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Regional Environmental Effects Frameworks

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Regional Environmental Effects Frameworks

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I. Introduction

The Canadian Environmental Assessment Agency (the Agency) has recently implemented a Research and Development Program to address a number of research and development priorities related to environmental assessment (EA). This research report addresses issues and opportunities related to the development of regional environmental effects frameworks (REEFs). The term REEF was used by the federal government (shortened to "regional studies") referring to the results of a study of the environmental effects of possible future projects in a region, in which a federal authority participates, outside the scope of the *Canadian Environmental Assessment Act* (the Act), with other jurisdictions (Bill C-19, tabled in the House of Commons on March 20, 2001). The meaning of the term REEF has not yet been precisely defined and there is a clear need for the elements of a REEF to be better scoped, as well as the development of appropriate criteria and guidelines. The purpose of this research is to document and assess existing (and related) information on the subject from a broad policy perspective, to consult with a range of stakeholders on their views, to critique existing studies that have a relationship to a REEF and to offer recommendations. It is hoped that this research will make a contribution towards clarifying what is really meant by a REEF, as well as why and how REEFs should be pursued.

Pollution Probe understands that a REEF can be developed when a region or specific area is likely to be undergoing significant development, and the affected jurisdictions and proponents agree that the preparation of a REEF would be useful and appropriate. Facilitating the development of these frameworks was an issue discussed as a part of the five-year review of the Act. Through a REEF, environmental baseline information for a region or area would be gathered and documented; existing and potential development would be assessed, both individually and cumulatively for environmental effects; broader regional development and planning issues would be considered; and there would be some form of public participation and/or consultation. The results of such a framework could then be used as a basis for both current and future decisions in the region or area.

A REEF is not intended to circumvent or replace the project-by-project approach to EA, but rather to complement it and to provide a framework to make the process for assessing projects within a region more efficient, predictable and consistent. As well as providing an opportunity for improved public participation, the approach would also facilitate the efficient and effective use of stakeholder, government and private-sector resources in the EA process.

The main objectives of this research initiative are as follows:

- To contribute to better defining the term REEF and developing necessary guidelines and procedures;
- To explore and document the benefits, opportunities and challenges involved in developing REEFs.
- To look at the important linkages to some current key policy issues, notably the precautionary principle, voluntary initiatives and healthy public policy; and
- To evaluate the lessons that can be learned from existing EA frameworks related to the Athabasca Oil Sands Area, and pulp and paper development in the Peace-Athabasca River System.

II. Background

EA has been a reasonably successful policy innovation worldwide that has evolved considerably over the past 30 years. There is a growing realization that EA should be a regular part of doing business and that it is an important component of the sustainability infrastructure of a country. EA is itself a fairly broad concept and it has been developed to include assessments of policies, plans, programs and projects. In Canada, most experience has been in "project EA". More recently, however, governments have explored the concept of "policy, plan and program EA" to look at some of the broader environmental implications of government policy-making. REEFs and related public consultation are seen by both the public and private sector as a potential bridge between policy and project EA. REEFs also can be used where there are a number of information gaps, where cumulative effects need to be considered, or where policy hurdles need to be overcome (e.g. jurisdictional issues related to cooperative decision making).

Experience has shown that EA of a high-profile project, particularly in an area with little prior development, usually requires the proponent to address a wide range of regional development issues that have not been previously subjected to systematic scientific or public scrutiny. This may place an unfair burden on a proponent, particularly in cases where other proponents are "waiting in the wings" with projects. A REEF addresses foreseeable projects in the broader context of the sustainability of an area or region, and is a potential tool for sharing costs and workload more equitably. Such frameworks thus help to address cumulative environmental effects in a region, while offering a forum for consulting the public on broader policy and regional issues.

"Regional" or "Area Wide" assessments are terms that have been used in the past to reflect much of the scientific and technical elements that constitute a REEF. In 1981, the US Department of Housing and Urban Development produced a "Guidebook on Areawide Environmental Impact Assessment" that accurately describes to this day the kind of scientific and technical considerations that are likely to be part of a REEF. Jurisdictional and public policy issues, however, have evolved considerably since that era; these issues are where some of the major challenges arise in negotiating and developing a REEF today.

The Environmental Assessment Review Process Guidelines Order (1984), which was in place prior to the Act, allowed flexibility in addressing multi-project scenarios and controversial proposals where regional issues came into play. Reviews such as the Beaufort Sea Hydrocarbon Production and Transportation Panel, the Arctic Pilot Project, the High Level Nuclear Waste Disposal Panel, the West Coast Offshore Hydrocarbon Exploration Panel, and the Air Traffic Management in Southern Ontario Panel are examples where EA reviews successfully examined "the bigger picture". In doing so, they facilitated public involvement, broader planning and sound decision making. The current Act does not have the same flexibility for establishing broader review panels; therefore, the federal government has decided to explore the potential use of REEFs.

