Environmental and Community Interests in Forestry Planning in Canada. In David G. Brand (ed.), *Forest Sector Planning: Proceedings of a Meeting Held 18–22 September 1994 in Anchorage, Alaska* (Ottawa: Canadian Forest Service & New York: Food and Agriculture Organization of the United Nations): 109–17.

Ames, Bruce, and Lois Swirsky Gold (1996). The Causes and Prevention of Cancer: Gaining Perspectives on the Management of Risk. In Robert Hahn (ed.), *Risks, Costs, and Lives Saved: Getting Better Results from Regulation* (Washington, DC: AEI Press): 4–45.

Applying Manitoba's Water Policies, Manitoba Conservation, Water Planning and Development. Digital document: http://www.gov.mb.ca/natres/watres/mb_water_policies.pdf.

Armson, K.A (1989). People and Forests: Conflict and Consensus. *E.B. Eddy Distinguished Lecture Series*. Faculty of Forestry, University of Toronto.

——— (1999). *Canadian Forests: A Primer.* Midhurst, ON: Key Foundation.

Armstrong, Louis, Department of Fisheries and Oceans (2002). Personal communication with Liv Fredricksen (January 10).

Avery, Dennis (1995). Saving the Planet with Pesticides: Increasing the Food Supply while Preserving the Earth's Biodiversity. In Ronald Bailey (ed.), *The True State of the Planet* (New York: Free Press): 49–82.

Bailey, Ronald (1995). *The True State of the Planet*. New York: Free Press.

——— (2001). Dr. Strangelunch: Or, Why We Should Learn to Stop Worrying and Love Genetically Modified Food. *Reason Magazine* (January): 20–29.

Baliunas, Sallie, and Willie Soon (1997). *Solar Variability and Global Climatic Change*. In Laura Jones (ed.), *Global Warming: The Science and the Politics* (Vancouver, BC: The Fraser Institute): 77–90.

Balling, Jr., Robert C. (1992). *The Heated Debate: Greenhouse Predictions versus Climate Reality.* San Francisco: Pacific Research Institute.

Bast, Joseph L., Peter J. Hill, and Richard C. Rue (1994). *Eco-Sanity.* Lanham, MD: Madison Books.

Boettger, Barry, Public Health Protection, Ministry of Health Services (2001). Personal communication with Tracy Wates (July 12).

Boyd, David (2001). *Canada vs. the OECD: An Environmental Comparison*. Victoria: University of victoria.

Bramwell, Anna (1989). *Ecology in the 20th Century: A History*. New Haven: Yale University Press.

Briggins, NS Dept. of Environment and Labour (2001). Personal communication with Tracy Wates (June 7).

British Columbia Ministry of Environment, Lands, and Parks (1993). *Water Quality in British Columbia: Objectives/Attainment in 1992*. (December).

——— (1996). *British Columbia Water Quality Status Report*.
Digital document: http://www.elp.gov.bc.ca/wat/wq/public/bcwqsr/bcwqsr1.html.

——— (1999). *Toxic Contaminants in British Columbia*.
Digital document: http://www.elp.gov.bc.ca/sppl/soerpt/toxic/toxic1.html.

——— (2000). *Water Quality Trends in Selected British Columbia Waterbodies*. Province of British Columbia.

British Columbia Ministry of Forests (1998). Just the Facts: A Review of Silviculture and Other Foresty Statistics.
Digital document: http:/www.for.gov.bc.ca/hfp/forsite/jtfacts/3-1j-can-clear.htm.

Bronskill, Jim (2001). Spy Agency Predicts More GMO Protests: Critics of Genetic Modification Attack Crop and Tree Projects. *The Vancouver Sun* (February12): A4.

Brookes, Warren (1991). The Strange Case of the Glancing Geese. *Forbes* (September 2).

Brooks, Pat, Environmental Health Services, Government of the Yukon (2001). Personal communication with Tracy Wates (July 20).

Byrtus, Gary, Pesticide Monitoring Specialist, Alberta Environment (2000). Personal communication with Tracy Wates (June 4).

Cameron, Andy, Nova Scotia Dep't of the Environment, Resource Management and Pollution Control Division, Water Resources Branch (1996). Personal communication with M. Danielle Smith (May).

Canadian Association of Petroleum Producers (CAPP) (1998). *CAPP Statistical Handbook*. Calgary, AB: CAPP.

——— (1999). Fast Facts. *Our Industry*. Digital document: http://www.capp.ca/02cxb.html.

——— (2002a). *Our Industry: Fast Facts*.
Digital document: http://www.capp.ca.

——— (2002b). *Our Industry: Role in Canada's Economy*.
Digital document: http://www.capp.ca.

Canadian Bottled Water Association (CBWA) (2002). *The Bottled Water Industry*.
Digital document: http://www.cbwa-bottledwater.org/en/industry.htm.

Canadian Cancer Society (2000). *What Should I Eat to Reduce the Risk of Cancer?*
Digital document available from http://www.cancer.ca/.

Canadian Council for Ministers of the Environment (1998).
Digital document: http://www.mbnet.mb.ca/ccme/5e_othertopics/5ec.html.

Canadian Council of Forest Ministers [CCFM] (1996). *Forest Regeneration in Canada 1975–1992: National Forestry Database Program*. Ottawa: Natural Resources Canada & Canadian Forest Service.

——— (1997). *Criteria and Indicators of Sustainable Forest Management in Canada: Technical Report 1997*. Ottawa: Natural Resources Canada & Canadian Forest Service.

——— (2001). *Criteria and Indicators of Sustainable Forest Management in Canada: National Status 2000*. Ottawa: Natural Resources Canada—Canadian Forest Service.

Canadian Federation of Agriculture (1997). *Impact of Agriculture on the Economy*.
Digital document: http://www.cfa-fca.ca/english/agriculture_in_canada/agriculture_and_the_economy.html.

Canadian Forest Service (CFS) (1992). *The State of Canada's Forests*. Annual Publication. Ottawa: Natural Resources Canada.

