

**Defining Responsibility:  
Control of Knowledge  
in Chilean Environmental Law**

Ken Cousins  
Department of Government and Politics  
University of Maryland, College Park  
Fall 1998

[kcousins@gvpt.umd.edu](mailto:kcousins@gvpt.umd.edu)

Over the past several decades, popular concern about the natural environment has broadened considerably. Worldwide, groups interested in a range of “local” issues have begun to develop legal frameworks that attempt to harmonize human actions with natural systems. Although these efforts have been driven primarily by concerned private citizens, government and industrial interests have come to realize the importance of maintaining a functional environmental base, as well as providing clear, integrated legal codes to encourage investment and define liability. Such change has come about in response to a variety of domestic and international pressures, each directly or indirectly related to changes in perceptions about the importance and status of environmental quality.

Nowhere has this change been more dramatic than in the developing world, where popular concern over the environment is a relatively recent phenomenon. Historically, the economic and cultural systems of most of these lesser-developed countries (LDCs) have centered on the extraction of natural resources; belief in the importance of at least some environmental protection has appeared only as those resources have begun to disappear or become degraded. Yet, because a principle concern of these nations remains economic development, environmental protection has often been framed in that context. This is reinforced by growing popular pressures within the industrialized world to link the two issues in institutions for trade and investment.

At the same time as such norms of “sustainability” have become important, there have been major changes in the way LDCs approach development. Perhaps most significant is the movement towards economic liberalism, reducing state control in favor of free market policies. Yet declining government involvement has the potential to impair overall abilities to prevent environmental damage (Kaimowitz 1996). This is especially true for LDCs, who often face serious political and economic constraints, including histories of state domination by both domestic and extra-national interests.

Chile was one of the first developing countries to adopt the neo-liberal model; the dramatic shift away from a command economy, and more importantly, its subsequent economic performance have made it a model for governments throughout the world. Although reforms were initially introduced by force, the return of free elections has been not led to backsliding on economic principles. At the same time, the Chilean public has begun to see the quality of the country’s natural environment as important. Although the military government largely ignored such issues, democratic politicians began to develop an integrated, national approach to environmental protection. Because of Chile’s high profile in policymaking circles, these efforts have the potential to affect areas far beyond the country’s physical boundaries; both developed and developing nations are carefully watching the performance of the Chilean model (Nef 1995).

This essay looks at Chile’s Comprehensive Environmental Law<sup>1</sup>, passed in 1994. Since this policy arena is relatively new to Chile, I focus on how the country’s environmental issues have been defined – in particular, the creation and legitimization of baseline knowledge about environmental conditions. Chile’s twenty years of authoritarian liberalism<sup>2</sup>, combined with a general lack of concern about environmental protection, led to extremely limited knowledge about the present and future status of the country’s natural resources (Silva 1994, 1997). As environmental issues have gained

saliency in Chilean society, politicians, state ministries, industry, scientists, citizen groups, environmental non-governmental organizations (ENGOs), and international institutions have all sought to influence how the country's environmental conditions are defined (Kaimowitz 1996). The successes realized by some of these actors has directly affected the policy process, leading to legal recognition of the environmental knowledge generated by certain actors over others. Such limits favor economic interests over others, even including long-term environmental sustainability (Silva 1997). The implications for the sustainable development movement are clear – the political nature of environmental issues extends beyond policymaking and implementation to include problem definition at any and all stages of the process. Such power can be directed to benefit specific interests, even to the point of nullifying the fundamental intent of such policies, protection of the environment.

Beginning with a brief discussion of the importance of knowledge in the various stages of environmental policy formation and implementation, this essay then identifies the institutional and political contexts of the policymaking process that led to the final version of the Law enacted in 1994. The essay then focus on how various domestic and international interests have been able to affect how environmental problems are perceived or understood in Chile, and discusses to what degree these interests have been successful in limiting the pool of publicly available environmental knowledge. After the institutional, political, and cognitive contexts have been established, the essay offers a detailed summary and analysis of the formal processes and responsibilities of Law 19.300, focusing on environmental impact assessments (EIAs). These project statements are the central mechanism of the Comprehensive Law, and key to defining environmental problems and risks in Chile.

After determining the structure and limitations of Law 19.300, I then present three examples of how it has been applied, focusing on how control over environmental knowledge has been exerted and contested. The choice of case studies was limited, as is the detail to which they were investigated, due to both the recentness of the legislation and the limitations of this investigative project, which has been conducted without fieldwork. A more developed research agenda, one seeking to determine the relative importance of the control of knowledge in Chile's environmental policy process, would involve a more systematic case selection, as well as in-depth fieldwork.

Acknowledging these limitations, analysis of the Law's provisions and its implementation still suggests a pattern by which power is delineated and exercised, via the selective legitimation of baseline environmental data. Perhaps most importantly, the Law determines that the authoring interests are to establish the range of present and potential problems that are to be considered in relation to resource development projects. At the same time, the Law denies a sanctioned process or venue by which alternative sources of environmental knowledge might be used to gauge the validity of those project assessments. Even if the official review process included all currently available data, research reveals a general scarcity of environmental knowledge within Chile, challenging the emergence of a common understanding of the country's environment.

The result is a classic principal-agent dilemma: legal responsibility for determining the degree of environmental damage is given to those most likely to be its cause. This would seem to be at odds with the ostensible purpose of the Law, the mitigation or

prevention of harm to the natural environment. If Chile's efforts at environmental protection are genuine, it would seem that the current version of the Comprehensive Law is problematic. Assuming that a necessary basis for action is the best-case understanding of existing conditions, limiting "legitimate" environmental knowledge in such a way is likely to reduce Chile's ability to respond and plan effectively. Thus, the capacity to mediate or prevent environmental damage depends on how such knowledge is generated and legitimized.

The purpose of this essay is not to measure the effect that control of knowledge has on Chile's environmental policymaking and public involvement, but simply to establish whether or not such an effect is present. If this effort proves successful in determining that such control is indeed a factor, more detailed research would be required to assess its overall relevance.

### **Power as Control Over Knowledge**

Power in the public policy cycle is exerted at several levels: in formal and informal governance processes, in problem definition, in the structure of the actual policies, and during implementation (Lester and Stewart 1996). These necessarily involve many actors and interests, each attempting to influence outcomes in their favor. Within such processes, knowledge (or at least understanding<sup>3</sup>) is a key factor. Available information influences how policymakers understand the likely trade-offs of a given strategy. In this way, "political objectives and technical knowledge are combined" at key points of the cycle, guiding the choice of policy instruments (Haas 1990, 9). Although policymaking is as much concerned with values as it is of objective facts, successful policies must be well-informed.

