

Integrated Landscape Management

Moving Forward ***2003-2007***

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Introduction and Overview of Alberta Chamber of Resources Integrated Landscape Management Program

From the beginning, the Alberta Chamber of Resources (ACR) Integrated landscape Management (ILM) program recognized that the existing land use and management systems in Alberta were the root of the land use challenges and risks the Alberta resource industries were facing. Land use, as then practiced, led to a growing number of cumulative effects that resulted in growing conflicts among users and growing restrictions on access to resource. However, in 1999 - 2000, land use had not attracted much political attention and was not seen as a priority. Furthermore the land use system was massive, complex and controlled and managed by the provincial government. Despite this, the ACR saw land use as a fundamental issue that affected all resource industries: too important and risky to ignore. Thus the ACR chose to move ahead with the ILM Program as part of its longer term strategy to improve resource management and integration.

In 2000 resources were committed, a program manager retained and an ACR ILM Business Plan was developed that focused on four key areas

- Communication outreach - developing awareness of the land use challenges and the value of ILM to address them at various scales
- Best practices - encouraging and supporting ILM pilot projects or best practices with members to reduce the footprint in terms of size, duration, and intensity and to improve stewardship relative to business as usual.
- Policy - identifying cross sector barriers to ILM and to influence and initiate work with processes that advance the ILM concepts at different operational, tactical or strategic scales.
- Science – supporting scientific research and understanding into the ecological implications of land use decision making (Dr. Stan Boutin - UofA Industrial Research Chair)
- Initially, a modest 15 percent reduction in footprint relative to business as usual approaches (sectors working in isolation from each other) was set as a modest initial target for the program.

The ACR ILM Program made a practical choice to focus initially on developing ILM best practices pilot initiatives. This was intended to demonstrate industry leadership by acting on what resource-industry partners could control to reduce their footprint without changes to government policies or regulations. Consequently, the energy and forestry companies focused on improvements to their own operational and tactical practices on the land using business motivators that ultimately reduced the footprint in terms of size, duration and intensity while improving stewardship. Over the years numerous operational and tactical initiatives were established that addressed a range of integration issues from access to reclamation, as well as more complex challenges such as caribou and water management. The ILM program also focused on building allies and communicating the challenge and what industry was proactively doing to address it.

A significant milestone for the ACR and the ILM program came when the Alberta government began to take notice of ILM best practices and acknowledged the challenges arising from the province's existing land use system. The key announcement was made by the three ministers of Energy, Sustainable Resource Development and Environment at the ACR's Annual General Meeting in January 2005. The ACR and the

ILM program can take a fair degree of credit for getting this political acknowledgment to occur as well as fostering a willingness to address the issue.

With the political recognition came new or renewed government initiatives that would ultimately evolve the focus of the ILM program. These strategically related programs or initiatives are:

- The Land Use Framework (LUF) – designed to review and update the land uses system in Alberta to better adapt to the current and future challenges
- The government's Integrated Land Management Program – designed to further promote the integration of various land users and extending the practices that were piloted by the ACR ILM program.
- Water For Life (WFL) renewal – although the strategy already existed and the ACR has been engaged, it was becoming increasingly obvious to the ACR ILM and Water committees that water could not be managed in isolation of land or visa versa. The strategies had to become integrated. Further, through the ILM program we found that many of the same challenges experienced dealing with land use were directly transferable to water management, and thus we had an opportunity to positively influence this strategy with this understanding.
- Sustainable Resource & Environmental Management (SREM) - the executive committees of Energy, Environment and Sustainable Resource Development made a commitment to work together and agree on the outcomes, values and principles that will guide their management of natural resources and the environment – i.e., to advance a single government position to resource management rather than three separate department views

With these strategies either focused specifically on ILM or beginning to address the root causes of the land use challenges, the ILM program adapted to take advantage of the opportunities to influence these strategies and policy development. Although the program still supports the development and implementation of operational and tactical best practices, a shift in focus has occurred due to and to take advantage of the above mentioned political and strategic processes.

As the initial phase of the ILM program comes to a conclusion, it is important to reflect and see what was accomplished and what remains to be completed. Over the years the ILM program has achieved many successes. Some highlights include:

- We have proven the initial ILM concept. Coordination and cooperation across sectors can and does save money and time and reduce the industrial footprint. Through higher-profile initiatives like the Stream Crossing and Caribou Landscape Management Association the resource industries have advanced resource access management best practices far beyond what was initially conceived – allowing industries to continue to extract resources while better managing, where they can, our impacts on the habitat of high profile species such as caribou or our effects on fundamental values such as water and watersheds.
- ACR has fostered, developed or assisted with the development of numerous operational and tactical initiatives, many which are still ongoing in which we continue to learn and try new ideas. Eight of the most significant are highlighted in the following ILM Moving Forward Report.

- Best practices and ILM initiatives are realizing footprint reductions of from 25 percent to 60 percent far exceeding the 15 percent target that was originally set out when we started the program. These practices and initiatives represent a step change improvement to resource development and they can be done today and do not necessarily need higher level policy processes like the Land Use Framework (LUF) (although LUF would certainly make them easier to implement).
- Many companies are referencing their involvement and participation in successful ILM initiatives as tangible examples of their commitments to their overall corporate social and environmental responsibility.
- We have increased the financial support for the ILM program from two companies initially to twenty one leading companies and organizations over the past three years.
- We have positively influenced the development of new regulatory policies such as a reforestation standard for energy reclamation in the Green Area that will eventually reduce the duration of the footprint on forested public lands. The ILM program has also supported the development of new tools such as Area Operating Agreements (AOA's) that better position larger energy companies with forest sector planning systems so that integration can occur more readily. The program also continues to tackle many practical and institutional the challenges to ILM implementation.
- Related components to ILM such as land and resource information system improvements and systems level monitoring approaches (e.g., Alberta Biodiversity Monitoring Incorporated) have also been advanced.
- The program has raised the profile of the land use challenge in Alberta encouraging the government to move forward on a number of fronts such as the Land use Framework, Water For Life, and their own ILM Program and the ACR is actively engaged and positively influencing the processes and outcomes. Although the initial, (and we stress initial), draft reports are to be completed by the end of 2007, these public policy processes are really only in their infancy and are far from complete.

The following report "ILM Moving Forward" was written and designed to sum up the lessons, experiences and understanding of ILM to date and to help develop a consensus position for the resource industries as ILM goes forward on the various fronts. The report was designed to consolidate the view of the resource sector ILM practitioners who have been implementing operational and tactical ILM initiatives for the past eight years. There have been many significant successes with the ILM Program but challenges will continue to arise, especially as broader audiences become more actively engaged. Sustained effort is needed by the resource sector to ensure that the ILM vision of sustainable landscapes and sustainable economies is achieved.

Executive Summary

For more than a decade, conflicts among land users have become increasingly common in Alberta, and there have been growing concerns about the cumulative effects of human activities on the landscape and its ecosystems. **Integrated Landscape Management (ILM)** is a systematic approach to resolving those conflicts and addressing those concerns. There is an urgent need to implement ILM rapidly and widely.

ILM is a means to coordinate and direct multiple users and uses on a given landscape so that social and environmental impacts are minimized and benefits are maximized. ILM is an important methodology to facilitate **sustainable development** – meeting today's needs without compromising the ability of future generations to meet their needs.

ILM can be implemented at many scales, with varying scopes, but ideally it should be comprehensive across all the lands that share common characteristics (which is, in fact, one definition of “landscapes”). This paper addresses ILM as it has evolved, and continues to evolve, in the forested **Green Area** of Alberta and the overlapping areas of the petroleum-producing Western Canada Sedimentary Basin.

Although it might have been preferable to have a comprehensive systems approach to land use in place from the start, ILM has evolved in Alberta from the “bottom up.” Since 1999, energy (broadly defined as conventional, un conventional, oilsands, pipelines, seismic and power lines) and forestry companies have reached bilateral agreements to co-ordinate planning and operations (e.g., access and reclamation) so that costs and impacts are less than if each had proceeded in isolation. Subsequently, there have also been multi-stakeholder or “tactical” ILM agreements to address issues such as water and caribou conservation. The **Alberta Chamber of Resources (ARC)**, which represents both energy and forestry sectors, has actively supported and promoted industry-led operational and tactical ILM.

Interviews of practitioners and case studies of existing operational and tactical agreements show the inherent value of ILM, but also reveal a number of hindrances due to the separate policies, regulations and practices that have evolved in energy and forestry – the two largest users of lands in the Green Area. Moreover, the current agreements can deal only with “**how**” development will occur; the broader strategic questions of “**when, where, by whom and how much**” to develop are still not systematically integrated.

In an effort to develop a consensus position for the resource industries as ILM goes forward on the various fronts, this report was designed to bring a consolidated resource sector views of ILM whom have been implementing operational and tactical ILM initiatives for the past eight years. The goal was to **advance the understanding** of ILM and its relation to the Land Use Framework as well as to **improve the implementation** of operational and tactical ILM on the ground.

This report concludes with two principal **recommendations**, both of which should be dealt with by an executive-level group (or two such groups) from government and the resource industries:

- **Clarify the scale and scope of ILM, determine required governance and clarify respective roles and responsibilities— i.e. get everyone on the same page.**

- **Address the obstacles and opportunities of existing ILM approaches as revealed by this report's findings and the case studies – i.e., improve the implementation and acceptance of integration.**

In short, we need to **harmonize the vision** and **remove the obstacles** so the considerable potential of integrated management can be fully realized, as rapidly as possible, on Alberta's landscapes.

These recommendations will require further refinement, direction and priority setting from the other resource industry organizations (CAPP & AFPA) as well as the Alberta Government, primarily through SRD. It is anticipated that this report as well as input from these others will lead to a strategy or workplan to enhance ILM approaches and implementation in Alberta.

1.0 Introduction

1.1 Background

Integrated Landscape Management (ILM) has now been part of the resource management lexicon in Alberta for about eight years. The resource industries consider ILM to make good business sense because it is designed to reduce economic and social costs and environmental footprint. As a result, initiatives developed to improve integration are growing both in practice and acceptance. Innovative industrial partners have led the development of ILM in Alberta. In the absence of strategic policy decisions to integrate land management, ILM has been operationally focused and developed through a variety of operational best practices, pilots, processes, tactics, and approaches.

Although many ILM initiatives are considered successful, some have fallen short of initial expectations. If resource industries want to continue to lead and have influence on the ILM file, especially as government and others become more engaged, there is a need to understand how and why ILM works so that the right fundamentals are entrenched in future ILM initiatives regardless of the proponent. After all it is in the industries' best interest to ensure that ILM continues to make ecological, social and economic sense.

Integrated Landscape Management is simply the systematic integration of multiple uses on a given landscape. The integration can occur at various scales and involve any number of users. A landscape is a geographical area with common features that can be viewed as a whole.

Operational ILM agreements are business arrangements between two partners to reduce the economic and social costs and environmental impacts of their operations. Operational agreements deal with specific projects or practices. Most operational agreements to date have been between energy and forestry companies to co-ordinate access, salvage and/or reclamation; but there have also been agreements between two sectors, such as the partnership of a forest company (later joined by others) and a geophysical association to reduce the width of seismic cutlines on forest lands.

Tactical agreements are those involving a larger number of partners. They may include government agencies and other stakeholders in addition to resource companies, and they typically use an independent third party to lead and facilitate the arrangement. As with operational agreements, the goal is to reduce the economic, social and environmental impacts that would otherwise occur if each entity proceeded in isolation. The province is currently developing a Land Use Framework intended to integrate land management at the *strategic* level. While operational and tactical ILM agreements deal with the "how" of development, strategic management also must determine "where, when, by whom and how much" development will occur. Many of the principles, practices and lessons from industry-led operational and tactical ILM are relevant for this government-led strategic management approach.

1.2 Project Purpose

To review the understanding, design and implementation of ILM at all scales, and make recommendations for improvements.

