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**CANADIAN INSTITUTE FOR ENVIRONMENTAL LAW & POLICY**

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**BRIEF TO THE HOUSE OF COMMONS STANDING COMMITTEE ON NATURAL  
RESOURCES REGARDING MINING AND CANADA'S ENVIRONMENT**

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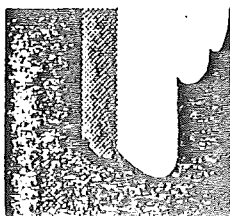
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- A) Letters to the Hon. S. Marchi, Minister of the Environment and the Hon. F. Mifflin, Minister of Fisheries and Oceans re: House of Commons Standing Committee on Natural Resources Interim Report Streamlining Environmental Regulation for Mining (CIELAP and CELA, February 1996)
- B) Comments on Sustainable Development and Mines and Minerals (CIELAP, December 1995)
- C) Letter to the Prime Minister regarding references to federal "withdrawal" from mining and forestry in the February 1996 Throne Speech (CIELAP, February 1996)
- D) The Draft Environmental Management Framework Agreement - A Model for Dysfunctional Federalism? An Analysis and Commentary (CIELAP, February 1996)
- E) Tools for Regulating the Environmental Impact of Mining in the United States, (Environmental Law Institute, April 1996)
- F) The Use of Voluntary Pollution Prevention Agreements in Canada: An Analysis and Commentary (CIELAP, April 1995)

# BRIEF TO THE HOUSE OF COMMONS STANDING COMMITTEE ON NATURAL RESOURCES REGARDING MINING AND CANADA'S ENVIRONMENT

April 1996

## I. INTRODUCTION

The Canadian Institute for Environmental Law and Policy (CIELAP) and the Canadian Environmental Law Association (CELA) welcome the opportunity to address the House of Commons Standing Committee on Natural Resources on the important issue of the environmental regulation of the mining industry in Canada. However, we must also express our disappointment and concern regarding the Standing Committee's decision to request a comprehensive government response to its December 1995 interim report Streamlining Environmental Regulation for Mining, having only heard from one non-governmental witness, the Mining Association of Canada. We have attached to this brief copies of letters from CELA and CIELAP to the Hon. Sergio Marchi, Minister of the Environment, and the Hon. Fred Mifflin, Minister of Fisheries and Oceans, regarding this matter.

This brief deals with a range of issues related to the environmental regulation of the mining industry in Canada. These include:

- \* the current environmental impacts of the mining industry in Canada, with particular emphasis on metal mining operations;
- \* the relationship between environmental sustainability and the mining industry, including the major issues raised in Natural Resources Canada's September 1995 discussion paper Sustainable Development and Minerals and Metals, including materials consumption and environment sustainability, the role of governments in the promotion and support of mining activities in Canada through tax and other measures, Canada's approach to multilateral environmental agreements, and the issue of the "toxicity" of metals;
- \* the roles of the federal and provincial and territorial governments in the environmental regulation of the mining industry, including the implications of the federal government's proposed "withdrawal" from activities related to mining contained in the Speech from the Throne of February 27, 1996, and the environmental "harmonization" initiative of the Canadian Council of Ministers of the Environment; and
- \* the specific issues related to mining and the environment raised in the Standing Committee's December 1995 report entitled Streamlining Environmental Regulation for Mining, with particular emphasis on the habitat protection and

pollution prevention provisions of the *Fisheries Act* and the role of "voluntary" initiatives in environmental protection. This section also includes a brief comparison of Canadian and U.S. federal environmental regulations which apply to the mining industry, and a discussion of the relationship between environmental regulation and competitiveness.

We conclude that, in light of the extent of the environmental impacts of the mining industry, and the industry's recent environmental and safety track record, the federal environmental regulations which apply to the mining industry should be strengthened and modernized.

## II. THE ENVIRONMENTAL IMPACTS OF THE MINING INDUSTRY IN CANADA

### 1) Introduction

One of the most disturbing aspects of both the Department of Natural Resources' discussion paper on sustainable development and minerals and metals,<sup>1</sup> and the interim report of the House of Commons Standing Committee on Natural Resources,<sup>2</sup> was the degree to which they focused on the need to "streamline" environmental regulations affecting the mining sector, while virtually ignoring its environmental impacts. The mining sector has major negative effects on Canada's environment. Many of these impacts are large scale, permanent, and often irremediable.

### 2) The Environmental Impacts of Mining

Any discussion of the environmental regulatory regime for the mining sector must begin with a recognition of the enormity of the sector's impacts on the environment. Major environmental effects are associated with each step in the metal mining process, excavation and ore removal, ore concentration, and smelting and refining. These include the following environmental impacts.<sup>3</sup>

#### i) Excavation and Ore Removal

Excavation and ore removal may have such environmental impacts as:

- \* the destruction of plant, animal and fish habitat, human settlements, and other surface features (surface mining);
- \* land subsidence (underground mining)
- \* increased erosion, and the silting of lakes and streams, resulting in the destruction of fish habitat;
- \* waste generation (disposal of overburden);
- \* acid mine drainage (if ore or overburden contain sulphur compounds); and
- \* metal contamination of lakes, streams and groundwater.

## ii) Ore Concentration

The environmental impacts of ore concentration may include:

- \* waste generation (tailings);
- \* organic chemical contamination (tailings often contain residues of chemicals used in concentrators);
- \* acid drainage (if ore contains sulphur compounds); and
- \* metal contamination of lakes, streams and groundwater.

## iii) Smelting/Refining

The environmental impacts of smelting and refining operations may include:

- \* air pollution, including emissions of sulphur dioxide, arsenic, lead, cadmium, mercury, and other toxic substances;
- \* waste generation (slag); and
- \* the impacts of producing energy used in smelting and refining operations, such as the environmental effects of hydro-electric dams, and of fossil fuel extraction and use.

## iv) Waste Generation

It is estimated, that the Canadian mineral industry generates 1 million tonnes of waste rock and 950,000 tonnes of tailings *per day*, totalling 650 million tonnes of waste per year.<sup>4</sup> This is more than twenty times the amount of municipal solid waste generated each year by all of the residences, industries, commercial establishments and institutions in Canada combined.<sup>5</sup> The typical rates of waste generation for the mining and smelting of major metals are as follows.

**TABLE 1****Estimated Ore Production, Average Grade, and Waste Generation, Major Minerals, 1991.<sup>6</sup>**

<b>Mineral</b>	<b>Ore (millions of tons)</b>	<b>Average Grade (per cent)</b>	<b>Waste (million tons)</b>
Copper	1,000	0.91%	990
Gold	620	0.00033%	620
Iron	906	40%	540
Phosphate	160	9.3%	140
Lead	135	2.5%	130
Aluminum/Bauxite	109	23.0%	84
Nickel	38	2.5%	37
Tin	21	1.0%	21
Manganese	22	30.0%	16
Tungsten	15	0.25%	15
Chromium/ Chromite	13	30.0%	9
<b>TOTALS</b>	<b>3,200</b>		<b>2,700</b>

These waste figures do not include the disposal of overburden.

It has been estimated that as of 1982 279,477 hectares of land have been disturbed, utilized and alienated by mining in Canada. Over 80% of this land is taken up by disfigured materials (e.g. tailings, waste rock, overburden, and settling ponds).<sup>7</sup>

#### **v) Water Pollution**

Mining operations are also a major source of water pollution. Natural water percolates into mines, and water that is deliberately pumped into a mine for process use comes into contact with mineralized rock. This water must be removed from the mine or



the mine would flood. This water, while it is resident in the mine, is contaminated by the mining process itself. It may contain quantities of mine-machinery lubricants, trace quantities of explosives, rock-fines, minewater treatment chemicals, and traces of all of the chemical materials that may be used in a mine. If mill water is used to convey tailings underground for use as backfill, then the minewater can also become contaminated with all of the chemicals which are used in the mill. Minewater may be acid due to the decomposition of iron sulphides if they exist in the ore, or it may be alkaline due to the use of cemented backfill.<sup>8</sup>

In many mines waste mill slurry produced by the mine-mill operation must be directed to a "tailings area," usually contained by a dam. The overflow from the tailings area is usually the most important source of waste water flow from a mine-mill operation. Seepage may also occur at the base of the dam. This waste water usually reflects the chemistry of the mill. The quality of the waste water may also be influenced by the decomposition of the minerals being held in the tailings area. The pH of untreated effluent may be acid or alkaline. The effluent may contain suspended solids, residual mine-mill chemicals, heavy metals, ammonia, arsenic, and in the case of uranium mines, radioactive substances.<sup>9</sup>

Run-off from abandoned tailings areas may be acidic, and contain dissolved solids and metals, due to Acid Mine Drainage (AMD). Smelters and refineries often also discharge wastes into tailings areas associated with their mines and mills. The waste waters generated by these plants are unique to each plant and reflect the chemistry or metallurgy of the process being used in the plant.<sup>10</sup>

In North America, heap leaching, a new technology that allows gold extraction from very low grade ores, is coming into wide use. Miners spray a cyanide solution, which dissolves gold, on to piles of crushed rock or old tailings. After repeated circulation through the ore, the liquid is collected and gold is extracted from it. Both cyanide solution collection reservoirs and the contaminated tailings left behind after leaching pose major threats to wildlife and groundwater.<sup>11</sup>

The total amount of pollutants generated from these sources are significant. In Ontario, for example, the results of effluent monitoring at the province's 49 mines and mineral refineries under the Municipal-Industrial Strategy for Abatement (MISA) Program indicated the following total annual loadings of pollutants:<sup>12</sup>

TABLE 2

Annual Loadings  
Water Pollution  
Metal Mining in Ontario

Others (kg/yr)		Metals (kg/yr)		Organics (kg/yr)	
Total Cyanide	44,800	Iron	100,000	Toluene	40.7
Cyanide (Weak Acid Associable)	13,300	Nickel	59,000	Meta and Para Cresol	25.0
Cyanates (filtered)	34,800	Zinc	40,000	Ortho, Meta and Para Xylene	22.7
Thiocyanates (filtered)	848,000	Copper	37,700	Carbon Tetrachloride	12.5
Ammonia plus Ammonium	1,580,000	Aluminum	33,100	Methylene Chloride	10.8
Nitrate plus Nitrite	1,930,000	Molybdenum	6,370	Benzene	10.3
Suspended Solids	2,110,000	Cobalt	5,260	2-Methylnaphthalene	8.4
Dissolved Solids	293,000,000	Uranium	3,530	Naphthalene	6.5
Sulfates	153,000,000	Antimony	1,770	Chloroform	6.4
Chlorides	16,500,000	Lead	1,470		
Phenolics	1,800	Cadmium	723		
Arsenic	12,500	Mercury	540		
Selenium	9,590	Chromium	20		
Phosphorous	3,280				
Chemical Oxygen Demand	6,400,000				

During the MISA effluent monitoring period, 54% of all effluent from Ontario metal mining and refining facilities were found toxic to rainbow trout.<sup>13</sup> 48% of all effluent from Ontario metal mining and refining facilities were found toxic to *daphnia magna*.<sup>14</sup>

vi) **Air Pollution**

Ore extraction and concentration operations, refining and smelting, and tailings areas are major sources of air pollution, including particulates, heavy metals, and acid causing gas emissions (i.e. sulphur dioxide).

*Particulates*

In 1986 Environment Canada estimated that 63,000 tonnes of particulate emissions originated from Canadian mine tailings in 1980.<sup>15</sup> Such dusts are not only a nuisance, but may also directly affect environmental and human health, depending on the composition of the tailings and the mitigation procedures in place.

