Appendix

Growth and Resource Management Working Group
Final Report

November 2007

Table of Contents

Growth and Resource Management Working Group Final Report

The Growth and Resource Management Working Group (GRMWG) is submitting this document as its consensus report. It provides strategic direction for growth and resource management within Alberta's proposed Land-use Framework (LUF). The findings of the GRMWG represent a critical balance point in the issues to be addressed in the LUF, representing agreement among the perspectives of a number of sectors including industry, conservation, agriculture, recreation, landowners, provincial and local governments, and Aboriginal peoples.

The GRMWG presents these findings in the form of six key directions that are critical to how growth and resource management should be addressed within the LUF. These key directions are accompanied by strategies and actions needed to ensure that the key directions are reflected and implemented under the LUF. It is essential to understand that these six key directions represent parallel and integrated processes that, in terms of implementation and timing, are neither discrete nor necessarily linear in nature. Taken together, the six directions provide the foundation for managing growth in Alberta. Given the brief period of time that the group had to complete its work, specific timelines for implementation of actions suggested by the GRMWG are not provided here, except in the case of issues that the group considers urgent.

The group has carried out its work with an understanding of the term "land-use" as referring to the integration of land, air and water management. Subsurface, surface and airshed implications are included within the meaning of the terms "land" and "land-use", such that their use is fully inclusive of land, air and water resources.

Direction 1
Adopt the LUF Vision and Outcomes

The GRMWG advises that the LUF vision statement must be incorporated into relevant existing and new legislation, regulation and/or policy relating to land, air and water. Mechanisms to ensure that the vision is reflected across ministries associated with land, air and water are also required. Second, the GRMWG advises adoption of a set of 12 LUF outcomes. The group arrived at the 12 outcomes by eliminating duplication in the three outcomes provided in the LUF Workbook, the eight outcomes identified in the 2007 LUF Cross-Sector Forum, and the nine outcomes from the 1991 Alberta Roundtable on Environment, Energy and the Economy. As with the LUF vision, to ensure their application, it is advised that these 12 combined outcomes be embedded in all land-use legislation, regulation and/or policy, as well as integrated across ministries.

Direction 2
Understand the Land and Recognize Carrying Capacity

The Government of Alberta needs to provide leadership and support in building an understanding of the land by developing comprehensive inventories of historical and current land-uses, biophysical data and social system knowledge. This information will help define the current state of land-use and its impacts, identify trends and gaps, and enable spatial analysis based on natural attributes. This baseline and endpoint information will help inform decisions pertaining to impacts on carrying capacity at the local, regional and provincial scales. Central to developing and managing these inventories is that information should be shared readily. Further, in order to fully incorporate the Quadruple Bottom Line ("QBL") model of sustainability (see Direction 3) into decisions that may affect carrying capacity, it is essential to begin accounting for natural capital, the quantifiable economic value of ecological goods and services provided by healthy landscapes, as an innovative method of reducing impacts of growth and their mitigation costs.

Direction 3
Review and Align Provincial Policies Affecting Land-Use with the LUF Vision and Outcomes Using a Quadruple Bottom Line Model

To operationalize adoption of the new LUF vision and outcomes, the GRMWG advises the Government of Alberta to initiate a review of existing provincial policies that impact land, air and water to ensure their integration and realignment to the LUF vision and outcomes. The review and alignment tasks should commence immediately and be conducted by a government-led stakeholder task force. Further, the review and alignment task must fully integrate the use of the QBL model of sustainability. The QBL model facilitates balanced consideration of impacts on all four pillars of sustainability, namely cultural, economic, environmental and social considerations, which must be assessed to manage growth. An appropriate infrastructure must be established to support decision-making and implementation (see Direction 6).

Direction 4
Limit Impacts to Manage Growth

The GRMWG observed that the five land management approaches it was asked to examine (applying criteria for patterns of activity; limiting/capping activities; setting priority land-uses; increasing/directing activities to certain areas; and phasing activities) tend to focus on managing activities on the landscape. The group agreed that in terms of growth and resource management outcomes, the LUF should instead manage the impacts of human activities on the land, not necessarily the activities themselves. Further, the LUF should enable growth through more efficient use of land without compromising its natural carrying capacity. Since the outcomes of any management approach are intended to ensure the integrity of land-based values in Alberta, i.e. valued ecosystems are maintained, the focus of growth and resource management ought to be on understanding the carrying capacity of the landscape to ensure that impacts remain within the limits of the carrying capacity. Central to implementing such an approach is to understand and account for cumulative effects in decision-making about activities. Implementation of this management approach must be supported by the Government of Alberta with an oversight function as well as integrated legislation, regulation and/or policy.