1.3 Project Objectives

The objectives of this project are to:

- Demonstrate resource industries' role in developing practical ILM solutions;
- Identify key attributes that contribute to the success or failure of ILM, consolidate the findings and what can be learned from them
- Document the evolution of ILM, define it at various scales, and examine its relationship to the government's current resource management system and policy initiatives
- Develop recommendations that can be used by resource industries and/or government to further develop ILM as a practice on the landscape
- Provide a common reference document to assist the resource industries as they participate in the development of the resource management system and relevant public policy

1.4 Scope

The scope of the project is within Alberta's Green Area (forested public lands) and overlapping areas of the Western Canada Sedimentary Basin (crude oil, natural gas and oilsands).

2.0 Project Methodology

The report is based on the following information sources:

- **Literature Review** - Reports, published papers, web pages and documents (see Appendix 1)
- **Case Studies of Significant ILM initiatives** – A summary of case studies (Appendix 2)
- **Interviews** - Key ILM practitioners interviewed (listed in Appendix 3; interview guide/questionnaire in Appendix 4)
- Summary Matrix of Required ILM Characteristics and Challenges (Appendix 5)
- **Authors' experience** (Appendix 6)
- **Associations** – Consultation with the associations on the development of the report (Appendix 7)

2.1 Case Studies

The eight case studies described in Appendix 2 are crucial to understanding ILM as it has actually been implemented in Alberta. Three of the cases are bilateral operational arrangements, while five are multilateral tactical agreements. The cases illustrate the great potential of ILM as well as some limitations. A short description of the case studies follows, but to fully appreciate the scale and scope of the agreements, readers are urged to consult the more detailed analysis in Appendix 2.

Operational:

A. Al-Pac and Gulf Surmont: Company to Company

Coordinated planning and operations reduced the road requirement by 47 per cent and saved the companies more than \$3 million. They are now working together on reclamation and research.

B. Seismic Line Width Reduction: Company to Association

A forest company (later joined by others) worked with the Canadian Association of Geophysical Contractors to greatly reduce forest disturbance due to seismic cutlines.

C. Canfor and Suncor: Company to Company

The two companies are integrating planning and operations in a 650,000-hectare area near Grande Prairie. This integration will reduce duplication, improve stewardship and facilitate regulatory approvals.

Tactical:

D. Consolidation of Industrial Access Control on the Chinchaga Road: Multiple Cross-Sector Companies in One Project

A forest company worked with seven energy companies and two government entities reduce duplication of manned gates intended for wildlife protection. The agreement saved about \$1 million, improved traffic flow and safety, and may have benefited wildlife.

E. Chungo Creek ILM Access Pilot: Multiple Cross-Sector Companies on One Landscape

Three forest companies, six energy companies and two government agencies co-ordinate access planning to reduce by 60 per cent the strategic road access requirements in an area west of Rocky Mountain House.

F. Foothills Model Forest Integrated Stream Crossing Program: Multiple Cross-Sector Companies on One Landscape and Watershed

This agreement includes a forest company, 10 energy companies, a railway, an industry association and three government entities. Coordinated inspection and remediation of water crossings (bridges and culverts) reduces duplication and improves watershed production in the forest around Hinton.

G. Kakwa Copton ILM Initiative: Multiple Cross-Sector Companies on One Landscape

Replicating the Chungo process (item E, above) in a different region, a forest company, 12 energy companies, a consultant and a government ministry co-ordinate access planning and reclamation.

H. Caribou Landscape Management Association (CLMA): Multiple Cross-Sector Companies on One Landscape with High Wildlife Value

The association brings together four forestry companies, seven energy companies, one First Nation and three government entities to co-ordinate caribou protection measures in the foothills area north of Hinton.

3.0 The Evolution of ILM

The need for integrated management of multiple land uses and users has been recognized in Alberta for many years. Alberta has responded in a variety of ways that were adequate for the time and the circumstances. However, today's environment is exceptionally demanding; current management systems are not sufficient, and simple solutions are no longer evident.

A retrospective look at the evolution of integrated management provides some useful insights into the circumstances and management responses and can be valuable in charting a new course. The following is a short history of the evolution of integrated management and the emergence of ILM.

3.1 The Roots of Integration -- Multiple Use

The principle of multiple use of public lands in Alberta dates back to the 19th century when the federal government set aside forest reserves in the foothills mainly to protect watersheds. While watershed protection remained a major goal, the government always permitted a variety of other uses such as coal mining, timber harvesting, petroleum exploration and production, trapping, hunting, fishing and recreational development. These policies continued under provincial jurisdiction after the Natural Resources Transfer Act of 1930.

The idea of integrating the multiple uses of provincial Crown lands arose in Alberta in the early 1970s when it was recognized that the land resource was not unlimited. In 1973, the Environmental Conservation Authority convened hearings about land use and resource development in the Eastern Slopes of the Rocky Mountains. The resulting 232 recommendations stressed the need for an integrated resource policy and integrated land-use planning for the entire Eastern Slopes. The initial responses from the Alberta government included the formation of the Eastern Slopes Interdepartmental Planning Committee in 1975 and development of *A Policy for Resource Management of the Eastern Slopes* (the "Eastern Slopes Policy") in 1977. The Eastern Slopes Policy formalized an integrated resource-planning program as the primary means of implementing the resource management policies of the Government of Alberta for the Eastern Slopes region. This program evolved in subsequent years to cover most public lands the province.

During this period, integration typically took the form of physical separation of land uses and values. At the time there was enough land for everyone, and regulators allocated resources accordingly. As an example, the Eastern Slopes Policy established a zoning system that ranged from prime protection to intensive development, yet the policy required no co-ordination of road access into zones available for development.

During an era when the pace of resource development in the Green Area was for the most part manageable, two separate tenure and regulatory systems for energy and forestry continued to evolve. The processes focused on operational practices to mitigate or compensate for impacts on other uses and values.

From the mid-1980s to the early -1990s, during the prolonged slump in the energy sector, the Alberta government actively pursued economic diversification through expansion of the forest industry, and allocated timber rights on almost all the commercially productive forests in the Green Area. However, conflicts and challenges began to surface as the energy industry recovered and began to accelerate development in the late 1990s. The circumstances soon demanded a more thorough and rigorous approach to land management.

Phase 1 – The Genesis of ILM: Recognizing the Challenge

By the late 1990s, it was recognized that the land-use and resource-allocation system in Alberta was not keeping pace with changing societal values and emerging resource management challenges. The extent, duration and intensity of cumulative effects on ecosystems began to become major concerns.

The management system, most of which is still in place, was designed to maximize the allocation of resources by sector on the same land base. This often results in multiple tenure holders from the energy and forest sectors, and others, sharing the same land base. The management system is based on the assumption that proponents can manage and mitigate the impacts of their activities on other values and rights, although in reality this is not always possible. As a result, conflicts among users' rights and values are increasing, and this is beginning to negatively affect the resource industries' ability to do business and to contribute to the province's economic and social wellbeing.

Integration between sectors was first pioneered in the 1960s by Des Crossley, chief forester for North Western Pulp & Power in Hinton, and Reg Loomis, Alberta's superintendent of forest management. These individuals agreed to a consent mechanism to ensure energy and forestry companies met to discuss their activities with the objective of potentially co-coordinating activities and reducing impacts on the forest land base. This process was at a disposition-by-disposition level and remained virtually unchanged to the 1990s.

Crossley's lobbying also resulted in a system of timber damage assessment to compensate forest companies for loss of fibre supply due to other companies' activities. Thus "consult-and-pay" became the standard practice, but there was little real co-ordination or joint planning between industries.

Early leadership

Shortly after Alberta Pacific Forest Industries Ltd (Al-Pac) was awarded a large Forest Management Agreement (FMA) in northeastern Alberta in 1991, it became clear that Al-Pac was not the only industrial player on the landscape. As research, mapping and analysis quantified the impacts of other land uses, results showed that existing and future development of other land uses (primarily the energy sector) would negatively affect Al-Pac's long-term sustainable fibre supply and its ability to grow and manage the forest, a business prerequisite. The emergence of the oilsands industry on the same land base put the value of Al-Pac's tenure and capital investment into question. The cumulative effects of forestry and energy development and related infrastructure also cast doubt on Al-Pac's ecological commitments.

The company realized that this was a complex challenge and it could not resolve the issue on its own. The challenge was systemic and beyond the scope of just the forest industry sector. As a result, AI-Pac decided to build broader awareness of the issue while it pioneered initial work on operational practices and approaches with energy companies in the region. The initial work by AI-Pac and Gulf Canada (now ConocoPhillips Canada) was instrumental in demonstrating the business case for operational ILM.

Phase 2 -- Developing Industry Leadership and Broadening Support

One of the ways to broaden support and communicate the challenge was through the Alberta Chamber of Resources (ACR). AI-Pac, ConocoPhillips and a few other energy companies brought their experience to the ACR and partnered to establish the Integrated Landscape Management program with a vision to “sustain Alberta’s landscapes through careful integration of activities.”

In 1999 the ACR board of directors made a decision to act as the resource industries’ lead in establishing and pioneering ILM as a core program. Land and resource access and stewardship issues affected all ACR members, and ILM was consistent with the ACR’s mission of developing cross-sectoral approaches to challenges. ILM formally became an ACR program in 2001, and resources were allocated to ensure the concept would move ahead. The term ILM was also a deliberate choice by the ACR as it did not want this systematic integration to be confused with previous models that were primarily consultative.

From the beginning, the ILM program recognized that tackling the existing land use and management system in Alberta was a massive and complex issue. At the time, land use had not attracted much political attention and was not seen as a priority. The ACR was committed to raising the profile of the issue but also wanted to demonstrate leadership by acting on what resource-industry partners could control without government intervention. Consequently, the energy and forestry companies focused on improvements to their own operational and tactical practices. In doing so they would raise the profile of the larger systems challenge as well as demonstrate their own commitment to addressing the challenges by improving the aspects of land use they controlled. The focus on operations was a practical choice, not a limitation of the ILM model.

A series of operational and tactical ILM “best practices” initiatives were undertaken, motivated by the new awareness that isolated stewardship efforts on a defined land base often result in conflicts with other land users and negative impacts on them. Cumulative effects cannot be effectively identified nor addressed on a company- or sector-specific basis. Working co-operatively across companies and sectors to plan, operate and reclaim resource developments better addresses the cumulative effects -- improving ecological outcomes, economic efficiencies and social acceptance.

The focus of these initiatives was to reduce the duration and intensity of the industrial footprint. In essence it involved the "how" of integrating activities and practices, primarily

using business motivators applicable to the energy and forestry sectors. The energy and forestry sectors were targeted because they are the largest public land users in Alberta, and they faced the biggest challenges. They were also both represented in the Alberta Chamber of Resources, which offered a forum to develop co-operative business approaches.

Members and staff of both the Canadian Association of Petroleum Producers (CAPP) and the Alberta Forest Products Association (AFPA) were engaged at the start of ACR ILM program and continue to be. Both Associations have further elevated their engagement in ILM through related programs and activities designed to promote co-operation, develop “best practices,” overcome barriers and address integration at strategic levels.

The land-use systems challenge was not unique to Alberta, but the intensity of development here and the separation of surface tenures from subsurface mineral rights made Alberta a focal point. Nationally there was growing interest as well. In early 2002 a group of resource companies, conservation groups, provincial and federal government departments formed a coalition to further profile the land-use systems challenge.

In its May 2005 report, the coalition described ILM as a concept and philosophy that is system-based and manifests itself at different levels or scales from strategic to operational decision making. The coalition report has become the basis for defining the ILM model at the various scales.

Phase 3 -- Government-Led ILM and Land Use Framework

Government Engagement

As the 21st century dawned, land-use pressures increased, and cumulative-effects issues started to come to the forefront. Attempts to address the emerging pressures and issues within government and the resource industries were uncoordinated, with discussion generally confined to the specific department or sector.

One example was the Northern East Slopes Sustainable Resource and Environmental Management Strategy. This initiative, led by Alberta Environment from 1999 through 2003, discussed the relevant issues and proposed many solutions, but lacked broad government support for implementation. The business plans of Alberta Environment and other departments also began to profile the challenge of cumulative effects from intensifying land use, but again these efforts were uncoordinated across relevant departments.

Responding to widespread concern about water supplies, the government developed the Water for Life strategy through extensive consultations and policy development between 2002 and 2004. While this continued the priority for watershed management that has been a feature of Alberta land policy since the 19th century, it did not address the many other issues surrounding land management. Water for Life is currently under review.