The recent Diavik Diamond Mine environmental review in the Northwest Territories raised the issue of regional cumulative environmental effects in the Slave Geological Province. The environmental review of this project highlighted the need for something beyond a project-by-project approach to EA in an area of projected intensive development. As a result, the Minister of the Environment directed that a Cumulative Environmental Effects Assessment and Management Framework be put in place. While the development of this framework is in its infancy, it provides a good example of how a REEF-like approach to EA could be utilized. The information from the study may be used to meet future project assessment requirements under the Act. It is also a good example since cumulative environmental effects were identified as major concerns in both the BHP Panel Review and the Diavik Comprehensive Study.

The Regional Sustainable Development Strategy (RSDS) for the Athabasca Oil Sands Area in 1999 responded to the multi-billion dollar development scenario unfolding in the northeastern region of Alberta. The strategy was developed through an open and inclusive process involving stakeholders and regulatory agencies with the objective of providing a framework for assessing multiple projects in the Alberta oil sands area. This strategy considers all existing and proposed oil sands projects in the region, as well as large-scale projects in the forestry sector. It involves all of the major industrial players, plus relevant federal, provincial, municipal and Aboriginal government players. It explores data requirements, environmental criteria, environmental effects monitoring and adaptive management approaches related to project impacts. A critique of this approach and how it relates to a REEF is included in Section VIII.

The review of the Alberta-Pacific Pulp and Paper Mill in northern Alberta (1989) concluded that the proposed project could go ahead on the understanding that environmental uncertainty would be addressed through the development of the Northern Rivers Basin Study. This study took on many of the characteristics of a REEF and is also briefly discussed as a case study in Section VIII.

III. Research Methodology

A list of key individuals with an interest in the analysis and development of the approach to REEFs was established (with suggestions from Agency staff). These individuals were contacted by e-mail. A Preliminary Background Document intended to promote discussion and pose questions was assembled and sent to those on the list. Most of these individuals were then interviewed by telephone; some sent input and comments by e-mail. The questionnaire used for this consultation is included in Section IV. The results of the consultation were one of a number of inputs used in developing the various sections of this research paper.

Organization and analysis of existing reports and material, local meetings and exploration of Web sites were also part of the research methodology. Some preliminary analysis of issues had already taken place in the context of the five-year review of the Act; this information was also used to help guide the research and analysis. Members of the federal and Alberta provincial government were contacted to help identify some of the jurisdictional and cost-sharing issues that could arise in negotiating and implementing a REEF. These representatives also offered their views on the opportunities and challenges associated with the approach.

The authors are particularly interested in the potential that REEFs hold for engagement of the public where issues broader than specific projects can be addressed. Therefore, there was consultation with key individuals in the environmental non-governmental organization (ENGO) community, governments and the private sector to establish their views on the benefits and challenges related to public participation. ENGOs have historically been frustrated by the lack of opportunity to discuss broader planning or development issues in public (e.g. at panel reviews); REEFs have potential benefits in this regard. Industry does not want to see any undue delays that could result from such a consultative process.

Staff members at Environment Canada (one of the major proponents of REEFs) were approached to see if they would be willing to act as advisors for this research project. They were very supportive; the authors were able to obtain their views and advice in structuring and preparing this research paper. Particular support came from the Prairie and Northern Region of Environment Canada. Through this partnership and linkages with Alberta and the Agency, the authors attempted to be innovative and at the same time practical considering bureaucratic decision-making structures and government processes.

IV. Consultation

The researchers developed an extensive list of individuals with a potential interest in REEFs. To make the exercise manageable, the list was eventually pared down to a representative list reflecting all of the potential stakeholder groups. Not all individuals were able to contribute but a good cross section of organizations and people offered their views. Most of those interviewed did not wish to have their comments attributed, therefore a summary of specific views and attribution is not included.

Generally all those consulted understood and agreed that there would likely be environmental benefits from a REEF. These included the establishment of an environmental baseline and the facilitation of the assessment of cumulative environmental effects. There was also a strong consensus that such an approach would benefit from public participation, particularly by providing a forum for broader policy and planning discussions.

At the same time, there was a realistic view that a number of challenges would be involved in making such an approach work. Cost sharing and getting all relevant parties to the table were particular concerns. Some of the ideas from the consultation have been integrated into this report. The input from these individuals was a valuable contribution to this research initiative.

Consultation Questions

1. Are you familiar with the concept of regional or area-wide assessment and how it relates to some of the current thinking on the potential development of regional environmental effects frameworks or REEFs?
2. Do you see potential benefits of this approach, as an individual or for your organization? Would you or your organization be interested in actively participating in the development and implementation of certain REEFs?
3. What do you see as the key challenges in making such an approach work?
4. Do you think principles, criteria and guidelines should be developed generically for such frameworks or should each proposed REEF be approached individually and uniquely?
5. Are there regions or areas of Canada where you think such an approach would be beneficial and, if so, what would be your priorities?
6. Do you see linkages to other policy themes such as the precautionary principle, use of voluntary initiatives, public right-to-know and healthy public policy? Do you have particular views?