Direction 5
Promote Eco-Efficiency and Innovation

There is a clear need to develop a practical toolkit to enable Directions 1 through 4 to be implemented on the ground. The group advises that incentives, planning tools, adaptive tools, and compliance tools are all appropriate for use. For example, a provincial repository of scientific and traditional knowledge reflecting the cultural, economic, environmental and social pillars of the QBL model is required. Proposed as a centre of excellence, this repository function will develop, house and share inventory databases; share information on the suite of tools available for best practices; promote and support innovation; and integrate science and policy. Science is considered to include traditional ecological knowledge; the biophysical sciences; the health sciences; and the social sciences. It is essential that the Government of Alberta demonstrate leadership, including providing funding and expertise, and the amendment of its own legislative, regulatory and/or policy frameworks, to ensure that the expertise in this repository is duly considered in land-use and growth decisions.

Direction 6
Distribute Decision-Making Appropriately at Provincial, Regional and Local Scales

Notwithstanding the detailed advice forthcoming from the Planning and Decision-Making Working Group, the GRMWG advises that a well-structured decision-making infrastructure is essential to underpin the five key directions outlined above for managing growth. Specifically, the LUF requires strong leadership by the Province, integrated and coordinated planning at the regional scale, and implementation by local decision-makers. A structure of this type supports:

- the application of the LUF vision and outcomes;
- the integration of the QBL model across scales and across jurisdictions;

- the assurance that decisions are driven by an understanding of natural capital, carrying capacity and cumulative effects;
- a focus on managing for impacts of activities; and
- incorporation of a practical toolkit for decision-makers.

Principles inherent to this type of infrastructure include:

- provincial leadership that directs the values and principles of growth management;
- integrated planning across provincial, regional and local scales;
- local implementation and decision-making following the provincial and region-based principles;
- multi-stakeholder and Aboriginal involvement; and
- an appeal process and auditor to ensure accessibility and transparency.

Introduction

The Growth and Resource Management Working Group (GRMWG) is submitting this document as a consensus report that provides strategic guidance for growth and resource management decisions within the Land-use Framework (LUF).

The GRMWG presents its findings in the form of six key directions that are critical to how growth and resource management should be addressed within the LUF. These key strategic directions are set out in Table 1. To guide implementation of the key directions, the GRMWG has also identified a series of strategies and actions associated with each key direction. These strategies are critical to implementing the key directions. It is essential to consider these key directions as parallel processes; they are neither discrete nor necessarily linear processes. Taken together, they form the foundation for growth and resource management in Alberta.

The findings of the group emerged from discussions at eight meetings over 10 days, within a brief period of four months in the summer and fall of 2007. During this time, group members from several sectors including industry, conservation, agriculture, recreation and landowners, as well as representatives of municipal and provincial governments and Aboriginal peoples, brought their individual experience to the table to develop an overarching framework for growth and resource management. Each endeavoured to understand the perspectives arising from the expertise and knowledge of those present in order to work collectively toward the mandate set out in the Terms of Reference.

This consensus report sets out the common ground found within the GRMWG in its discussions of the sometimes-contentious issues to be addressed in the LUF. While the group's discussions could necessarily deal only with a microcosm of the wide range of views that pertain to land-use in Alberta, the key directions suggested here by the GRMWG are those on which participants found agreement. Accordingly, the content of this report establishes a promising and stable base for continued development of the LUF.

Table 1

Six Key Directions for Growth and Resource Management	
1.	Adopt the LUF Vision and Outcomes
2.	Understand the Land and Recognize Carrying Capacity
3.	Review and Align Provincial Policies Affecting Land-Use with the LUF Vision and Outcomes Using a Quadruple Bottom Line Model
4.	Limit Impacts to Manage Growth
5.	Promote Eco-Efficiency and Innovation
6.	Distribute Decision-making Appropriately at Provincial, Regional and Local Scales

The directions, strategies and actions must be taken into consideration in light of the diligent effort of the other LUF working groups. There is considerable overlap across the mandates of all groups, with each moving toward the common end of designing a practical, understandable and effective LUF. Thus, while this report makes reference to areas of Aboriginal participation; conservation and stewardship; planning and decision-making; and monitoring and evaluation, the purpose of these references is simply to orient the GRMWG work to that of the other groups, leaving the considered deliberations on the details to those responsible for addressing their respective topics.