By the middle of the decade, strategic land-management issues finally received the political attention they deserved. Senior levels of the provincial government started to pay more attention to the challenges. Land use made its way into the Government of Alberta's business plan, and cross-ministry initiatives began to emerge.

The first real signal of change came with the establishment of government's Sustainable Resource and Environmental Management (SREM) group. In September 2005, the executive committees of the three lead resource management departments -- Energy, Environment and Sustainable Resource Development -- made a commitment to work together and agree on the outcomes, values and principles that will guide their management of natural resources and the environment.

For the first time an organizational adjustment was made to co-ordinate policy across the three departments with the greatest responsibility for management of Crown lands in Alberta. Finally, resources were committed to advance a "government position" and "policy integration" related to resource development and environmental management.

Land Use Framework

In late 2005 the Alberta government publicly acknowledged the challenges of cumulative effects and the other land-use management systems issues. The government also recognized that part of the solution could be found in the ILM best-practice initiatives led by resource industries. Although recognizing the connection among the initiatives, the government chose to address them separately.

The larger land-use systems issues are being addressed under the Land Use Framework (LUF) that was first identified in the 2005 Alberta Government Throne Speech. LUF is a political process that is still evolving in scope but may encompass reviewing the entire approach to land use. It may involve processes and systems to set a landscape vision that:

- Aligns ongoing planning processes and guides new planning processes,
- Identifies economic, social and ecological values at appropriate scales,
- Undertakes ongoing land use planning processes at appropriate scales,
- Makes critical land use decisions regarding priority uses and consider best available science regarding targets, measures or trade – offs,
- Provides a mechanism for resolving disputes among those with rights on the land base,
- Monitors and evaluates the achievement of outcomes to assess the plan effectiveness and overall performance, and
- Adjusts and improves the plan based to better achieve desired outcomes.

In essence the LUF may address the difficult "who, what, where, when and whether-to-develop" resource questions of land use in Alberta and the supporting governance, policy co-ordination and information needs of such a process. The LUF could be a significant, complex and lengthy undertaking depending on how the government chooses to frame it. However, presuming that it is scoped comprehensively, it would begin to address the root causes of the land-use challenges experienced today by resource industries, society and government.

The LUF has gone through a variety of consultation and input-gathering stages. The Red Deer workshop in December 2006 and subsequent report represent the most comprehensive compilation of what stakeholders believe should be considered in the LUF. Plans for 2007 include more consultation and the tabling of a draft framework to cabinet near the end of the year outlining the proposed Land Use Framework

Alberta Government ILM Program

In July 2005 the Alberta government ratified the Integrated Land Management Charter as the guide for how the government would develop its version of ILM. The program was a medium-term strategy in the government's business plan "*Today's Opportunities Tomorrow's Promise*." The charter outlined:

- the relationship of ILM to other strategic policies (e.g., Land Use Framework and Water for Life Strategy),
- the role of ILM as a significant implementation mechanism for LUF, and
- the process to develop ILM principles, protocols, incentives, governance and stewardship criteria as deliverables.

The government-led ILM program is actively developing broad ILM principles, protocols, incentives, stewardship, governance and measures. An overview of the majority of the ILM components occurred at a January 2007 workshop, but the development and refinement of outstanding deliverables was continuing at the time this report was completed.

4.0 Report Findings

The following section presents a synthesis of research summarized in the appendices. First we will analyze the resource industries' understanding of ILM, and then its relationship with the emerging government programs.

4.1 Understanding ILM

At present, resource industries and government do not view ILM in the same way. It is clear that the intent and interests are roughly the same, and both are prepared to answer the same questions, but the approaches and scales are not yet fully aligned and this is leading to confusion. Although work continues toward finding full alignment, at the time of this report there remain outstanding challenges.

4.11 -- Industry-Led ILM

Integrated Landscape Management was initially conceived as a systems approach to land use and resource management that would assist society in moving toward a more sustainable approach to land use. As shown in Figure 1, the national coalition's ILM paper provides the basis for this description:

ILM is a systems-based approach to land and resource management (plan, do, check, adjust) that addresses economic, social and ecological needs over appropriate temporal and spatial scales.

This approach recognizes that the land has limits. Economic, social and environmental values ebb and flow and occasionally get traded off, based on societal demands. The approach also recognizes that land and water management should be integrated and that land-use planning (trade-offs, limits, integration, etc.) ought to precede any development.

Sustainability

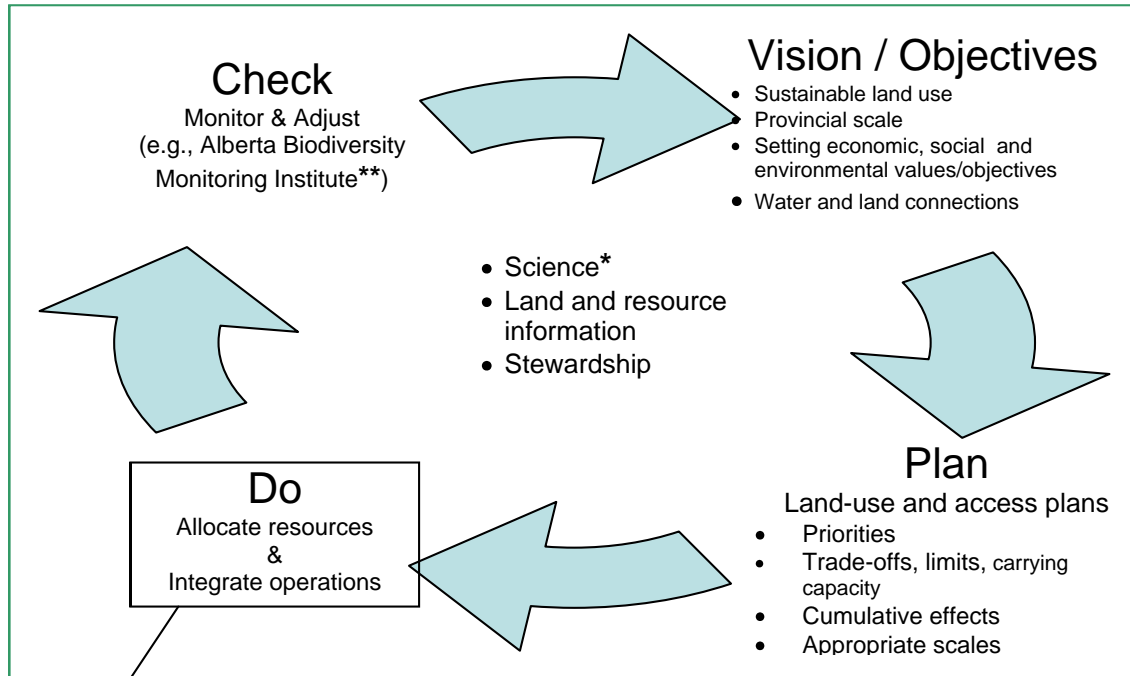
- The pursuit of economic goals alone does not ensure the sustainability of either the economy or the ecosystems. There are limits to the resources and benefits that the land can provide. Exceeding these limits will damage the land's ability to sustain itself and the processes that have shaped its ecosystems over thousand of years. The concept of sustainability allows for production, allocation, and distribution of goods and services from the land, among competing interests, for the satisfaction of human needs while not exceeding ecological limits. This is characterized as the "carrying capacity" of the land – similar to the annual allowable cut (AAC) calculation for a forest, which is based on its regenerative capacity.

Adaptive management

- An adaptive-management approach to ecological management will lessen the risk of loss exceeding the carrying capacity of the land. As shown in figure 1, resource managers use the best applicable scientific information and

recognize that the quality and quantity of information can always be improved. Routine monitoring of all activities carried out on the Green Area land will allow us to understand and quantify changes that occur over time as a result of human and natural disturbance.

Figure 1: Systems Approach to Integrated Landscape Management



- Industry entry point into ILM – was at the integration of operations scale

Systems approach

- Figure 1 shows the systems approach used in industry-led operational and tactical ILM. From the resource industries' perspective the entry point into the ILM systems approach has been focused on the “do” component at tactical and operational levels for the reasons explained earlier. However ILM was never conceived as being restricted to that scale.

* A related point: The University of Alberta ILM Industrial Research Chair initially focused research on the “do” entry point as well as the improvements operational ILM might provide. Today the research is more focused on other components of the ILM system such as planning tools and monitoring.

** The Alberta Biodiversity Monitoring Institute (ABMI) is also highlighted in the “check” or monitoring component of the ILM systems model as it represents a systems approach to monitoring.

Scale and scope

- Critical to understanding ILM as it was originally conceived by the resource industries is that it is *scale- and scope-dependant*. This attribute reflects the

principle that the land base from which all resource values (economic, social, and ecological) are derived is finite. ILM manifests itself differently in terms of what it addresses at various scales (strategic, tactical, operational). At strategic scales, the focus of ILM is on the values and priorities of sustainable land management while at operational and tactical scales the focus is on optimizing land uses – of which footprint reduction is an outcome. The roles and responsibilities of resource industries and government change with the scale being addressed.

Figure 2 –Scope and scale

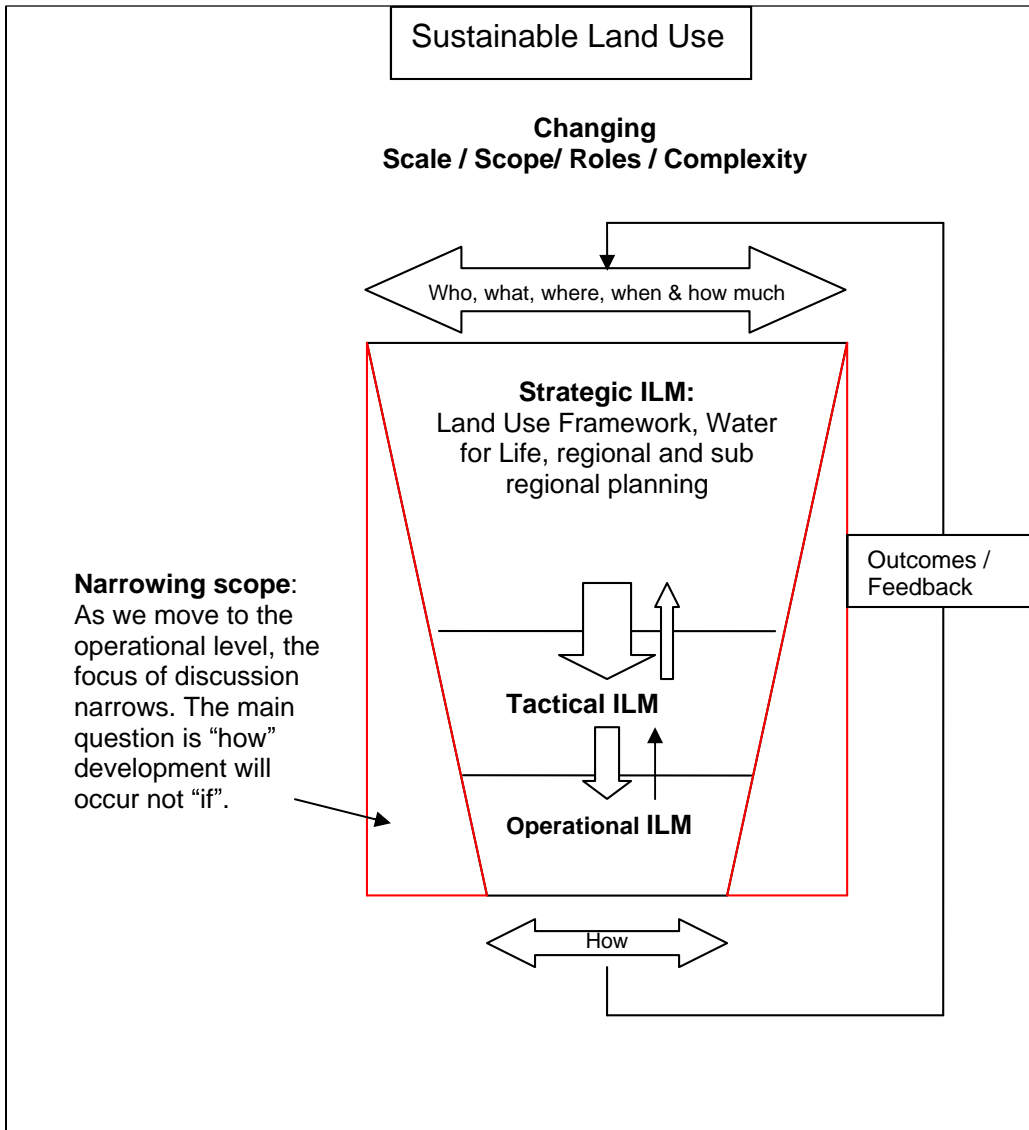


Figure 2 shows how the scope, scale, roles and complexity change as ILM moves from strategic levels of engagement to operational. At higher levels, policy decisions – who, what, where, when and how much -- are made through strategic processes like the Land Use Framework and Water for Life. These policy decisions and directions should flow from strategic to operational, i.e., from

broad to specific. Meanwhile, on-the-ground outcomes of operational or tactical integration provide essential feedback to determine if policy outcomes and objectives are being met. Figure 2 also shows that high-level policy direction significantly improves efficiency and reduces the costs of management. Without high-level policy direction in place, there is a tendency to try to reconcile higher-level policy issues at operational scales, which is unproductive, frustrating and extremely costly but continues to this day. Clear direction is needed when objectives such as forestry, energy development and protection of wildlife and watersheds are all imposed on multiple users of a given landscape.