V. Benefits and Opportunities

This research study and the related consultations have helped identify a large number of potential benefits and opportunities related to the development and use of REEFs. They are grouped here with some related observations and comments.

Potential for Efficiency

- Regional environmental issues could be dealt with in a single forum (where there are a number of projects in a region), rather than being revisited in successive individual project EAs. A REEF could examine a variety of development scenarios and try to achieve regional consensus on criteria and issues for evaluating scenarios. Alternatives could also be investigated outside of project specific assessments.
- A single cumulative effects assessment framework could be developed, relieving each individual proponent of the obligation of independently developing its own conceptual framework for addressing cumulative effects, which is considered one of the more complex steps in an EA. Assessment of cumulative effects for individual projects would thus be greatly facilitated. Cumulative effects in the region could be assessed and monitored under joint agreements, rather than being the sole responsibility of a particular proponent. Moreover, the process for assessing and monitoring cumulative effects at a regional level could be more transparent and credible than if undertaken as part of an individual assessment.
- A REEF could provide for more equitable cost sharing (among proponents and governments) related to the assembly of baseline environmental information for a region and the assessment of cumulative environmental effects. Equitable cost sharing is also one of the challenges in establishing a REEF and is of particular concern to the private sector. However, the potential benefits of properly negotiating and developing a REEF with all parties at the table are recognized.
- A REEF could help proponents to plan efficiently for the infrastructure required for projects, thus decreasing the environmental impact footprint. For example, a single access route could be constructed to serve the needs of more than one project. This also has the obvious benefit of saving proponents money.
- It could be possible to use a REEF to establish appropriate environmental criteria or generic mitigation approaches for a region in advance of any actual projects being constructed. This could allow for more efficient planning of necessary mitigation measures and cooperation among proponents that could result in cost savings.
- Consultations on individual projects could become more streamlined because the identity of key stakeholders would be clear to new proponents. It would even be possible to establish a regional standing consultative body, if this were desired or warranted. Overall, both short term and long-term efficiencies could be achieved.
- Because of the cooperative nature of the REEF exercise, any potentially affected jurisdiction could participate without the need for establishing or defining the limits of its jurisdiction (often a complex legal problem). The voluntary nature

of involvement and the lack of legal formality to the process could facilitate the involvement of stakeholders. This could also help reduce the time needed to get all necessary parties engaged.

- The existence of a REEF could significantly reduce the risk of having an EA decision quashed in the Federal Court on the basis of a process deficiency (e.g. failure to consult adequately, failure to adequately address cumulative effects). Lack of appropriate diligence in these areas is often the reason for these court challenges. A REEF could reduce delays in project approvals and help to avoid costly legal challenges.
- The existence of a REEF could provide an opportunity to, if appropriate, address the information and data requirements for the assessment of plans under the *Species at Risk Act*. This would be particularly appropriate where development is foreseen in an area or specific region where important species might come into play.

Quality of EA

- A REEF would help in creating an environmental information base and in better understanding the environmental impacts that would likely result in a particular regional or geographical area. More importantly, this information and analysis could be used to establish thresholds for environmental effects for a region. This helps in assessing cumulative environmental effects and also the "significance" of environmental effects in making project decisions. Thus, there is a very direct linking to another research priority of the Agency – determining "significance."
- A REEF could provide the conceptual framework, organization and potentially the financial structure to support the development and implementation of follow-up and monitoring activities. These activities are often deficient in EAs even though they are very important for verifying predicted environmental effects and learning from past experience. This also links directly to another priority of the Agency's current research initiative – follow-up and monitoring.
- A full range of stakeholders could be involved in a process that would be potentially more cooperative and less adversarial than a project EA, in a setting that would not necessarily be compromised by the pressure of acute time constraints. In the long run, this would help to improve the quality of the eventual EAs that would be developed for a region.
- REEFs could be linked to existing planning processes, or used to bridge planning gaps when formal planning structures are lacking. This would help to ensure a context for EAs where they could be integrated into these planning structures in terms of eventually facilitating better project decisions.
- REEFs could create a credible framework for assessing cumulative environmental effects at a project level and contribute to the assessment of "significance" for project specific assessments. This could be a more efficient way to facilitate the assessment of cumulative environmental effects and also greatly improve the quality of cumulative assessments related to specific projects. The assessment of cumulative effects is required under the Act, but this is an area where the quality of such assessments has been very poor in the cases where it has been attempted.

- REEFs could provide a long-term mechanism for monitoring the environmental effects of projects as they are implemented. Without such a mechanism in place, it would be difficult, from a public credibility standpoint, for individual proponents to use an adaptive approach for managing the environmental effects of their projects (i.e. altering design or mitigating effects when monitoring shows this to be necessary). As is discussed more thoroughly in section VII, there is concern that this adaptive management approach has the potential to conflict with the "precautionary principle" if not properly utilized. Important decisions related to environmental design or mitigation must not be delayed under the guise of waiting for more information or knowledge. Proponents must be open to the potential need to change design, mitigate effects or, if necessary, cancel a project if the uncertainty or potentially significant environmental effects are too great.