——— (1998). *The State of Canada's Forests: The People's Forests 1997–1998*. Annual Publication. Ottawa: Natural Resources Canada.

——— (2001). *The State of Canada's Forests 2001. Sustainable Forestry: A Reality in Canada*. Annual Publication. Ottawa: Natural Resources Canada.

Canadian Public Health Association (1986). *Comprehensive Survey of the Status of Great Lakes Drinking Water*. Ottawa: Canadian Public Health Association.

Canadian Wildlife Service (1995). *Canada and the Ramsar Convention*.
Digital document: http://www.cws-scf.ec.gc.ca/habitat/ramsar/eindex.html.
Center for Disease Control, Division of Vector-Borne Infectious Diseases (2000).
Digital document: http://www.cdc.gov/ncidod/dvbid/lyme/index.htm.
Centrone, Michael J. (2000). Biotechnology: Putting an End to World Hunger. *National Policy Analysis* (June).
Choate, Jerry, New Brunswick Dep't of the Environment, Water Resource Monitoring (2000). Personal communication with Liv Fredricksen (March 22).
——— (2001). Personal communication with Tracy Wates (June 6).
——— (2002). Personal communication with Laura Jones (February 20).
Christenson, Bob, Environment Canada, Office of Waste Management, Waste Prevention Division (1996). Personal communication with M. Danielle Smith (June 20).
Cicierski, Lauralou, National Media Relations Coordinator, Ducks Unlimited Canada (2001). Personal communication with Tracy Wates (May).
Commission for Environmental Cooperation (1998). Pre-publication manuscript. Montreal.
Committee on the Status of Endangered Wildlife in Canada [COSEWIC] (1995). *Canadian Species at Risk: 1995* (April). Ottawa, ON: COSEWIC.
——— (1998). *Canadian Species at Risk* (April). Ottawa, ON: COSEWIC.
——— (1999). *Canadian Species at Risk* (April). Ottawa, ON: COSEWIC.
——— (2001). *Canadian Species at Risk* (April). Ottawa, ON: COSEWIC.
Cooper, Kim, Ontario Soybean Grower's Association (2001). Personal communication with Tracy Wates (April).
Coote, D.R., and L.J. Gregorich, editors (2000). *The Health of Our Water: Toward Sustainable Agriculture in Canada*. Ottawa: Agriculture Canada.
Council of Forest Industries [COFI] (2001). *Reports—Forestry Facts*.
Digital document: http://www.cofi.org/reports/report-forestryfacts.htm.
Council on Environmental Quality (1994). *1993 Annual Report of the Council on Environmental Quality*. Washington, DC: Executive Office of the President.
——— (1996). *25th Anniversary Report of the Council on Environmental Quality, 1994–1995*.
Digital document: http://ceq.eh.doe.gov/reports/1994-95/rep-toc.htm, Part III tables.pdf.
Crop Protection Institute of Canada (2001). *Crop Protection in Context*.
Cundiff, Brad (1992). Vanishing Old-Growth Forests. *Borealis Magazine*.
Digital document: http://raysweb.net/specialplaces/boreal-articles/oldgrowth.html.
Dale, Stephen (1996). *McLuhan's Children: The Greenpeace Message and the Media*. Toronto: Between the Lines.
Daly, Conway (2001). Majority believe environment has worsened, poll suggests. *The Globe and Mail* (August 13): A5.
Dann, Tom (1996). *Data Analysis Workgroup Report: Section 2.3 Ozone Episodes*. Unpublished report (March).
——— Head, Environment Canada, Environment Protection, Technology Development Branch, Pollution Measurement Division, Air Toxics (1997). Personal communication with Rosemary Herbut.
Department of Environment, Government of Newfoundland and Labrador (2001). *Source to Tap: Water Supplies in Newfoundland and Labrador*.
Department of Resources, Wildlife and Economic Development, Government of the Northwest Territories (1996). *Pesticide Use in the Northwest Territories* (November). Yellowknife, NWT: Government of the Northwest Territories.
Dolan, Dave, Professor of Natural and Applied Sciences, University of Wisconsin-Green Bay (2001). Personal communication with Tracy Wates (July 17).
Easterbrook, Gregg (1994). The Birds. *The New Republic* (March 28).
——— (1995). *A Moment on the Earth: The Coming Age of Environmental Optimism*. New York: Viking.
The Economist (1998). A Taxing Issue. June 27–July 3: 56
Edwards, Stephen R. (1995) Conserving Biodiversity: Resources for Our Future. In Ronald Bailey (ed.), *The True State of the Planet* (New York: Free Press): 211–65.
Ehrlich, Paul (1968). *The Population Bomb*. New York: Sierra Club-Ballentine.

Energy Information Administration (2001). *International Total Primary Energy and Related Information*. Washington, DC: Department of the Environment.

Environment Canada (1986). *Emissions and Trends of Common Air Contaminants in Canada: 1970 to 1980*. EPS7/AP/17 (September).

——— (1990a). *Atlantic Region Federal-Provincial Toxic Chemical Survey of Municipal Drinking Water Sources, 1985–1988: Interpretive Report*. Moncton: Environment Canada, Inland Waters Directorate.

——— (1991a). *A Report on Canada's Progress toward a National Set of Indicators.* Ottawa: Government of Canada.

——— (1991b). *Technical Supplement to a Report on Canada's Progress Towards a National Set of Environmental Indicators*. Technical Report Series No. 20.

——— (1991c). *The State of Canada's Environment*. Ottawa: Government of Canada.

——— (1992). *Water: Nature's Magician*. Environmental Citizenship Series. Cat. No. 37-81/1-1992E. Ministry of Environment.

——— (1994). *National Urban Air Quality Trends, 1981–1990*. EPS7/UP/4 (October).

——— (1995a). Forests. *State of the Environment Bulletin* 95.4. Ottawa: Environment Canada.

——— (1995b). *Summary Report of the 1993 National Pollution Release Inventory.*

——— (1996a). *1996 Environmental Indicators*. Digital document: http://www1.ec.gc.ca/~ind/English/TOC/toc_e.htm.