4.12 – Industry-Led ILM Scales: Strategic, Tactical to Operational

ILM at Strategic scales (better understood as Land Use Framework)

The objectives of the Land Use Framework and of ILM at strategic levels are virtually aligned. Both have the same goals or attributes as demonstrated in the table below. In essence both strive to update the land-use approaches in Alberta so that the land and the resource values derived from the land are managed to achieve a defined sustainable vision or outcome.

Table 1 – Comparing Strategic ILM and the Land Use Framework

Goal / Attribute	ILM at Strategic scales*	LUF**
Systems-based approach	Yes	Yes
Scale	Yes - Landscape level	Yes – Provincial / Regional
Government-led	Yes	Yes
Values identification	Yes	Yes
Ongoing planning	Yes – precedes resource allocation	Under consideration
Manage cumulative effects	Yes	Yes
Requires high-quality land and resource information	Yes	Yes
Vertical and horizontal policy integration	Yes	Yes
Recognizes limits, thresholds, trade-offs and compatible uses	Yes	Yes
Integrates water and land management	Yes	Yes

- * National ILM Coalition definition
- ** Report of the December 2006 LUF Red Deer Workshop

Given that LUF is the more broadly accepted term for strategic levels of land use decision making, this report and the industry ILM program will adopt the LUF term when referring to strategic components of land use discussions.

Tactical and Operational ILM

The ILM case studies in Appendix 2 clearly reveal the differences in complexity of ILM best practices at operational and tactical scales, as well as the changing roles and responsibilities of those involved. These were broken down into the two main categories, as described previously in Figure 2, mainly on the basis of number of participants and the actions or issues being managed. Operational agreements are bilateral, while tactical arrangements are multi-partite.

Tactical ILM: Tactical integration typically involves three or more resource companies and may include government agencies, other land users and interested parties. The parties agree to develop coordinated operational plans to achieve ecological footprint reduction relative to what would have occurred if they proceeded in isolation. These plans include detailed forest management plans that incorporate the designing of future states to meet other forest values and objectives (e.g., caribou). The responsibility for this level of integration depends on the goals and objectives jointly defined by government and resource industries. Attributes of a successful tactical ILM are that it:

- Requires both government and resource industries' involvement
- Requires business motivators and/or government regulation
- Assumes that development of allocated rights will occur, with a focus on "how" this will be done
- Requires timely government approvals at site and landscape scales
- Requires more sophisticated governance and data-sharing processes
- Requires a clear understanding of resource rights and responsibilities
- Requires clear objectives and understanding of respective roles

Operational ILM: This is relatively simple co-operation to improve practices between two partners, who are typically individual resource companies – or, in the case of the narrow seismic program, between two industry sectors. They co-ordinate planning and share the costs of operational aspects such as road development and reclamation in an effort to reduce the footprint that would occur if both proceeded in isolation. Operational integration generally works well when both partners recognize the business advantages. Attributes of a successful operational ILM are that it:

- Is led by industry and business driven
- Requires a business relationship and business motivators
- Has "buy-in" at senior levels of company management
- Generally does not require government approvals (although it does facilitate quicker approvals when an integrated application is made)
- Requires clear objectives and understanding of respective roles
- Has a clear set of measurable objectives for the project or practice

4.13 -- Different Approaches and Terminology of Industry-Led ILM and Government-Led ILM

- The original intent of ILM was to promote a systems approach to land use that enabled integration at all scales. The government has chosen to separate the components. The operational-tactical component of integration is in the Integrated Land Management program, while the strategic component is in the Land Use Framework and related strategies such as Water for Life.
- The resource industries chose to pilot new cross-sector initiatives at operational scales because companies had control over decision-making and could act quickly. The government's approach to ILM has been to develop a broad set of ILM directions, through a public-engagement process. The latter process has resulted in an expansive set of guidelines that are not currently related to scale or type of project.
- The government's ILM program chose to drop the suffix "-scape" from the "Land," which meant both the existing industry-led and government-led programs had the same ILM acronym. This, combined with a different development approach, has added to the some confusion regarding the scope and purpose of Integrated **Land** Management and Integrated **Landscape** Management, and their relationship with the Land Use Framework.

4.14 -- The Relationship of Industry- and Government-Led ILM Programs to the Land Use Framework

- The government's ILM Charter identifies the relationship between ILM and the Land Use Framework as "ILM being the main implementation arm of LUF." However, this phrase has been left open to interpretation and has not been validated through a consultative process to date. Thus there are varying views within government and resource industries as to the actual relationship of the government-led ILM program to LUF and other strategic initiatives.
- From an industry perspective, ILM is the general management approach or philosophy. LUF (along with Water for Life) is the application of ILM at the strategic policy scale and should be led by government. At the tactical or operational scale, coordinating the footprint allows for the optimization of resource uses on any given piece of land before the footprint begins to adversely affect other ecological or social values. It is the ability of operational and tactical ILM to concentrate or minimize the footprint that allows society to optimize resource management options before actual value trade-offs are needed or capacity limits or thresholds are reached. In other words, footprint targets or measures would more quickly be reached or exceeded if all users continued to proceed in isolation, as is encouraged under current regulatory processes. It is expected that a new emphasis on optimizing land use and minimizing footprint will emerge as a policy output of the Land Use Framework.

4.2 Outstanding Challenges Surrounding the Government-Led ILM Program

Given the fact that different approaches and terminologies are being used, it is not surprising that some uncertainties remain related to the government ILM program. These uncertainties include:

- Although the government program is developing or proposing a range of principles, decision-making protocols, incentives, performance measures, governance and stewardship guidelines, it is not clear how, when and by whom these outputs will be used. A key role for government in ILM should be the development of tools for implementation and clarification of sector-based regulations that work at cross purposes to ILM; to date not much of this supportive work has occurred.
- The ILM Charter and program to date have not defined the government's role in ILM. Does government merely encourage others to implement, lead and regulate? At what scale, if any, does government get involved? It could be said that requirements to consult with other land users already exist within most existing regulatory tools (Area Operating Agreements, Environmental Field Reports, and Annual Operating Plans etc.) but none really outlines the objective of the consultation or the rules of engagement.
- At tactical scales, the government's role depends on the objective of the ILM initiative. However, this role has not been clearly defined. How will government participate in and approve tactical ILM agreements?

4.3 Outstanding Challenges Surrounding the Industry-Led ILM Program

ILM represents a major shift from a sector-based resource management approach to one that recognizes the broader collective of users and their concerns. Industry-led operational and tactical ILM has been achieved to date within the existing regulatory framework, even though the regulations were not designed to facilitate integration. It is not surprising that there are some challenges surrounding the industry-led ILM program. These include:

- The role of the forest industry as the land manager on behalf of the Crown is being questioned. The "occupant" status of FMA holders gives them a consent mechanism that can be used to encourage integration. Ironically, this same mechanism can discourage integration if used improperly.
- License of Occupation (LOC) ownership can become a challenge under tactical ILM initiatives when roads originally contributing to a strategic approach to access are restricted for one reason or another by the road owner to other resource industry users. Such restrictions defeat the purpose of the coordinated access approach objectives promoted by tactical integration. Related to this, if road user fees are set by companies to return a profit, these fees can discourage integration and become a perverse incentive to build more road than necessary.
- Engaging in a tactical integration exercise with other land and resource users (other than energy and forestry) has potential. Some land users have unrealistic expectations about their rights and obligations, creating uncertainty for resource industries. For example, resource companies are generally willing to work with trail users to address their interests in accessing and using public lands but do not accept that these other users should have

veto rights. Clarification of rights and obligations would be a useful undertaking.

- Most disagreements between resource rights holders can be resolved by negotiation, but occasionally an arbitration process is needed. The current option for arbitration through the Energy and Utilities Board (EUB) is time-consuming and disproportionately penalizes the energy sector. More timely arbitration options are needed to resolve competing interests in a balanced way.
- Voluntary involvement in tactical ILM has limitations. It tends to attract industry leaders that support new and innovative approaches and typically bear the financial and political cost of advancing new ideas. This responsibility should be more broadly distributed once a tactical ILM agreement has been sanctioned by the majority of operators in the region and by the government.
- The government is signaling that it prefers and requires integrated approaches to development, but it is having difficulty in approving tactical integration plans in spite of substantial investment of industry and government time and effort. There is a need to develop timely decision-making systems and move beyond the disposition by disposition approach.

4.4 Other Findings from ILM Expert Interviews

The following is a summary of additional comments from the ILM practitioners interviewed:

- Accurate land and resource information is critical to successful integration initiatives. Standards for data as well as third-party licensing agreements make it challenging to share and integrate data. In some cases licensing prohibits sharing.
- It would have been preferable if the Land Use Framework had been in place to provide strategic direction for operational and tactical ILM pilot projects. However, the ILM pilots have demonstrated step-change improvements in reducing the footprint of industrial operations – thus they should continue.
- The capacity of resource industries and government to undertake the more complex tactical ILM initiatives is limited. There must be a process for selecting and ranking candidate tactical ILM projects. These projects cannot be undertaken everywhere at once, and footprint reduction may not necessarily be a priority everywhere (e.g. the mineable oil sands area).

5.0 Recommendations

This report concludes with two principal recommendations, both of which should be dealt with by an executive-level group (or two such groups) from government and resource industries:

- **Clarify the scale and scope of ILM, determine required governance and clarify respective roles and responsibilities— i.e. get everyone on the same page.**
- **Address the obstacles and opportunities of existing ILM approaches as revealed by the case studies – i.e., improve the implementation and acceptance of integration.**

These recommendations will likely require further refinement, direction and priority setting from the other resource industry organizations (CAPP & AFPA) as well as the Alberta Government, primarily through SRD that have a clear stake and perspective in operational and tactical ILM. It is anticipated that this report as well as input from these others will lead to a strategy or work plan to enhance ILM approaches and implementation in Alberta.

5.1 Harmonize the ILM Vision

One of the key findings of this report is that resource industries and government do not share a common understanding of ILM and its relation to the Land Use Framework and other strategies such as Water for Life. In order to maintain confidence in and commitment to ILM, there is a need to achieve a shared view across resource industries, government departments and the public.

It is recommended that an executive-level group of industry and government representatives be struck to clarify the scale and scope of ILM, determine required governance and clarify respective roles and responsibilities. The terms of reference for this work should consider this report’s findings and the key clarifications needed to advance ILM at the various scales:

a. Relationships - A clear understanding is required of the relationship between operational and tactical ILM and strategic ILM policy such as the Land Use Framework and Water for Life. Operational and tactical ILM take their strategic direction from LUF or WFL (once it’s developed) but that operational and tactical ILM are a tool to deliver on integration and reduced footprint objectives.

b. Scale and scope dependence - The progressive scale, scope and complexity of operational and tactical ILM needs to be captured in a mutually agreed definition of ILM. As an example, LUF is the more broadly accepted term for strategic levels of land use decision making, thus industry should adopt the LUF term when referring to strategic components of land use discussions. Additionally this report used the terms “operational” and “tactical” to differentiate the differences in scales, difficulty, objectives and levels of involvement that might be considered. Additionally clarification is also required on how the government plans to bring into the scale and scope alignment the “principles, protocols, incentives, stewardship and measures” developed through their ILM process.

c. Governance and leadership - The report findings show that the roles and responsibilities of the government, the resource industries and the public change depending on the scale or scope of ILM being considered or addressed. The findings also demonstrate that making sure these roles and responsibilities are understood is critical to ensuring success of ILM initiatives.