*Heavy Metals*

The draft 1990 Canadian Air Emissions Data indicates that the non-ferris metal (primarily smelting and refining) industry accounts for the following proportions of Canada's emissions of Cadmium, Mercury, and Lead.<sup>16</sup>

**TABLE 3**

**Cadmium**

<b>Source</b>	<b>Tonnes/yr</b>	<b>Percentage of Total Canadian Emissions</b>
<b>Primary Non-Ferris Metal Industry</b>	40.0	46.4%
<b>Secondary Non-Ferris Metal Industry</b>	0.8	0.9%
<b>TOTALS</b>	40.8	47.3%

TABLE 4

## Mercury

Source	Tonnes/yr	Percentage of Total Canadian Emissions
Primary Non-Ferrous Metal Industry	30	77.4%
Secondary Non-Ferrous Metal Industry	<0.1	0.0%
<b>TOTAL</b>	<b>30</b>	<b>77.4%</b>

TABLE 6

## Lead

Source	Tonnes/yr	Percentage of Total Canadian Emissions
Primary Non-Ferrous Metal Industry	920.0	85.6%
Secondary Non-Ferrous Metal Industry	11.0	1.0%
<b>TOTAL</b>	<b>931.0</b>	<b>86.6%</b>

The primary metals industry is also the leading source emissions of a number of other heavy metals. Copper and Nickel production, for example, account for over 60% of Canada's emissions of Arsenic (total emissions 471 tonnes/yr),<sup>17</sup> over 75% of Canada's emissions of Copper (total emissions 1,689 tonnes/yr),<sup>18</sup> and over 60% of Canada's emissions of Nickel (total emissions 846 tonnes/yr).<sup>19</sup> Lead and Zinc production account for over 70% of Canada's Antimony emissions (total emissions 75 tonnes/yr).<sup>20</sup>

*Sulphur Dioxide and Acid Rain*

Metal smelting and refining operations are also a major source of sulphur dioxide emissions. Sulphur dioxide emissions from the primary metal industry have fallen significantly since 1980, particularly in Ontario and Quebec, as a result of acid rain control regulations implemented in those provinces in the mid-1980's.<sup>21</sup> These regulatory programs followed the negotiation of a series of federal-provincial accords on acid rain between the federal government and the seven eastern provinces<sup>22</sup> in 1984.<sup>23</sup>

However, the primary metal industry remains the largest source of sulphur dioxide emissions in Ontario, Manitoba, and Quebec. The total emissions for 1994, the most recent year for which data is available, are as follows:<sup>24</sup>

**TABLE 7**

**Primary Metal Sector SO<sub>2</sub> Emissions - 1994**

Province	Primary Metals Sector SO <sub>2</sub> Emissions (Tonnes)
Manitoba	388,000
Ontario	250,000
Quebec	199,000
<b>TOTAL 1994 Emissions</b>	<b>844,000</b>

By comparison, the power generation sector accounted for 337,000 tonnes of SO<sub>2</sub> emissions in Eastern Canada in 1994, and other sources 517,000 tonnes.<sup>25</sup>

In the 1994 Annual Report on the Federal-Provincial Agreements for the Eastern Canada Acid Rain Control Program Environment Canada noted that:

"Although the program goals are now being met, many ecosystems are still being damaged. Lakes and streams in some areas continue to acidify. Furthermore, the health effects of acid particles are a growing concern.

...even after all currently planned emissions reductions are in place on both sides of the (Canada-U.S.) border, some regions are expected to receive excess acid deposition post-2000, i.e. in excess of the critical loads for sulphur as currently defined for aquatic ecosystems."<sup>26</sup>

In other words, additional action, beyond the goals of the 1984 federal-provincial accords will be required to fully address the problem of acid rain in Eastern Canada. Given the extent of the contributions of the primary metals sector to SO<sub>2</sub> emissions in Eastern Canada, this implies that additional emission reductions from the sector will be required.

**vii) Abandoned Mines and Tailings**

In addition to the environmental impacts of the existing mines and metal refining facilities in Canada, abandoned mines and mine waste and tailings also continue to have

major environmental impacts. It may be estimated that there are more than 10,000 abandoned mines in Canada.<sup>27</sup> There are also estimated to be at least 6,000 abandoned tailings sites.<sup>28</sup> It is estimated that less than 20% of the lands disturbed abandoned metal mines in Canada have been reclaimed.<sup>29</sup> The reclamation rates for coal mining operations are somewhat better, although the highest rate reported is 42% in some regions.<sup>30</sup> The Mining Association of Canada has estimated the total cost of remediating abandoned mine sites in Canada at \$6 Billion.<sup>31</sup> Most of this cost will likely have to be carried by Canadian taxpayers.

Abandoned mines can pose a serious danger to human health and safety and the environment. The October 17, 1990 a failure of the tailings dam at the Matachewan Consolidated Gold Mines site in Northern Ontario, abandoned in 1954, released 150,000 cubic meters of mine tailing the waters of Davidson Creek and the Montreal River. The waterways were contaminated with high concentrations of lead, arsenic, cyanide, copper, nickel, mercury and other toxic substances.<sup>32</sup> Downstream residents where forced to use bottled water for washing and drinking.<sup>33</sup> The clean-up has cost the province of Ontario over \$2 million to date and is still ongoing. It has been estimated that Davidson Creek will be unable to support fish life for seven to 10 years after the spill.<sup>34</sup>

One of the most serious environmental effects of abandoned mine wastes and tailings is acid mine drainage (AMD). AMD occurs when metallic sulphide minerals react chemically and biologically with oxygen, moisture, and bacteria, that use sulphur as a source of energy. The oxidation of the most reactive sulphide minerals, such as pyrite and pyrrhotite, can, in turn, cause the oxidation of other less reactive ones, Sulphuric acid is produced, which dissolves metals contained in the exposed rock and tailings.<sup>35</sup> This can result in run-off which is acidic, and which contains dissolved solids and metals. It is estimated that there are 351 million tonnes of waste rock, 511 million tonnes of sulphide tailings and more than 55 million tonnes of other sources with the potential to cause AMD in Canada.<sup>36</sup>

In addition to the incidence of AMD, saline mine drainage has been associated with potash mines in Saskatchewan and New Brunswick. Both tailings and brine have the potential to contaminate surface and ground water through saline drainage run-off and seepage.<sup>37</sup> Radionuclides are contained in the 185 million tonnes of tailings produced by Uranium mines in Ontario, Saskatchewan and the Northwest Territories. Consequently, uranium tailings are considered low-level radioactive waste. The tailings and effluent from such sites require special storage.<sup>38</sup>

### 3) Conclusions

The mining industry has enormous negative impacts on Canada's environment. This must be taken into consideration when the environmental regulatory requirements for the industry are under review. Moreover, the industry's environmental track record

cannot be viewed simply as evidence of "the bad old days" which have since passed. Major health and safety and environmental disasters have occurred within the industry in North America over the past five years.

The most prominent of these is the Westray Mine Disaster in Nova Scotia in May 1992, in which 26 miners were killed. At the time of the disaster it was noted that in the rush to approve the Mine it was exempted from environmental assessment requirements, which might have indicated the seriousness of the problems related to methane in the coal seam.<sup>39</sup> In addition, it is reported that provincial regulators relied heavily on Westray's own data regarding conditions at the mine site in granting approval for the mine, due to a lack of resources within the Nova Scotia Department of Natural Resources.<sup>40</sup>

Other examples of recent environmental incidents involving the mining sector include major releases of sulphur dioxide, sulphur trioxide, and chlorine from Inco Ltd.'s facilities in Sudbury over the past 10 years. These include:

- \* a release of two tonnes of sulphur trioxide on August 19, 1987, which caused 150 people to be sent to hospital;
- \* a release of chlorine gas on November 7, 1989, requiring more than 3,000 Inco employees and 3,000 area residents to seek shelter;
- \* a release of sulphur trioxide on June 4, 1992, which resulted in 10 people being sent to hospital;
- \* a further release of sulphur trioxide on June 26, 1992, which caused more than 20 people to seek medical treatment; and
- \* a release of sulphur dioxide on November 16, 1995, which is alleged to have affected up to 10,000 people. Inco is reported to have publicly described those who went to hospital as a result of the event as "cry babies."<sup>41</sup> This event is now the subject of a class action lawsuit in Ontario.<sup>42</sup>

For its part, Falconbridge Ltd was convicted on February 1, 1993 for six infractions of the Ontario *Environmental Protection Act* for a July 1990 for a similar release of Sulphur Trioxide in the town of Nickel Centre east of Sudbury. In his decision, the trial Judge ruled that the firm had acted in a "cavalier manner" with respect to the leak.<sup>43</sup>

In his 1990 report to Parliament, the Auditor-General of Canada noted major violations of federal regulations related to waste discharges from mining operations in the Yukon and Northwest Territories, and severely criticized the Department of Indian and Northern Affairs for its failure to take appropriate enforcement actions.<sup>44</sup> More

recently, Broken Hill Pty. Co. Ltd. was charged in January 1996 under the *Fisheries Act* by the Department of Fisheries and Oceans for damaging fish habitat at the Lac de Gras site in the Northwest Territories, where it proposes to build a diamond mine.<sup>45</sup> In addition, in the same month, Kennecott Canada Inc, a unit of RTZ Corp. PLC, which is exploring for diamonds in the same area as Broken Hill Pty., was charged with three violations of the *Fisheries Act*.<sup>46</sup>

In the United States, attention should be given to the case of Galactic Resources Ltd's Summitville mine site in Colorado. This mine, a gold heap-leach operation, opened in 1986 and declared bankruptcy in December 1992. The Summitville mine poisoned several tributaries of the Rio Grand River, with cyanide, acid mine wastes, copper and other metals. The clean-up has cost U.S. taxpayers \$110 million to date.<sup>47</sup> However, it is merely the largest of a number of similar incidents in the western United States involving hard-rock mining over the past few years.<sup>48</sup>

Canadian mining companies have also been recently involved in environmental disasters overseas. These include the failure of a tailings dam at the Omai Gold mine in Guyana in August 1995. The mine is 65% owned by Cambior Inc. of Montreal. The failure resulted in cyanide contaminated water entering a major river system.<sup>49</sup> More recently, in March 1996, a tailings dam failed at the Marcopper Mine in the Philippines, operated by Placer Dome Inc. of Vancouver. The failure resulted in millions of tonnes of finely ground copper bearing waste rock pouring into the Boac River.<sup>50</sup>

The events suggest that the mining industry requires continuing close scrutiny by governments. The industry's past and present environmental safety record indicate that the public cannot rely on promises of good behaviour in the future to protect its health, safety and environment.



### III. MINING AND ENVIRONMENTAL SUSTAINABILITY

#### 1) Mining and New Materials Consumption

The scale of the environmental impacts of the mining industry requires that its role be examined in the context of the wider issue of environmental sustainability. This issue was dealt with briefly in Natural Resources Canada's September 1995 discussion paper Sustainable Development and Minerals and Metals. Unfortunately, the discussion paper is a major disappointment. It failed to address many of the key issues related to the minerals and metals sector in an environmentally sustainable global economy. The paper simply assumed a continued expansion of the global consumption of metals and minerals.

This approach ignores the recent conclusions of a number of major international research bodies, including the Washington D.C. based World Watch Institute and the Wuppertel Institute for Climate, Environment and Energy in Germany, regarding the issue of materials consumption and environmental sustainability. It has been suggested, for example, that a 50% reduction in worldwide new materials consumption will be needed to arrest global environmental degradation, and that to achieve it, industrial countries need to aim for a 90% reduction.<sup>51</sup> The current rates of materials consumption are considered unsustainable, not so much due to shortages of materials themselves, but rather due to the extent of the environmental costs associated with their extraction and processing.<sup>52</sup>

Dealing with the environmental damage caused by mining will require significant changes in the way in which minerals are used. It seems clear that the environmental damage from non-stop growth in new mineral production will eventually outweigh the benefits of increased material supplies, if it has not done so already.<sup>53</sup>

However, in approaching this issue, it is important to recognize that it is the extraction and processing of minerals, and not their use, which poses the greatest environmental threat.<sup>54</sup> Canada's policies towards mining have been to support the increased production of new minerals. This has effectively promoted mining, but it has also made minerals artificially cheap, and diverted funds that might have been used more productively to serve other needs.