——— (1996b). *Canadian Environmental Protection Act Annual Report 1994 to 1995*. Cat. No. En40–11/22–1995E.

——— (1996c). *Conserving Canada's Natural Legacy.* (CD-ROM). Ottawa: Government of Canada.

——— (1996d). Land. In *Conserving Canada's Natural Legacy.* Ref #4635-4743. CD-ROM. Ottawa: Government of Canada.

——— (1996e). Municipal Water Pricing Database, Water Program. In *1996 Environmental Indicators*.

——— (1996f). Municipal Water Use Database, Water Program. In *1996 Environmental Indicators*.

——— (1996g). National Pollutant Release Inventory Backgrounder.
Digital document: http://www.ec.gc.ca/press/ npri_b_e.htm.

——— (1996h). *The State of Canada's Environment*. Dss Cat. No. En21-54/1996e. Ottawa: Gov't of Canada.

——— (1996i). Sustaining Canada's Forests. In *Conserving Canada's Natural Legacy.* Ref #9875-9993. CD-ROM. Ottawa: Government of Canada.

——— (1996j). Withdrawal Use. In *Conserving Canada's Natural Legacy.* Ref #16382-16442. CD-ROM. Ottawa: Government of Canada.

——— (1997a). Canadian 1996 NO_x/VOC Science Assessment Executive Summary.
Digital document: http://www.ec.gc.ca/phase2/science_e.htm.

——— (1997b). Energy Consumption. *National Environmental Indicator Series*.
Digital document: 199.212.18.70/~ind/English/Energy/Bulletin/ec_iss_e.cfm.

——— (1997c). *Summary Report of the 1994 and 1995 National Pollution Release Inventory.*
Digital document: http://www.pwc. bc.doe.ca/ep/hpri.

——— (1997d). *Sustaining Canada's Forests: Timber Harvesting*.
Digital document: http://www3.ec.gc.ca/~ind/English/Forest/default.cfm.

——— Pollution Data Branch (1998a). *1995 Criteria Air Contaminant Emissions for Canada (tonnes)*.
Digital document: http://www.ec.gc.ca/pdb/cac/cacdoc/1995e/canada95.htm.

——— (1998b). Summary of Spill Events in Canada, 1984–1995.
Digital document: http://www.ec.gc. ca/ee-ue/stats/English.pdf.

——— (1998c). Urban Water: Municipal Water Use and Wastewater Treatment. *National Environmental Indicator Series*. State of the Environment Reporting Program, SOE Bulletin 98-4.

——— (1998d). *Water Use*. Digital document: http://www2.ec. gc.ca/agenda21/98/wateruse.html.

——— (1998e). *Wetlands of Canada*. Ottawa: Government of Canada.

——— (1999a). Freshwater. Digital document: http://www.ec. gc.ca/water/index.htm.

——— (1999b). National Ambient Air Quality Objectives. Digital document: http://www.ec.gc.ca/pdb/uaqt/obj_e.html.

——— (1999c). National Pollutant Release Inventory. Digital document: http://www.ec.gc.ca/pdb/npri.

——— (1999d). Oil Water and Chocolate Mousse. Digital document: http://www.ec.gc.ca/chocolate/en.

——— (1999e). *Pollutants in Alberta: The National Pollutant Release Inventory 1997*.
Digital document: http://www.ec.gc. ca/pbd/npri/1997/ab1997e.pdf.

——— (2000a). *Shellfish and Water Quality.* Digital document: http://www.ns.ec.gc.ca/epb/factsheets/sfish_wq.html.
——— (2000b). *Highlights of Accomplishments in the Great Lakes*.
Digital document: http://www.on.ec.gc.ca/glimr/ijchighlights-e.html.
——— (2000c). *The Pros and Cons of Pesticides.*
Digital document: http://www.pnr-rpn.ec.gc.ca/pollution/pesticides/ec00s09.en.html.
——— (2001a). *Background information on Bulk Water Removal and Export*.
Digital document: http://www.ec.gc.ca/water/index.htm.
——— (2001b). *The Management of Water.* Digital document: http://www.ec.gc.ca/water/index.htm.
——— (2001c). *The State of Municipal Wastewater Effluents in Canada*. (State of the Environment Report). Ottawa.
——— (2001d). *Tracking Key Environmental Issues*. Ottawa.
Environment Canada and United States Environmental Protection Agency [USEPA] (1995a). *Nutrients: Trends and System Response*. A 1994 State of the Lakes Ecosystem Conference Background Paper.
——— (1995b). *Toxic Contaminants*. A 1994 State of the Lakes Ecosystem Conference Background Paper.
——— (1997a). Measuring Progress. In *Celebrating the 25th Anniversary of the Great Lakes Water Quality Agreement*.
Digital document: http://www.cciw.ca/glimr/data/celebrate-glwqa/progress.html.
——— (1997b). *State of the Great Lakes 1997*. Chicago, IL: USEPA & Burlington, ON :Environment Canada.
——— (1999). *State of the Great Lakes 1999*. Chicago, IL: USEPA and Burlington, ON: Environment Canada.
Environnement Quebec (2001). *Regulation Respecting the Quality of Drinking Water: Highlights*.
Digital document: http://www.menv.gouv.qc.ca/eau/potable/index-en.htm.
Federal Provincial Parks Council (2000). *Working Together: Parks and Protected Areas in Canada*. Ottawa: Federal Provincial Parks Council.
Ferris, Ron (1995). The Ticking Bomb: Lyme Disease Continues to Spread Multiple Miseries. *Calgary Herald* (August 26): B6.
Fleischer, Fred, Manager, Water Monitoring Section, Ontario Ministry of Environment (2001). Personal communication with Tracy Wates (June 5).
Fleming, Duane, Health Protection Unit, Northwest Territories Ministry of Health and Social Services (2001). Personal communication with Tracy Wates (July 24).
Food Biotechnology Communications Network (FBCN) (2000). *A Growing Appetite for Information*.
Digital document: http://www.foodbiotech.org/growing.cfm.
Foreign Affairs and International Trade, Department of (February 1999). *Strategy Launched to Prohibit the Bulk Removal of Canadian Water, Including Water for Export*.
Digital document: http://www.dfait-maeci.gc.ca/english/news/press_releases/99_press/99_023-e.htm.
Franklin Associates (1992). *Characterization of Municipal Solid Waste in the United States: 1992 Update*. (July).
Frayer, W.E. (1983). *Status and Trends of Wetlands and Deepwater Habitats in the Coterminous United States*. Denver: Colorado State University.
Furmanczyk, Tom (1987). *National Urban Air Quality Trends 1974–1985*. Report EPS 7/UP/2. Ottawa: Environmental Protection and Conservation, Environment Canada.
Gemsa, Andy, and Brian Whitehead, Ontario Ministry of Environment and Energy, Policy and Programs (1996). Personal communication with M. Danielle Smith (May).
Gilkeson, Linda, Coordinator, Integrated Pest Management, Ministry of Water, Land and Air Protection, British Columbia (2001). Personal communication with Tracy Wates (July 26).
Gillingham, Simon, United Kingdom, Department of Environment, Transportation and Regions, Forestry Commission (1998). Personal communication with Kevin Lacey (May 23).
Goebel, Martin, Director, Water Resources Management Division Department of Environment, Newfoundland (1997). Personal communication with Rosemary Herbut (May 2).
——— (2001). Personal communication with Tracy Wates (June 19, July 23).
——— (2002). Personal communication with Laura Jones (February 14).
Gordon, Anita, and David Suzuki (1990). *It's a Matter of Survival*. Toronto, ON: Stoddart.
Gouyin, Denise, Quebec Ministère de l'Environment (1997). Personal communication with R. Herbut (April 25).
Government of Alberta (1996). *Second Annual Report on the Performance of the Government of Alberta: 1995–96 Results* (June).