Like many societies in the developing world, concern for environmental issues in Chile is a recent phenomenon; most of this awareness has developed around issues directly affecting the majority of Chilean citizens, such as air and water pollution. This is not unexpected – it is often claimed that LDCs will ignore environmental issues until national incomes have grown to the point where governments can afford environmental protections (Silva 1994). Moreover, people are likely to have awareness of (and concern for) their immediate surroundings, before others further from their daily experience. Yet countries that have historically founded their economic systems on the extraction and use of natural resources might be expected to have significant knowledge about the current and future status of those resources. Such awareness is a necessary foundation for sustainable development policies.

These observations say little about how environmental awareness is developed locally. There is no reason why concern for the environment should be prioritized the same across cultures – just as different resource endowments have helped to create comparative advantages in trade, environmental concern should be expected to reflect the characteristics of the local environments, cultures, and economic activities of each place. Understanding how those priorities are formed requires an awareness of the pressures for (and limits to) policy change – as well as how various interests have affected how environmental problems are defined at each stage of the policymaking cycle.

Social scientists must also identify the nature and limits of the formal policies, determining how problems and solutions are defined and measured. Finally, we must consider how (and to what extent) policies have been implemented<sup>4</sup>, focusing on how successful various interests have been in controlling the manifestation of policy directives. Throughout these processes, the identification of real and potential environmental problems is vitally important, for “without knowledge there is no (perceived) problem, no public awareness and consequently no policy process” (Jänicke 1997). In this way it is obvious that control over knowledge (e.g., access to information, or legitimization processes) can be contentious – while such control may not be the most significant factor in the policy cycle, it is likely to play a major role in environmental outcomes, especially in low capacity contexts.

It could be argued that the manipulation of the knowledge-generation process is not about knowledge, but rather about information and misinformation. This may often be a better characterization of the situation. However, when the creation of such information is limited to narrow interests, no “legitimate” forum exists where it can be compared to other evidence. Flawed or not, this new information has become the background against which further data is measured. In the absence of institutions that enforce an open review of the “evidence,” there is no way to determine fact from fiction.

It has been proposed that to be successful in building local capacities for environmental protection, we should focus on improving “informational and communicative capacities,” rather than changing cultural practices (Jänicke 1997). In Chile, as in many developing countries, control over resources and political processes has led to a poverty of knowledge (at least publicly available knowledge) about the present or future states of natural resources. Yet both international and domestic pressures seem to be reducing the capacity of vested interests to control or limit environmental knowledge.

As the Chilean environmental movement has gained strength and legitimacy, they have helped to nurture popular concern for the natural environment. These changes were first revealed in the country’s 1980 Constitution, then in Law 19.300, enacted on March 1 1994. The Comprehensive Law and the processes and pressures that formed it reveal much about how various actors within Chilean society prioritize environmental issues, how control over knowledge has affected how those issues are defined, and how such control has been disputed in Chile’s formal and informal political processes.

## **Control within Policy Institutions**

### ***Institutional Context***

Article 19 of Chile’s 1980 Constitution guarantees “the right to live in a pollution-free environment. The State must ensure that this right is not affected” (PNUMA 1997). While the rugged beauty Chile’s natural environment has always been a point of national pride (Nef 1995), the country’s institutions have not always reflected such concerns. This was in part due to a confusing regulatory system, aggravated by intersecting lines of authority. A 1993 survey by the Chilean National Environmental Commission (CONAMA) identified over 70 offices with “some kind of environmental authority,” but was unable to find a single ministry with “either full control or responsibility for environmental policy.” The same study also compiled a listing of 911 environmental

laws, with 2,700 separate items. The “conflict and confusion” this created substantially hindered the country’s regulatory capacity (Bradbury 1993).

The CONAMA study revealed the central problem of Chile’s environmental regulation – not an absence of legislation, but more that existing laws had “been developed in a piecemeal and haphazard fashion over a long period of time, with little coordination and often with the environment as only an incidental concern” (Jensen 1993). The study’s purpose was to inform policymakers working on the Comprehensive Environmental Law. A year earlier, when work on that legislation was underway, the country’s scientific community commented that what Chile lacked were “not new laws, but rather environmental policies that clearly articulate the objectives of environmental conservation and economic growth” (CIPMA 1992).

Perhaps the single most significant factor in Chile’s regulatory framework has been the two decade hegemony of economic liberalism. The ideology of the Pinochet regime has led to a “decline in government resources and authority” that has made it “more difficult than ever for the public sector to monitor and regulate natural resource use” (Kaimowitz 1996). It is precisely this fundamental conflict, between the turn away from state-centric policies and the recognition of the necessity of some form of environmental protection, that has made Chile’s efforts considered so important throughout the world.

Another factor that makes the Chilean experience the object of so much interest is the country’s recent return to democratic elections. Beyond questions of stability and institutional inertia, it is hoped (at least by environmentalists) that democratization will lead to “greater opportunities for environmental movements to develop without being repressed, fewer restrictions on NGOs and local organizations engaged in environmental projects, and more openness to negotiated solutions of policy disputes” (Kaimowitz 1996). This implies that concern for the environment has long been present in Chile, but was suppressed under autocratic rule.

While this may be true, it is important to realize that “democratic elections...do not guarantee strong environmental policies” (Kaimowitz 1996). The transition from military dictatorship to democracy involved many trade-offs and guarantees to ensure the cooperation of powerful interests. To ensure a successful transition, Chile’s Christian Democratic Party (CPD) had to bargain with the armed forces and the business community. These interests required assurances that the new government would remain committed to the neo-liberal model, as a way to sustain the country’s high rate of economic growth. To achieve credibility with these actors, the government included business representatives in policymaking processes. Although the government was aware of the interests of other social groups, such preferences always remained subordinate to those of business (Silva 1994). The effect this had on the development of the country’s environmental regulatory structure was substantial. Yet it is important to realize that such outcomes were not “inevitable.” They developed from strategic compromises made in the early years of the transition to democracy (Silva 1997). Such decisions are likely to be affected by actor disposition, political culture, historical alliances, and a myriad of other localized factors. Thus, although some elements of the Chilean experience may be applicable in other contexts, they will doubtlessly be altered by local political, social, and economic realities.

### ***Controlling Problem Definition***

Limits to change are an essential characteristic of human society and political life. No matter how important or justified, “future-oriented policies that restrain current ambitions or expectations may be politically hazardous to their sponsors.” This is often complicated by the ambiguity or mutability of ideas that are nonetheless crucially important. Thus, policymaking is made problematic by the diverse ways in which ambiguous or value-laden terms are interpreted (Caldwell 1997). The process is further complicated by interests that exert control over the quality or availability of information; when knowledge about risks is limited, so is the potential public response. Thus, control over knowledge can be a significant source of political power. At extremes, it can be the “functional equivalent of the suppression of respective interest articulation” (Jänicke 1997). In reality, there is often a public perception by which environmental damage is “alleged to be exaggerated, or claimed to be self-corrective, either by market forces or by natural processes over time” (Caldwell 1997). This was obviously the case during Chile’s two decades of military dictatorship.