A less destructive approach would be to maximize the conservation of mineral stocks already circulating in the global economy, thereby reducing both the demand for new materials, and the environmental damage done to produce them. The world's industrial nations, including Canada, are the leading users of minerals, and offer the most obvious opportunities for cutting demand for new materials. These nations need to move towards more materials-efficient economies, which will enable them to meet the needs of their citizens while using environmental resources less intensively.<sup>55</sup>

In this context, metals are ideal candidates for recycling, as they do not lose their mechanical and metallurgical properties when recycled. Furthermore, the economic value of a metal remains the same whether the metal has been recycled or not.<sup>56</sup> The potential reductions in energy use, air and water pollution and mining waste generation from the recycling of metals are substantial. The energy saved from reusing scrap metals ranges from 50% in the case of foundry alloys, to 74% for iron and steel, and up to 95% for aluminum. The potential benefits also include an estimated 86% reduction in air pollution, 76% reduction in water pollution, and a 97% reduction in mining wastes.<sup>57</sup>

There are many technical possibilities for using minerals more efficiently. These include increased metals recycling rates,<sup>58</sup> and improving the durability and repairability of mineral containing products. Deposit-refund systems for items as diverse as beverage containers and automobiles, can encourage consumers to return products for reuse, instead of disposing of them. Another option is the substitution of more benign materials for those whose production is environmentally damaging.<sup>59</sup>

The production of copper, for example, is exceptionally destructive. Primary and secondary copper smelters and copper refineries are associated with major emissions of particulate matter, copper, lead, arsenic and sulphuric acid.<sup>60</sup> The use of glass fibre optic cables in place of copper wires for communications provides an encouraging illustration of a shift to a less-damaging substitute.<sup>61</sup>

## 2) The Role of Taxation and Government Subsidies

Attention must be given to the impacts of government subsidy and tax expenditure programs on the development of a more materials efficient economy in Canada. Representatives of the mining industry have claimed that Canada's tax rates for mining companies are high in comparison to other jurisdictions.<sup>62</sup> However, a Natural Resources Canada study released in May 1994 indicated that Canada ranks in the low-to-middle range on an international scale, particularly when such factors as allowable accelerated capital cost allowances, tax deferrals, tax credits and tax holidays, are taken into account.<sup>63</sup> Indeed, at that time, the Director General of the Economic and Financial Analysis Branch of Natural Resources Canada described Canada's tax expenditures in support of the Industry as "quite generous," noting, for example, that a Canadian mine with a life of ten years does not start to pay taxes until the seventh year of production.<sup>64</sup>

Furthermore, a study recently completed for the Canadian Council of Ministers of the Environment (CCME),<sup>65</sup> concluded that the tax expenditures provided by the federal and provincial governments to support the development and production of basic materials introduce significant distortions into the materials market. In particular, provide a bias against the use of recycled materials.

A December 1995 study released by the Institute for Research on Public Policy (IRPP), estimated total federal corporate tax expenditures at \$5.593 billion per year.<sup>66</sup> Tax expenditures to support natural resources development, including mining, constituted a major proportion of these expenditures. Among the major federal tax expenditures affecting the mining sector were:<sup>67</sup>

**TABLE 8**

**Federal Natural Resources Development Corporate Tax Expenditures**

<b>Tax Expenditure</b>	<b>Estimated Annual Value</b>
Resource allowance in lieu of deductibility of provincial royalties	\$108 Million
Accelerated write-off of Canadian Development expenses	\$156 Million
Accelerated write-off of Canadian exploration expenses	\$446 Million
<b>TOTAL</b>	\$710 Million

The accelerated write-off of Canadian development expenses for mine expansions was increased in the March 1996 federal budget. At the same time, the use of flow-through shares in the non-renewable sector was tightened.<sup>68</sup>

The bias against recycled materials in the tax system is likely reinforced by the other forms of subsidy provided by governments to the mineral and metal mining industries, such as the provision of infrastructure and below full cost energy supplies, and protection from environmental liability. The removal of these kinds of subsidies is essential to achieving the full-cost pricing of resources central to the principle of sustainable development.

Concerns have also been expressed regarding the broader impact of the current system of corporate tax expenditures, which tends to favour capital intensive industries such as mining, on employment and the economy as a whole. The IRPP study concluded:

"the problem here is that current tax expenditures tend to favour capital intensive enterprises, especially those operating in the manufacturing and resource sectors. This is to the detriment of labour-intensive businesses (whether the labour is specialized or not) and notably those in the service sector. If we acknowledge that the health of Canada's economy depends on its capacity to attract and develop relatively non-capital-intensive enterprises demanding highly specialized labour, then we must re-examine

tax policies that indirectly disadvantage businesses in such sectors."<sup>69</sup>

### 3) Metals Toxicity

The Natural Resources Canada September discussion paper (Sustainable Development and Minerals and Metals) contains a lengthy discussion of the issue of risk vs. hazard based approaches to the assessment of the toxicity of metals. It is clearly related to the current debates occurring within the government regarding the government's response to the Recommendations of the House of Commons Standing Committee on Environment and Sustainable Development's June 1995 report on the review of the *Canadian Environmental Protection Act* (CEPA).

The NRCan paper essentially declares, following the approach of the Canadian Chemical Producers Association, that only a full risk assessment-based approach to the evaluation of the toxicity of substances can be considered "good" science. This not a valid statement. Both risk and hazard assessment approaches to the assessment of substances constitute "good" science if they are carried out in a competent and honest manner. The NRCan document itself admits that a hazard based approach, such as that proposed by the Standing Committee on Environment and Sustainable Development reflects the traditional scientific definition of toxicity "based on the intrinsic potential of a substance to damage organisms."<sup>70</sup>

A hazard assessment approach was employed by the Ontario Ministry of Environment in the Development of its April 1992 Candidate Substances List for Bans or Phase-Outs. In addition, a hazard-based criteria type of approach to the assessment of the toxicity of substances was agreed to by all stakeholders, including industry, in the Accelerated Reduction/Elimination of Toxics (ARETS) process. In both programs systems were developed for prioritizing action on substances on the basis of such intrinsic characteristics as bioaccumulative potential, persistence and toxicity, including acute toxicity, chronic/sub-chronic toxicity, carcinogenicity, teratogenicity, genotoxicity and mutagenicity.<sup>71</sup>

The choice between risk and hazard based approaches is fundamentally one of policy, not "good" or "bad" science. A hazard based approach is essentially precautionary in nature, and provides the basis for taking preventative measures with respect to substances due to their potential to cause harm to the environment or human health. Risk-based approaches, on the other hand, are fundamentally reactive in nature, and essentially wait for absolute proof of actual harm to the environment or human health before action can be taken. In this context, it is hardly surprising that economic interests that produce potentially toxic substances prefer the more conservative, risk-based approach to the precautionary, hazard-based model.

With respect to the treatment of naturally occurring substances (e.g. metals) with toxic characteristics, the existence of natural sources of these substances has long been recognized in policy discussions regarding environmental contaminants. It is reflected, for example, in the "virtual elimination" concept contained of the 1978 *Great Lakes Water Quality Agreement* with respect to persistent toxic substances. It is acknowledged in the TSMP as well. However, this does not alter the fact that very significant negative human health and environmental effects have been clearly established in relation to certain metals, such as mercury and lead. Indeed, these two substances were included in the original 1988 CEPA Toxic Substances List.

While it may not be possible to eliminate natural sources of these elements in the environment, action can and should be taken against anthropogenic sources. These include direct discharges to the air and water from extraction and industrial activities, the use of substances in the production of other products (e.g. batteries and florescent lamps), and releases which occur as a direct result of human disturbances of the environment, such as mining, or the creation of large reservoirs.

#### 4) Multilateral Environmental Agreements

The Sustainable Development and Minerals and Mining paper also proposes that Canada "play a leadership role in international fora to ensure that environmental and occupational health and safety issues relating to minerals and metals are dealt with on the basis of sound science and in a manner that supports sustainable development." The subsequent April 1996 discussion paper Towards a New Federal Minerals and Metals Policy: "Partnerships for Sustainable Development" elaborates on this theme, proposing that Canada only support Multilateral Environmental Agreements which may affect the metals industry if "all other reasonable approaches to achieving the desired outcome have been properly evaluated and deemed ineffective."<sup>72</sup>

These proposals are disturbing in light of the position that Canada has taken at a series of international environmental negotiations over the past six months related to the environmental effects of metals. During these discussions Canada has consistently made efforts to weaken proposed international actions. This has been particularly evident with respect to the proposed ban on the export of hazardous wastes for recycling under the *Basel Convention on the Control of the Transboundary Movements of Hazardous Wastes and Other Wastes and their Disposal*, from OECD to non-OECD countries. In addition, Canada has actively sought to weaken the United Nations Economic Commission on Europe initiative to control the transboundary air pollution by heavy metals, and the OECD Chemical Groups Risk Reduction Program's efforts to move towards the phase out of certain uses of lead.

CIELAP and CELA expect Canada to be a leader in international environmental negotiations. Unfortunately, the NRCan papers suggest that Canada continue this obstructionist pattern of behaviour. Canada has already embarrassed itself on the international stage over the past few months in this way, and we hope that this pattern will not continue.

#### IV. MINING AND FEDERAL AND PROVINCIAL ROLES

##### 1) Throne Speech and Federal "Withdrawal" from Mining

CIELAP and CELA noted with interest the federal government's proposals to "withdraw from its functions" in a number of fields, especially forestry and mining contained in the Speech from the Throne of February 27. We are uncertain of the implications of the federal government's proposal in relation to its current functions in these areas. In this context, CIELAP has written to the Prime Minister, requesting clarification of the government's proposals in the following respects:

- \* will the financial support provided to the mining sector through tax expenditure and other programs, such as the federal the resource allowance in lieu of deductibility of provincial resource royalties, the accelerated write-off for Canadian development expenses, and the accelerated write-off for Canadian exploration expenses, be discontinued?
- \* will federal scientific research activities which support the mining sector, such as those conducted by the Geological Survey of Canada, and the Mine Environmental Neutral Drainage (MEND) program, be discontinued?
- \* is it the federal government's intention to repeal the federal environmental regulations related to the mining sector, such as the *Fisheries Act Metal Mining Liquid Effluent Regulations*?
- \* is it the government's intention to remove mining and mineral processing undertakings from the Comprehensive Study List Regulations made under the *Canadian Environmental Assessment Act*?
- \* how will the disposal of mine wastes in coastal areas, such as has occurred at Alice Arm inlet in Northern British Columbia, and apparently is under consideration for the Voisey's Bay site in Labrador, be dealt with?
- \* what will be the federal government's role in relation to mining activities which may affect Aboriginal Peoples or First Nations governments?

We look forward to the Prime Minister's reply to our inquiries. A copy of CIELAP's letter to Mr. Chrétien is inclosed as an attachment to this brief.

2) **The Canadian Council of Minister's of the Environment "Harmonization" Initiative.**

i) **Introduction**

The Canadian Council of Ministers of the Environment (CCME) is the major forum in Canada for discussion and joint action on environmental issues of national and international concern. Since November 1993, the CCME has focused on the harmonization of environmental management as its top priority. A draft Environmental Management Framework Agreement (EMFA) and four Schedules (Monitoring, Enforcement, International Affairs, and Environmental Assessment) for public comment on December 13, 1994.

The Agreement was originally scheduled to be "endorsed" by the federal, provincial and territorial ministers of the environment at the May 1995 meeting of the CCME, and signed at the October 1995 meeting. However, major disagreements emerged between the federal and provincial and territorial environment ministers at the May 1995 meeting over the direction of the initiative. As a result, there was no agreement to release the proposed EMFA and Schedules for public consultation.