Government of Canada [GC] and United States Environmental Protection Agency [USEPA] (1995). *The Great Lakes Atlas: An Environmental Atlas and Resource Book, 3rd Edition*.
Digital document: http://www.cciw.ca/glimr/data/great-lakes-atlas/.

Grossman, Gene M., and Alan B. Krueger (1995). Economic Growth and the Environment. *Quarterly Journal of Economics* 60: 353–77.

Haddon, Brian D., Manager, National Forestry Database Program, Canadian Forest Service (1999). Personal communication with Laura Griggs (July).

Haddon, Brian D. (2002). Manager, Statistical Services, Industry, Economics and Programs Branch, Canadian Forest Service. Personal communication with Liv Fredricksen (February 19).

Haliwell, Douglas, Water Quality Manager, Dep't of Indian and Northern Affairs Canada, Water Resources, Northern Affairs Program (NWT) (1997). Personal communication with Rosemary Herbut (April 25).

——— (2001). Personal communication with Tracy Wates (June 13).

Hallard, Kim, Saskatchewan Environment and Resource Management, Environmental Protection Branch (1997). Personal communication with Rosemary Herbut (June 2).

Hayward, Steven (1994). *The Index of Leading Environmental Indicators: A Citizen's Guide on How to Think about Environmental Quality in the US*. San Francisco: Pacific Research Institute for Public Policy.

Hough, Ken, Ontario Corn Producer's Association (2001). Personal communication with Tracy Wates (May).

Hunter, Beatrice Trum (2001). Biotech Reduces Pesticide Use. *Consumers' Research* (April).

Indian and Northern Affairs, Water Resources Division (1998). *Slave River Environmental Quality Monitoring Program: Summary Report*.

International Energy Association (1997). *Energy Environment Update*.
Digital document: http://www.iea.org/IEAKyoto/doc./econnews.htm#trends.

International Joint Commission (IJC) (1997). *The IJC and the 21st Century: Response of the IJC to a request by the Governments of Canada and the United States for Proposals on How to Best Assist Them to Meet the Environmental Challenges of the 21st Century*. Digital document: http://www.ijc.org/comm/21ste.htm.

——— (1998). Executive Summary of the Ninth Biennial Report on Great Lakes Water Quality.
Digital document: http://www.ijc.org/comm/9br/exsume.html.

——— (2000). *IJC Advises US and Canadian Federal Governments that Greater Efforts Are Needed or Great Lakes Agreement May Fail*. Media release. Ditigal document: http://www.ijc.org/comm/9br/exsume.html.

International Tanker Owners Pollution Federation Ltd. (ITOPF) (2001). *Accidental Tanker Oil Spill Statistics*.
Digital document: http://www.itopf.com/stats.html.

——— (2002). *Fate of Marine Oil Spills*. Digital document: http://www.itopf.com/fate.html.

Jackson, John (2000). *A Citizen's Guide to the National Pollutant Release Inventory*. Toronto: Canadian Institute for Environmental Law and Policy.

Jain, Pritam, SERM-Environmental Protection Branch, Saskatchewan (1999). Personal communication with Laura Griggs (June 1).

James, Clive (2000). *Global Status of Commercialized Transgenic Crops: 2000*. ISAAA Briefs No. 21: Preview. Ithaca, NY: International Service for the Acquisition of Agri-biotech Applications (ISAAA).

Jones, Laura (1997). *Global Warming: The Science and the Politics*. Vancouver, BC: The Fraser Institute.

——— (2001). How Well Informed are University Students about the Environment? *Fraser Forum* (September): 16–24.

Kendall, P. R.W. (1990). *The Quality of Drinking Water in Toronto: A Review of Tap Water, Bottled Water and Water Treated by a Point-of-use Device*. Toronto: Dep't of Public Health, Environmental Protection Office.

Kimmins, Hamish (1997). *Balancing Act: Environmental Issues in Forestry*. Vancouver: UBC Press.

Knopman, Debra, and Richard Smith (1993). 20 Years of the Clean Water Act. *Environment (*January).

Knutson, Ronald D., et al. (1990). *Economic Impacts of Reduced Chemical Use*. College Station, TX: K & Associates.