Regardless of regime type, policymaking is a political process in which interests compete to control outcomes. Although democracy implies that a broader range of interests are able to be heard, “[t]he numbers of people concerned, the extent and accuracy of their information, and the intensity of their beliefs about policy alternatives... may determine the feasibility of policy choice” (Caldwell 1997). The policymaking process is guided by activism, knowledge, passion, and vision.

### **Pressure for Environmental Reform**

#### ***Domestic Environmental Organizations***

Chile’s environmental movement dates back to the 1960s, although most of the organizations that are currently active were founded within the last fifteen years. Although the movement as a whole represents a remarkable range of interests, it has not been seen as especially radical. Early in the transition to democracy, the movement’s core agenda focused on a “gradual process of identification of the main obstacles for the incorporation of the ‘environmental dimension’ in the articulation of a consensual vision of Chile’s future” (Rojas 1994). Even under military rule, environmental groups were an important means by which Chilean citizens could challenge the government, mainly because efforts to protect Chile’s environment were seen as essentially patriotic and not a direct threat to the regime (ibid.). Although the military (and subsequent democratic governments) were committed to neo-liberal policies, and thus not automatically inclined towards creating effective environmental policy structures, “the presence of (environmental) NGOs has increased levels of governmental responsiveness to environmental problems” (Price 1994). Perhaps most importantly, environmental groups have increased popular awareness about threats to Chile’s natural environment. This influence can be seen in the official debate about the Comprehensive Law (Kaimowitz 1996).

#### ***Academic Scientists***

A large part of the reason for the success of Chile’s environmental movement has been the efforts of a scientific community that, beyond a profound concern for

environmental issues, “displays a rare ability for articulation” (Rojas 1994). Environmental concern in the scientific community is most often associated with CIPMA (Center of Environmental Planning and Research), publisher of *Ambiente y Desarrollo*, the leading periodical of sustainable development issues in Latin America. Formed during the 1980s, CIPMA affiliated with the Catholic Church for protection against reprisals by the Pinochet regime, and established autonomous research centers. “From the beginning it attempted to articulate the debates on development with the problems of environmental protection” (ibid.). The largely unquestioned legitimacy of such scientific approaches has “lent greater credibility” to the claims of Chile’s environmentalists (Kaimowitz 1996).

CIPMA has always been very sophisticated in the way it deals with environmental knowledge. From the beginning, it has worked to educate journalists (Rojas 1994), perhaps most effectively through regular “scientific congresses” that focus on issues of environment and development – five have been held over the past fifteen years. These meetings have been crucial in establishing the necessity of improved environmental protection, as well as offering a venue for dialogue about priorities and alternatives. In 1991, official statements from the 3rd Scientific Congress maintained that Chile did not have the institutional capacity to implement sustainable environmental management principles. Moreover, they claimed there was “insufficient knowledge of Chile’s environmental problems: although the country has a significant base of scientific works identifying many of the environmental problems, there is a perceived insufficiency to conduct an environmentally technical analysis of economic policies.” A review of the papers presented at that meeting reveals a common feeling that “what is needed is more research ...more space for the environmental question in the media, more democratic openings for...environmentally oriented ideas, and an open reception by traditional political forces to the environmental agenda” (Rojas 1994).

The scientific movement did not restrict itself to critiquing the government’s handling of environmental issues; the 4th Congress on the Environment offered several suggestions to those seeking to influence environmental policy – emphasizing “points of departure” over idealized outcomes, prioritization, pragmatism and flexibility, and seeking negotiated settlements (Villaruel 1992a). Thus, CIPMA has acted not only to increase and improve awareness of Chile’s environment, it has also sought to advise the larger environmental movement about how to effectively engage the policymaking processes.

CIPMA is not without its detractors; the organization is seen as having a close relationship with the private sector, especially mining (Silva 1997). Moreover, economic interests have not always welcomed assessments of their business practices. Still, overall the Chilean scientific movement for environmental protection “can be considered among the most vital and politically influential in the world” (Rojas 1994).

### ***Trade and Investment***

As mentioned above, activists in industrialized countries have worked to include mechanisms for environmental protection in (or as a condition for) trade agreements. While support for this change has not been universal, it has increased incentives for LDCs to begin improving environmental protections. The success of the United States in pressuring Mexico to negotiate environmental side agreements before passage of the

North American Free Trade Agreement (NAFTA) “sent a clear message to other Latin America nations” (Silva 1994). Since that agreement was passed, both the Chilean government and business interest have expressed interest in negotiating a similar accord. This has doubtlessly increased pressures within Chile for at least cosmetic reform of the country’s system of environmental protection.

Since the late 1980s the investment and foreign aid programs of many industrialized countries have also begun to address environmental concerns, at least as defined by the donors. In 1992, USAID adopted a “comprehensive environmental strategy” to promote sustainable development. Based on a conviction that “wise management of the natural resource base is an absolute requirement of any successful development plan” (Holly 1992), programs such as the Environment Framework Agreement have routed a portion of Chile’s debt to projects in sanitation, afforestation, park development (Bradbury 1993). Capacity building efforts by institutions such as the World Bank have included “sponsoring research and publications” that address environmental issues (Silva 1994). While these programs have been an acceptable method for donors to influence environmental policy agendas, “green conditionality” clauses are increasingly common; examples include the World Bank’s requirement of environmental impact statements prior to project approval. Regardless of the intent of the donors, conditionality is often resented as an encroachment on sovereignty.

### ***International Environmental Organizations***

As discussed below in the case studies, international environmental groups have also actively sought to influence Chile’s environmental agenda. While a few have established local offices (e.g., Greenpeace), others have supported local organizations by focusing international attention on environmental problems within Chile. International ENGOs have also been an important factor in pressuring aid agencies “to increase funding for... institution building for environmental agencies” (Kaimowitz 1996). Finally, the high visibility of such groups have helped to increase the overall salience of both domestic and global environmental issues. Chile’s strong support of ozone protection is due to an increased awareness of the risks that ozone destruction poses for Chilean citizens (Price 1994). Efforts by Chile’s environmental movement and scientists to increase ecological awareness thus found a natural affinity with the work of the international ENGO community.