Key Directions for Growth and Resource Management

Direction 1: Adopt the LUF Vision and Outcomes

The GRMWG fully supports the draft LUF vision, which currently reads:

> *"The people of Alberta respect the land and work together to care for, make best use of and sustain the land. Alberta's lands are well managed in a way that acknowledges the diversity of its people and balances the needs of present and future generations.1"*

From the LUF consultation Ideas Group and Cross-Sector Forum, and throughout the subsequent LUF consultations, there has been an understanding that land-use includes the "integration of land, air and water management",[2] and that subsurface, surface and airshed implications are included and integrated with land-use and the scope of this framework.[3] Therefore, when this GRMWG report refers to "land" or "land-use", these terms are meant to be fully inclusive of land, air and water resources.

1 *Land-Use Framework Workbook*, Alberta Sustainable Resource Development, Edmonton. 2007. p. 2.
2 *Understanding Land-use in Alberta*, The Land Use Framework Consultation Process to Date, Foreword. April, 2007.
3 Ibid, text and glossary.

Strategy 1.1
Adopt and Use the LUF Vision and Outcomes

The GRMWG spent much thoughtful effort in aligning its tasks to the efforts of previous work carried out in the LUF consultations. In particular, the group felt it was important to be guided by the LUF vision, and to work within the overarching outcomes of the LUF as they related to growth and resource management. The deliberations involved a review of the three outcomes set out in the LUF Workbook, which were found to be too broad and which missed some important details, as well as the eight outcomes identified at the 2006 Cross-Sector Forum and nine outcomes stated in the 1991 Alberta Roundtable on Environment and Economy.

The group integrated those 17 outcomes, to eliminate duplication, into a working set of 12 outcomes, set out in Table 2. Having reached agreement that these combined outcomes were consistent with the goals of the LUF, the GRMWG advises their use in the LUF.

Action 1.1.1
Enact the vision and combined outcomes into legislation, regulation and/or policy

The GRMWG suggests that appropriate legislative, regulative and/or policy mechanisms are required to fully acknowledge and actively endorse the LUF vision statement and combined outcomes as the overarching guiding principles of the LUF. This will enable decision-makers to make and implement land-use management decisions in Alberta in a manner that consistently reflects the intention of the LUF. It is also necessary to implement appropriate mechanisms that ensure cross-ministry alignment of the vision and outcomes.

Table 2

LUF Combined Outcomes	
1.	The LUF protects key environmental assets. The quality of land, air, water and biodiversity is assured.
2.	The LUF promotes shared stewardship of the land. Albertans are stewards of the environment and the economy.
3.	The LUF will ensure that Albertans live within the province's natural carrying capacity.
4.	The LUF helps promote integrated land-use planning between urban and rural jurisdictions.
5.	The LUF ensures a healthy quality of life for Albertans. Urban and rural communities offer a healthy environment for living.
6.	The LUF clearly defines roles and responsibilities for all groups.
7.	The LUF supports protection of agricultural lands.
8.	The LUF ensures effective and timely reclamation of lands.
9.	The LUF provides for an economy that is healthy.
10.	The LUF enables market forces and regulatory systems to work for sustainable development.
11.	The LUF helps Albertans to be educated and informed about the four pillars of sustainability: cultural, economic, environmental and social.
12.	The LUF enables Albertans to be responsible global citizens.

Action 1.1.2
Establish long-term land-use vision

The GRMWG suggests that the LUF incorporate a long-term multi-generational land-use vision (e.g., 100+ years) that reflects adaptations to the cultural, economic, environment and social interests of Albertans, as practices and information change over time. The implementation of the vision should include a means for regional determination of carrying capacity and recognize cumulative effects, and entrench these principles in legislation, regulation and/or policy when considering land-use changes, developments and resource extraction.

Direction 2: Understand the Land and Recognize Carrying Capacity

The GRMWG was asked to address the question, "How can the Province be most effective in taking a leadership role in growth and land-use management?"

Although other provincial roles are required, one of the ways that leadership can be demonstrated is through the accumulation, coordination, assessment and dissemination of data, knowledge and all types of relevant information that provides the foundation for understanding the land thoroughly in order to achieve appropriate management. This foundation is a fundamental requirement to accomplishing the goals of the draft provincial land-use vision, which the GRMWG fully supports as indicated under Direction 1.