Scope	Scale	Lead	Example
Strategic	Provincial/regional, landscape, watershed or basin	Government	Land Use Framework, Water for Life
Tactical	Landscape	Government / industry / public	Caribou Landscape Management Agreement
Operational	Project or practice	Resource industries	Access co-ordination, or narrow seismic

At strategic scales such as the Land Use Framework and Water for Life, the government must have the lead role. This is due to its ultimate authority to set policy related to land and resource use and its role as owner and primary steward of public lands and resources. It is the responsibility of resource industries to maintain an appropriate level of engagement in this evolving process.

At tactical scales, there is a need for joint leadership between resource industries and government. In general, tactical initiatives that have third-party management tend to be more productive because they have a champion to lead the efforts of participants, track implementation progress and provide third-party confidentiality.

At operational scales of ILM, resource industries should lead. After eight years of development, the business value has been quantified, but ILM is still not a standard business practice. The government might consider making operational ILM a requirement, while maintaining the business advantages of doing so.

Given the cross-sectoral nature of ILM and its direct relationship to the Land Use Framework, which is coordinated under the Sustainable Resource and Environmental Management (SREM) group, it is not clear why the Sustainable Resource Development ministry has the sole lead on ILM. Housing the government ILM program under SREM might be more functional and successful.

d. Roles, Responsibilities and Rights

When engaging in cross-sectoral discussion at any level, it is inevitable that rights and responsibilities of permits or tenures held by resource industries or other stakeholders will come into question. It is prudent to have these clarified. While a review of tenure rights and responsibilities may alleviate some conflict, it will not address all challenges. However, it would ensure that participants engaging in ILM discussions have an informed perspective of the expectations, rights and obligations afforded under the tenures they hold.

The roles of government, resource industries and other participants should also be clarified with regard to what responsibilities and obligations they should have at the various scales of ILM initiatives.

5.2 Remove Obstacles and Enhance Opportunities

ILM would be more effective and consistently applied with the Land Use Framework in place. However, the LUF and other strategic public policy, such as Water for Life, are political processes that will take considerable time. Even if the LUF is completed by the end of 2007, it will likely only describe what should be done to move toward a better approach to land use. The required systems, structures or processes will not be operational for some time. The LUF will have limited ability to help guide ILM processes for the foreseeable future.

However, the case studies also make it clear that operational and tactical ILM initiatives can make step-change improvements to industrial land use over existing approaches. As a result, we are faced with promoting these step changes through operational and tactical ILM initiatives in absence of strategic direction from the LUF. As difficult as this may be, it is the right way to proceed. This leaves resource industries and government with the challenge of adapting existing resource development approaches and policies towards an arrangement that promotes and achieves high levels of integration. Although perhaps not an ideal situation, it is the current reality and the following section outlines some required changes to enhance ILM implementation and success.

It is recommended that an executive-level group of resource-industry and government representatives be struck to address the obstacles and opportunities of existing ILM approaches as revealed by the case studies. The terms of reference for this work should consider this report's findings regarding the operational and tactical challenges that have been experienced to date and need to be resolved:

a. Consent and License of Occupation (LOC) Ownership

Despite the existence of operational and tactical ILM for several years, there remain some fundamental challenges to integration across sectors. These stem from historic business practices and processes that are no longer adequate. These issues negatively affect the business relationships and trust needed for ILM to proceed. Addressing consent issues and LOC ownership will improve integration at operational and tactical scales.

Perhaps not surprisingly, the mechanism that is being used to trigger or initiate cross-sectoral discussions is the same mechanism that can also be a barrier. As the original 1963 correspondence between Loomis and Crossley showed, FMA consent was initially designed to ensure notification of other use to facilitate a discussion towards integration. The issue of forest companies using consent for other purposes (e.g., access control, Timber Damage Assessment bill collection, etc.) must be addressed. In addition to the implications of one sector having "control" over another, the consent requirement also erodes the level of trust that is fundamental to ILM in general.

LOC road ownership has become a potential issue for tactical ILM initiatives where long-term access corridors are coordinated and shared by all users. Under these approaches, LOC ownership can become a barrier especially if a company reneges on the commitment and understanding that other companies will be using the road corridor for access. Companies contemplating ILM to achieve business objectives must understand the implications of working as a collective and the implications it has on aspects of the business where there traditionally was control. Ownership of LOCs should not be used to control activities and development or collect revenue. Joint or third-party ownership should be evaluated although it is recognized that a legal entity needs to own the liability.

b. Timely Dispute-Resolution Process

A timely and more equitable arbitration process is required to resolve disputes between sectors and companies. Although most disagreements between resource rights holders can be resolved by negotiation, occasionally an arbitration process will be needed. The current option for arbitration through the Energy and Utilities Board (EUB) disadvantages the energy industry because it is so time-consuming, yet it incurs no costs on the forest sector. More timely arbitration options that recognize Sustainable Resource Development's role as land manager are needed to resolve competing interests in a balanced way.

c. How, When and What Is the Starting Point of ILM Approaches

How - Voluntary engagement of tactical integration (multi-company and multi-sector) has been the preferred route by resource industries to engage in ILM initiatives. Although this has been successful to date, voluntary approaches have limitations. Ultimately for tactical integration plans to work, all land users (especially the industrial players) need to be at the table, engaged and carrying their share of the weight to get the integration done and maintained. Additional compliance mechanisms need to be developed to further encourage the full engagement of the all resource sector users in jointly sanctioned tactical ILM processes.

When - Tactical ILM projects are labour-intensive initiatives that need appropriate resources and commitments by all parties involved. The engagement capacity of the resource industries, government and the public are limited. Thus it is important that future tactical ILM initiatives should be prioritized and implemented within the capacity of the participants. A process should be established between resource industries and government to determine when it is appropriate to initiate tactical ILM initiatives.

Starting Point – Government staff and other participants involved in tactical and operational ILM must recognize that development will continue to occur as companies exercise their resource rights that have already been allocated. Operational and tactical ILM will be focused on “how” development will occur, with some latitude on when and where to address broader resource values. Tactical and operational ILM initiatives should not revisit the merits of previous or existing land-use decisions such as the resource rights allocation and tenure –

that is the purview of the Land Use Framework. This point is important enough that it should be explicit in the terms of reference for any new ILM initiative.

d. Approvals and Regulatory Tools

As stated previously, it will be necessary to evolve existing sector-based regulations and regulatory approaches towards ones that encourage integration. The focus should be on timely approvals of tactical ILM plans at landscape scales rather than disposition by disposition. Tactical landscape initiatives represent an array of best options for access, impact reduction, reclamation research etc. based on regional values or conditions. With roads, for example, each segment of road is reliant on other sections to form a system of access. However, existing LOC approval processes tend to approve applications on a “one-off” basis and may allow the regulator to pick and choose which pieces of access they like and not approve others. Also, mitigation or reclamation strategies may be inappropriate or at the wrong scale. This negates the potential advantages of operational landscape plans to both the operators and to the regulators.

The second area that requires advancement is the evolution of regulatory tools that help enable integration and the elimination of policies that discourage it. Examples of policies and tools that enable integration include Area Operating Agreements (AOAs) that align energy-sector planning to a scale and scope similar to that of the forest sector’s Annual Operating Plans (AOPs). Another example is quota-chargeable “salvage first” policies that encourage better utilization of timber and provide a further business incentive for the forest industry to capture fibre from forest affected by energy development. Alternatively an example of a policy that discourages integration is the road-reclamation standard that requires the energy sector to reclaim a road before it can be transferred to another user – while the forest industry does not have the same conditions. A complete compilation of the regulatory options that promote or discourage integration needs to occur.

e. Improve ILM Efficiency and Effectiveness

Governance - At the tactical level of ILM initiatives, especially where numerous companies are working together, there is great value in having a knowledgeable third party to facilitate discussions, assign tasks, and undertake the necessary background work. Furthermore, facilitation can provide the confidentiality that is often required to allow the energy sector to participate fully in the process. All sanctioned tactical ILM initiatives should use third-party facilitation, cost-shared among the proponents.

Inclusiveness – it is important that sanctioned tactical ILM initiatives be as inclusive as possible. Through the development of the terms of reference, objectives, roles and responsibilities, those that are actively interested will usually stay at the table, while others that want to be informed and kept abreast of the process and decisions will become less active. Although the process may initially attract a large group, experience on tactical ILM initiatives described in the case studies indicates that the active working group should likely not exceed seven to be effective.

Land and Resource Data - A further prerequisite for any level of ILM initiative is current and accurate data. Sanctioned tactical ILM initiatives should adopt a principle to use the “best available data” to conduct any ILM project, with a commitment to share existing data and costs where additional information is needed.

Clear Objectives - The rules of engagement for all participants must be clear – especially at tactical levels of ILM. A clear business case should be articulated addressing costs, safety, stewardship and other pertinent matters. The terms of reference of a sanctioned tactical ILM initiative should describe the roles and responsibilities, expectations, business case, time lines and other relevant matters for all participants.

6.0 Conclusion: Sustained Effort Is Needed

A comprehensive, systems-based approach to land and resource management is urgently needed. Difficult public policy decisions as to who, what, where, when and how much activity should occur on the land have to be made and constantly evaluated against changing economic, social and environmental conditions, values and expectations. Clear policy direction will provide certainty for resource industries. Alberta will then have a solid foundation from which to pursue sustainable economic, social and environmental objectives on its finite land base.

The challenge before us is clear. Strategic directions enabling a systems approach to integrated land, water and resource management in Alberta through LUF and WFL are still a long ways off. Yet at the same time there are increasing public demands for change and conflicts related to land and resource use under the existing system. Resource industries and government do not have the luxury of doing nothing. Operational scales of ILM offer proven step-change improvements to address the pressures, and they can be implemented successfully without new policy being required. As a result, it is important that they continue, but it is increasingly important that we all understand that integration needs to occur at all scales if we expect to achieve maximum value from resources while maintaining the integrity of ecosystems for future generations. This report outlines some of these challenges and options that should be addressed and reconciled as we go forward.

ILM initiatives and the Land Use Framework under development can provide the foundation to start construction of an improved resource management system. The success of this will depend on sustained efforts at the political and management levels of government and resource industries.

Appendices

Appendix 1

Literature and documents reviewed.

1. ILM Applying Sustainable Development to Land Use
Canadian Integrated Landscape Management Coalition
May 2005
2. Alberta Chamber of Resources ILM Business Plan April 2006
 - Related business reports, and presentations
3. Integrated Landscape Management “A Win-Win Solution”
Alberta Forest Products Association 2006
4. Proposed Integrated Landscape Management Protocols
For Industrial Access Road Planning and Development in the
Eastern Slopes of the Rocky Mountains
Peter Koning May 2002
5. Caribou Landscape Management Association
 - Memorandum of Understanding,
 - Terms of Reference
 - Plans, background material and report
6. Canfor - Suncor ILM Business Agreement
7. Kakwa Copton
 - Memorandum of Understanding,
 - Terms of Reference
 - Plans, background material and report
8. Integrated Landscape Management Initiatives Inventories
ASRD Hill & Knowlton April 2006.
9. Canadian Association of Petroleum Producers web page, and related documents
on ILM and LUF
10. Alberta Energy & Utilities Board Land Challenge materials
11. Canada West Foundation – Managing Prosperity 2005
12. Ideas Group Report - 2006
13. Sustainable Resource Development – Red Deer Cross Sector Forum Summary
Report February 2007

Appendix 2

Case studies of Significant ILM Initiatives

In an effort to verify the concept of integration at various scales, a number of ILM projects were voluntarily initiated in the Green Area of Alberta over the past eight years. While a few are nearly complete, the majority are still ongoing. The following are the highlights of significant ILM initiatives organized into three categories - Operational, Tactical and Strategic. The initiatives roughly follow the chronology of how they evolved and progressively became more complex.. They briefly explain what was done, who was involved, what they accomplished and what was learned.