### ***Resistance to Environmental Reform***

By far the most important factor affecting environmental degradation in Chile was the reluctance of the military regime to address such issues. Although economic crises in the early 1980s inspired a democratization movement that forced the government to grant “concessions to a number of groups,” including environmentalists, this move was largely a means to “buy time and defuse the burgeoning political opposition” (Silva 1996). Throughout the nearly twenty years of military rule, the government “either ignored the environmental impact of its development model or, when pressure mounted, gave it very low priority” (Silva 1997). The constitutional guarantee of a “pollution-free environment” was never realized, or even pursued, until after the transition to democracy.

This inattention meant that the new democratic government “had to begin at the beginning,” initiating the long, difficult process of building “elemental legal, institutional,

cognitive, and participatory capacity” (Silva 1997). As mentioned above, such efforts have been complicated by bargains made to ensure a successful transition. Although Chile’s democratic leaders have shown “sensitivity to ecological concerns,” they have faced significant resistance (Rojas 1994). To diffuse these pressures, the government has limited participation in the process of drafting Law 19.300 to business and “business-oriented environmental NGOs,” and excluded other public and private interests (Silva 1997). The final outcome was largely influenced by the fact that “market friendly” interests dominated “state-institutional and economic power.” To ensure political stability, President Aylwin’s central concern was to approach environmental problems “from a perspective that would introduce the least amount of change” (Silva 1994). In the end, a combination of the relative position of the various interests and ideologies in Chilean politics determined the structure of the Law.

### **Law No 19,300 – Ley de Bases del Medio Ambiente**

#### ***Goals and Institutions***

In response to criticism of their lack of effective environmental protection, many Latin America countries have recently developed what are known as “framework laws.” Such laws establish “basic principles without attempting to codify all relevant statutory provisions.” They usually begin with declarations of national environmental goals and policies, then define “common procedural principles,” while maintaining the body of preexisting law (Jensen 1993). While the adoption of a framework law does not necessarily signify a substantial increase in the quality of environmental regulation, it may increase the efficiency of existing structures, by defining a central goal and reducing jurisdictional disputes.

According to the 1994 Law, Chile’s official environmental goals include the 1980 Constitutional guarantee to a “right to live in a pollution-free environment.” The Law also explicitly states a goal of “protection of the environment, and preservation of Chile’s natural heritage” (Ley de Bases 1994). While one of the central motivations was to give “legal status” to the earlier constitutional right (Villaroel 1993), the Law expands the state’s duties from concern about potential harm to citizens to guarding the country’s natural environment.

The Law is designed around four principles: “prevention, ‘polluter pays,’ gradualism, and participation” (Silva 1994). It establishes and defines a national environmental coordinating committee of ten government ministries (CONAMA). This committee is headed by the General Secretariat of the Presidency, to ensure state control over environmental policymaking processes (Silva 1997). The participant ministries are Economy, Public Works, Agriculture, National Properties, Health, Mines, Housing and Urban Affairs, Transportation, and Planning (Ley de Bases 1994).

By law, CONAMA is limited to 62 staff members. Although the committee is partly funded from the Chilean national budget, it receives substantial support from international and bilateral institutions to “help build institutional capacity.” Donors include the World Bank (\$11.5M, recently renewed), as well as USAID (funding to establish a database of pollution trends). This pattern of relying on international funding sources demonstrates a willingness of the Chilean government to transfer issues of “problem prioritization, as well as project duration, to the foreign sector” (Silva 1997).

Continued dependency on such support could seriously constrain Chile's long-term domestic capacity for environmental protection.

Popular participation in the Committee is limited to a consultative council, members of which are nominated by the President. This council is required to include a Presidential representative, plus two representatives each from business, labor, NGOs, and university-based, as well as non-academic scientists. While CONAMA is legally required to consult the council, it is not bound by its decisions.

The Law also mandates the formation of regional environmental commissions (COREMAs) within each of Chile's thirteen political territories, each of which is also required to have a popular consultative council. Like the national council, the COREMAs are not bound by the decisions of these councils. Neither CONAMA nor the COREMAs have any regulatory capacity; this power has been limited to the legislature and the constituent ministries of the national council. COREMA responsibilities are limited to monitoring projects with effects confined to their territorial boundaries, while CONAMA monitors projects with transboundary effects, or negotiates jurisdictional disputes between territories (Ley de Bases 1994).

The Law gives environmental regulatory control to CONAMA's separate ministries, where it has rarely been a high priority. Chile's government ministries have been characterized as "highly responsive to business interests...dominated by 'iron triangles' of bureaucrats, the interests they regulate, and legislators." Any new environmental standards are likely to be very lenient, because "the private sector's environmental consultants...dominate" (Silva 1997). President Aylwin's strategy of limiting the Law to only incremental change was apparently successful.

### ***Environmental Impact Assessments***

These formal institutional structures, while helping to reduce jurisdictional disputes, are actually peripheral issues. The central effort of the Law involves the development of "environmental cognitive capacity." This is a crucial need, because at the time of the Law's formation, "basic environmental data" was "sadly lacking" (Silva 1997). The mechanism for achieving this improvement is the Environmental Impact Assessment (EIA), which takes one of two forms, based on a project's expected impact. As the "principle instrument" of environmental policy, the EIA is also expected to serve as the main tool for monitoring Chile's environment (Silva 1994). EIAs are becoming popular throughout the developing world as a permitting and regulatory mechanism, helping them to "control the environmental impacts of certain...projects" (Anderson 1997).

The Law is explicit about the sort of projects, activities, or circumstances that must submit EIAs<sup>5</sup>. Each assessment is required to include: a project description; a baseline ecological assessment of the affected areas; a detailed description of the effects, characteristics, or circumstances that necessitated an EIA; a predicted impact and risk assessment; full description of the means by which adverse effects will be eliminated, minimized, or otherwise remedied; a plan by which to judge the success of mediation efforts; and a plan detailing measures to comply with any applicable environmental regulations (Ley de Bases 1994). Projects with the potential to affect more than one region must file the appropriate EIA with CONAMA (Detzner 1996).

In the course of developing the Law, Chilean policymakers acknowledged certain weaknesses in the country's environmental regulation. As a result, EIAs were voluntary until a court ruling in April of 1997 (about the politically volatile Trillium project, below) forced the legislature to make the statements a legal requirement<sup>6</sup> (Walsh 1997). Because EIAs will be used as a "baseline measure for dividing past and future responsibilities and for cost allocation of remediation responsibilities" (Anderson 1997) they are essential to building Chile's "environmental cognitive capacity." Beyond improving project quality, EIAs should help to provide "valuable environmental data and applied knowledge" (Silva 1994), essential to enabling Chilean policymakers to make informed decisions in the future.