Following the October 1995 CCME meeting a new draft Framework Agreement and ten Schedules (Monitoring, Compliance, International Affairs, Guidelines and Standards, Policies and Laws, Emergency Response, Education, Research and Development and Pollution Prevention) were released for public comment. The Environmental Assessment Schedule, which was contained in the December 1994 draft Agreement, was not released, and environmental assessment was stated by the federal government to be "off the table" for discussion as part of the CCME project.

Harmonization is an ambitious and sweeping project which proposes a new way to manage Canada's environment. Since the beginnings of the CCME's discussions on harmonization, the environmental community has raised serious concerns about the rationale, negotiation process and potential implications for the protection of Canada's environment of the initiative.

A detailed analysis of the draft EMFA and the ten schedules released in October 1995 was developed by the Canadian Institute for Environmental Law and Policy. This analysis entitled "*The Environmental Management Framework Agreement - A Model for Dysfunctional Federalism? An Analysis and Commentary*," was submitted to the CCME in February 1996. A copy of this analysis is attached to this brief. The major findings and conclusions of the analysis are as follows.



## ii) The Implications of the Proposed Agreement

### *Rationale and Justification: The Agreement Proposes to Solve a Problem Which Doesn't Exist*

The harmonization agreement sets out to "solve" a "problem" that has never been clearly identified and, if identified as provincial/federal duplication and overlap, apparently does not exist to the extent or seriousness that the CCME suggests. This has been confirmed in numerous government and independent studies over the past three years.<sup>73</sup> In a study completed in August 1995 for the CCME, for example, KPMG Management Consulting concluded that "most overlap and duplication which existed has been addressed."<sup>74</sup>

Many observers, including CIELAP and CELA have expressed much more serious concerns regarding the incidence of "underlap and gaps," in Canada's environmental protection system as a result of budgetary reductions at the federal, provincial and territorial levels.<sup>75</sup> Furthermore, no case has been made that the presence federal and provincial legislative requirements in the environmental field, are injurious to environmental protection. In fact, many students of federalism argue that shared jurisdiction provides for oversight and backstopping,<sup>76</sup> and thereby enhances environmental protection.<sup>77</sup>

### *The Agreement is a Framework for the Devolution of Federal Environmental Roles and Responsibilities*

The proposed agreement would delegate responsibility for the enforcement of federal environmental laws to the provinces and territories, except on federal lands and at international borders. In light of the past track records of many provinces with the delegated enforcement of federal environmental law, and the likely absence of resource transfers from the federal government to the provinces, this seems likely to result in the *de facto* repeal of affected federal environmental law, such as the *Canadian Environmental Protection Act* and the *Fisheries Act*.

In addition, the Agreement proposes a process for the systematic review of federal legislation and regulations for "overlap" with provincial environmental requirements. The pulp and paper, mining, and petroleum refining sectors, which are among the largest sources of industrial pollution in Canada, are targeted for early action under the proposed Agreement. Given the overall direction of the harmonization exercise, the likely result would be the actual repeal of federal requirements which are concluded to "overlap" with provincial laws and regulations.

The proposed Agreement would also pre-empt the ability of the federal government to act on its own to protect the environment in the future. The development of national environmental policies and standards, Canada's positions in international

environmental negotiations, and even educational materials on "national" environmental issues, such as air quality, would occur on the basis of agreement between the federal government and all twelve provinces and territories. In effect, the federal government would be unable to undertake any significant environmental action without the consent of the provinces and territories.

*The Agreement Proposes to Create a New Level of Government, which is Illegitimate, Unaccountable and Unworkable*

Under the proposed Agreement, environmental issues of national concern beyond federal lands would be dealt with through the "national" decision-making processes established through the Agreement. Decision-making on "national" issues would occur on the basis of consensus among the thirteen Parties to the EMFA. The end result of thirteen different governments being required to reach consensus for action to be taken on "national" environmental issues seems likely to be either deadlock, or "lowest common denominator" outcomes.

The same problems would apply to the development of Canada's positions on international environmental issues, and in the implementation of Canada's obligations under such international environmental agreements as the *Framework Convention on Climate Change* and the *North American Agreement on Environmental Cooperation*. The establishment of Canada's positions and the implementation of Canada's international commitments would require the agreement of all twelve provinces and territories.

The political legitimacy of the establishment of this "national" approach to Canada-wide environmental issues must be questioned. None of the governments involved in this project can be said to have an electoral mandate to pursue such an approach to national issues, or to participate in the creation of such a wide array of new "national" institutions and processes.

Furthermore, parliamentary, legislative or public accountability mechanisms for the institutions and processes created through the EMFA are completely absent. The "national" level of government created by the EMFA would have no public mandate and be answerable to no electorate or legislature. In addition, representatives to the potential Parties to the agreement appear, even at this late stage in the process, to be uncertain about the legal status of their obligations under the proposed Agreement.

*The Agreement Fails to Address the Roles of Aboriginal People and First Nations Governments in the Management of Canada's Environment*

The EMFA purports to construct a new environmental management framework for

Canada. However, aboriginal people and First Nations governments have not been included in the development of the proposed "national" framework, and they are provided no role in the development of national policies and other environmental measures. This is particularly disturbing in light of the consideration that the governments of some provinces have stated their intention to deal with First Nations on a government-to-government basis.

*The Agreement Fails to Address the Real Emerging Problems in Environmental Protection in Canada*

The available research supports the conclusion that the "problem" of government duplication and overlap in environmental management in Canada is more rumoured than real. Yet the EMFA proposes to deal with this alleged problem through the dramatic step of devolving federal powers and responsibilities to the provinces and the "national" decision-making processes established by the Agreement. This approach will not result in better protection of Canadians' health or environment. At the same time, the Agreement fails to address the gaps in Canada's environmental protection system being caused by current and anticipated reductions in available resources for environmental protection at the federal, provincial and territorial levels.

**iii) Key Principles for the establishment of a More Effective Environmental Protection System in Canada**

There is a real need to find means of ensuring environmental protection in the context of reduced government resources. Indeed, many Canadians are concerned about the growing gaps in Canada's environmental protection system as a result of budget restraints at all levels. Unfortunately, the proposed "harmonization" agreement does little to address this problem.

Future efforts to provide for the more effective and efficient interface of federal, provincial, territorial, First Nations and aboriginal environmental protection efforts should be conducted on the basis of the following principles:

*Respect for Canada's Constitution.*

Canadians have rejected, decisively, behind closed door federal-provincial constitutional deal-making. Governments should not attempt to do through administrative agreements what the public has rejected as constitutional change.

*Improved Environmental Protection must be the Overriding Goal of Intergovernmental Environmental Agreements.*

Intergovernmental environmental cooperation is not an end in itself. It must be seen as a means to the ends of improved environmental protection and public accountability.

*Recognition of the Unconditional Right of Provinces to Raise Environmental Standards.*

Provinces must be able to move environmental protection forward without obtaining the approval of the other provinces and the federal government.

*Recognition of the Importance of a Strong Federal Role in the Protection of Canada's Environment.*

There is a strong rationale for a major federal presence in environmental matters. This includes:

- \* Canada's obligations under the international environmental agreements to which it is a party. These include the *United National Framework Convention on Climate Change*, the *United Nations Convention on the Conservation of Biodiversity*, the *Basel Convention on the Transboundary Movement of Hazardous Wastes*, the *Montreal Protocol on Ozone Depleting Substances*, the *Great Lakes Water Quality Agreement*, the *Canada-U.S. Agreement on Air Quality*, and the *North American Agreement on Environmental Cooperation*. Under international law, (specifically, the *Vienna Convention on the Law of Treaties*), the government of Canada is accountable to the other parties to these agreements for the fulfillment of Canada's obligations;
- \* a strong federal role is necessary in terms of regional equity within Canada. Federal environmental standards are essential to dealing with environmental problems which may spill-over from one province to another, and in preventing the creation of "pollution havens" which can prompt "races to the bottom" among provinces seeking to attract investment;
- \* the linkages between economic development and environmental sustainability, recognized in the "Sustainable Development" chapter of the 1993 Liberal Plan for Canada (the "Red Book"). Minimum national environmental standards, established by the federal government, are essential to creation of integrated domestic Canadian market; and

- \* the incapacity of the provinces, working either independently or collectively, to provide effective environmental protection regimes in such key areas as the assessments of new substances, the control of toxic substances and biotechnology products, the control of transboundary waste movements, the prevention of transboundary air and water pollution, and the management transboundary wildlife populations.

We believe that there are six fundamental environmental roles which the federal government must fulfil in order to ensure the well-being of present and future generations of Canadians. These are:

- \* the conduct of Canada's international environmental relations and the provision of leadership on international environmental issues such as climate change, ozone depletion, biodiversity conservation and persistent toxic pollutants;
- \* the provision of leadership on environmental issues of national concern such as toxic substances, biotechnology products, pesticides, endangered species and activities which pose transboundary threats to the environment;
- \* the provision of environmental protection in areas of federal jurisdiction, including the operations and activities of federal agencies, and environmental protection in relation to such subjects as navigation and shipping, interprovincial transportation, sea coasts and inland fisheries and, in partnership and cooperation aboriginal peoples, environmental protection within aboriginal communities;
- \* the provision of environmental protection in areas of national concern and provincial incapacity, such as the evaluation and regulation of new chemicals, biotechnology products and pesticides;
- \* the provision of an adequate science base for environmental policy-making in Canada; and
- \* ensuring that all Canadians have a minimum level of environmental quality, regardless of where they live in Canada through the provision of assistance to those provincial governments which lack the resources to ensure a minimum level of protection of their residents' environment and through the existence and active enforcement of federal environmental standards.

#### iv) The Next Steps

Future efforts to provide for the more effective and efficient interface of federal, provincial, territorial, and First Nations environmental protection efforts should be conducted on realistic time lines, be supported by independent and sound empirical research, and provide appropriate and effective mechanisms for public consultation. A thorough review of current federal, provincial, territorial and First Nations roles, responsibilities and capabilities for the purpose of identifying essential needs and critical gaps in relation to the present and future state of Canada's environment, would provide a good starting point for such an exercise.

## V. KEY ISSUES IN THE ENVIRONMENTAL REGULATION OF THE MINING SECTOR OF CANADA

### 1) Introduction

The "streamlining" of federal and provincial environmental regulations has been a major theme of the Mining Association of Canada's "Keep Mining in Canada" program.<sup>78</sup> For her part, the federal Minister of Natural Resources has publicly stated her willingness to "dismantle" federal environmental regulations affecting the mining industry.<sup>79</sup> The "streamlining" of federal environmental regulations affecting the industry was also the major theme of the House of Commons Standing Committee on Natural Resource's December 1995 report.

The sudden increase in attention given to the federal environmental regulations which apply to the mining industry is surprising for a number of reasons. The number of federal regulations which apply to the sector is remarkably small,<sup>80</sup> and no new discharge or emissions regulations have been introduced since the promulgation of the Metal Mining Liquid Effluent Regulations under the *Fisheries Act* in 1977. Furthermore, these regulations do not apply to mines opened before 1977 or to gold mines.