Public Participation

- As part of the development of a REEF, public consultation on regional issues could be carried out in a single forum making it less necessary for each new individual proponent to consult on regional issues. More of the efforts of an individual proponent could be focused on the issues specifically related to their particular EA. Current public involvement related to project assessments tends to be limited to issues directly related to the project under review. A broader regional approach could be looked on favorably, particularly by environmental groups. Competing values and differing views on beneficial alternatives could be discussed within this framework.
- A REEF could support the establishment of a forum for public participation in sustainable development planning at the earliest possible stage in the planning process, before a number of projects have been assessed and decisions taken. This could be attractive to environmental and public interest groups. It could also have the benefit of making project assessments at a later date progress more smoothly, which could be attractive to proponents.
- A REEF could provide a long-term consultative mechanism that could be used to span the time frame of a number of individual assessments when timeframes dictate. Reference could be made to the framework as new proponents come on board. This could also help provide for some basis for consistency of public input over time. As well, it could provide an ongoing mechanism to address public involvement at the later stages of the project cycle (expansion, modification, decommissioning and abandonment).
- Because it could make the consultation process more focused and efficient by providing the opportunity to address both regional and site specific issues, public participation in the development of a REEF could help reduce the problem of "consultation fatigue", a concern of all stakeholders.

VI. Major Challenges

- All of the key stakeholders in a region should be at the table and stakeholders must enter the process voluntarily (also see discussion of Voluntary Approaches in Section VII). Their agreement to participate may be difficult to achieve, due partly to a lack of experience with REEFs, and also because stakeholders may bring a range of concerns to the table, including socio-economic as well as environmental concerns. Timeliness is always a challenge and there will be a need to get the study going as early as possible and ahead of major commitments in the region.
- Even if there is willingness for all parties to work cooperatively, leaving long-standing unresolved jurisdictional positions and conflicts outside the door would always be difficult. Harmonization requirements (federal-provincial) related to EA can actually be a hindrance if the process is not established and managed carefully. The REEF would have to apply to both federally and provincially approved projects to ensure that the effort involved is worthwhile.
- There would normally have to be sufficient scope in terms of numbers or magnitude of potential projects or economic pressures, on the immediate horizon to create some sense of urgency for assembling regional information and examining regional environmental issues.
- Proponents may not be interested in participating due to a perception that unreasonable project delays will result because of the time taken for development of the REEF.
- The process for developing and maintaining a REEF would require financing over an extended period of time, and appropriate cost sharing and funding agreements would have to be negotiated. Negotiations for cost sharing may be difficult due to different perceptions of where the onus should lie for undertaking a REEF, combined with potential uncertainty over which proponents would be active in a region in the future. Some sort of “public infrastructure” that does not presently exist may be required to support the initiation and management of REEFs. If a REEF is seen by stakeholders as an accepted part of the regional planning process, planning organizations at various levels should take on some responsibility for costs.
- When proponents of competing projects are involved in a REEF, it may be a challenge to assure proponents that they are not exposing themselves to any inordinate risk of losing their perceived competitive advantages. This could introduce the problem of some not being involved and thus potential inequities in sharing costs and workload. Proponents would want to be assured that there would be clear downstream process benefits that would justify both the cost of participating in the process and the downside of any competitive risk that might be involved.
- Putting in place an acceptable process for undertaking a REEF may be difficult. The process should be open and credible in the eyes of the public. Full participation of all those with an interest must be encouraged. Otherwise it is unlikely that groups representing the various public interests (e.g. wilderness preservation, protection of species, traditional lifestyles) will be willing to sign on and contribute to the success of the initiative. Finding the right balance may be difficult.

VII. Areas of Particular Focus

This research project also looked at the concept of REEFs from additional points of view related to some current key environmental policy issues including, a discussion of the precautionary principle and how it relates, the use of voluntary approaches, and the concept of healthy public policy.

The Precautionary Principle

The precautionary principle is defined (and interpreted by individuals) differently in a number of federal acts. It is defined in the *Canadian Environmental Protection Act* (CEPA) of 1999 in terms of the 1992 United Nations Conference on Environment and Development definition – "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" (Rio Declaration, Principle #15, June 1992). In the context of CEPA, the precautionary principle is to be applied to risk-based assessment and decision-making processes that relate to setting standards for the regulation and control of toxic substances. In this section, we explore the precautionary principle and some of its broader interpretations such as "erring on the side of caution" in more detail, and look at how a REEF could help address uncertainty and the possible application of the precautionary principle.

High-profile issues that are relevant to understanding the importance of the precautionary principle include, for example, the Canadian blood supply (HIV), beef growth hormone, bovine spongiform encephalitis (mad cow disease), global climate change and genetically modified organisms. In the EA area, potentially significant impacts on air, water, species diversity and climate change are issues where the precautionary principle will likely apply or be implicated.