## **The Law and Control of Environmental Knowledge**

### ***Knowledge Generated by Project Actors***

However, placing the responsibility of determining environmental impacts in the hands of project interests has obvious risks. Indicators and thresholds are likely to be chosen not by their ability to objectively represent environmental quality or risks, but by whether or not they reflect positively on the proposed projects. Project interests will have incentives to "massage the data" and "to shift blame onto others." When the creation of environmental knowledge is controlled by the same interests that may potentially gain from degrading the environment, such information "can quickly become contradictory, confusing, and/or unreliable" (Silva 1996). The central strength of the Law, the requirement of EIAs prior to project approval, also offers its greatest single potential for abuse.

### ***Public Access to Information***

Chile's policymakers recognized the need to include "active local participation," understanding that without such involvement, national-level policies are "almost impossible to implement" (Kaimowitz 1996). The consultative councils and the COREMAs are the principle institutions of that participation. They are required to review the submitted EIAs and issue a judgement within 120 days; otherwise, projects are automatically approved. If denied, projects are able to resubmit EIAs after correcting the perceived inadequacies, at which point the period for review is renewed (Ortuzar 1997). Again, while the participatory committees may offer suggestions about specific EIAs, final determination of a project's environmental acceptability is the power of the national or local environmental commissions.

The Law declares that summaries of all EIAs with potential to cause significant environmental harm<sup>7</sup> will be published in the Chilean Official Record, or in a publication with regional or national distribution. Summaries include the names of the persons or businesses responsible for the projects, the location and nature of the activity, the estimated level of investment, and the predicted effect on the environment, as well as a description of proposed mitigation efforts. Affected persons or groups can request further project details, except for sensitive information essential to protecting business investments or competitiveness such as trade secrets or patents. Although such "persons of standing" can also request extensions of the review period, neither CONAMA or the COREMAs are bound by such public opinion (Ley de Bases 1994).

While the Law arguably includes a significant level of local participation, it does not provide a “general-purpose project review process,” in which discussion of the potential for social or economic effects is supported (Anderson 1997). The Law defines local involvement in such a way as to minimize popular pressures, mandating minority positions in the consultative councils and reducing interest in public opinion to symbolic gestures. Moreover, even if the public were given more power in the decision process, by limiting such involvement to the review of completed EIAs, the Law gives positive control over environmental knowledge to the project interests. This relationship limits local and popular interests to reactive, negative control over the generation and legitimization of environmental knowledge.

### **Contested Knowledge**

Although Chile’s experience with the Comprehensive Law is still limited, there have been at least a few examples in which environmental knowledge has been contested by local and national publics. As explained in the introductory section of this essay, these case studies were chosen largely by their high profile in Chile, and their ability to reveal such power dynamics. As such, they do not present conclusive evidence about the relative importance of the control over knowledge, but simply establish that such control is a factor.

#### ***GasAndes and Cajon del Maipo***

In 1995, the company GasAndes, formed by the Canadian transnational Novacorp and the Chilean Energy Consortium, began construction of a natural gas pipeline, planned to pass from the Argentine province of Neuquen through the Cajon del Maipo region to Santiago (Gonzalez 1996a). GasAndes had promoted the pipeline as “Chile’s best environmental project,” because the cleaner energy source was expected to improve Santiago’s air quality, a highly salient environmental issue (LARR 1996a).

The pipeline was originally planned to pass through a privately owned nature reserve, but this was changed when the reserve was officially recognized as an officially protected area (LANL 1996). The new course passed very near the communities of San Alfonso and Pirque, which organized strong protests (Mark 1996). Local leaders urged GasAndes to consider routing the pipeline through an uninhabited area to the north, claiming that the Cajon del Maipo area is volcanically active and thus geologically unstable (Gonzalez 1996a).

After several violent protests, in which the Chilean police were called in to disperse protestors and protect GasAndes workers, local leaders were pressured to sign an agreement permitting the pipeline to pass near the communities, along with GasAndes’ guarantee to increase its safety precautions. Local negotiators have since stated that the conflict revealed the weakness of Chile’s environmental laws (Gonzalez 1996b). The main criticism of the project is led by the Corporación de Protección al Medio Ambiente de Pirque (Corpirque), which claims that the project was approved even before the EIA had been completed and submitted to the regional COREMA or to CONAMA (LARR 1996a).

However, critics also maintain that the EIA process design makes “analyses of project impacts difficult because the system does not contemplate alternatives,” and that the environmental commissions, while responsible for judging the submitted assessments,

are “legally unable to recommend alternatives, or even suggest minor modifications” (Sabatini 1996). Furthermore, critics argue that including citizens only at the end of the EIA process implies a capacity for communities to control “what the technicians do and the authorities decide.” In the case of the pipeline, only the national publicity surrounding the protests enabled local citizens to draw attention to “not strictly technical” impacts that they felt had been left out of the EIA (*ibid.*).

Local residents allege that the Law provides “inadequate controls over private companies,” by placing responsibility for the EIAs “in the hands of the companies themselves.” National environmental groups have agreed, arguing that “CONAMA should be transformed into a strong and independent environmental authority, with the participation of local communities.” The environmental group CODEFF said that “Frei’s administration gave environmental issues low priority, and that market mechanisms were insufficient to ensure protection of the environment.” The organization also argued that the government “must fulfill its regulatory role...to carry out policies that respond to citizen’s environmental concerns” (LANL 1996).

Finally, critics also maintain that the Cajon del Maipo conflict demonstrates a need to include local citizens in the process at the point at which projects are proposed, so that they can help to establish the reference points for the EIS. Environmental damage would be prevented, it is argued, because of the sensitivity of each community has to local changes. These critics seek reforms which would ensure equity between local communities and private interests; they claim that historically, business has benefited from natural resources and environmental services, while local communities have borne most of the costs involved (Larraín 1996).

### ***Endesa and the Bio-Bio***

Chile’s topography is ideal for hydroelectric power generation. The country’s rivers drop from the heights of the Andes to sea level within a very short distance (at its broadest, Chile is only 160 km wide). In 1996, half of all proposed power generation projects were hydroelectric; five dams have been proposed for the Bío-Bío river system alone over the next few years (LARR 1996b).

One such project, Endesa’s Ralco dam on the upper Bio-Bio, was resisted by both environmental groups and indigenous rights organizations, including the government’s indigenous development ministry, CONADI. In September of 1996, CONAMA rejected Endesa’s submitted EIA as inadequate; the company initially protested CONAMA’s actions, but eventually agreed to prepare a second study within 90 days (LARR 1996b). CONAMA had complained that Endesa’s plan had not considered the interests of local indigenous groups. Those groups (supported by CONADI) joined with a coalition of environmental groups, Grupo de Acción por el Bío-Bío (GABB) to protest the “irreparable damage” the dam would cause to local ecosystems (*ibid.*).