Operational ILM Category

A. Company-to-Company Integration

Al-Pac and Gulf Surmont.

In the late 1990s it became apparent to Alberta Pacific Forest Industries Ltd., that its Forest Management Agreement area in northeastern Alberta had other active land users, primarily the energy sector, that were affecting the long-term sustainable forest management plan developed for the region. Acknowledging this and the fact that energy development would continue and even increase, Al-Pac began to seek out energy companies and to work with them co-operatively in an effort to reduce the cumulative industrial impacts on the landscape - and operational Integration led by industry was born.

The first major and formal company-to-company or “one-off” integration effort was between Gulf Canada (now ConocoPhillips Canada) and Al-Pac on the Surmont oilsands project. Discussions between these two companies revealed the potential for mutual interest in co-coordinating their respective activities – namely a Steam Assisted Gravity Drainage (SAGD) oilsands project and a timber harvest plan in the Surmont region. Through coordinated access (roads, pipelines, well pads and harvest areas) as well as research, the pilot project realized a 47 per cent reduction in roads, improved fibre salvage, and more than \$3 million in savings was shared by the two companies over the first phase of the project. This pilot became the proof of concept that launched tactical ILM to other regions of the province and through other organizations such as the ACR, AFPA and CAPP and ultimately the government.

The two companies have maintained their dialogue and integration discussions as the Surmont project has expanded. In addition to the original integration opportunities, the companies are also pursuing reforestation and reclamation research and trials on core holes, well pads etc. to reduce the duration of the footprint on the forest landscape.

Organization & Companies Involved:

Forestry

- Alberta Pacific Forest Industries Ltd.

Energy

- Gulf Canada (ConocoPhillips Canada)

Key attributes or characteristics

- Value – there was a business case
 - Money saved - \$3 million in phase one alone
 - Improved stewardship – reduced road levels leading to less forest disturbed thus reduced impact on fibre supplies and other forest values (ecological function)
 - Reduced approval times – Access (LOCs) and harvest plans were approved in a shorter time frame than had they been applied for separately – how much was not quantified. It was noted that although the approvals occurred more quickly, it did take more preplanning between the two companies prior to the regulatory application.
- Governance – undertaken by the companies involved with management buy-in and designated point personnel for each company to identify synergies and implement the actions. there was a business relationship established at senior and operational levels as well as a willingness to try a different approach by both companies

B. Company-to-Association

Seismic Line Width Reduction

By the late 1980s it became apparent to the Alberta Forest Service (SRD today) that seismic cutlines were one of the largest components of the energy sector’s footprint. In the east slopes for example, Sundre forest products identified that an average disturbance per conventional well site requires 23.35 hectares (ha) of disturbance and that seismic activity made up 50 per cent of the disturbance. Sundre Forest Products’ full analysis is as follows:

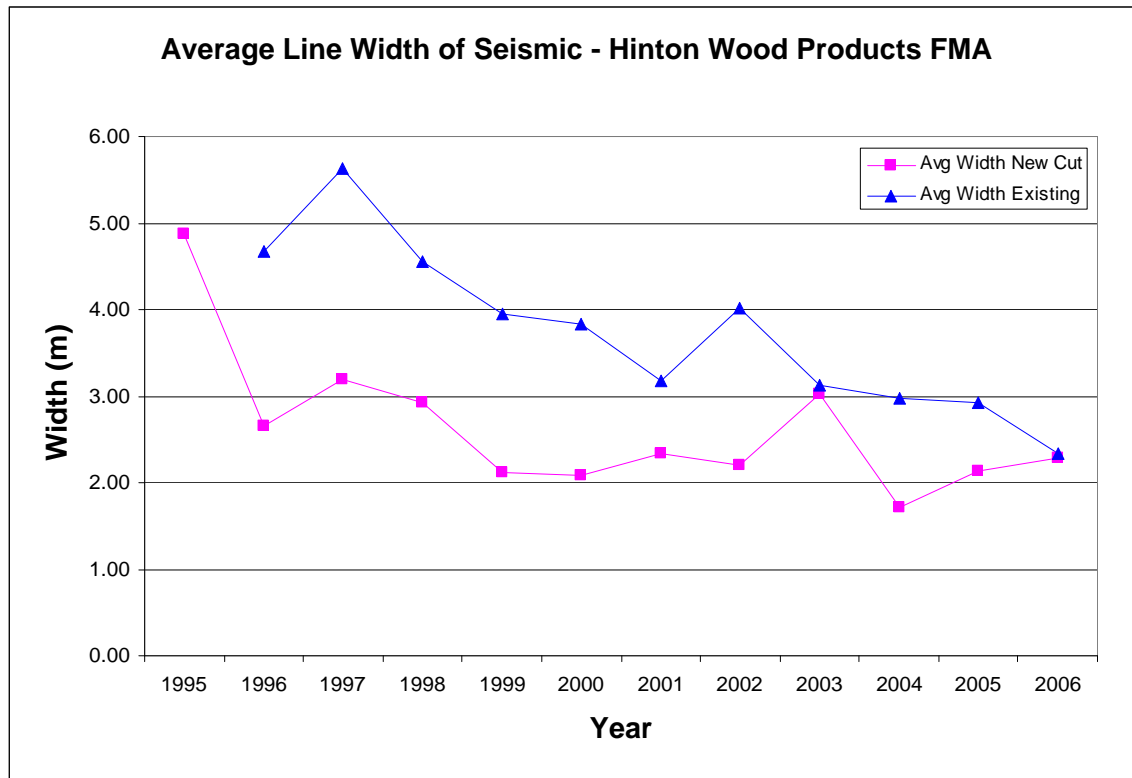
<i>Activity</i>	<i>Area</i>	<i>% of total</i>
Exploration / seismic	11.56 ha	49.5%
Roads	3.61 ha	15.5%
Pipelines	3.87 ha	16.5%
Power lines	1.10 ha	5%
Facilities	0.51 ha	2%
Incidental clearing	0.80 ha	3%
Well site	1.85 ha	8.5%
Total	23.35 ha.	100%

Geophysics is an integral part of the energy sector. Seismic surveys identify prospective geologic features that might contain crude oil, natural gas or bitumen. Traditionally seismic contractors used heavy equipment to create access for seismic surveys, which resulted in cutlines that averaged more than six metres in width and thousands of kilometres long. The lines were left to revegetate naturally. However, due to a number of factors such as soil compaction or repeated use, seismic lines usually persist on the

landscape for considerable periods of time. These linear disturbances change the landscape and its ecosystems by creating easy access and sightlines for both human users and predatory wildlife, which can have negative effects on species such as caribou.

The seismic footprint was an obvious candidate for ILM because the magnitude of the seismic footprint was so large in relation to other aspects of the energy sector's operations. Moreover, the width of the lines had no correlation to the value of the data collected. In an effort to reduce this impact, SRD offered a 50-per-cent timber damage rebate program to geophysical operators as an incentive for them to adopt low-impact seismic methods. Alberta Pacific Forest Industries was the first forest company to adopt the incentive program as it recognized that the reduced impact to the forest by narrower seismic lines was far more valuable in the long term than money generated from timber damages. With recognition of the challenge and a financial incentive in place from both industry and government, new technologies such as heli-portable and low-impact seismic (LIS) equipment became the preferred approach and over the next five years became standard business practice. In 2005, SRD and the forest industry (including Al-Pac) agreed to a common geophysical rebate as proposed by Hinton Wood Products.

The result of this work has been the reduction of the average seismic line width in Alberta from over five metres in 1999 to just over two metres in 2005 – a 60 per cent reduction. The attached chart from Hinton Wood Products shows the gradual reduction in line width over the past decade.



Organizations & Companies Involved

Forestry

- Alberta-Pacific Forest Industries Ltd. (other forest companies and the government eventually followed suit)

Energy

- Canadian Association of Geological Contractors (CAGC) members.

Key attributes or characteristics

- Value – there was a win-win business case
 - The geophysical contractors were able to offset the costs associated with using more expensive LIS seismic equipment with the TDA rebate. Over time this increased demand for new and more efficient LIS equipment which led to further reductions in costs and improved efficiencies.
 - Alberta-Pacific was able to maintain more forest cover providing fibre production and the maintenance of other forest values.
 - Improved stewardship – reduced seismic line widths and technologies such as line mulchers reduced the amounts of forest disturbed compared to traditional approaches and promoted more rapid reclamation. Ultimately this reduced impact on fibre supplies and other sensitive forest values such as caribou
- Clear Objectives - A simple concept using an incentive approach allowed all geophysical contractors to receive the rebate provided they met the simple criterion: seismic lines less than 2.5 metres wide over the entire program.
- Governance – undertaken by the forest companies by providing the TDA rebate incentive.

C. Company-to-Company

Canfor/Suncor

Although slightly later in the chronology of ILM pilot arrangements or initiatives, the 2005 Canfor/Suncor integrated land management agreement is a more comprehensive and formalized company-to-company ILM arrangement: The companies will integrate their planning and operational activities in a 650,000-hectare area near Grande Prairie where they share the land base by collaborating on:

- Resource management planning
- Emergency planning
- Road and bridge construction
- Caribou habitat and restoration work
- Classification and protection of fish-bearing streams
- Identification and protection of archeological and heritage resources
- Sharing of resource data.
- Monitor the results

This formalized business approach and understanding has lead to reduced duplication of effort and infrastructure, coordinated long-term planning and increased focus on environmental stewardship in the area.

Organizations & Companies Involved

Forestry

- Canadian Forest Products Ltd.
- Energy

- Suncor Energy Ltd.

Key attributes or characteristics

- Value – there was a business case
 - Save money through reduced duplication of infrastructure and data sharing
 - Improved stewardship – reduced road levels leading to less forest disturbed thus reduced impact on fibre supplies and other forest values (ecological function, fish, caribou),
 - Regulatory Streamlining – archeological & heritage resources, reduced regulatory approval time (in general)
- Information – companies will be sharing information and looking for ways to reduce duplication, further reducing costs for both parties.
- Governance – undertaken by the companies involved with management buy-in and designated point personnel for each company to implement the actions and report on the results. There was a business relationship established at senior and operational levels as well as a willingness to try a different approach by both companies

Tactical ILM Category

D. Multiple Cross-Sector Companies in One Project

Consolidation of Industrial Access Control on the Chinchaga Road.

In 2004, Manning Diversified Forest Products (MDFP) was developing a new access road off the Chinchaga Road in northwestern Alberta that infringed on a caribou habitat zone. As a result, one of the regulated conditions was the installation of a 24/7 manned gate at the access point from the main Chinchaga Road. Although this condition was consistent with seven other similar energy-sector spur roads that split off from the main trunk road, it was difficult for MDFP to justify economically or operationally. The main issues were the effectiveness of access controls on caribou and the cost. The costs alone for a manned gate were estimated at \$30,000 per month or \$120,000 for the haul season.

With these motivators, MDFP began a discussion with other spur road operators as well as the county that managed the Chinchaga Road to explore options to consolidate all seven manned access gates into one robust manned 24/7 gate. The Chinchaga Road represented a unique opportunity to do this, as it is the only main access road into the region. All parties rapidly accepted the concept and details were worked out to develop a high-quality gate that could handle the traffic flow at a point on the road prior to the spur roads. The proposal was ultimately approved by the regulators and in the 2005-6 winter season the first main gate was put into operation. The action reduced the average cost of maintaining and staffing gates from roughly \$8,000 per day per company to \$1,500 per day per company – an 87 per cent cost reduction.

A few interesting observations arose from this work. The first is that the regulators who originally placed the access condition on road were ultimately surprised when they realized that the gates they had requested would not actually stop public access. Apparently there was some confusion about the ability of industry gates to control public access. However, it was noted that when the public users knew they were being recorded through the tracking of vehicle licenses, their behavior might be positively modified, as they were aware that their use of the lands behind the gates was no longer anonymous. Related to the issue of tracking vehicle licenses and public use, the operators of the gate ran into some questions regarding what was allowable under information privacy legislation. Ultimately the gate recorded license plates of private vehicles and not driver licenses as originally proposed.