Again, it is the understanding of the GRMWG that land-use includes the "integration of land, air and water management", and that subsurface, surface and airshed implications are included and integrated with land-use and the scope of the LUF. Therefore, when this GRMWG report refers to "land" or "land-use", these terms are meant to be fully inclusive of land, air and water resources.

It is not possible to manage for a future state of the land until an understanding is in place of its current state. Understanding land implies an understanding of its history, assessing all aspects of what exists now, changing trends and patterns, and what the alternatives are for the future.

Similarly, there has been recognition of the need for an overarching provincial framework that would also provide a foundation of understanding and information of and about the land. It is essential to have and to use reliable, comprehensive and up-to-date science to inform decision-making at all levels, and to guide all entities in light of a more integrated understanding of all of the dimensions and measures of all types of impacts.[4] Some of the required information, knowledge and data are available now, and compilation should begin immediately.

Currently, data collection and assessment is mixed. Activities in some areas and in some sectors are tracked, with impacts considered in different ways and at different levels. Other activities have not been considered in the assessment of the impact of human activities on the land.

Strategy 2.1
Develop a Comprehensive Inventory to Support Provincial, Regional and Local Decision-making

The compilation of basic biophysical and social information, historical uses, GIS mapping and other relevant data will provide a context for current decision-making, as well as continuity that will aid in recognizing the emergence of trends now and in the future. Current hotspots will be identified more easily when historical information is available and used. This information must be made available to provincial, regional, and local decision-makers to support informed decisions.

Action 2.1.1
Develop a comprehensive database of existing land-uses and land information

Land-use has physical form. Therefore, land-use planning must be spatially explicit. Cross-boundary analysis of natural areas must take place before jurisdictional boundaries are taken into account.[5]

[4] *Understanding Land-use in Alberta*, How Are Land Decisions Made? April, 2007. pp. 14-15

[5] Summit Land Use Planning Background Paper, Alberta Urban Municipalities Association, presented by O2 Planning & Design, Inc. August 24, 2007.

The required database(s) should include all existing land-uses, biophysical information, GIS mapping, airshed data, and surface and subsurface data including water. A comprehensive provincial repository of these data should be established and maintained by the Province, to compile and coordinate resources to assess the current state of natural regions; permit a province-wide gap analysis of missing or incomplete information areas; and support planning for how those gap areas can be filled. There should be significant links between this and a proposed centre for excellence described under Direction 5.

Action 2.1.2
Conduct state-of-the-land review

The GRMWG also suggests that the Government of Alberta apply QBL decision-making that incorporates research from relevant fields associated with the QBL model, and that it conduct a review of the state of the landscape to determine the appropriate level of activity over time and space that can be considered sustainable within that defined carrying capacity. This might be accomplished in priority locations first, with additional areas being addressed later.

Action 2.1.3
Identify and define Alberta's natural capital

Although the term "natural capital" was understood somewhat differently among group members, the group found the concept of identifying and of valuing natural capital to be useful. Further, the group advises that QBL decision-making must incorporate the value of ecological goods and services by accounting for natural capital.

Generally, natural capital refers to a stock of natural assets that yields a flow of valuable goods and services into the future. The stock that produces this flow is natural capital, while the sustainable flow is natural income. Together, these concepts can be viewed as the means of production of things such as oxygen, clean water, erosion prevention, and many other goods and services that are useful to humans. When viewed this way, natural ecosystems can be referred to as natural capital. The fundamental question is whether the remaining stocks of natural capital are adequate to sustain the anticipated load of the human economy for future generations, while simultaneously maintaining the general life support functions of the ecosphere. It has been said that the surplus productivity of Nature is what we should be living on.[6]

Broadening out this concept, a related idea is the valuation of non-market goods. In some cases, cultural, economic, environmental and social values can be stated in terms of dollars gained or lost. Even the values of the cultural and social pillars of sustainability are generally informed by social science and traditional ecological knowledge, which can be accomplished through engagement of citizens, including Aboriginal peoples.[7] Human values need to be incorporated throughout the process, in the form of multi-stakeholder consultation and/or representation, but sometimes may not be measurable in economic or even in social science/knowledge terms. Sustainability guidelines may be defined and non-market values assigned and accounted for in decision-making. It is expected that the growing body of science and knowledge in, for example, the proposed provincial database and repository described under Direction 5, would generate similarly innovative methods for incorporating additional quantifiable perspectives of the economic value of ecological goods such as clean air and water.