Ladd, Everett Carll, and Karlyn H. Bowman (1995). *Attitudes toward the Environment: Twenty-Five Years after Earth Day*. Washington DC: American Enterprise Institute.

Lang, Pat, Branch Head, Municipal Program Development Branch, Alberta Environment (2001). Personal communication with Tracy Wates (July 12).

Lindgren, April (2000). Toronto Plan to Send Trash North Brings Talk of Oka-like Trouble. *The Vancouver Sun* (October 2000): A3.

Lindzen, Richard (1992). Global Warming: The Origin and Nature of the Alleged Scientific Consensus. *Regulation: The Cato Review of Business and Government* 15 (241): 87–98. Also available (1997) as a digital document: http://www.cato.org/pubs/regulation/reg15n2g.html.

Manitoba Environment (1997). State of the Environment Report for Manitoba, 1997. Digital document: http://www.gov.mb.ca/environ/pages/soe97/soe97.html.

Mann, Charles C., and Mark L. Plummer (1992). The Butterfly Problem. *Atlantic Monthly* (January).

MacKinnon, Andy, Ministry of Sustainable Resource Management, Gov't of British Columbia (2002). Personal communication with Liv Fredricksen (January 24).

Mackinnon, Andy, and Terje Vold (1998). Old-Growth Forests Inventory for British Columbia, Canada. *Natural Areas Journal* 18 (4), 309–18.

McKee, Meghan (1999). Pesticide Detection in Shallow Wells Studied. *Prairie Water News* 9, 2 (Fall). Digital document: http://www.quantumlynx.com/water/vol9no2/story4.htm.

MarkTrend Research (2000). *Forest Issues Survey*. Presented to COFI on October 23, 2000. Vancouver.

Marshall, John, Waste Management Industry Analyst, Environment Protection Accounts and Surveys, Statistics Canada (2001). Personal communications with Tracy Wates (April).

Martin, Hugh, Weed Management Specialist (Field Crops), Ontario Ministry of Agriculture, Food and Rural Affairs, Guelph (2001). Personal communication with Tracy Wates (June).

Meadows, Donella H. (1972). *The Limits of Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. New York: Universe Books.

Menon, Amar, Environment Canada (2001). Personal Communication with Tracy Wates (July 18).

Mexico, Instituto Nacional de Estadistica, Geografia e Informatica (1998). *Estadisticas del Medio Ambiente Mexico, 1997*. Aguascalientes, Ags.

Mexico, Ministry of the Environment, Natural Resources and Fisheries (1997). *Indicators for Environmental Performance Evaluation*. Digital document: http://www.ine.gob.mx/indicadores/ingles/comite.htm.

Miljan, Lydia (2001). Air Quality Improving—but You'd Never Know It from the *Globe* and *Post*. *Fraser Forum* (April): 17–20.

Miller, Robert J., Forest Mensurationist, Ontario Ministry of Natural Resources, Forest Management Branch (2002). Personal communication with Liv Fredricksen (January 29).

Minister of Public Works and Government Services Canada (2001). *The State of Municipal Wastewater Effluents in Canada*.

Ministère de l'Environnement du Québec (1997). *Bilan des ventes de pesticides au Quebec en 1997*. Digital document: http://www.menv.gouv.qc.ca/sol/pesticid/bilan97/vente.htm.

Ministère de l'Environnement du Québec and Environment Canada (2001). *Toxic Potential Assessment of Municipal Wastewater Treatment Plant Effluents in Quebec—Final Report*. St. Lawrence Vision 2000, Phase III—Industrial and Urban coponent. Report (136 pages) and Appendices (222 pages). Cat. Num. En40-626/2001E. Ottawa: Public Works and Government Services Canada.

Ministry of Environment, Lands and Parks, Government of British Columbia (2001). *Survey of Pesticide Use in British Columbia 1999*. Victoria, BC: Ministry of Environment, Lands and Parks.

Mosher, Christina L., Nova Scotia Department of Environment and Labour (2002). Personal communication with Liv Fredricksen (February 5).

Murphey, Claire, Prince Edward Island Dep't of Environmental Resources, Water Resources Branch, Marine Environment Section (1996). Personal communication with M. Danielle Smith (May).

Myers, Norman (1979). *The Sinking Ark: A New Look at the Problem of Disappearing Species*. New York: Pergamen Press.

National Cancer Institute of Canada (1998). E*xpert Consensus Panel Re: Domestic Use of Pesticides and Cancer.* Digital document: http://www.ncic.cancer.ca/ccontrol/reports/faqsfin.htm.

National Energy Board (NEB) (1998). *1998 Annual Report—Energy Overview.* Digital document: http://www.neb.gc.ca/about/ar/1998/energy.htm.

——— (1999a). *NEB Database for 1997*. Data provided by Carolyn Ramsum, Economist, Energy Demand Analysis through personal communication with Laura Griggs.

——— (1999b). *National Energy Board Canadian Energy Supply and Demand to 2025—Round Two Consultation Package. Chapter 7.0 Crude Oil*. Digital document: http://www.neb/gc/ca/energy/sd2c7.htm.

——— (1999c). *National Energy Board Canadian Energy Supply and Demand to 2025—Round Two Consultation Package. Chapter 5.0. Natural Gas.* Digital document: http://www.neb/gc/ca/energy/sd2c5.htm.

——— (2001). *2000 Annual Report to Parliament*. Ottawa.

National Forestry Database Program [NFDP] (2002). *Compendium of Canadian Forestry Statistics*. Ottawa: Canadian Council of Forest Ministers.

National Pollutant Release Inventory (1999). *National Pollutant Release Inventory: National Overview 1999*. Ottawa: Environment Canada.

——— (2000). *NPRI Pollutants in Alberta: The National Pollutant Release Inventory 1998*. Edmonton: Environment Canada.

Natural Resources Canada (1998). *Energy Efficiency Trends in Canada 1990–1996*. Office of Energy Efficiency. Digital document: http://oee.nrcan.gc.ca/general/trends/trends_e.pdf.

——— (2000a). *Energy in Canada 2000*. Ottawa: Natural Resources Canada.