### 2) Canadian Public Attitudes Towards Environmental Regulation

Three recent polls in Canada suggest that the trend toward deregulation and self-regulation, at least with respect to the environmental field, is in fact contrary to the expectations of the public. The public clearly expects stronger, not weaker, government action to protect the environment. In a June 1995 survey by Ekos Research, for example, members of a general population sample placed "a clean environment" second only to "freedom" in a hierarchy of values for the federal government.<sup>81</sup>

The Canadian Council of Ministers of Environment has commissioned polls in order to determine the public attitudes to environmental issue semi-annually since 1988. The latest results, released in September 1995, demonstrate that public support for strong environmental standards has risen over the years.<sup>82</sup>

A majority of the respondents to the September 1995 survey believed Canada has gone only 30 per cent of the way towards achieving a safe environment. 78 percent of respondents stated environmental regulations should be strictly enforced even in times of recession. When asked the best way to reduce industrial pollution, 48 per cent cited strict laws and heavy fines to punish companies; and 19 per cent chose the use of public reporting of companies' pollution levels to embarrass them. Another 25 per cent favoured tax breaks and financial incentives. None supported voluntary measures.<sup>83</sup>

Similarly, a January 1996 survey of Ontario residents for the World Wildlife Fund by Environics Research Group found that 81 per cent of respondents (67 percent of from Northern Ontario) favoured government action to protect a system of parks and wilderness areas, even when reminded that this could result in reduced logging, mining and urban development. 76 per cent stated their belief that the completion of a network of protected areas would have very little negative effect on the province's fiscal situation.<sup>84</sup>

Recent surveys of business leaders have confirmed the importance of strong laws and regulations in achieving environmental protection. In 1994 and again in 1996 KPMG Management Consultants conducted surveys of over 300 businesses, school boards and municipalities in 1994 and 1996, questioning them about their environmental management programs.<sup>85</sup> In both surveys, over 90 per cent stated that their primary motivation for establishing environmental management systems was compliance with regulations. Approximately 70 per cent cited potential directors' liability, a factor also related to environmental laws. Only 16 per cent claimed to have been motivated by voluntary programs in 1994. This figure rose to 25 per cent in the 1996 survey.

### 3) Canada's Federal Mining Regulations in a Comparative Context

The level of concern currently being expressed over the federal environmental regulation of the Canadian mining industry is especially remarkable when the Canadian regime is compared with the requirements of other industrialized jurisdictions, particularly the United States.<sup>86</sup> In the United States coal mining is comprehensively regulated through the 1977 federal *Surface Mining Control and Reclamation Act* (SMCRA). Despite its name, SMCRA also regulates the environmental impacts of underground coal mining as well. Hardrock mining is regulated under a number of federal and state laws.

The United States Congress has prohibited mining from a variety of federal lands, including national parks and monuments, wilderness areas, and national wildlife refuges on federally owned lands. In addition, under the *Federal Coal Leasing Amendments Act* and SMCRA, the Congress has banned coal mining in the national park system, national wildlife refuges, national wilderness areas, national wild and scenic river systems, and national recreation areas. Surface mining is also prohibited in Eastern National Forests.

The federal *Endangered Species Act* prohibits federal agency action that would jeopardize a designated species. This may, for example, require the U.S. federal government to deny a lease or permit for coal mining, if the mine could potentially harm a designated species. On tribal lands, the consent of the tribe is required for any mineral development, and any leases of tribal lands for mineral development are subject to the approval of the Secretary of the Interior.

Federal lands are generally open to exploration and mineral development unless



specifically closed to those uses by an act of Congress or the executive branch. However, under its authority for managing federal lands for hard-rock mining, the Bureau of Land Management can "take any action necessary to prevent unnecessary or undue degradation of lands."<sup>87</sup> Individual states have initiated permitting and other environmental requirements governing hard-rock mining operations. These state requirements apply to federally owned, state-owned, and privately owned lands. These requirements vary from state to state.<sup>88</sup>

All U.S. hard-rock and coal mining operations are subject to the requirements of the *Clean Air Act*, the *Federal Water Pollution Control Act* (the *Clean Water Act*), the *Resource Conservation and Recovery Act*, and the *Comprehensive Environmental Response, Compensation and Liability Act*. These provide comprehensive standards regarding air and water pollution, hazardous waste management, and environmental liability. In addition, under SMCRA, and most other U.S. federal environmental laws, individual citizens may pursue civil actions ("citizen suits") against violators of these acts, or against the federal government for failure to take action against a violator. These statutes also impose a wide range of non-discretionary monitoring, enforcement and reporting duties on the executive branch agencies charged with their administration.

The most significant weakness in the U.S. federal regulatory framework for mining relates to the establishment of hard rock mining rights on federal lands. Under the 1972 *General Mining Law*, mining rights may be secured through marking and working a claim, or by purchasing the land, a method sometimes referred to as "patenting a claim." Mining may occur with or without patenting of land. In the early 1990's a \$100 per year fee was substituted for the requirement to work a claim. The current "patenting" rates are \$2.50 per acre for placer claims, and \$5.00 per acre for lode claims. The U.S. federal government does not impose a royalty in connection with hard rock mining on federal lands.

The consequences of this regime has prompted a major controversy in the United States in recent years. In May 1995 American Barrick Resources Corp of Toronto patented 1,793 acres for \$8,964 in Nevada. The land is believed to hold up to \$10 billion in gold. U.S. Interior Secretary Bruce Babbitt publicly described the sale as an "outrage."<sup>89</sup> Similarly, in November 1995, a mining company patented 340 acres of federal land in Arizona, estimated to contain \$2.9 billion in silver and copper, for \$1,745.<sup>90</sup> Efforts to reform the law over the past three years have been stalled in the U.S. Congress.<sup>91</sup>

A detailed overview of U.S. federal environmental law as it applies to the mining industry, developed by the Environmental Law Institute of Washington, D.C., is attached to this brief. CIELAP, the Environmental Law Institute, the Argentine Fundacion Ambiente y Recursos Naturales (FARN), and the Sociedad Peruana de Derecho Ambiental (SPDA), have recently initiated a project to compare environmental mining law in Canada, the United States, Argentina and Peru.

#### 4) Environmental Regulation and Competitiveness

Natural Resources Canada's Sustainable Development and Mines and Minerals contains a brief discussion of the relationship between environmental protection requirements and innovation and competitiveness. Unhappily, this discussion is disappointingly primitive. The paper reflects the traditional view of the relationship between environmental protection and economic performance as a zero-sum game. Within such a framework, additional environmental protection requirements are seen to impose non-productive costs on regulatees, and to act as deterrents and barriers to innovation, investment and job creation.

This position reflects an economic perspective rooted in the past, and ignores the growing consensus regarding the potential convergence between pollution prevention and economic efficiency. In a paper recently published in the Harvard Business Review, for example, Professors Michael Porter of Harvard University and Claas van der Linde of St. Gallen University commented on the relationship between strong environmental programs and good economic performance, demonstrated in the experiences of Germany, Japan and other jurisdictions. They noted that:

"Properly designed environmental standards can trigger innovations that lower total cost of a product or improve its value. Such innovations allow companies to use a range of inputs more productively - from raw materials to energy to labour - thus offsetting the costs of improving environmental impact and ending the stalemate. Ultimately, this enhanced resource productivity makes companies more competitive, not less."<sup>92</sup>

These conclusions regarding the potential linkages between well-designed environmental protection requirements, innovation and improved efficiency have been reflected in numerous other studies completed over the past decade by the Organization for Economic Cooperation and Development,<sup>93</sup> the U.S. Congress' Office of Technology Assessment,<sup>94</sup> the U.S. Environmental Protection Agency<sup>95</sup> and others.<sup>96</sup>

#### 5) Environmental Assessment (Recommendations 1 - 7 of the Interim Report)

The Standing Committee made a range of recommendations regarding the federal environmental assessment regime in its December 1995 report. Due to the limited time and resources available to CELA and CIELAP we do not intend to address these recommendations in detail. However, we strongly suggest that the Committee receive input from the various environmental groups that have worked very diligently over the years on this topic, and in particular, members of the Environmental Assessment Caucus of the Canadian Environmental Network.

CIELAP and CELA regard comprehensive environmental assessments of mining undertakings to be essential to informed and integrated environmental, economic and social decision-making with respect to such projects.<sup>97</sup> This is especially important in light of extent of environmental impacts of mining operations, many of which may be irreparable. Consequently, environmental assessments of mining undertakings must include consideration of the full range of potential environmental effects. This must include considerations of the cumulative effects of a proposed undertaking on air and water quality, wildlife and fish and their habitat, other landforms and features, the integrity and functionality of affected ecosystems, and social and economic impacts on local communities.

In addition, provision must be made for public participation in the environmental assessment process both to ensure fairness, and the consideration of local and indigenous knowledge regarding the area of the proposed undertaking. Provision should be made for participant and intervenor funding to ensure that all voices heard in the review process, and especially those of local communities and aboriginal peoples.

In this context, we are particularly concerned by the Committee's recommendation that a "single window" assessment system for environmental assessment processes at the federal and provincial levels be established (Recommendation 6). Our concerns arise from the following points.

First, it should be a fundamental principle that, in the move to a "single window" assessment, that the process, procedures and standards for environmental assessment not be lowered. Rather, the governing principle should be that the "single window" includes the most stringent requirements of both the provincial and federal environmental assessment regimes. It should also be noted that the *Canadian Environmental Assessment Act* already makes provision for joint federal-provincial environmental assessments.

Second, it should be remembered that there are a number of areas where the federal government does have constitutional responsibility to manage natural resources, such as fisheries and fish habitat protection. Hence, although some moves toward coordination and efficiency may be appropriate where there are both provincial and federal processes in place, the federal government must not abandon its authority and responsibilities in these areas.

Finally, in any "harmonized" system, it is essential that federal oversight be maintained. This is to ensure that the basic environmental assessment requirements are met. The opportunity and capacity for federal action must be retained. This is particularly important in situations where a province is the proponent or sponsor of an undertaking due to the potential for conflict of interest.

6) **Fisheries Act s.35 (Habitat Protection - Recommendations 8 & 9 of Interim Report)**

The Standing Committee on Natural Resources made two recommendations regarding the administration of the habitat protection provisions of the *Fisheries Act* (s.35(2)). The first (**Recommendation No.8**) recommended that the Department of Fisheries and Oceans rapidly take steps to apply its "no net loss" guiding principle across the country in a consistent manner. CELA and CIELAP support the consistent application federal policy with respect to the protection of fish habitat throughout Canada.

The Standing Committee's Second recommendation (**Recommendation No. 9**) proposes the formal delegation of freshwater fish habitat management to the provinces which "already manage their own fisheries under federal legislation or local co-management boards."

This proposal raises serious concerns for a number of reasons. First, the track record of most provinces with the "informal" delegation of this authority since the enactment of the current habitat protection provisions of the *Fisheries Act* in 1977 is not strong. This has been carefully documented in a report recently presented to the Minister of Fisheries and Oceans by the Centre québécois de droit de l'environnement<sup>98</sup> on behalf of the Fisheries Act Working Group of the Canadian Environmental Network. Furthermore, consideration must be given to the possibility of conflicts of interest where a province is the proponent or sponsor of an undertaking which is likely to result in damage to fish habitat. Indeed, this problem has been at the heart of the controversies surrounding the Oldman River dam in Alberta and the Rafferty-Alameda dam in Saskatchewan.

Secondly, due to the wording of the *Canadian Environmental Assessment Act* (CEAA) the delegation of decision-making authority under Section 35(2) of the *Fisheries Act* to the provinces would eliminate Section 35(2) authorizations as a trigger for a federal environmental assessment under the (CEAA) Law List Regulation. This would introduce a significant change to the federal environmental assessment regime. The decision to make Section 35(2) authorizations a CEAA trigger was the result of extensive multi-stakeholder consultations and negotiations. Its effective repeal through the amendment of the *Fisheries Act* to delegate habitat alteration decision-making authority to the provinces and territories would damage the integrity of the CEAA consultation processes, in which the mining industry was a full participant.

Third, requirements for the protection of fish habitat comparable to those provided by Section 35(2) of the *Fisheries Act* only exist in a few provinces. Indeed, in most provinces and territories, the *Fisheries Act* habitat protection provisions and the requirement for federal approvals of habitat alterations are the only legal protection for the integrity of wetlands, streams, shorelines, and other ecologically significant features.

Fourth, unhappily, serious questions must be raised about the existence, in some provinces and territories, of the resources, and perhaps even more importantly, the political will, necessary to administer effectively the habitat protection provisions of the *Fisheries Act*. This is especially true in our own province of Ontario. Over the past few months the Ontario Ministries of Natural Resources and of Environment and Energy have suffered major reductions in their budgets.