Organization & Companies Involved:

Forestry

- Manning Diversified Forest Products

Energy

- BP Energy
- CNRL
- Apache
- Burlington
- Pioneer
- Devon
- Enerplus

Government

- Municipal District
- Sustainable Resource Development

Key attributes or characteristics

- Value – there was a business case
 - Money saved - roughly \$1 million / per winter access season shared by all involved.
 - Improved traffic management – The main gate provided better vehicle flow management & safety for all road users.
 - Stewardship – The conditions required for caribou protection were met, although any actual effect on the species was not proven. There is also some indication that people act differently when they know they are not anonymous.
 - Governance – undertaken by the companies involved with management buy-in and designated point personnel for each company to implement the actions. MDFP had to build business relationships with the other companies and the county to move this forward
 - Government approvals – were required with the Municipal District to allow the MD portion of the road to be gated. As well, approvals were needed from SRD to allow for the consolidation of the Fish and Wildlife gate requirements on the LOCs that connected to the Chinchaga road.
-

E. Multiple Cross-Sector Companies on One Landscape

Chungo Creek ILM Access Pilot

Although there were numerous company-to-company co-ordination efforts between specific energy and forestry companies that arose as business relations between the two sectors gradually improved, and mutual needs identified, the first ILM tactical pilot involving multiple companies and sectors on the same land base was the Chungo Creek Strategic Access Plan that was initiated in 2001. This pilot represented the first real attempt to co-ordinate the access interest of multiple resource companies in a defined area. The number of participants increased the complexity of the ILM process, but at the same time increased the real potential to collectively reduce the industrial footprint on the landscape.

After the Energy and Utilities Board requested cumulative-effects assessments for energy projects in the Chungo Creek area west of Rocky Mountain House, the stage was set for a co-ordination among a consortium of resource companies with rights to develop timber and energy resources in the area. By planning access jointly, the companies would minimize the potential footprint of main access roads. The initiative was coordinated through the Alberta Chamber of Resources ILM program as a way to extend the tactical integration concept and to develop standard protocols for future co-operation and tactical integration in the east slopes.

Organizations and Companies Involved

Forestry

- Weyerhaeuser Drayton Valley (now Pembina region)
- Sundance Forest Industries
- Sunpine Forest Products (now Sundre Forest products – a division of West Fraser)

Energy Companies

- Devon Canada
- Husky Energy
- Murphy Oil
- Petro-Canada
- Shell
- Talisman

Government

- SRD
- EUB

Key attributes or characteristics

- Value – there was a business case
 - Save money through reduced duplication of infrastructure and data sharing
 - Improved stewardship – reduced amount of roads led to less forest disturbance, thus reducing the impact on fibre supplies and other forest values (ecological function)

- Regulatory requirement – EUB cumulative-effects request provided the catalyst to pursue a joint industry sector effort
 - Information – Although primarily supplied by the forest companies, additional resources were required and Lornell Consulting was retained to do additional sensitivity analysis and to act as the “third party” dealing with any confidential information from the energy sector. This was funded by the resource companies. Base-line data and harvest plans were provided by the forest sector. Future energy development plans were shared confidentially through Lornell Consulting
 - Governance
 - Alberta Chamber of Resources – project management
 - Lornell Consulting – data and environmental impact analysis
 - Government Approvals – This project required SRD to endorse the corridor plan and direct other users to consider it in their access planning. Tools to do this included an Information Letter for energy lands posted in the region and a requirement that the forest companies include the access plan in their forest management plans.
-

F. Multiple Cross-Sector Companies on One Landscape and Watershed

Foothills Model Forest Integrated Stream Crossing Program

In 2004 the Foothills Model Forest (FMF) stream-crossing program was launched as an ILM-related stewardship project with the assistance of the ACR ILM Program. It is intended to develop a cross-sectoral systems approach to stream-crossing inspections and maintenance that ultimately will improve long-term crossing performance on a watershed scale. This approach makes it consistent with the principles of the Water for Life strategy. The pilot program focuses on the long-term risks that bridges, culverts etc. can pose for water resources and watersheds. The program brings together all the crossing owners in a region (in this case the FMF area near Hinton) and assess each individual crossing on a periodic basis for its performance in terms of safety (public and employee), fish passage and water quality (deleterious substance, i.e. silt). Standardized cross-sector inspection protocols have been developed and field tested in 2006 and the findings have been compiled and sent to the crossing owners as additional information to incorporate in their ongoing road and crossing maintenance budgets and programs.

The next steps in the program include looking at the opportunities and potential barriers to a systems approach to watershed maintenance co-ordination. There is a strong recognition by industry members and regulatory bodies that the pooled inspection information might support additional efficiencies in determining watershed maintenance and repair priorities, possible coordinated work plans and contractors to address them. The potential cost savings to industry combined with improved safety, fish passage and water quality is an attractive motivator. Ultimately, once the challenges are evaluated and addressed and fully field tested, this type of watershed inspection and maintenance approach could provide the basis for future water-crossing management policy for Alberta and could dovetail with watershed committees established under the Water for Life strategy.

Organizations and Companies Involved

Forestry

- West Fraser Hinton Division

Energy Companies

- Devon Canada
- Husky Energy
- EnCana
- Petro-Canada
- Shell
- Talisman
- ConocoPhillips
- Canadian Natural Resources Ltd.
- Suncor
- BP Canada

Other

- Canadian National Railways
- Alberta Chamber of Resources

Government

- SRD
- Federal Department of Fisheries and Oceans (DFO)
- Alberta Environment

Key attributes or characteristics

- Value – there is a business case
 - Save money through standardized inspection protocol. Potential to save additional costs through watershed maintenance co-ordination
 - Improved stewardship – reduced impact on water quality and fish passage.
 - Risk Management – for employee and public safety and company infrastructure
 - Regulatory support – provincial and federal agencies have been supportive of exploring a new approach
- Information – West Fraser provided most of the base data (water features, crossings) while the FMF provided the fisheries and water data and expertise as well as access to aquatic researchers and reports.
- Governance – both paid for by the participants
 - Foothill Model Forest – Administration, aquatic research and data. The FMF's excellent reputation also assisted with the building of trust among the various members. In addition, it served as the third party to manage confidentiality issues
 - Gerry Bauer Consulting – Management
- Government Approvals – to date none has been required. However, the project has required the three government departments involved to be open to alternative approaches replacing those that they are legally designated to enforce. In time, and presuming the project is successful for all involved, it may require some policy and regulatory changes so that the approach can be duplicated and adopted across the province.

G. Multiple Cross-Sector Companies on One Landscape

Kakwa Copton ILM Initiative

The Kakwa-Copton Access Corridor Plan is essentially a duplication of the original Chungo ILM process, but there is an additional degree of complexity due to the inclusion of reclamation to the scope of the project and the use of an adaptive-management approach. The objectives of the ILM initiative were to minimize the impact of industrial access on other resource values through:

- Integrated planning between the forest company and the majority of energy companies operating in the region.
- Maximizing shared access among industrial users at a landscape level and at a project-specific level for branch road access planning,
- Assessment of available options for reclaiming access that is no longer required,
- Providing information and recommendations on access co-ordination options to SRD. This should include verifying the corridor itself (confirm its usability), summarizing new developments since the corridor plan was developed, summarizing the pros and cons of proposed access corridors, justifying deviations, etc. and
- Providing an adaptive-management approach to access development.

Organizations and companies involved:

Forestry

- Weyerhaeuser Company Ltd.

Energy and mines

- Husky Energy
- Devon Canada
- CNRL
- Grande Cache Coal
- Hunt Oil Company of Canada
- Talisman Energy
- Nexen Inc.
- ConocoPhillips Canada
- Petro-Canada
- Burlington Resources Canada
- Canadian Forest Oil Ltd.
- Devon Canada

Consultants

- Silvacom Group of Companies Ltd.

Government

- Sustainable Resource Development

Key attributes or characteristics

- Value – A business case was established for the participants
 - The potential to save money through reduced duplication of infrastructure and data sharing
 - Improved stewardship – reduced road requirements leading to less forest disturbance, thus reducing the impact on fibre supplies and other forest values (ecological function)
 - Potential to improve regulatory approval times
- Clear Objectives – were established up front with detailed roles, expectations and commitments for action for both industry and government that covered all aspects of the plan from start to finish, including enforcement, communications and dispute-resolution options. This ILM project contained some of the most robust and detailed process controls, expectation and responsibility protocols of any ILM project to date.
- Information – base-line information was primarily supplied by Weyerhaeuser Canada through Silvacom. The confidentiality of future energy development plans were maintained through Silvacom
- Governance - an independent facilitator facilitated this project (Bill McMillan) with voluntary participation. Silvacom provided web-based data transfer options that facilitated meetings. The trust of the participants was earned over time by assurances that there was a business case to pursue this. The costs were shared among participants
- Government Approval –.In this project the involvement of SRD was key to its success. The ministry was involved as a participant with established expectations in addition to its role in approving implementation and providing a dispute-resolution option.

H. Multiple Cross-Sector Companies on One Landscape with High Wildlife Value

Caribou Landscape Management Association (CLMA)

The Caribou Landscape Management Association was formed in 2005 by resource companies to seek collaborative and integrated solutions to address the present and future impacts of industrial activity on caribou in west-central Alberta. The CLMA operates under the umbrella of the Foothills Model Forest (FtMF) but covers a region that includes the Little Smokey and A la Peche caribou herd ranges. Its mandate is to facilitate the implementation of proposals for integrated landscape management, conservation and monitoring actions for the caribou herds in the region.

The Association's efforts focus on:

- 1) Co-operation to reduce the future industrial footprint in caribou habitat;
- 2) Restoration of caribou habitat by actively reclaiming the industrial footprint;

- 3) Support of applied research to increase knowledge about caribou and caribou habitat for the purpose of caribou conservation; and
- 4) Partnering and supporting Alberta government initiatives to manage caribou recovery through the Alberta Woodland Caribou Recovery Plan.

The first initiative of the Caribou Landscape Management Association is an Integrated Industrial Access Plan (IIAP) that will be continually updated as better information evolves. Increasing road access in the ranges of these two caribou herds is needed to support allocated resource extraction and associated economic and social benefits. However, the CLMA is also taking advantage of the fact that integrated access planning will reduce the road footprint compared to the “plan-as-you-go” approach traditionally used by industry and government. Minimizing the footprint from long-term access through a coordinated approach will reduce the impact on caribou herds, other species and the environment. This approach will reduce road construction, maintenance, and reclamation costs for industry.

In November 2005, the CLMA submitted an Integrated Industrial Access Plan (IIAP) for consideration by government. The IIAP identified the “backbone” of permanent all-weather access requirements for the energy and forest sectors within the caribou ranges. The plan represents the needs of the forest companies and a majority of the oil and gas companies with operations in the area. The government endorsed the November submission as a guiding tool on June 23, 2006. This approval reinforced the need to integrate and co-ordinate the access requirements of the forest and oil and gas sectors, and to continue to develop a monitoring of effectiveness and an ongoing reclamation and restoration plan.

Integration of activities requires a fully co-operative approach to doing business, and this plan is a first step. The IIAP is a “living document” that will be continually updated and monitored. There are many issues that will be worked on over the next several years such as adaptive management to meet landscape objectives, best practices, siting and placement, as well as landscape-level forest reclamation, continued integration and a monitoring program to ensure effectiveness.

The CLMA was initiated prior to the ministerial endorsement of the Alberta Caribou Committee and the subsequent formation of the West Central Caribou Recovery Planning Team. The CLMA is committed to augment and add value to the provincial processes. In that regard, the CLMA will continue to develop adaptive management and best tactical and operational practices for caribou conservation and will be the logical mechanism for industrial implementation of recovery strategies for the area.

Organizations and companies involved:

Forestry:

- Foothills Forest Products Inc.
- Canfor (Canadian Forest Products Ltd.)
- Hinton Wood Products, a division of West Fraser Mills Ltd.
- Alberta Newsprint Company (ANC),

Energy

- ConocoPhillips Canada Resources Ltd.