——— (2000b). The Value of Wetlands. *Canadian Issues: Wetlands.* Digital document: http://atlas.gc.ca/legacy/schoolnet/issues/wetlands/ewetlands/evalue.html.

——— (2001a). *The National Atlas of Canada: Facts about Canada—Land and Freshwater Areas*. Digital document: http://atlas.gc.ca/english/facts/surfareas.html.

——— (2001b). *The National Atlas of Canada: Wetlands, Facts about Wetlands in Canada*. Digital document: http://atlas.gc.ca/english/facts/wetlands/wetlands_ewetfacts_e.html.

Newfoundland Department of Environment (2001). *Source to Tap: Water Supplies in Newfoundland*. St. John's, NF: Water Resources Management Division.

Nova Scotia Environment (1998). *The State of the Nova Scotia Environment 1998*.

Office of Energy Efficiency [OEE] (2001). *The State of Energy Efficiency in Canada*. Ottawa: Natural Resources Canada.

Ontario Ministry of Environment (2000a). *Drinking Water in Ontario: A Summary Report 1993–1997*.

——— (2000b). *Environment Ministry Orders Corrective Action at 50 More Ontario Waterworks*. News Release.

Organisation for Economic Cooperation and Development (1993). *Environmental Data Compendium 1993*. Paris: OECD.

——— (1994). *Environmental Indicators:* OECD *Core Set*. Paris: OECD.

——— (1995). *Environmental Data Compendium 1995*. Paris: OECD.

——— (1996a) *Environmental Performance Reviews: United States*. Paris: OECD.

——— (1996b). *National Accounts: Vol. 1.* Paris: OECD.

——— (1996c). *OECD Environmental Survey.* Unpublished information collected for the *Environmental Data Compendium 1995*.

——— (1997). *Environmental Data Compendium 1997*. Paris: OECD.

——— (1998). *Environmental Performance Reviews: Mexico*. Paris: OECD.

——— (1999). *Environmental Data Compendium 1999*. Paris: OECD.

Painchaud, Jean (1997). Substantial Progress Has Been Made in Quebec's Water Quality. *Environmnental Science and Engineering* 10, 1 (March): 34–37.

Palda, Filip (1998). *Home on the Urban Range: An Idea Map for Reforming the City*. Vancouver, BC: The Fraser Institute.

PEI Environment (1999). *PEI Water Quality Interpretive Report*. Prince Edward Island Department of Environment.

Pemberton, Kim, and Jeremy Sandler (2001). Eco-terrorists Feared Threat to Research Forests in BC: The Alert Comes as Arson Is Suspected at Two US Facilities. *The Vancouver Sun* (May 23): B1.

Pew Research Center For the People and The Press (2000). Digital document: http://www.people-press.org/yearendrpt.htm.

Pilgrim, Wilfred, New Brunswick Department of the Environment and Local Government (2001). Personal communication with Tracy Wates (July 10).

Portney, Paul R. (1990). Air Quality Policy. In Paul Portney (ed.), *Public Policies for Environmental Protection* (Washington, DC: Resources for the Future).

Powell, Shawn (1998). *St. John's Harbour Environmental Data Summary 1969-1997*. St. John's Harbour Atlantic Coastal Action Plan (ACAP) Inc.

PriceWaterhouseCoopers (2001). *The Forest Industry in Canada, 2000*.

Ray, Dixie Lee (1993). *Environmental Overkill*. Washington, DC: Regnery-Gateway.

Raymond, Bruce, Head, Rivers and Estuaries Section, Prince Edward Island Department of Environmental Resources (1997). Personal communication with Rosemary Herbut (May 29).

———, Head, Rivers and Estuaries Section, Division of Water Resources, PEI Department of Fisheries, Aquaculture, and Environment (2001). Personal communication with Tracy Wates (June 7).

Rehman, Sami, Property Information Coordinator, the Nature Conservancy Canada (2001). Personal communication with Tracy Wates (May).

Richardson, Violeta. (1999). *Environmental Conservation*. Environment Canada. Data provided by personal communication with Laura Griggs (June 9); all trend calculations are by authors.

Rocan, Don, Environmental Engineer, Environmental Approvals Branch, Manitoba Conservation (2001). Personal communication with Tracy Wates (June).

Rocchini, Ronald, Water Quality Branch (1996). Personal communication with M. Danielle Smith (September).

Rodrigues, Stephen, Manager Research, Canadian Association of Petroleum Producers (CAPP) (2002). Personal communication with Liv Fredricksen (February 21).

Rubec, Clayton, Habitat Conservation, Environment Canada (1999). Personal communication with Laura Griggs (August 4).

———, Canadian Wildlife Service, Environment Canada (2001). Personal communications with Tracy Wates (May).

Saffran, Karen, Alberta Environmental Protection, Natural Resources Service, Water Management Division, Water Sciences Branch (1997). Personal communication with Rosemary Herbut (May 29).

——— (1999). Personal communication with Laura Griggs (June 30).

———, Science and Standards Division, Alberta Environment (2001). Personal communication with Tracy Wates (July 19).

Samuel, Gerald, Program Manager, Approval, Support and Certification, Alberta Environment (2001). Personal communication with Tracy Wates (July 11).

Sanera, Michael, and Jane S. Shaw (1999). *Facts, Not Fear: Teaching Children about the Environment (Canadian Edition).* Adapted for Canadian readers by Liv Fredricksen and Laura Jones. Vancouver, BC: The Fraser Institute.

Scarlett, Lynn (1991). Make Your Environment Dirtier—Recycle. *Wall Street Journal* (January 14).

Schneider, Keith (1993). New View Calls Environmental Policy Misguided. *New York Times* (March 21): A1.

Sedjo, Roger A. (1995). Forests: Conflicting Signals. In Ronald Bailey (ed.), *The True State of the Planet* (New York: Free Press): 177–210.

Shelton, John, Analysis and Air Quality Division, Environment Canada (1999). Data from National Air Pollution Surveillance (NAPS) Network. Personal communication with Laura Griggs.