In addition, as a result the Bill 26 (the "Omnibus" Bill) amendments to the *Public Lands Act*, *Lakes and Rivers Improvements Act* and the *Conservation Authorities Act*, and the Bill 20 amendments to the provincial *Planning Act* and their accompanying Provincial Policy Statement, the protection for Ontario's wetlands, streams, shorelines and other environmentally important features in provincial law have effectively been removed. The provisions of the *Fisheries Act* are now all that stand between the "Common Sense Revolution" and these areas. The delegation of decision-making authority under such circumstances seems to us unconscionable.

The importance of the protection of Canada's fish habitat was captured in 1977 by the then Minister of Fisheries and the Environment, the Hon. Roméo LeBlanc, on the occasion of the passage of the current habitat protection provisions of the *Fisheries Act*. At that time, Mr. LeBlanc told the House of Commons that:

"Protecting fish means protecting fish habitat. Protecting the aquatic habitat involves controlling the use of wetlands. The banks of streams, the foreshores of estuaries, provide the nutrients to the large eco-system of lakes and oceans in amounts far out of proportion to their size. The chain of life extending to the whole ocean depends on bogs, marshes, mudflats and other 'useless-looking' places that ruin your shoes..."

Continued strong protection for fish habitat is essential to the recovery and sustainability of Canada's marine and inland fisheries. Consequently we have asked the Minister of Fisheries and Oceans to consider alternatives to the amendment of the *Fisheries Act* to delegate section 35(2) decision-making authority to the provinces and territories.

In the context of the reduced resources available to the Department of Fisheries and Oceans as a result of the February 1995 Program Review, such measures might include the introduction of a full-cost recovery, user-pay system for the review and granting of authorization requests by the Department of Fisheries and Oceans. This would ensure that adequate resources are available to the Department for the effective and efficient administration of habitat protection provisions of the Act.

The expansion of the availability of citizen enforcement mechanisms for the protection of fish habitat should be considered as well. These might include the addition of provisions to the Act permitting citizens to:

- \* request investigations of incidents of habitat destruction in a manner similar to that provided in Section 108 of the *Canadian Environmental Protection Act*; and
- \* pursue civil actions to prevent or stop the unauthorized alteration of fish habitat.

Consideration should also be given to the stipulation of the circumstances under which the Attorney-General may intervene to stay a private prosecution under the *Fisheries Act*.

**7) Fisheries Act s.36 (pollution prevention) and the Metal Mining Liquid Effluent Regulations (Recommendations 10, 11, and 12 of Interim Report)**

**i) Recommendation 10**

The Standing Committee, in its Interim Report, recommended that section 36 and other related sections of the *Fisheries Act*, including the relevant regulations, be amended to allow for a more scientifically-based approach to ensuring water quality with more realistic implementation measures.

The Committee's concern about section 36 is that there is no consideration given to the amount of the substance deposited into the water and its actual effect. The Committee went on to state that it was sympathetic to the industry's concerns that such factors as risk assessment, the length of exposure, the concentration of the contaminant, and the chemical nature of water in question should be considered in standard setting.

We do not believe that this recommendation is relevant or needed. Under section 36 of the *Fisheries Act*, no person can discharge any material into a water frequented by fish that would be deleterious to fish or fish habitat unless the discharge is permitted under the Metal Mining Liquid Effluent Regulations (MMLER) or other pollution control regulations made under the Act.

The MMLERs are technology-based regulations. Technology-based regulations are effluent limits that are based upon some technological standard, and in this case, the Best Available Technology (BAT). In developing the limits, all available control technologies are identified. The "best" performer of these technologies is chosen. Effluent limits are derived by calculating what these technologies could achieve. The limits derived in this manner are then incorporated into the regulation. Technology-based regulations are usually considered the most conservative, least stringent and the most defensible type of effluent limits.

The criticisms that MMLER are not "scientifically based" are simply out of place and do not reflect the nature of how the regulations are developed and administered. In effect, they remain technically defensible since they are based on what is

technologically feasible, *not* was is ecologically needed. The problem with these regulations is not poor science, but that the MMLER's are not stringent enough to protect local ecosystems.

The current efforts to reform the MMLERs through the AQUAMIN (the Assessment of the Aquatic effects of Mining in Canada) process propose to retain the MMLER's as technology-based regulations. What is proposed under these efforts is Environmental Effects Monitoring. Where it is evident from a monitoring regime that the MMLER is not protective enough of water quality, a process would be put in place to establish more stringent facility specific standard to deal with the problem. In our view, such a process is completely defensible from both a policy and a scientific point of view.

There may be instances where mining industries are subject to the prohibition provisions of the *Fisheries Act* because the discharges are not subject to or caught by the MMLER. In these instances, our view remains that the recommendation are unfounded for the following reasons.

First, the relevant sections in the *Fisheries Act* are quite clear, although they can be interpreted broadly. The key issue to be addressed with respect to this recommendation is not whether the provisions are "scientifically based," but the exercise of prosecutorial discretion. Any attempt to further define in law some of the key terms in those provisions would be counterproductive, as such definitions would almost certainly be the subject of extensive litigation.

Second, there remains little evidence that section 36 has been abused in terms of the initiation of prosecutions by the federal government. In fact, federal prosecutions, average of less than five prosecutions per region per year under *Canadian Environmental Protection Act* and the section 36 of the *Fisheries Act* combined.<sup>99</sup>

Third, there has been much decision on how much scientific certainty is needed before action can be taken. Canada has formally accepted the Precautionary Principle and in particular, committed itself to it at the United Nations Conference on Environment and Development (UNCED) in 1992.<sup>100</sup> As commonly defined, the Precautionary Principle means that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The International Joint Commission, in its various publications and reports, has both accepted and furthered this concept in its promotion of the "weight of evidence" approach to addressing scientific uncertainty in standard setting.<sup>101</sup>

## ii) Recommendation 11

The Standing Committee also recommended that the Metal Mining Liquid Effluent

regulations (MMLER) be amended to take into account natural background levels of metals in water and sediments.

As noted in the discussion of Recommendation 10, the MMLER's are technology-based regulations. Limits are derived from a technological standard, as opposed from water quality criteria. Technology-based standards are used, as a general principle, to assist in evolving better control technologies. As new and better control technologies are developed, the definition of "best available" technologies also changes. As a result, effluent limits become more stringent over time.

As a general principle, therefore, the natural background levels of metals in waters and sediments are not germane to the notion of technology-based standards. Furthermore, as a matter of general policy, we do not support the recommendation that effluent limits should take into account natural background levels of metals in the waters and sediments. There are two reasons for this position.

First, dischargers to waterways should not get a credit or obtain a benefit due to the waterways they are either using or discharging into being already stressed or degraded. The basic principle must be that the discharger must accept the state of the waterways as they are, and ensure that there is no further degradation. The move to take into account natural background levels runs contrary to the adoption of this principle of non-degradation.

Second, other jurisdictions have already addressed this issue through a non-degradation policy. In Ontario, there was considerable debate about "net loadings" in the development of the MISA regulations. The outcome of that process was that the policy we have suggested above, that there is no "credit" given for degraded water.

### iii) Recommendation 12

The Standing Committee recommended in recommendation 12 that the MMLER under the Fisheries Act "be harmonized with provincial effluent regulations." In our view, this recommendation should not be supported.

First, one of the first principles pertaining to the development and administration of laws within a federal system should be the development of a clear, predictable and consistent set of laws and regulations. In our view, this principle would not be achieved through harmonization. At present, only the province of Ontario has effluent limits that, by and large, parallel, the MMLER's. Most provinces simply do not have comprehensive effluent limits for mining. Instead, they rely on the federal effluent limits under the *Fisheries Act*.



Furthermore, it should be noted that the Ontario standards are under review as a result of the Red Tape Commission and the Regulatory Review by the Ministry of the Environment and Energy and are likely to be weakened. The MMLERS cannot, therefore, be "harmonized" with provincial standards, as for the most part these are non-existent. "Harmonization" under such circumstances would undermine the purpose of the federal water quality regulations of ensuring a minimum standard for metal mining effluent across Canada.

Second, over the past few years, the AQUAMIN process (the Assessment of the Aquatic effects of Mining in Canada) has been on-going. This multi-stakeholder process was initiated in response to an Environment Canada commitment to update and strengthen the MMLER regulations. During these discussions, it is our understanding that there is a general consensus among the stakeholders of the need for federal regulation to promote the principles of consistency and predictability.<sup>102</sup>

Finally, there is the issue of enforcement. With some exceptions, the provincial record of enforcement is not strong. Indeed, in his 1990 report to Parliament, the Auditor-General of Canada documented the collapse of industry compliance rates with the MMLER's, from 85 per cent in 1982 to 48 per cent in 1988, following the delegation of responsibility for their enforcement to the provinces. Nine out of 20 mines which were not complying in 1988 had exceeded the MMLERs effluent standards by 200 per cent.<sup>103</sup> Federal standards that can be enforced by federal officials, provide an incentive for the maintenance of provincial enforcement capacity. In addition, the federal presence acts as a backstop or safety net against provincial inaction, and helps to prevent the emergence of "pollution havens" within Canada.

**8) Definition of Waste for purposes of Basel Convention (Recommendation 13 of Interim Report)**

The Standing Committee recommends that the federal government modify its definition of "wastes" to exclude metal recyclables. Further, it urges the federal government to exempt materials containing metals used in recycling or other environmentally beneficial processes from the transboundary movements restrictions under the UN Basel Convention.

We cannot support this recommendation. It would effectively undermine the purpose of the recent amendments to the Convention to ban the export of hazardous wastes from OECD to non-OECD countries for recycling or energy recovery adopted by the parties to Convention in September 1995. The ban may affect metals which are classified as hazardous wastes themselves, such as Lead or Mercury, or metals which are contaminated with hazardous wastes (e.g. old electrical equipment which is contaminated with PCBs).

The problems associated with such exports have been well documented, particularly the export of wastes for disposal being disguised as export for "recycling." The ban is strongly supported by other members of the Convention, particularly the non-OECD countries. The ban was also motivated by serious concerns regarding the existence of the necessary legal and institutional infrastructure in non-OECD countries to ensure the environmentally sound recycling of hazardous wastes and the safe treatment and disposal of residues.

CELA and CIELAP have been deeply disturbed by reports of Canada's efforts to block the implementation of the ban, or to undermine it through the redefinition of "waste."<sup>104</sup> Canada is increasingly isolated on the international stage on this issue, and risks international embarrassment if it does not alter its position on this matter. Canada should move to ratify the amendments as soon as possible.

#### **9) Navigable Waters Protection Act (Recommendation 14 of Interim Report)**

The Standing Committee recommended that a clear definition of "navigability" should be included in the Act. In Canadian law, the issue of navigability is an question of fact.<sup>105</sup> Any attempt to define it any further would still be subject to judicial interpretation. Moreover, it should be recalled that navigation and shipping is explicitly recognized as a matter of federal jurisdiction.<sup>106</sup> This issue is one that can be resolved by industry attaining competence legal advice as to the definition. Legislative change is not necessary at this point in time.

Our view on this matter is reinforced by the consideration that as with the issuing of section 35(2) habitat alternation authorizations under the *Fisheries Act*, the issuing of permits under the *Navigable Waters Protection Act*, is a federal environmental assessment trigger under the Law List Regulation made under CEAA. As with *Fisheries Act* section 35(2) authorizations, the decision to make *Navigable Waters Protection Act* authorizations a CEAA trigger was the result of extensive multi-stakeholder consultations and negotiations in which the mining industry was a full participant. Its *de facto* amendment through amendments to the *Navigable Waters Protection Act*, would introduce a significant alteration to the federal environmental assessment regime, and significantly damage the integrity of the CEAA consultation processes.