In early March of 1997, the World Bank threatened to declare Endesa in default on a \$153 million loan, due to a “failure to meet environmental and social conditions” of the loan. A letter from Bank President James Wolfensohn to the Chilean finance minister warned that Endesa “appear[ed] to have taken a less than constructive approach to its environmental and social obligations in particular with regard to the preparation of a satisfactory cumulative impact assessment<sup>8</sup>...and is in a situation of imminent default<sup>9</sup>”

(ENN 1997). Shortly afterwards, Endesa arranged a deal with the Dresdner Bank of Germany, which offered “more convenient conditions” than the World Bank. On March 11th, Endesa notified the World Bank of its intention to repay the loan ahead of schedule (Aslam 1997). Although the Bank maintains a minority share in Endesa, its influence is expected to be extremely limited.

One of the main points of both environmental groups and the World Bank was that Endesa had not considered the “cumulative impacts” of the proposed dams. By considering each project in isolation, the company was able to characterize potential impacts as much smaller than they likely would be, once all projects were completed. Endesa was accused not only of disregard for local opinion, but also of attempting to distort the available environmental knowledge to conceal the true impact of the proposed dams (LARR 1996b). While ecological concerns were not the sole focus of the protests, the validity of the environmental knowledge that Endesa had offered was questioned.

### ***Trillium in Tierra del Fuego / Forestry Interests***

In the early 1990s, the transnational logging company Trillium<sup>10</sup> purchased a large acreage in the Río Condor region of Tierra del Fuego. Local and national environmental protests erupted when it was alleged that CONAMA had approved the forestry project in, despite the fact that the commission’s own impact statements were “uniformly negative” (LARR 1996b). Half of the land Trillium planned to log is a wilderness; as a result, Chilean scientists have found it difficult to gauge potential impacts. They argued that the area needs to be studied for at least three years before any logging is permitted (Meacham 1997).

Greenpeace has supported this position, as have many domestic ENGOs; all questioned the scientific validity of Trillium’s EIA. Based in part on an “antiquated and inaccurate” study from 1975, the assessment also relied heavily on extrapolations from data gathered during a limited (three-month) survey in the summer of 1994-95. Critics also maintained that Trillium’s analysis not only overestimated the quantity of existing trees, but by focusing exclusively on ‘supply issues,’ the company ignored the potential for substantial ecological impacts<sup>11</sup> of large-scale timber extraction (ibid.).

In response, Trillium went to great lengths to show that the project was ‘sustainable.’ However, by continually characterizing the issue as one of the supply of natural resources, rather than considering the project’s potential for broader environmental impacts, the validity of the company’s EIA was called into question (ibid.). Approval of the Trillium project was eventually denied, even after the company sued CONAMA in the Chilean Supreme Court. As discussed above, this ruling was especially significant, in that it finally made EIAs a legal requirement (Walsh 1997).

Trillium’s problems mirror those of the Chilean forestry industry generally. In 1994, the World Bank funded the creation of an environmental accounting unit within the Chilean Central Bank, intended to create “balance-sheets” of the country’s natural resources. One of the first projects attempted to measure the long-term potential of Chile’s forestry industry. The study sought to combine currently available knowledge on forest stocks, “based on what was known about past stocks and about past and projected future variations.” The accounting team then calculated the damage forestry activities had caused to the air, water and soil; those figures were used to estimate environmental

costs and changes to overall resource stocks, as well as to project annual rates at which natural resources were being depreciated. The study found that “given the primitive methods of forest management still common in Chile – wholesale cutting and burning, without reforestation – there might be no trees left worth felling within 25-30 years” (Economist 1996). The forestry industry, led by the Corporación de la Madera (CORMA) and the agriculture ministry’s Corporación Nacional Forestal (CONAF), reacted by questioning the Bank’s “methods and figures, and the credentials, [and] good faith, of Marcel Claude, the economist heading the team” (ibid.). Mr. Claude eventually resigned from the Bank (LARR 1996a).

To restore the industry’s reputation, CORMA and CONAF then commissioned a study by the French State Forestry Agency. The industry was again embarrassed when that report came to very similar conclusions, strongly criticizing “Chilean forest management and the lack of effective state control” (Economist 1996). Thus, despite attempts by the forestry industry to dispute the environmental knowledge of the first study, those original conclusions were legitimized. However, had the industry conducted its own survey, or chosen a more “sympathetic” reviewer, results would likely have been different. By disputing the original study, and commissioning another, CORMA and CONAF clearly attempted to control the process of knowledge generation. The industry’s apparent faith that the second study would support their position reveals that they themselves appear to have an unreliable understanding of the resources of the forestry sector.

## **Conclusions**

In each of these case studies, the definition of environmental problems was only one of many points of contention. For some actors, ecological damage was secondary to issues of self-determination, safety, and even survival. But although control over the creation of environmental knowledge may not be the center of conflict, these cases show that is still a significant issue. This paper has shown that there are at least four points at which the power to create or legitimize knowledge is focused and limited in Chile:

### ***Definitions of problems and risks are controlled by project interests***

The president of the Chilean Society of Industrialists (SOFAFA) recently criticized environmentalists as producing incomplete information that is “at times technically unfounded and...difficult to counteract.” He suggested that companies should consider hiring “communications consultants to give accurate information to the community<sup>12</sup>” (emphasis added) (Lizana 1996). Yet a careful review of the Law shows that project interests are given a great deal of power to define the context and content of the environmental data in the EIAs. Those with authority to judge the assessments are unable to do more than reject them; they are not able to require specific changes in how the assessment are conducted. Through the EIA system, project actors dominate the process of gathering and generating environmental measures. The case studies reinforce this conclusion, demonstrating not only how project interests were empowered to define the baseline environmental knowledge, but how they sought to maintain that control when the evidence began to weaken their position.

***The Law does not provide for alternative sources of environmental knowledge from which to assess the validity of project assessments***

Neither Chile's general laws nor the Comprehensive Law restrict other interests from generating environmental data. However, such information has no legal legitimacy unless it is included within an EIA. Furthermore, because CONAMA's technical secretariat relies heavily on private sector consultants, the decisions of the Commission are likely to be biased towards the interests of industry (Silva 1997). Due to the high level of legal and technical expertise needed to create the EIAs, projects are likely to contract with private consultants, which would then have some incentive "to lower the quality of their evaluations in order to contract more projects" (Nuñez 1993). Within the current law, there is no way for environmental interests to counteract such an effect, except to pressure for a denial of permit approval.