The preamble to the *Oceans Act* of 1995 also refers to the precautionary approach stating "Canada promotes the wide application of the precautionary approach to the conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment" (*Oceans Act*, 1995). The Act requires the Minister to lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems and calls for the strategy to be based on three principles – sustainable development, integrated management of estuaries, coastal and marine waters – and the precautionary approach which, in the *Oceans Act*, is further described as "erring on the side of caution."

Under the Act, uncertainty or lack of adequate data, knowledge or information either means that such a certainty or information gap must be adequately filled, or the project must go to a mediator or a review panel before any decisions can be taken. Specifically, section 20(1)c of the Act reads, "*…where it is uncertain whether the project taking into account the implementation of any mitigation measures that the responsible authority considers appropriate, is likely to cause significant adverse environmental effects, the responsible authority shall refer the project to the Minister for a referral to a mediator or a review panel in accordance with section 29.*"

The information and analysis inherent in a REEF is one way of reducing the uncertainty related to the assessment of environmental effects. If properly assembled and utilized, the information in a REEF could reduce the need for mediation and review panels and, in the long run, create efficiencies for the EA process. Industry representatives consulted felt that a REEF was a direct way to support the development of the necessary information base before taking decisions, in a way that would be consistent with the precautionary principle.

The precautionary principle has also been extended to cover various resource extraction activities and ecosystem protection in general; the approach has emerged in the fields of fisheries management and forestry management (VanderZwaag, 1994). The Biodiversity Convention preamble reads: "Where there is a threat of significant reduction in loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat." The protection of species is an issue that comes up regularly in EAs and adequate information is essential before taking any critical decisions.

While the concept of the precautionary principle evolves in these domestic legal frameworks as well as in international treaties and institutions, the essence of the precautionary principle revolves around issues concerning scientific uncertainty. No definitive criteria have been developed, however, for triggering and applying the principle in practice. The legal parameters of the precautionary principle are still very much a work in process. While there is limited operational experience to date in applying the precautionary principle in Canada, the spirit of the principle appears to be embodied by the call for caution incorporated in the Act. It should be directly supported by the information and analyses that would be part of a REEF.

Likewise at the provincial level, though there is limited experience with moving the precautionary principle into practice, Castrilli (1999) finds that the precautionary principle is now a consideration in environmental hearings in Ontario, even in the absence of statutory direction on the principle – "Although Ontario's legislation has not been amended to include the precautionary principle, both the courts and tribunals in the province have recently considered the principle in the context of particular development proposals" (Castrilli, 1999). Recent case law suggests, "It is not an error of law for administrative bodies to place an onus on advocates of development in situations of uncertainty to adduce additional evidence demonstrating a lack of adverse environmental effects from their proposal" (Castrilli, 1999). Moreover, reliance on the precautionary principle as a basis for this approach did not provide grounds for successfully alleging reviewable error on appeal.

Case law also suggests, however, that "… how the principle will be applied is highly unpredictable as the administrative bodies have no statutory guidance from the legislature about the content of the principle, or how to resolve issues of risk in the face of scientific uncertainty" (Castrilli, 1999).

Castrilli (1999) concluded in his review of the precautionary principle that, "Overall, it can be stated that domestic implementation of the precautionary principle in Canada is still in its infancy. It is clear that much work needs to be done before the principle can be considered to be an effective, as opposed to a symbolic, part of federal and provincial environmental law in Canada."

Meanwhile, as the precautionary principle wends its way through the international and national legal and institutional fora, the fundamental concept of taking a precautionary approach in the absence of full scientific certainty remains valid – particularly when it is considered in connection with risk-based assessment and decision-making processes. While application of the precautionary principle is a long way from being clear from a legal point of view, it is relevant in policy terms, and very relevant to EA in general as well as specifically to REEFs.

The concept of adaptive management (making adjustments in the future as new information becomes available, to ensure optimum protection of the environment) has often been linked to regional environmental effects studies. The adaptive management concept seems to be an approach that is consistent with the precautionary principle. However, adaptive management should not be seen as an excuse for delay of important decisions on environmental mitigation or design, in which case it would be inconsistent with the intent of the precautionary principle. The viability and credibility of the adaptive management approach and how it would be used is still a much-debated issue.

The precautionary principle could inform REEFs directly, by presenting a rationale for initiating a REEF in the first place. The whole idea of doing a regional assessment is very much about addressing future projects or regional development in the context of the future sustainability of an area or region and, quite possibly, in the absence of complete scientific certainty. A REEF is an appropriate vehicle to help fill many of the information gaps. The precautionary principle could also provide a rationale for doing key environmental design or mitigation studies earlier in the process, whether the approach is regional or area-wide REEFs or project specific. The earlier design or mitigation needs are addressed, the more likely they will be effective.

The precautionary principle also argues for a strong public participation role. This is because decision making on future regional initiatives that involve uncertainty requires political judgments and the meaningful involvement of stakeholders and the public. Public participation has been seen as an integral part of implementing the precautionary principle because of the need to balance value judgments when health and environmental risks are being evaluated (Moffet,1997).