#### **10) Voluntary Measures (Recommendation 15 of Interim Report)**

The Standing Committee has recommended that the federal government should consider alternative approaches to traditional regulation, including voluntary measures, to attain a more efficient regulatory system. In our view, while there is a role for the promotion of voluntary initiatives, such initiatives should not seek to undermine or replace the current regulatory system. Our overall view is that, instead of considering

alternative approaches to traditional regulation, effort should be made on improving the regulatory system.

At present, there are a host of different "voluntary" or "self regulation" initiatives being discussed. They include the following.

**i) Voluntary Agreements**

Both the federal and provincial governments in Canada are promoting voluntary initiatives. In Ontario, there are essentially two broad categories of these types of initiatives. The first type is where the government attempts to "challenge" industrial sectors to improve their performance. These programs are often developed where regulatory programs could be established and in time would likely have been established.<sup>107</sup>

The second type of voluntary program pertains to "voluntary agreements." Since the early 1990s, there has been a proliferation of voluntary pollution prevention agreements between industrial sectors, the province and the federal government. Examples of these type of agreements in Ontario include: the Motor Vehicle Manufacturers' Agreement; the Canadian Chemical Producers' Agreement, the Metal Finishers' Agreement and the Automotive Parts Manufacturers' Agreement, among others.

The basic thrust of these agreements is to have industry reduce specific pollutant emissions through a series of actions provided in the agreement. Each agreement is different. Hence, the scope of the pollutants covered, the specificity of the initiatives, the types of activities, the reporting requirements and the availability of information the agreement about progress under the agreement vary widely from agreement to agreement.<sup>108</sup>

**ii) Compliance Agreements**

The federal government recently attempted to introduce "compliance agreements," as alternatives to regulation, for all regulatory matters within its jurisdiction. Bill C-62, *The Regulatory Efficiency Act*, was introduced into Parliament in December, 1994. The bill died on the Order Paper in February of this year. It would have permitted any company to receive exemption from any designated federal regulation by entering into a privately-negotiated agreement with the relevant regulatory authority to meet the goals of the regulation by other means. The sectors targeted for early "regulatory reform" included mining, health and therapeutic products, forestry, automotive products, aquaculture, and biotechnology.<sup>109</sup> These are all sectors with significant health and

environmental impacts.

### iii) Self-Certification

An increasingly influential example of self-certification is the ISO 14000 series for certification of environmental management systems, developed by the International Standardization Organization (ISO). The ISO has 111 members, comprised of national standardization bodies (from those countries that have them) and other organizations or individuals from countries that do not.

A environmental key issue arising from the promotion of the ISO 14000 series, is that it does not establish actual performance standards for certified companies. It merely requires that companies comply with local, national standards and have a management system capable of delivering its corporate goals. However, it is currently being promoted as an alternative to national and local standards.

### iv) Overriding Concerns with "Voluntary" Approaches to Environmental Regulation

One of the key constants that must be retained in the move to update the regulatory framework is respect for the rule of law. The rule of law recognizes that the rights and duties of government and citizens and that the interpretation of those rights and duties is the responsibility of the judiciary through the due process of law. The fundamental importance of the rule of law is that it invokes a number of key principles. Without any attempt to be exhaustive, the key principles identified for the purposes of this discussion include: fair and consistent decision-making; public accountability; and due process.

#### *Lack of Equal and Consistent Decision-Making*

One of the key attributes of the rule of law is that the application of the law is that the law is meant to apply equally to all members of the regulated community. However, many proposed self-regulation initiatives run contrary to this principle. Perhaps the most obvious example pertained to the negotiations of compliance agreements under the proposed *Regulatory Efficiency Act*. A report prepared for the Standing Committee that was to review that statute was highly critical of the proposal. The report noted that the proposed law:

"contemplates a system under which there may eventually be as many different rules as there were persons initially subject to a particular regulation. One person may be dispensed from the application of the whole regulation, a second may be dispensed from the application of the

whole regulation, while a third person remains subject to the regulation because he was unable to persuade public officials to grant him any dispensation. To describe such a system as one that respects the principle of equality before the law strains credulity."<sup>110</sup>

The consequence of the individually negotiated compliance agreements is that there is an inherent unfairness to the system - those with the resources, expertise and access to the compliance agreement scheme may obtain an enormous advantage over other actors. Rather than having a regulatory framework that makes the law applicable to all, mechanisms like compliance agreements ensure that the playing field will be anything but level. Small businesses may be particularly disadvantaged under such schemes.

Even outside of compliance agreements, most self-regulation initiatives tends to result in different rules applying within the same targeted constituency. The negotiation of voluntary agreements, for example, may or may not included all companies in a given industrial sector. If some of those companies that are not part of the agreement, there is the potential for unfairness to those companies attempting to take positive action voluntarily.

Indeed, the net environmental benefit may be very modest if the non-participating companies are causing a disproportionate part of the problem, as is often the case. In fact, some recent "voluntary" initiatives, including the Ontario "Blue Box" recycling program, the introduction of stage one vapour controls in the petroleum products industry, and pollution prevention in the dry cleaning industry in Ontario have ended with industry requests for sector wide government regulations to deal with the "free-rider" problem

#### *Loss of Accountability of the Regulated Community*

One of the basic concerns of self-regulation is that there is simply less accountability both for the regulated community and the government. This loss of accountability manifests itself in a numbers of way, particularly in the areas of enforcement and disclosure.

The regulation of economic or personal behaviour normally includes a legal standard of acceptable behaviour and the possibility of enforcement action if the standard is breached. The use of law to change, affect, or control corporate activity has been fundamental to strategy of public interest groups over the past 25 years. Reliance on law was not misplaced; business also relies on strong regulations to achieve important goals. The entire field of commercial contract law, for example, pertains to the negotiation of legal instruments for as strong and enforceable provisions as possible.

Compliance plans raise major enforcement issues. Although technically they are binding in the sense of contract law, the issue of how, who and when to enforce them remains uncertain at best. Moreover, the availability of will and resources to enforce, and the likelihood successful enforcement actions is far less likely in these arrangements than with regulations.

The very fact that many self-regulation initiatives are "voluntary" suggests that the enforcement of the commitments in these initiatives is not possible. It is often argued that enforcement of these initiatives would not be through traditional enforcement mechanisms, but through the "court of public opinion." The failure to abide by commitments is supposed to create an embarrassment factor that would compel industry to comply with their promises.

However, enforcement through the "court of public opinion" assumes that: public interest groups and government personnel have the resources, interest and information sufficient to determine when the commitments are not being met; an interested media that is willing to publicize the problem; an interested public that cares when companies do not meet voluntary commitments; and corporate decision-makers that regard it a high priority to live-up to commitments especially when times get tough.

Frequently, regulations impose reporting requirements on the regulated interest. These may contribute to enforcement actions, or serve other public interest functions. Self-regulation not only removes the standard governing behaviour, but also may remove the public reporting functions. Indeed, in some instances, the regulated community opposes the reporting requirements as strongly as the standards. This provides powerful testimony to their potency as a means of imposing accountability on a sector.

Certainly this is one of key concerns with the ISO 14000 process. One report posed the question of "how do governments, workers and the public get access to all the environmental information prepared by an ISO 14000 certified company."<sup>111</sup> At this time, it appears, that such information will not be available for public scrutiny.<sup>112</sup> ISO 14000 requires that environmental records simply need to be stored, not communicated, and that auditing and certification may be done by consultants who already advise the company. Independent auditing is not required. As one report noted, "Without external audit and public disclosure, self regulation is an oxymoron."<sup>113</sup>

### *Loss of Due Process for the Public*

Increased public participation in decision-making has been a major theme in administrative law reform over the past 25 years.<sup>114</sup> Many of the legal reforms instituted over the past quarter century have both established frameworks of legal regulation, and incorporated mechanisms for increased public participation as an element of reform. There are a number of federal policies and statutory provisions that promote

public participation in environmental decision-making processes. Moreover, the need for legislated environmental rights has been recognized by the Standing Committee on Environment and Sustainable Development in its June 1995 report on CEPA.<sup>115</sup> The federal government has proposed to carry through with some of the Committee's proposals.<sup>116</sup>

In addition to these provisions, common law has also broadened access to the courts through liberalized standing and intervention rules.<sup>117</sup> Similarly, most governmental agencies have developed policies recognizing the value and need for public participation in decisions affecting the environment and natural resources.

The elimination of government oversight through deregulation removes not only the framework of standards, but also these opportunities for public involvement in devising standards, in monitoring effects, and requiring enforcement when appropriate.

The legal process of regulation-making, in itself, has provided a basic level of public notice and information, with opportunities for public involvement and accountability through reporting. Many voluntary initiatives remove these hard-won current rights of public involvement in legal processes. The vast majority of voluntary pollution prevention agreements concluded to date have, for example, been negotiated by industry and government behind closed doors.

Another example of this problem would have been the negotiation of the compliance agreements in the proposed *Regulatory Efficiency Act*. In that bill, the negotiations would have been undertaken in secret. Moreover, it appears that even the results of the negotiations would not have the benefit of full public disclosure.

Apart from public input into the negotiation of the self-regulation initiatives, there is also the issue of the effect of self-regulation on legitimate public policy debates. As a general rule, voluntary agreements expressly recognize the ability of government to regulate irrespective of the agreement.<sup>118</sup> However, in practice, it is presumed by the regulated industry is that there is a tacit understanding that government would be hesitate to regulate industries on matters that are covered under a voluntary agreement. Industry is willing to risk a short term detriment (as defined under a voluntary agreement) to "cover the field" in order to anticipate and prevent more stringent regulatory action by government in the future.

The notion of regulatory presumption has two major consequences. First, with the proliferation of voluntary agreements coupled with government down-sizing suggests that the *capacity* of government to regulate is at risk. Second, it should be recognized that most of the voluntary agreements are in areas of very germane, if not controversial, areas of public policy.

One clear example of this consequence pertains to the goals and scope of the voluntary agreements. In effect, the inclusion of more modest goals in voluntary agreements has pre-empted the broader public policy debate on the possibility of more ambitious action. With respect to pollution-related issues there has been a major debate as to whether pollution prevention initiatives should be limited to reducing "emissions" of toxic substances or whether they should also focus the "use" of substances in the first place.

Some Industries have argued strongly that the focus of the regulatory programs must be limited to emissions. Environmental, labour, community and public health organizations, and international advisory bodies such as the Canada-U.S. International Joint Commission, have argued for a focus on the need to phase-out the production and use of certain highly problematic substances, such as persistent toxic chemicals. The key voluntary programs to date clearly taken an emission control approach, and governments seem unwilling to consider any action beyond this.<sup>119</sup>

#### v) The Case for a Regulatory Approach

Proponents of self-regulation often suggest that the present regulatory system is not working. However, there is little analysis as to the nature of the problem. A report prepared for the Standing Joint Committee for the Scrutiny of Regulations put the issue this way:

"Those critical of the use of regulations as a policy instrument typically characterize regulations as inflexible, difficult to amend, and therefore as being inefficient. Although it seems trite, it must be pointed out in response to such criticisms that none of these attributes are capable of being possessed by regulations themselves. In fact, such criticisms relate not to regulations per se, but rather to the process by which regulations are made and amended. There is no inherent reason why the regulatory process cannot be more responsive to changing circumstances. In the end any process, including the regulation-making process, can only be as effect as those in charge of it."<sup>120</sup>

Making the regulatory system work better, in the end, serves the broader public interest better than devising an alternative system with potentially equally or more pitfalls than the current approach. This is especially important in the environmental field. The federal government, in proposing changes to the one its key environmental statutes stated:

"Rules and regulations are a fact of life for businesses throughout all countries of the world, including Canada. Whether they related to health, trade, environmental or competition standards, they exist not only to ensure



a level playing field for business, but to protect Canadians and enhance their future. The job of government is not simply to set these regulations, but to ensure they are set fairly. ... As stated in the Government's recent Building A More Innovative Economy "regulations play an important role in society, helping to assure that our markets are competitive, our products are safe, and our environment clean."<sup>121</sup>

The benefits of a strong regulatory system cannot be understated. One of the most succinct articulation of these benefits was recently given by two professors. Michael Porter and Claas van der Linde, in a recent Harvard Business Review, outlined six reasons for the promotion of regulations. According these commentators, regulations:

- \* create pressure that motivates industry to develop innovate products and processes;
- \* improve "environmental quality in cases in which innovation and the resulting improvements in resource productivity do not completely offset the cost of compliance;"
- \* provides an education function for industry by informing it of likely resource inefficiencies and areas for improvement;
- \* improves the changes that "product innovations and process innovations in general will be environmentally friendly;"
- \* create "demand for environmentally improvement until companies and customers are able to perceive and measure the resource inefficiencies of pollution better;" and
- \* "level the playing field during the transition period to innovation-based environmentally solutions, ensuring that one company cannot gain position by avoiding environmental investments."<sup>122</sup>

The attributes identified in this list could be generalized to most, if not all, regulated fields.