***Publicly available environmental knowledge is limited***

Chile's weak capacity for environmental protection has been well documented (Bradbury 1993; Rojas 1994; Silva 1997). The adoption of EIAs as the central mechanism of the Comprehensive Law was in part meant to remedy this, by generating environmental data and increasing "the fund of applied knowledge" (Silva 1996). At present, Chilean policymakers and private citizens lack basic information about the state of the country's environment, or threats to its long-term health.

Throughout the policymaking process, Chilean business interests have worked hard to create a "green" public image, expressing their desire to help protect the environment. Yet, at each step business has "done everything it can to dilute legislation, to structure institutions in such ways that increase the power of the private sector in decision-making institutions, [and] to exclude challengers to their position from the policymaking process" (Silva 1997). While Chilean citizens are more informed about environmental issues in general, information specific to Chile is lacking, despite a greater popular commitment to the environment (Sabatini 1996).

***The capacity to mediate environmental damage depends on how environmental knowledge is generated and legitimized***

It has been widely recognized that to create and implement sustainable development policies, "environmental knowledge and the conditions under which it is generated, distributed, interpreted, and applied...are of the utmost importance" (Jänicke 1997). This observation is reinforced by an investigation of the processes and pressures surrounding the formation and implementation of Law 19.300. When Chile's military exercised a powerful control to limit environmental knowledge, the country's resources were plundered and environmental systems pushed to the point of breakdown. The effects of such abuse contributed to the pressures for democratization, as well as a reform of the Chilean environmental protection system. Early in that policymaking cycle, political and economic interests realized the importance of controlling information about Chile's environment, and sought to limit how that knowledge was to be created and given legal standing. Yet even the limited experience with the Law's implementation shows that legally restricting the creation of knowledge to those interests lends itself to abuse, which in turn would likely lead to environmental degradation.

For Chile to work towards truly sustainable development policies, it must first reconsider how the Comprehensive Law has created biases in how the state of the environment is understood. While many of the politics relating to the Law are specific to Chile's domestic interests, this is one lesson which can find wide application, in both industrialized and developing countries. To ensure effective protection, environmental knowledge must be transparently produced and freely available. Moreover, the legitimacy of such knowledge cannot be permanently fixed, but must always be gauged against new information. Developing a flexible and expanding base of ecological knowledge cannot be overstated; it is an absolutely necessity for understanding how environmental damage has occurred and how it might be prevented.

## APPENDIX

### *Acronyms*

CIPMA	Center for Environmental Planning and Research
CONADI	Chilean Indigenous Development Ministry
CONAF	Chilean National Forestry Corporation
CONAMA	Chilean National Environmental Commission
COREMA	Regional Environmental Commission
CORMA	Chilean Timber Corporation
Corpirque	Corporation for the Protection of Pirque's Environment
CPD	Christian Democratic Party
EIA	Environmental Impact Assessment
ENGOS	Environmental Non-Governmental Organizations
GABB	Bío-Bío Action Group
SOFAFA	Society of Chilean Industrialists

## SOURCES

- Anderson, Frederick R. 1997. "The Evolving Role of Environmental Law and Lawyers in Development Projects Worldwide." presented at the International Congress on Environmental Law, July 10-11, Santiago Chile.
- Aslam, Abid. 1997. "Another Company Gives World Bank the Heave-ho." Inter Press Service, March 14.
- Bradbury, Lauren. 1993. "Environmental Reform is Under Way in Chile," *Business America*, August 23, pp. 6-7.
- Caldwell, Lynton. 1997. "Environment as a Problem for Policy," in *Environmental Policy: Transnational Issues and National Trends*, L. Caldwell, ed., (Quorum Books: Westport, Connecticut) pp. 1-18.
- Center of Environmental Planning and Research (CIPMA). 1992. "Ley General de Medio Ambiente: Objetivos de una 'Ley Marco' para el Desarrollo Sustentable," *Ambiente y Desarrollo*. July, pp. 18-23.
- Detzner, John A., P. Aylwin. 1996. "In Chile, Environmental Law Awaits Regulations," *National Law Journal*. December 23, Section C, pp. 4-6.
- Economist, The. 1996. "Forest Fire." [338:7951] February 3, p. 37.
- Environmental News Network (ENN). 1997. "World Bank Threatens to Default Chilean Dam-BUILDER." March 3. Available online: <http://www.enn.com/enn-news-archive/1997/03/030397/03039710.asp>
- Gonzalez, Gustavo. 1996a. "Temporary Truce in Pipeline War," Inter Press Service. June 18.
- \_\_\_\_\_. 1996b. "Local Community Cede Under Pressure from Transnational," Inter Press Service. June 26.
- \_\_\_\_\_. 1997. "Private Interests to Protect Environment," Inter Press Service. June 30.
- Hass, Ernst B. 1990. *When Knowledge is Power: Three Models of Change in International Organizations*. (University of California Press: Los Angeles).
- Holly, Susan. 1992. "USAID Develops Comprehensive Environmental Strategy." U.S. Department of State Dispatch, [3:49] December 12 pp. 872-75.
- Jänicke, Martin. 1997. "The Political System's Capacity for Environmental Policy," in *National Environmental Policies: a Comparative Study of Capacity-building*. Jänicke, M., Weidner, H., eds., (Springer/Verlag: Berlin) pp. 1-24.
- Jensen, Lawrence J. 1993. "Environmental Regulation in Latin America: A Rapidly Changing Legal Framework," *Natural Resources and Environment*. Fall, pp. 23-58.
- Kaimowitz, David. 1996. "The Political Economy of Environmental Policy Reform in Latin America," *Development and Change*. [27] pp. 433-52. Law 19.300 1994).
- Larraín, Sara. 1996. "Un Caso en que el Sistema de Evaluación de Impacto Ambiental no Funcionó." *Ambiente y Desarrollo*. [12:3] September, pp. 30-34.
- Latin American Newsletters, Limited (LANL) 1996. "Pipeline Conflict Turns Violent: Pressure Grows for Coherent Government Action." [RS-96-05] July 4, p. 2.
- Latin American Regional Reports (LARR) 1996a. "Power Projects Meet Opposition: Local Groups Say Long-term Risk[s] are Being Ignored." [RS-96-01] February 8, p. 6.
- \_\_\_\_\_. 1996b. Battle Joined Over Bío-Bío Scheme: Endesa Aims at Mid-November for Changes to Proposals. [RS-96-10] November 21, p. 6.
- Lester, James P. and Joseph Stewart, Jr. 1996. *Public Policy: An Evolutionary Approach*. [Wadsworth: Belmont, CA].