Finally, the precautionary principle is consistent with the need to address cumulative environmental effects in the context of a REEF. Lack of adequate information has always been seen as a major constraint for completing an effective assessment of the cumulative environmental effects of a project. The lack of such an assessment tends to bring into doubt whether adequate knowledge of all environmental effects exists to facilitate a sound decision. A REEF could build a more comprehensive database and also help the appropriate parties cooperate in the challenging task of assessing

cumulative environmental effects. The monitoring and follow-up that are important parts of a REEF are consistent with the precautionary approach, and are needed to ensure that any predictions or scientific judgements have been accurate.

Voluntary Approaches

In Canada, our environmental policy tool kit contains a range of instruments including regulatory, economic, information and awareness techniques, and voluntary agreements or initiatives. Good, progressive public policy depends on a need to understand what tools work best under what conditions and on making a choice of the right tools for the task at hand.

Our goal is to take a look at REEFs from the point of view of voluntary instruments, to see how a REEF might stack up against other voluntary initiatives and to suggest how a REEF might benefit from the experience gained in other areas.

The definition of a voluntary initiative (VI), also called a voluntary non-regulatory initiative, has been adapted in a 1999 study by Pollution Probe (Pollution Probe, 1999) from a Government of Canada publication entitled, *Voluntary Codes: A Guide for Their Development and Use*. The definition that Pollution Probe has used is as follows (please note that the underlined phrases are Pollution Probe's changes or additions):

> A non-legislatively required commitment, agreed to by one or more entities, designed to influence, shape, control or benchmark behaviour and performance, and applied in a consistent and publicly acceptable manner to reach a defined outcome.

On the face of it, a REEF seems to fit this definition fairly well. A REEF is not a specific requirement of a federal, provincial or territorial law or regulation. It is a cooperative agreement among relevant stakeholders; it is designed to make an EA process more efficient, predictable and consistent; it should benchmark behaviour and performance; it should be open and publicly transparent and, of course, it should be applied against a defined outcome. So, if by definition one agrees that a REEF is "voluntary", the question turns to whether it could gain from exposure to experience with VIs in other areas.

VIs have had a long history of acceptance in the "conservation" sector, likely through a strong stewardship ethic inculcated in generations of Canadians, through shared ownership and tenure arrangements on high priority lands, and the limited ability of governments to invoke a command and control approach. A similar acceptance in the "environmental sector" has been much less widespread, perhaps partly on account of the traditional regulate or deregulate, win-lose debate and the adversarial approach that often characterizes relationships between public, private and non-governmental organization (NGO) participants.

The New Directions Group (NDG) was established in 1990 to provide an informal forum to bring progressive business and environmental organizations together to discuss significant issues. The NDG believes that existing VIs are uneven in their rigour and their quality and that VIs must be applied appropriately and designed according to

a standard set of principles. In a document entitled *Criteria and Principles for the Use of Voluntary or Non-Regulatory Initiatives to Achieve Environmental Policy Objectives* (New Directions Group, 1997), the NDG set out criteria and principles to guide the design and development of VIs as follows:

Criteria for the Utilization of VIs to Achieve Environmental Policy Objectives

1. VIs should be positioned within a supportive policy framework that includes appropriate legislative and regulatory tools.
2. Interested and affected parties should agree that a VI is an appropriate, credible and effective method of achieving the desired environmental protection objective.
3. There should be a reasonable expectation of sufficient participation in the VI over the long term to ensure its success in meeting its environmental protection objectives.
4. All participants in the design and implementation of the VI must have clearly defined roles and responsibilities.
5. Mechanisms should exist to provide all those involved in the development, implementation and monitoring of a VI with the capacity to fulfill their respective roles and responsibilities.

Principles Governing the Design of VIs

1. VIs are developed and implemented in a participatory manner that enables the interested and affected parties to contribute equitably.
2. VIs are transparent in their design and operation.
3. VIs are performance-based with specified goals, measurable objectives and milestones.
4. VIs clearly specify the rewards for good performance and the consequences of not meeting performance objectives.
5. VIs encourage flexibility and innovation in meeting specified goals and objectives.
6. VIs have prescribed monitoring and reporting requirements, including timetables.
7. VIs include mechanisms for verifying the performance of all participants.
8. VIs encourage continual improvement of both participants and the programs themselves.

As a voluntary initiative, a REEF will be more credible and effective if it is positioned within a supportive public policy framework – drawing upon the experience and precedence found in a range of other voluntary initiatives and including a set of criteria and principles, as described above. All of the above criteria and principles appear to be relevant and important for the development and implementation of a REEF. It is obvious that this experience with VIs would serve as an excellent starting point for the development of any criteria or guidelines that might be deemed necessary to explain and guide the development of REEFs. Individuals consulted on this research project felt that the challenges involved with any VIs would be similar to those identified in this report related to REEFs.