The question should not be whether there should be a regulatory structure, but rather how to improve the existing framework to ensure that it fulfills its intended the public policy functions. Better designed regulations, which encourage innovation and which are cost-efficient should be our common goal, along with the development of regulations that are timely, fair and result in results that are measurable, and thus, provide for public accountability.

## VI. CONCLUSIONS

The mining industry<sup>123</sup> and its supporters<sup>124</sup> tell Canadians that Canada is competing with other jurisdictions, which have lower environmental standards and more favourable tax treatment, for mining investment. Effectively, they are inviting Canada to engage in a "race to the bottom," with countries in Latin America and Asia in terms of who will be permit the industry the greatest externalization of its costs and the minimum return of revenues to citizens of the host country. Given the enormous environmental costs associated with the industry, and that it, and the jobs associated with it, are by definition, unsustainable, Canadians must ask themselves if this is a race they wish to be part of.

Furthermore, in many provinces, the federal environmental regulations and requirements which apply to the mining industry are the only legal environmental protection in place. These standards and requirements need to be strengthened and updated, rather than being "streamlined" or "harmonized" out of existence. Canadians clearly place a very high priority on the environmental role of the federal government. It is now contingent on the federal government to respond to this expression of confidence and trust.

Canadians also expect their government to be a leader in international environmental negotiations, not a force for obstruction and delay. In developing its international positions, Canada must ensure that the long-term environmental and health interests of Canadians and other citizens of the world take precedence over the short-term concerns of economic special interests.

## ENDNOTES

1. Sustainable Development and Minerals and Metals (Ottawa: Natural Resources Canada, September 1995).
2. Standing Committee on Natural Resources, Streamlining Environmental Regulation for Mining (Ottawa: House of Commons, December 1995).
3. This outline is adapted from John E. Young, Mining the Earth (Washington, D.C.: World Watch Institute, July 1992), Table 5.
4. Government of Canada, The State of Canada's Environment (Ottawa: Minister of Supply and Services, 1991), pg.11-19.
5. Total municipal solid waste generation in Canada is currently estimated at 30 million tonnes per year.
6. Young, Mining the Earth, Table 6.
7. State of Canada's Environment, pg.11-19.
8. Draft Development Document for the Effluent Limits Regulation for the Metal Mining Sector (Toronto: Ontario Ministry of the Environment and Energy, September 1993), p.22.
9. Ibid., pp.22-23.
10. Ibid., p.23.
11. Young, Mining the Earth, p.24.
12. Draft Development Document for the Effluent Limits Regulation for the Metal Mining Sector, pp.26-27. Data is for the period February 1, 1990, to January 31, 1991.
13. Rainbow trout acute toxicity test. Effluent is considered toxic if 50% or more of the rainbow trout kept in undiluted effluent for a period of 96 hours die.
14. *Daphnia magna* acute lethality test. Effluent is considered toxic is 50% or more of the *Daphnia magna* kept in undiluted effluent for a period of 48 hours die.
15. State of Canada's Environment, pg. 11-16.
16. C.C. Dorion & Associates, P.J. Whelan & Associates, and Dr. Irene Novaczek, Draft Background Information Paper for a Heavy Metals Protocol Under the United Nations Economic Commission for Europe Convention on Long Range Transboundary Air Pollution - Volume No.1. (Ottawa: Environment Canada, February 16, 1996), Table 5.1.

17. State of Canada's Environment, Figure 11.5.

18. Ibid.

19. Ibid.

20. Ibid.

21. On the Ontario "Countdown Acid Rain" Program, see I. Dick, et. al. in J. Swaigen and D. Estrin, eds., Environment on Trial: A Guide to Ontario Environmental Law and Policy (Toronto: Emond Montgomery Publishers and the Canadian Institute for Environmental Law and Policy, 1993), pp.474-476.

22. Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Newfoundland, and Prince Edward Island.

23. On the development of these accords see D. Macdonald, The Politics of Pollution: Why Canadians are Failing their Environment (Toronto: McClelland and Stewart, 1991), pp.242-252.

24. Annual Report on the Federal-Provincial Agreements for the Eastern Canada Acid Rain Program - 1994 (Ottawa: Environment Canada, 1995), Table 1.

25. Ibid.

26. Ibid., pg. 14.

27. This is based on an extrapolation of the Ontario Ministry of Northern Development and Mines' estimate of 5500 abandoned mines in Ontario. State of Canada's Environment, pg.11-16.

28. Ibid.

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32. Peter Gorrie, "Elk Lake pollution disaster could repeat, minister warns," The Toronto Star, October 25, 1990.

33. Kevin Vincent, "Removal of pollutants from river unlikely," The Globe and Mail, October 25, 1990.

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40. Kevin Cox, "Regulators relied on Westray Data," The Globe and Mail, April 12, 1996.
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51. For excellent summaries of these issues see: J.E. Young Mining the Earth (World Watch Paper 109) (Washington, D.C.: Worldwatch Institute, 1994); and J.E. Young, The Next Efficiency Revolution: Creating a Sustainable Materials Economy ((World Watch Paper 121) (Washington, D.C.: Worldwatch Institute, 1995).

52. J. Young, "The New Materialism: A Matter of Policy," World Watch, September/October 1994, pg.31.

53. Young, Mining the Earth, pg.41.

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57. Ibid.

58. It is estimated that 8.5 million tonnes of metals were recycled in Canada in 1992, the most recent year for which figures are available. This total included: 8.1 million tonnes of iron and steel; 71,000 tonnes of stainless steel; 61,000 tonnes of copper; 120,000 tonnes of lead; 117,000 tonnes of aluminum; 16,000 tonnes of zinc; and 3 tonnes of precious metals. Actual recycling rates (as per cent of waste generated) for metals in Canada do not appear to be available. Personal Communication, David Liang, Office of Waste Management, Environment Canada, April 1996.

59. Young, Mining the Earth, pg.42.

60. Report of the Ministers' Expert Advisory Panel on the Second Priority Substances List under the Canadian Environmental Protection Act (CEPA) (Ottawa: Environment Canada and Health Canada, October 1995), pg. 14.

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62. Allan Robinson, "Mining tax rates in middle of the pack," The Globe and Mail, May 5, 1994, citing statements by Senior Officers of American Barrick Resources Corp.

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102. Personal communication, Brennain Lloyd, Executive Director, Northwatch, April 10, 1996. See also Assessmetrn of Auquatic Effects of Mining in Canada: Final Report (Draft 3), (Ottawa: Environment Canada, March 8, 1996), pg. 38.

103. Auditor-General of Canada, Report to Parliament for Fiscal Year Ended 31 March 1990, para 18.71-18.72.

104. See, for example, letter to the Hon. Shiela Copps from the Canadian Institute for Environmental Law and Policy, re: Canada's position on the "Basel Ban," September 25, 1995.

105. *Flewelling v. Johnston* [1921] 16 Alberta Law Reports 409; *Re Coleman et al. and Attorney General for Ontario* (1983) 12 Canadian Environmental Law Reports 104 (S.C. Ont.).

106. See, *Re: Waters and Water Powers* [1929] S.C.R. 200; and Peter Hogg, Constitutional Law of Canada (3d) (Toronto: Carswell, 1992), pg.583.

107. For example, the "4P" program (Pollution Prevention Pays Program) challenges industries to reduce emissions is a provincial example with the Accelerated Reduction/Elimination of Toxics (ARET) is an example of a program at the federal level. One of the remaining sectors to be regulated under the program Municipal-Industrial Strategy for Abatement (MISA) program is industrial dischargers to sewers. This sector was intended to be regulated at one time. It now seems that a voluntary program will be undertaken.

108. For a detailed commentary on these agreements see K.L. Clark, The Use of Voluntary Pollution Prevention Agreements in Canada: An Analysis and Commentary (Toronto: Canadian Institute for Environmental Law and Policy, April 1995).

109. See, Agenda Jobs and Growth Building a More Innovative Economy (Ottawa: Industry Canada, December 1995). pg.??

110. Report on Bill C-62, Prepared for the Standing Joint Committee for the Scrutiny of Regulations, February 16, 1995, pg.7.

111. Benchmark Environmental Consulting, ISO 14000: An Uncommon Perspective - Five Questions for Proponents of ISO 14000 Series (The European Environmental Bureau, October, 1995).

112. For a detailed critique of the ISO 14000 process see *ibid.* The Benchmark Environmental Consulting report notes at pg.1:

"The International Organization for Standardization (ISO) 14000 series takes the ISO into a new domain of public rather than engineering standard setting, and pushes the argument for business "self-regulation" into a new phase. Unlike the British BS7750 or the European EMAS, the ISO presents a system for global environmental management that was drafted sans public debate; will be implemented regardless of public opinion or

pre-existing international environmental conventions; measures a firm's conformance with its management system, not its environmental, health and safety performance; produces volumes of environmental information that is confidential and need not be given to the public, government authorities or workers; and requires compliance only with local regulation, not with international or even the firm's home country standards."

113. Ibid., pg.16.

114. There is considerable literature on this issue. For an earlier perspective, and then a more recent one, see: P.S. Elder, (ed.) Environmental Management and Public Participation (Toronto: Canadian Environmental Law Research Foundation, 1976) and Marcia Valiante and Paul Muldoon, "A Foot in the Door: A Survey of Recent Trends in Access to Environmental Justice" in Steven A. Kennett (ed.), Law and Process in Environmental Management (Calgary: Canadian Institute of Resources Law, 1993), pp. 142-169.

115. Standing Committee on Environment and Sustainable Development, It's About Our Health! Towards Pollution Prevention - CEPA Revisited June, 1995, chapter 14.

116. Canada, CEPA Review: The Government Response - Environmental Protection Legislation Designed for the Future - A Renewed CEPA - A Proposal, December, 1995, chapter 3.

117. Valiante and Muldoon, "A Foot in the Door."

118. See, for example, the CCPA Voluntary Pollution Prevention Partnership Memorandum of Understanding, at pg.2.

119. The stated purpose of the MOU between CCPA and the Ontario Ministry of Environment and Energy is to "reduce emissions." [pg. 1] Most of the programs are emissions based. However, 23 U.S. states now have toxic use reduction laws that do focus on chemical use. Similarly, the International Joint Commission which monitors regulatory programs of both U.S. and Canada have recommended to examine feedstocks and chemical use as a means of furthering pollution prevention. See: International Joint Commission, Seventh Biennial Report to the Governments of Canada and the United States (1994).

120. Secretariat, Report on Bill C-62, pp.15-16.

121. Government of Canada, Environmental Protection Legislation Designed for the Future - A Renewed CEPA, pp.4-5.

122. Porter and van der Linde, "Green and Competitive: Ending the Stalemate," pg.128.

123."Ottawa red tape blamed for mining exodus," The Globe and Mail, October 19, 1995.

124."Give Canada's mines a break," (editorial) The Financial Post, February 21, 1992.