Skinner, Brad, District Manager, Amherst, Nova Scotia Department of Environment and Labour (2001). Personal communication with Tracy Wates (June).

Skumatz, Lisa (1995). *Garbage by the Pound: On the Streets*. Study No. 184. Los Angeles: Reason Public Policy Institute.

Smith, Fred (1995). Epilogue: Reappraising Humanity's Challenges, Humanity's Opportunities. In Ronald Bailey (ed.), *The True State of the Planet* (New York: Free Press): 379–92.

Smith, Richard, Richard Alexander, and Gordon Wolman (1987). Water Quality Trends in the Nation's Rivers. *Science* (March 27).

Smith, Wynet, and Peter Lee (managing editors) (2000). *Canada's Forests at a Crossroads: An Assessment in the Year 2000*. Washington, DC: World Resources Institute.

Smolonsky, Marc, David Dickson, and Elise Caplan (1993). *Annual Review of the US Environmental Protection Agency*. Washington, DC: Center for Resource Economics.

Somers, George, Head, Groundwater Section, Division of Water Resources, PEI Department of Fisheries, Aquaculture, and Environment (2001). Personal communication with Tracy Wates (June 6).

Statistics Canada (1989). *Canada Yearbook 1990*. Catalogue # 11-402-XPE. Ottawa: Minister of Industry, Government of Canada.

——— (1994a). *Household and Environmental Practices 1994*. Cat. No. 11-526-XPB.

——— (1994b). *Human Activity and the Environment 1994*. Cat. No. 11–509E.

——— (1995). *Canadian Economic Observer*. Cat. No. 11–210-XPB.

——— (1996). *Canada Yearbook 1997*. Catalogue #11-402-XPE. Ottawa: Ministry of Industry, Science, and Technology.
——— (1997). *Historical Overview of Canadian Agriculture*. Catalogue no. 93-358-XPB. Ottawa: Minister of Industry
——— (1998a). *Canada Yearbook 1999*. Catalogue #11-402-XPE. Ottawa: Minister of Industry, Government of Canada.
——— (1998b). *Waste Management Industry Survey: Business and Government Sectors, 1998*. Catalogue #16F0023XIE.
——— (1999a). Area Harvested by Harvesting Method by Province or Territory, in Hectares, Annual. *CANSIM* Matrix 6086. Digital document: http://www.statcan.ca:80/english/CANSIM/index.html.
——— (1999b). Area Planted (in Hectares) and Number of Seedlings Planted (in Thousands) by Species, Stock Type, by Province or Territory, Annual. *CANSIM* matrix 6090.
Digital document: http://www.statcan.ca:80/english/CANSIM/index.html.
——— (1999c). Primary Energy Supply, Demand (Natural Resources Canada), Trade; End Use Annual in Petajoules. *CANSIM* matrix 2481. Digital document: http://www.statcan.ca:80/english/CANSIM/index.html.
——— (1999d). *Canadian Economic Observer. Historical Statistical Supplement*. Cat. number 11-210-XPB (July 22). Ottawa: Minister of Industry, Government of Canada.
——— (1999e). Provincial Economic Accounts, Annual Estimates: Tables and Analytical Document. Cat. number 13-213-PPB (November 10). Ottawa: Minister of Industry, Government of Canada.
——— (2000a). *Canadian Economic Observer*. Cat. number 11-010-XPB (March 23). Ottawa: Minister of Industry, Government of Canada.
——— (2000b). *Human Activity and the Environment 2000*. Catalogue No. 11-509-XPE. Ottawa: Government of Canada.
——— (2001). *The Canadian Bottled Water Industry*. (CANSIM) SIC1111.
——— (2002a). CANSIM 200202213235199348.
——— (2002b). CANSIM 200202221359001033.
Supply and Services Canada [CASS] (1985). *Canadian Water Year Book: 1985—Water Use Edition*. Catalogue # En 36-425/1985E. Ottawa: Minister of Supply and Services, Government of Canada.
Sustainability Manitoba (2001). *Applying Manitoba's Water Policies*. Winnipeg, MB: Manitoba Environment.
Swain, L.G., Head of Standards and Protocols Unit, BC Ministry of Environment, Lands and Parks (1997). Personal communication with R. Herbut (April 22).
Swain, Les , Head, Standards and Protocols Unit, British Columbia Ministry of Sustainable Resource Management (2001). Personal communication with Tracy Wates (July 12).
Tolman, Johnathan (1994). *Gaining More Ground: Analysis of Wetlands Trends in the* U.S. Washington, DC: Competitive Enterprise Institute.
Trant, Douglas, Statistics Canada, National Accounts and Environment Division (1996). Personal communication with M. Danielle Smith (July).
Trotter, Bruce, Environmental Health Specialist, Government of Nunavut (2001). Personal communication with Tracy Wates (July 24).
Twolan-Strutt, Lisa (1995). *Wetlands and Woodlots*. Ottawa: North American Wetlands Conservation Council.
United Kingdom, Department of Environment (UKDE) (1994). *Digest of Environmental Protection and Water Statistics No. 16*. London: Government Statistical Service/HMSO.
United Kingdom, Department of Environment, Transportation and Regions (UKDETR) (1996). *Indicators of Sustainable Development in the United Kingdom*. Norwich: Government Statistical Service.
——— (1997a). *Air Pollution in the UK: 1995*. AEA Technology.
——— (1997b). *Indicators of Sustainable Development for the United Kingdom*.
Digital document: http://www.environment.detr.gov.uk/epsim/indics/index.htm.
——— (1998a). *Digest of Environmental Statistics No. 20*. London: Government Statistical Service.
——— (1998b). *Economic Instruments for Water Pollution*.
Digital document: http://www.environment.detr.gov.uk/wqd/eiwp/eiwp01.htm.
——— (1998c). *How Good Is Your Drinking Water*?
Digital document: http://www.dwi.detr.gov.uk/water.drinking/summ/htm.
——— (1998d). *Water Quality: A Guide to Water Protection in England and Wales*.
Digital document: http://www.environment.detr.gov.uk/wqd/guide/water.htm.