An illustration of valuing natural capital is provided by the Catskill/Delaware Watershed. It covers 1,600 square miles near New York City.[8] The watershed captures and filters up to 1.5 billion US gallons of water per day that is consumed, unfiltered, by more than 9 million people in New York City and parts of the surrounding counties. Development within the watershed boundaries had been threatening its inherent ability to filter water. The degraded water quality would have required New York City to build a water filtration facility at an estimated cost of US$6 billion, with US$250 million in annual

6 *Our Ecological Footprint*, William E. Rees. 1996. http://www.scarp.ubc.ca/faculty%20profiles/rees.htm
7 Appendix E, GRM Question #5, Key Findings #4.
8 www.riverkeeper.org/campaign.php/watershed/the_facts/14J

operating costs. By recognizing the valuable water filtration service of an intact watershed, that is, recognizing it as natural capital, government officials and environmental groups developed an agreement to protect and enhance the watershed at a significantly lower cost than building a filtration plant.

Strategy 2.2
Build on All Types of Knowledge, Science and Values to Obtain Baseline and Endpoint Information

In this report, the use of the term "science" incorporates the physical and social sciences as well as traditional ecological knowledge, based on an Aboriginal holistic perspective that views ecosystems as numerous components being in balance.[9]

Science must be used to determine carrying capacity, in relation to the objectives and values appropriate for the landscape and its carrying capacity. Assessment of carrying capacity must include the cumulative effects of all types of human activity. The impacts on the landscape from some activities, such as tourism and recreation, have not always been considered. Further, impacts are cumulative and integrated. Therefore, impacts must be considered in their entirety. This means that, rather than designating an area for a particular or sole use, carrying capacity is more appropriately balanced through the use of integrated land-use, compatibility of activities, and mutual or collaborative innovation.

Science provides a growing body of impact measurement tools that can inform decisions at all levels. Decision-makers at all scales, from the provincial (vision, outcomes/principles, legislation, regulation and/or policy), through the regional coordination of appropriate guidelines, to the implementation of the guidelines at the local level, must be informed by this science.

Action 2.2.1
Support and share ongoing research and improvement

The GRMWG encourages the Government of Alberta and local governments to make land information as readily available as possible to decision-makers at all scales. It is understood that some of the data are proprietary and that ownership will need to be respected. Mechanisms such as share-agreements to facilitate ease of access are advised. The AEUB database provides an example of information-sharing with various levels of accessibility.

Overall, the more effective use of existing data is strongly advised. There are silos of national and international information residing with governments, industry, universities, Aboriginal communities and landowners that could be utilized more effectively and used in combination or coordination with other bodies of knowledge and data. Research using all available indicators will provide current data and demonstrate trends for informed decision-making. Comprehensive and up-to-date monitoring of all available indicators will facilitate management of progress toward objectives.

Direction 3: Review and Align Provincial Policies Affecting Land-Use with the LUF Vision and Outcomes Using a Quadruple Bottom Line Model

The LUF vision and outcomes provide a new and more specific reference point for focusing provincial land-use policies and their implementation. The GRMWG suggests that Direction 3 is a starting point for the realignment of provincial policies and the development of mechanisms to achieve that alignment.

The Quadruple Bottom Line ("QBL") model includes balanced consideration of the cultural, economic, environmental and social impacts of land-use decisions. The latter three, economic, environmental and social, have sometimes been referred to as the Triple Bottom Line ("TBL"), guiding decisions in both the public and private sectors. The GRMWG suggests adoption of the QBL model to encompass all four pillars of sustainability to reliably embed them into LUF decision-making.

The reference to culture is most commonly used in recognition of the traditional rights and land-uses of Aboriginal peoples, but it equally includes a wider recognition of other land-uses such as farming, trapping,

[9] Appendix E, GRM Question #5, Key Findings #2.

recreational access, and historic and cultural sites. The group recognized that the fourth pillar of culture required elevation to a status equal to the other three considerations. In the past, cultural considerations have often been incorporated with the social pillar because of their connection to the land and heritage, whether Aboriginal or otherwise.

Strategy 3.1
Realign Provincial Strategic Policy Directions to Implement the LUF Vision and Outcomes

It is necessary for the Government of Alberta to realign its strategic policy directions in order to provide a foundation for implementing the LUF vision and outcomes.

Action 3.1.1
Review and align provincial policies that affect land

The following list provides a starting point for provincial policies that should be reviewed, integrated and realigned to the LUF vision and combined outcomes. While not a comprehensive list, these are some examples of urgent policy "hotspots" to consider.