Healthy Public Policy

Healthy public policy is referred to as being "characterized by an explicit concern for health and equity in all areas of policy and by an accountability for health impacts" (Kickbush, 1990). The juxtaposition of health, equity, comprehensiveness and political accountability in this definition synthesizes the key issues for public policies and health in the future. It shifts the emphasis away from medical care policies towards the effects on health, of policies in domains like housing, food, energy or economic development (Kickbush, 1990).

Under the Act, an environmental effect is defined as "any change that the project may cause in the environment, including any effect of such change on health and socio-economic conditions…" Historically, this link to health has been weak when it comes to EA. As a result, the determination of significance has often ignored human health relationships and looked more directly at the impacts in the physical and biological environment. Policy or project decisions have thus been taken with little regard for healthy public policy. In this section, Pollution Probe explores some of the opportunities that may exist to link it to a REEF.

Healthy public policy is based on the notion that virtually all public policy decisions, whether or not they make direct reference to health, do in fact have consequences for people's health. It also recognizes that the public has a vital personal stake – its health – in public policy decisions, and reinforces the public's right to be involved in the formulation of public policy (Nelson, 1989). Improved public discourse provided for under a REEF would be a direct way of allowing the public to address issues that could contribute to the development of healthy public policy. Healthy public policies are developed through a multi-sectoral and collaborative process that endeavours to ensure participation by the affected constituencies. The development of a REEF could result in a public meeting process that would better explore the health impacts related to a specific proposed project.

Human health is part of a complex ecology involving interplay of the biophysical, environmental, socio-economic and socio-cultural determinants, human behaviour, genetics, and public policies as considered under the umbrella of a "determinants of health model" (such as has been developed by Health Canada). We have a very superficial understanding of this ecology and, therefore, an imperfect ability to determine where societal responses to health threats would be most effectively directed. Building healthy public policy into the public participation and consultation phase of REEFs would help to strengthen the opportunities to explore these issues. The more comprehensive information base and thresholds that would be established through a REEF would also help in the eventual analysis and determination of the significance of environmental effects related to human health and well-being.

Incorporating the concept of healthy public policy into the EA process through REEFs would allow for a multi-sectoral and collaborative process, endeavouring to ensure participation by all affected constituencies. All the coordinating structures and processes that are part of an EA regime should be developed with reference to the need to assess the health implications of development. The objective of this should not be to make health the only goal of an EA, but to make it part of the decision-making agenda.

Local action is where the practice of healthy public policy is developing most rapidly and where its effects are most visible. This is likely because many of the problems that have environmental and related health dimensions are more obvious at the local and regional levels. Therefore, fitting healthy public policy into an environmental effects framework at the regional level will be more successful than at the specific project level. Decision makers at the local and regional levels are more closely in touch with their communities and often respond more clearly to community concerns. To realize the potential contribution of a REEF to healthy public policy and vice versa, it will be essential for decision makers and their communities to engage in a dialogue that will redefine health expectations in terms of environmental change under various development scenarios.

VIII. Assessment of Case Studies

Athabasca Oil Sands

The Regional Sustainable Development Strategy (RSDS) for the Athabasca Oil Sands Area has been reviewed and assessed in light of this research on REEFs. The RSDS was developed through an open and inclusive process involving all stakeholders and regulatory agencies with an interest. It provides a framework within which decisions can be made on future development – while helping to ensure that values of local residents are respected, the integrity of the ecosystem is maintained and development proposals are approved in an efficient manner. A Cumulative Effects Management Association has evolved out of this study that has advanced the ability to assess the impacts for the numerous projects in the region. The process certainty is also heralded by industry as a key advancement – something that is also attractive to public and NGO stakeholders as well as regulatory agencies. It could be used as a selling point for initiating other REEFs.

Although on the surface the RSDS would appear to be a good start for developing a prototype for REEFs, our research showed that there were some unique factors that drove this study. There was a huge economic incentive to make this study work and plenty of resources to make it happen. The buy-in of groups in the area was essential to enable companies like Suncor to realize the economic benefits. In other geographical areas of Canada, the market economy would be unlikely to mirror this situation, so that getting appropriate parties to the table may be more difficult than was the case of the RSDS. There is also the possibility that getting all parties to the table to develop a REEF will not be possible unless there is adequate economic incentive. This is a reason why governments will likely have to play a significant role in initiating and funding such studies.

The “Management Model” and the “Assessments of Cumulative Impacts” are sections of the RSDS that could provide valuable input for the development of a REEF. The roles of the various government agencies were clearly articulated so there would not be uncertainty in terms of who would eventually be responsible for decisions. Participants in the RSDS who were interviewed as part of this research were generally very positive about the process and content of the RSDS. The view was expressed that more emphasis could have been placed upon clarifying the expectations for stakeholders early in the process. There was also the suggestion that in the future, more thought should be given to the wide range of costs and effort involved in the development and implementation of a REEF. This could avoid the situation with the Athabasca RSDS where the parties had to be approached for additional resources as the exercise evolved.