- Ley de Bases. 1994. "Ley No 19.300, Ley de Bases del Medio Ambiente." El Diario Oficial. March 9.
- Lizana, Pedro. 1996. "Ecological 'False Alarm' – SOFOFA President Pedro Lizana Pans Ecological Concerns." La Nación. November 10.
- Mark, Imogene. 1996. "Nova Discovers Power of Chile's Green Movement," The Financial Post (Toronto). August 19.
- Meacham, Carl. E. 1997. "Chilean Forest Preservation and the Project River Condor." TED Case Study. (American University : Washington, DC) December 16. Available online: <http://gurukull.ucc.american.edu/TED/CHILEWD.HTM>
- Nef, Jorge. 1995. "Environmental Policy and Politics in Chile: A Latin-American Case Study." in "Environmental Policies in the Third World: a Comparative Analysis." (Greenwood : Westport, CT) pp. 145-74.
- Núñez, Javier. 1993. "Eficiencia Económica y Regulación Ambiental en el Proyecto de Ley de Bases del Medio Ambiente." Ambiente y Desarrollo. March, pp. 27-31.
- Ortuzar, Antonio Sr., P. F. Vial. 1997. "New Regulation Expands Scope of Chilean Environmental Impact Assessment System," Latin American Law and Business Report. [12:5], December 31.
- Price, Marie. 1994. "Ecopolitics and Environmental Nongovernmental Organizations in Latin America," Geographical Review. pp. 42-58.
- Rojas, Alejandro. 1994. "The Environmental Movement and the Environmentally Concerned Scientific Community in Chile," in European Review of Latin America and Caribbean Studies. [56] June, pp. 93-118.
- Sabatini, Francisco, Claudia Sepúlveda. 1996. "Lecciones del Conflicto del Gasoducto en el Cajón del Maipo: Negociación Ambiental, Participación y Sustentabilidad." Ambiente y Desarrollo. [12:3] September pp. 19-24.
- Silva, Eduardo. 1994. "Contemporary Environmental Politics in Chile: The Struggle Over the Comprehensive Law," Industrial and Environmental Crisis Quarterly. [8:4], pp. 323-343.
- \_\_\_\_\_. 1996. "Democracy, Market Economics, and Environmental Policy in Chile." Journal of Interamerican Studies and World Affairs. [38:4] Winter pp. 1-33.
- \_\_\_\_\_. 1997. "Chile (A Case Study)." in National Environmental Policies: a Comparative Study of Capacity-building. Jänicke, M., Weidner, H., eds., (Springer/Verlag: Berlin) pp. 213-35.
- United Nations Environmental Project – Latin American Office (PNUMA) 1997. "Misiva Jurídica Ambiental: El Derecho Humano al Ambiente," [1] April 1997. Available online.
- Villaruel, Pablo. 1992. "Una Agenda Ambiental para el Chile de los 90s," Ambiente y Desarrollo, July, pp. 7-17.
- \_\_\_\_\_. 1993. "Un 'Sello Verde' para el Modelo Chileno," Ambiente y Desarrollo, March, pp. 7-12.
- Walsh, Heather. 1997. "Chilean Court Ruling Prompts New Environmental Regulation." Panos. May 8.

- <sup>1</sup> Referred to variously as the “Ley de Bases,” the “Comprehensive Law,” “the Law,” “Law 19.300,” the “Framework Law,” and the “Comprehensive Environmental Framework Law.”
- <sup>2</sup> Contrasted with “bureaucratic authoritarianism,” the Chilean experience was ideologically focused on free-market principles (with significant exceptions, such as the state’s domination of the copper industry).
- <sup>3</sup> Distinguishing between personal beliefs and those which have been legitimized (as knowledge) by others. Such legitimacy is conditional, continually qualified by larger discourses of interest (as when environment becomes natural resources) or expanding awareness (including exploration and science).
- <sup>4</sup> Variations in compliance may reveal differences in how environmental problems are prioritized in a specific region or sector, or how control over environmental regulatory processes has been distributed or captured.
- <sup>5</sup> Article 10 stipulates that environmental impact statements are required for dams or reservoirs; high voltage power lines; power plants larger than 3 megawatts; nuclear reactors; airports, bus and shipping terminals, roads and highways, service stations; ports and waterways; tourism projects; regional or urban plans, community regulatory efforts; mines; pipelines or mineshafts; factories; industrial-scale agricultural projects, including meat processors, and animal breeders and producers; timber extraction, paper processors, and tree plantations on poor soils or in native forest areas; fish processing facilities; production, transport, distribution, or use of toxic substances; sewage and water treatment plants; projects within national parks, monuments, protected or wilderness areas, and terrestrial and aquatic sanctuaries; “large” applications of legally permitted chemicals, if such is to occur in or near population centers or in close proximity to water resources. Article 11 defines the circumstances requiring an EIS: a risk to public health due to pollution; “significant” adverse effects on the renewable resource base; impacts to communities, cultural systems; proximity to population centers or protected areas; “significant” changes (in magnitude and duration) to regions of tourism; alterations to national monuments, or anthropological or archaeological sites. Requirements for an environmental impact declaration are vaguely defined as the expectation that such projects will have only minor impacts. (Ley de Bases 1994).
- <sup>6</sup> The Supreme Court ruling also made it possible for any Chilean citizen to contest a project or its EIA (the original Law limits challenges to only those with potential to be affected by proposed projects).
- <sup>7</sup> Environmental Impact Statements are mandated for such projects; less-stringent Environmental Impact Declarations (EIDs) are required for all other projects. The EIDs are essentially affidavits, swearing to comply with all applicable environmental laws (see footnote 10). There is no requirement for the publishing of EID summaries; such projects are simply announced. Similarly, potentially affected persons have no legal right to information about projects submitting EIDs, nor are citizen review procedures included.
- <sup>8</sup> In reference to the company’s Pangué dam, predecessor to the Ralco project. These are two of a series of dams Endesa has proposed for the Bio-Bio.
- <sup>9</sup> It is misleading to conclude from this letter that the World Bank (as an institution) has suddenly become a force for environmental responsibility. In 1996, Wolfensohn commissioned a study by Jay Hair, former director of the National Wildlife Federation. Hair’s assessment and another internal bank study were “highly critical” of how the Bank’s International Finance Corporation (IFC) had handled environmental appraisal and supervision of the Pangué project.” Although the second report focused more on the dam’s impact on local indigenous groups, it also contained “evidence of on-going, extensive, unmitigated environmental damages” (ENN 1997).
- <sup>10</sup> Founded in the early 1970s, Trillium is based in Bellingham, Washington.
- <sup>11</sup> Tierra del Fuego is a harsh and geologically young environment with thin and easily eroded soils.
- <sup>12</sup> This is standard practice in the United States and other industrialized nations. Though not unique, it is significant in that it represents a conscious effort to direct public beliefs about environmental conditions and risks. As a process of “public relations,” such efforts do not face the constraints of scientific (or democratic) processes.