- Suncor Energy Inc.
- EnCana Corporation
- TransCanada Pipelines Limited
- Devon Canada Corporation
- Talisman Energy Inc.
- Canadian Natural Resources Ltd.
- Husky Oil

Aboriginal

- Aseniwuche Winewak Nation of Canada (Grande Cache)

Government

- Sustainable Resource Development
 - Forest Service
 - Fish & Wildlife
- Alberta Energy

Key Attributes or Characteristics

- Value – A business case was established for the participants
 - The potential to save money through reduced duplication of infrastructure and data sharing
 - Improved stewardship – reduced road levels leading to less forest disturbance, thus reducing impacts on caribou, fibre supplies and other forest values (ecological function)
 - Potential to improve regulatory approval times
 - Part of the solution towards caribou conservation and maintaining resource industries’ “social license” to conduct business on Crown lands

Secondary benefits include:

- Some member companies have been able to turn over roads to other users and save on reclamation costs,
 - Co-ordination of high-concentration activities to reduce conflict on remedial access routes, which has a road-use safety benefit for employees and the public.
 - With relationships developed as a result of the CLMA, some companies have been able to partner on other activities outside the original area.
 - Pooling of resources to undertake projects and lobbying has had more impact on regulators than would have been the case had individual companies operated in isolation.
 - Sharing risk of environmental concerns – accessing sensitive areas.
- Clear objectives were established:
 - Provide a coordinated multi-sectoral industrial voice with a common approach working towards preferred solutions.

- Mitigate the future industrial footprint on the home ranges of the Little Smoky and A La Peche caribou herds.
 - Improve management techniques with an aim to reduce the existing footprint to improve caribou habitat.
 - Be the support mechanism for Integrated Land Management in the target area.
 - Develop an Integrated Industry Access Plan for the Little Smoky and A La Peche caribou herds.
 - Longevity – it was agreed that there was a need for ongoing monitoring, reclamation and annual updates and submissions dependant upon the results achieved.
- Information - Accurate resource data. The Foothills Model Forest Geographic Information Systems (GIS) staff spent nearly a year collecting, verifying and assembling a data set that could be trusted for planning and monitoring purposes. The FMA holders willingly shared their Alberta Vegetation Information and land-use GIS data layers.
- Governance
 - An independent contractor (Wayne Thorp) has been retained to manage the project through a steering committee
 - FMF provides administrative, GIS, data and communications support
 - The trust of the participants was earned over time by assurances that there was a business case to pursue this
 - It is a voluntary organization, with the participants covering the overhead costs

Appendix 3 – Key People Interviewed or Consulted

Interview list

- Rob Gibb Talisman Energy
- Rob Staniland Talisman Energy
- Peter Koning ConocoPhillips Canada
- Kyna O’Gallagher EnCana Corporation
- Gord Lambert Suncor Energy Ltd.
- Garth Davis ConocoPhillips Canada
- Shad Watts Devon Canada

- Jim Stevens Canfor Corporation
- Don Pope Alberta Pacific Forest Industries Ltd
- Bob Winship Weyerhaeuser Canada
- Greg Branton Alberta Newsprint Company Ltd.
- Dave Hugelschaffer West Fraser Sundre

- Bob Morton The Silvacom Group
- Kirk Andries Alberta Biodiversity Program Managing Director

AFPA ILM consultative review workshop, March 13, 2007

- Dave Kmet, AFPA; Tim Barker, DMI; Jonathan Russell, Millar; Bob Winship, Weyco; Marcel LeCoure, Tolko; Greg Neal, Sundre; Kevin Kuhn, Vanderwell; Jim McCammon, ANC.

Engagement with CAPP staff

- Sherry Sian
- Garry Sergeant

Draft paper review and presentations

ACR ILM Steering Committee	May 17, 2007
AFPA Forest Management Committee	June 1, 2007
CAPP Resource Access Committee	June 12, 2007

Appendix 4 -- Sample Questionnaire

Preamble: Integrated Landscape Management (ILM) has now been part of the resource sectors lexicon for the past eight years and the tactics developed to improve integration cross and in between resource sectors is growing both in practice and acceptance. This can be attributed to the efforts of like-minded resource based companies and organizations that have supported and promoted it because it makes good business, social and economic sense. In order to practically prove the ILM tactical concepts, numerous ILM best practices, pilots, processes, tactics, approaches have been developed and tested over the past eight years by various groups that bring different perspectives to the table.

The purpose of this questionnaire is to: undertake a detailed review of a broad section of past examples of ILM tactical initiatives, break them down into components (attributes or characteristics) and then assess them in terms of how these components either contributed to the success or failure of the original ILM project. In other words we want to learn from what we have done by understanding what are the attributes or characteristics required to make ILM tactics a success and what might have been missing when they didn't perform as well. Attributes or characteristics are broadly defined to encompass a variety of business, social and regulatory aspects.

Objective: "To review and assess past ILM initiatives in Alberta to determine how similar processes can be improved upon going forward."

*This survey takes around 30 minutes to complete. The interviewers are encouraging respondents to provide anecdotal information to support their responses to the questions posed. Your confidentiality as a respondent will be adhered to during the reporting process. **Please feel free to decline this interview.***

Questions:

1. **Have you participated in any formal Integrated Land Management Initiatives? (Please provide details)**
2. **Which geographic area did the ILM project cover?**
3. **What was the objective(s) of the ILM project? (Why did you do it?) (List strategic and tactical)**
4. **What was the governance model used? (I.e. voluntary, facilitated, independent third party managed etc.)**
5. **Did the objective(s) get met satisfactorily?**
 - a) **If Yes, Why was it successful? (What were the most significant contributing factors?)**
 - b) **If No, Why not? (What were the most significant factors?)**
6. **Was there any business advantage as a result of ILM?**

What and Why?

7. Would you do it again?

Why?

8. If you were king for the day how would you set up an ILM project to ensure success? (An example might be: What barriers would you remove? (I.e. between sectors, between government and industry?))

List and provide reasons why this would help.

What are your thoughts on successful future ILM models?

- *Best practices on a project by project basis*
or
- *Cross sector operational plans such as access management, reclamation, etc*
or
- *Landscape plans with temporal and spatial components linked to thresholds*

Related to the above should government - provincial and municipal

- *Enable and reward ILM initiatives*
or
- *Lead, direct and control ILM initiatives?*

9. Are there any other observations or conclusions you would like to add about your experiences with ILM that might help us improve the proof of concept into the future?

Appendix 5 -- Summary of ILM Characteristics and Challenges

The following is a summary of the various attributes required for the different scales or categories of ILM Initiatives, as well as some of the existing obstacles. Strategic levels of ILM were included to clarify the categories and relationships to one another, as well as to show how the attributes, strengths and obstacles vary at different scales.

Necessary ILM Characteristics

	Business case (\$, time, social license)	Land and Resource Information	Governance Confidentiality	Clear Objectives / TOR	Timely Approval process	Lead & engagement mechanism
Operational ILM	Yes	Yes Company shared	Yes Internal	Preferred	Yes- decisions made by industry	Industry led FMA consent and forest planning process
Tactical ILM	Strongly preferred	Yes Industry / government pooled	Yes 3 rd party Confidentiality critical	Yes	Yes @ landscape levels	Joint industry / government led FMA consent and forest planning process
Strategic (ILM LUF)	Not the primary objective	Yes – all & new sources	3 rd party facilitated to date? Confidentiality not an issue	Yes	No	Government led

Summary of ILM Obstacles and Challenges

	Rights & responsibilities	Role of Government	Approvals	Information	Governance
Operational ILM	<ul style="list-style-type: none"> ▪ Consent ▪ LOCs ▪ Arbitration process 	Encourage or regulate?	None	<ul style="list-style-type: none"> ▪ Data licensing & standards can inhibit sharing 	Business to business
Tactical ILM	<ul style="list-style-type: none"> ▪ Consent ▪ LOCs ▪ Arbitration process ▪ Clarification of tenure rights between sectors 	Encourage Regulate, lead or facilitate? Requires clarification	Landscape level approval process	<ul style="list-style-type: none"> ▪ Data licensing & standards can inhibit sharing ▪ Sourcing accurate reliable data 	Voluntary industry engagement
Strategic (ILM LUF)	<ul style="list-style-type: none"> ▪ Clarification of tenure rights 	Lead	None	<ul style="list-style-type: none"> ▪ Data licensing & standards can inhibit sharing ▪ Sourcing accurate reliable data 	Timelines to complete LUF and integrate with Water for Life

Appendix 6 – Authors of This Report*

Bob Demulder is the program manager for the Alberta Chamber of Resources Integrated Landscape Management (ILM) Program. He was previously employed with the Alberta Forest Products Association (AFPA) where he was the director of forestry for six years and acting executive director for the final year.

Prior to the AFPA, Demulder spent six years with the Forest Industry Development Division in the Alberta government, dealing with the various political, regulatory, resource and market issues related to developing the forest industry in the late 1980s and early 1990s. He also has held positions in silviculture and fire control with the Alberta government.

He has served on various boards and agencies, such the Foothills Model Forest, Endangered Species Co-coordinating Council and the Protected Areas Strategy for Alberta.

Demulder is a Registered Professional Forester in Alberta, as well as past board member and treasurer for the College of Alberta Professional Foresters. He graduated from the University of Alberta in 1985 with a Bachelor of Science degree in forestry.

Wayne Thorp is a Peace River-based consultant who has been actively involved in forest management for 30 years. He is a Registered Professional Forester in British Columbia and Alberta after completing studies in Prince George and Vancouver.

He started his career with the B.C. Forest Service in 1975 and after 11 years went to work for industry in northern B.C. In 1988 he joined Daishowa Marubini International in Peace River. During 17 years with DMI he was the general manager responsible for the overall strategic management and supply of the forest resources for High Level Forest Products, Brewster Construction and Peace River Pulp.

While in this capacity he also served as president of the Alberta Forest Products Association, co-chair of the committee that developed the Alberta Forest Conservation Strategy, board member of Alberta Research Council, and board member of the Alberta Research and Science Authority, among others.

Since 2004, Thorp's independent management consulting business has worked with a variety of clients such as the Alberta Forest Products Association, the Alberta government, First Nations and the Foothills Model Forest.

* Robert Bott, a Calgary communications consultant with experience in both the energy and forestry sectors, assisted in editing the report. He is the author of *Our Petroleum Challenge: Sustainability into the 21st Century* (Canadian Centre for Energy Information, 2004) and co-author, with Peter Murphy and Robert Udell, of *Learning from the Forest: A Fifty-Year Journey Towards Sustainable Forest Management* (Fifth House, 2003).

Appendix 7 – The Alberta Chamber of Resources and the ILM Steering Committee

The Alberta Chamber of Resources is the voice of the Alberta resource industries, strengthening their role with the Alberta Government and developing closer working relationships among ACR members. Founded in 1935 as the Alberta and North West Chamber of Mines and Resources, the ACR grew to include members from the mining, petroleum and forestry sectors as well as suppliers, research organizations and universities. The ACR has become a key point of contact for government and other stakeholders in resource development. The ACR has been influential in public education, worker safety, oilsands development, mineral exploration and environmental protection.

The ACR's mandate is for the orderly and responsible development of our natural resources.

Through the ACR's organization structure, the ILM program is enabled by the support and direction of an ILM Steering Committee. Members of this committee are as follows:

Corporation/ organization

Ainsworth LP	Tim Ryan (Co Chair)
Alberta Forest Products Assoc	Neil Shelly / Dave Kmet
Canadian Forest Products Ltd.	Jim Stevens
CAPP	Dave Pryce / Garry Sargent
Elk Valley Coal Corporation	Dermot Lane
Enbridge Pipelines Inc.	Leon Zupan
EnCana Corporation	Jon Mitchell
Nexen Inc	Roger Thomas
Petro-Canada	Fraser Cutten
Shell Canada Limited	Judy Smith
Suncor Energy Inc.	Gord Lambert (Co Chair)
Imperial Oil	Christine Bryne
Silvacom / ISOGIS	Bob Morton
Talisman Energy	Rob Gibb
Syncrude Canada Ltd.	Gord Ball
Weyerhaeuser Company Limited	Bob Winship
TOLKO Industries	Marcel Lecoure
Alberta Newsprint Co	Jim Mc Cammon
West Fraser	Greg Neale
ConocoPhillips Canada	John Legrow
Alberta Pacific	Mike Voisen / Don Pope