Despite the positive aspects of this framework study, there was still an inability to effectively accommodate this approach within the existing comprehensive study review process of the Act and the result has been a court challenge. Ideally, a REEF would have to be established with the necessary linkage to the Act and provincial legislation clarified in terms of how the information from the framework could be used. Use of the results of a REEF needs to be facilitated by these Acts to ensure maximum benefits can result from

the process and to avoid the delays and high costs involved in court cases. The proposed revised federal Act (Bill C-19), tabled March 21, 2001, makes specific reference to the use of information from "regional studies." This points to the need for development and national acceptance of a clear definition of a REEF or "regional study" as well as the development of criteria and guidelines to make them work.

Alberta-Pacific Pulp and Paper Mill

This case study describes the EA process related to the proposed bleached kraft pulp mill proposed by Alberta-Pacific Forest Industries Inc. in the County of Athabasca, in Alberta. The Northern Rivers Basin Study resulted from this EA process. This study was ultimately a very good framework for assessing cumulative environmental effects and another good example of a REEF (although it was initiated later in the overall process). A brief analysis of how it evolved provides some useful insight into both the pros and cons of developing a REEF.

The project was to be the largest mill of its type in North America, designed to produce both hardwood pulp (1500 tonnes/day) and softwood pulp (1250 tonnes/day) with a capital cost of $1.3 billion. An Environmental Impact Assessment Review Board (federal-provincial) was held in 1989 with terms of reference to review the environmental impacts of the proposed mill. The Review Board report was issued in March of 1990 with a recommendation that the mill not proceed – pending further study of the technical feasibility of the proposed new technology and further scientific study of the entire river system to determine if there would be "serious hazard to life in the river and for down-stream users." The Review Board felt there were still too many uncertainties regarding the expected cumulative impacts on the river system of effluent discharges from other proposed and existing pulp mills in the region.

Both the Alberta and federal governments had decision-making responsibilities for this project with the Province of Alberta holding responsibility for licensing the construction and operation of the mill. Alberta announced its intention to conduct an independent assessment of the scientific data in the Review Board report and also its intention to cooperate with the federal government on a joint study of the Peace and Athabasca river systems to get a better idea of the baseline environmental conditions. There may not always be agreement on shared regulatory responsibility for activities in a region as was the case in this study. Bringing together various government agencies to develop a REEF may not always be as straight-forward in other locations and situations.

A new scientific and technical review group with both federal and provincial representation was appointed to look into the proposed pulping technology in more detail. A major concern in the river system was the level of chlorinated organics in the effluent, which the mill's technology was aimed at virtually eliminating. Further public meetings were held and the scientific panel eventually agreed that the technology would likely meet and potentially exceed the stated objectives of the government and the company. As a result, the Northern Rivers Basin Study was initiated to look at water quality and fish in the existing river system in the context of potential cumulative effects.

It would clearly have been a more ideal situation had the regional study been initiated before the project EA was undertaken. However, the eventual federal-provincial cooperation and the results of this study were excellent and showed what can be achieved when all of the relevant parties come to the table in good faith. The data and information still provide a useful context for decision making on further development proposed for this region. Early initiation of a REEF can help avoid process and legal difficulties such as those that resulted during the EA of the ALPAC mill project.

IX. Recommendations

With this study, Pollution Probe has examined REEFs by documenting and assessing existing and related information on the subject from broad regulatory and public policy perspectives. This information, taken together with views gathered through the results of consultations with a range of stakeholders, leads us to make some recommendations that should be helpful in clarifying what is meant by a REEF, where they can be helpful, how they could be improved, and their role as a tool in advancing EA and contributing to sustainability in Canada.

Hold a national workshop on REEFs

- A focused discussion on the evolution of REEFs and their potential roles, benefits and challenges, would be timely for all stakeholders and a national workshop would be helpful in expanding awareness, sharing information, discussing issues like the development of guidelines and criteria, pulling in new ideas and building consensus around the potential for REEFs, and how and where they can be applied.

A clear definition for a REEF with guidelines and criteria should be developed

- This definition should be developed through a national collaborative initiative initiated by the federal government, and should help to clarify what a REEF entails and the steps in the process of developing a REEF. The guidelines should be clear while offering the flexibility to address situations that will arise in the different regions of Canada. An indication of where resource implications might arise would also be quite helpful. This could provide the guidance necessary to make certain that important steps and considerations are not overlooked in the process of initiating, funding and developing REEFs. Draft guidelines and criteria could be discussed in the workshop recommended above.

Do a case study

- The Agency should consider supporting a specific case study to look at how a REEF could be developed and might benefit a region of Canada where such a study has not previously been done.

The use of information from REEFs should be encouraged in project-specific assessments

- The federal government should facilitate and encourage the use of the information from a REEF in project-specific assessments subject to the Act, as currently reflected in Bill C-19, although participation should not be made mandatory under the Act. Meanwhile, in the spirit of federal-provincial harmonization, discussions should be held with provincial governments to ensure that they are aware of this initiative and that the results of a REEF would be able to be used in the development of EAs required under provincial legislation.

X. References

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