——— (1998f). *Water Resources and Supply: Agenda for Action*.
Digital document: http://www.environment.detr.gov. uk/wqd/wrs/summary.htm.
United Nations (1993). *United Nations List of National Parks and Protected Areas*.
Digital database: http://www.wcmc. org.uk/protected_areas/data/cnppa.html.
United States Bureau of the Census (1996). *Statistical Abstract of the United States: 1996.* 116th ed. Section 6, Geography & Environment. Washington DC: US Department of Commerce
Digital document: http://www.census.gov/statab/www, tables 362-395, geo.pdf.
United States Dep't of Agriculture (USDA) (1994). *World Agriculture: Trends & Indicators, 1961–91*.
Digital database: gopher://usda.mannlib.cornell.edu/11/datasets/international/89024.
——— (1996). *Major Land Uses, 1945-1992*.
Digital database: gopher://usda.mannlib.cornell.edu/11/data-sets/land/89003.
———, Economic Research Service (2001). *Briefing Room, Canada: Basic Information*.
Digital document: http://www.ers.usda.gov/briefing/canada/basicinformation.htm.
United States Environmental Protection Agency (1988). *Wetlands: Our Vital link Between Land and Water.* Washington: USEPA.
——— (1989). *National Water Quality Inventory 1988 Report to Congress*. Washington: USEPA.
——— (1993). *National Water Quality Inventory 1992 Report to Congress*. Washington: USEPA.
——— (1994a). Administrator's Preamble to the Regulatory Plan. *Federal Register* 59, 218 (November 14).
——— (1994b). *National Air Quality and Emission Trends Report 1993*. Research Triangle Park, NC: USEPA.
——— (1995a). *Executive Summary: 1993 TRI Data Release*. Washington: USEPA.
——— (1995b). *National Air Pollutant Emission Trends, 1900–1994*. Research Triangle Park, NC: USEPA.
——— (1995c). *National Air Quality and Emission Trends Report, 1994*. Research Triangle Park, NC: USEPA.
——— (1995d). *National Annual Industrial Sulfur Dioxide Emissions Trends, 1995–2015: Report to Congress*. Research Triangle Park, NC: USEPA.
——— (1995e). *National Water Quality Inventory 1994 Report to Congress*. Washington: USEPA.
——— (1996a). *National Air Quality and Emissions Trends Report, 1995*. Research Triangle Park, NC: USEPA.
——— (1996b). *National Water Program Agenda for the Future, 1996–1997*.
Digital database: http://www.epa.gov/watrhome/agenda/96.html.
United States EPA Science Advisory Board (1990). *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*. Washington DC: USEPA.
United States Fish and Wildlife Service (n.d.). *Endangered Species Technical Bulletin*. Quarterly.
Utt, Ronald (1991). The Divergence between the Perceived and Real Risk of Pesticide Use. *Journal of Regulation and Social Costs* 1, 2 (January).
Vanderlaan, Paul, New Brunswick Department of the Environment and Local Government (2001). Personal communication with Tracy Wates (June 15).
Webb, Marnie, Food Biotechnology Communication Network (2001). Personal communication with Tracy Wates (July 26).
White, Gilbert F. (1984). Water Resource Adequacy: Illusion and Reality. In Julian L. Simon and Herman Kahn (eds.), *The Resourceful Earth: A Response to Global 2000* (New York: Oxford Verbatim): 250–66.
Whitley, Gerry, Water Quality Manager, Department of Indian and Northern Affairs Canada, Water Resources, Northern Affairs Program (Yukon) (1997). Personal communication with Rosemary Herbut (May 26).
Wiken, Ed, Canadian Wildlife Services (1999). Personal communication with Laura Griggs.
Wilk, Cameron, Pesticide Regulatory Management, Agriculture and Food, Government of Saskatchewan (2001). Personal communication with Tracy Wates (May).
Williamson, Dwight, Manitoba Environment, Environmental Management Division, Environmental Quality Standards Branch (1996). Personal communication with M. Danielle Smith (September 25).
——— (1997). Personal communication with R. Herbut (July 14).
——— (2001), Manager, Water Quality Management Section, Manitoba Conservation (2001). Personal communication with Tracy Wates (June).
Willis, Paul, United Kingdom, Department of Environment, Transportation and Regions, Air Quality Information Archive (1998). Personal communication with K. Lacey (May 15).

Wilson, Sara Justine (2000). *The GPI Water Quality Accounts*. GPI Atlantic 2000.
Wirthlin Group (1997). Environmentalism: No Letting Up. *The Wirthlin Report* (August/September).
Wiseman, Clark A. (1990). US Wastepaper Recycling Policies: Issues and Effects. *Resources for the Future*. Discussion Paper ENR 90–14.
——— (1992). Government and Recycling: Are We Promoting Waste? *Cato Journal* 12, 2 (Fall).
World Conservation Monitoring Centre (WCMC) (1997). *1996 Global Protected Areas Summary Statistics*. Digital document: http://www.wcmc.org.uk/protected_areas/data/summstat.htm.
——— (2000). *1997 United Nations of Protected Areas*. Digital document: http://www.wcmc.org.uk/protected_areas/data/un_annex.htm.
World Wildlife Fund (WWF) (1997). *1997/98 Canadian Endangered Species and Other Wildlife at Risk*.

Participating institutes

For more information on environmental quality in the **United States**, contact:
The Pacific Research Institute for Public Policy
755 Sansome Street, Suite 450, San Francisco, CA 94111 USA.
Web site: www.pacificresearch.org.

For more information on environmental quality in the **United Kingdom**, contact:
The Institute of Economic Affairs
2 Lord North Street, London, England, SW1P 3LB.
Electronic mail: enviro@iea.org.uk; telephone: +44 207 799 8900.
Web site: www.iea.org.uk.

For more information on environmental quality in **South Korea**, contact:
Center for Free Enterprise
(4th floor) Do-Won Bldg., 292-20, Dowha-dong, Mapo-ku, Seoul, Korea 121-728.
Web site: www.cfe.org/english/index.htm.