- Aboriginal rights;
- subsurface and surface issues;
- oilsands;
- sprawl;
- cumulative effects;
- protection of agricultural lands;
- non-regulated human activities (e.g., recreation, traditional land-use);
- climate change;
- protection of water sources including groundwater and headwaters;
- reconsideration of the definition of the "public interest" in the context of growth and resource management decisions;
- resource access;
- value-added use of resources;
- conflict of human use and resource extraction;
- biodiversity and endangered species;
- transportation and utility corridors;
- regionalized planning;
- integration of policy and process (e.g., with Water for Life and CASA);
- evolution of the oil and gas industry;
- protected places for conservation and recreation;
- alternative energy economies; and
- diversification of rural economies.

Action 3.1.2
Establish a government-led stakeholder task force to begin immediate implementation of Action 3.1.1

The GRMWG suggests that a government-led stakeholder task force utilizing input from recent consultation processes, such as Water for Life and the LUF, begin the review of provincial policies impacting land in Alberta. The Government of Alberta has already put in place certain environmental objectives for areas such as air and water quality that could be brought together into a comprehensive set of statements. This review should aim to consolidate, clarify and better integrate existing policies around the LUF vision statement and combined outcomes. A draft document could then be prepared to discuss with stakeholders, the public and Aboriginal communities to ensure that the intent of this review has been met.

These statements should be entrenched in legislation and regulation that would provide greater permanence and authority, and so consequently would be less subject to arbitrary change. However, since legislation takes a lengthy period of time to enact, the group suggests as an alternative that more immediate policy and guidelines be established.

Action 3.1.3
Ensure government alignment for QBL decision-making

The Government of Alberta should set up a structure to ensure provincial cross-ministry, regional and local government alignment in policy development and decision-making. Appropriate ministries should participate in and sign off on all policies that affect QBL land-use decision-making.

Strategy 3.2
Planning and Decision-Making at all Levels and Authorities Must be Aligned with the LUF Vision and Outcomes

Once the vision and outcomes are adopted, these become the goalposts that cannot be compromised by subsequent regional and local land-use decision-making processes. Once the Province sets clear, high-level objectives for each of the four pillars of sustainability, regional and local decision-makers will be able to work within them, to make best use of existing land and resources, and to encourage innovation and increased efficiency.

Specific actions to achieve this strategy must be developed in the context of the LUF's proposals for governance and decision-making processes across all levels of government in Alberta.

Strategy 3.3
All Decision-making Must be Based on Balancing the QBL

The challenge to decision-makers at all scales is to align to the LUF vision, outcomes and provincial land policies while balancing the cultural, economic, environmental and social pillars of sustainability. Decision-makers must take into consideration spatial and temporal considerations, that is, giving consideration to the needs of future generations through full life-cycle accounting. Balance within the vision and outcomes may vary by region or locale, based on variances in local issues and priorities.

Direction 4: Limit Impacts to Manage Growth

The Government of Alberta asked the GRMWG to address questions relating to activity on the landscape. For example, "Should the Government of Alberta apply criteria for patterns of density, intensity or rate and type of activity; limit or cap activity; set priority land-uses; increase or direct activities; and phase activities over time and space?".

While the GRMWG supported use of these five management approaches in particular circumstances and answered the questions directly (see Appendix E), there was considerable discussion about what the outcomes of the approaches were attempting to address.

The GRMWG observed that these five land management approaches tend to focus on managing activities on the landscape. The group agreed that in terms of growth and resource management outcomes, the LUF should instead manage the impacts of human activities on the land, not necessarily the activities themselves. Further, the group agreed that the LUF should enable growth through more efficient use of land without compromising its natural carrying capacity. Since the outcomes of any approach to management are intended to ensure the integrity of land-based values in Alberta, i.e. valued ecosystems are maintained, the focus of growth and resource management ought to be on understanding the carrying capacity of the landscape to ensure that impacts remain within the limits of the carrying capacity.

The GRMWG cautions that a growth and resource management approach within the LUF that is based on the management of activities could focus on short-term rather than long-term decision-making, and have the potential to create undesirable long-term consequences. In addition, the management-of-activities approach, in the absence of informed decision-making, may also result in long-term negative impacts. The group recognized that the outcomes of an informed decision-making process may potentially involve one or more of the five activity-based approaches laid out by the Government of Alberta, but advises not to use these as a primary basis for land-use decision-making.

The GRMWG also recognized that limiting the impacts by employing limits, thresholds or targets as determined by a value-based decision-making mode, may result in limits to activities, temporality or spatially. The overarching objective, rather, is to enable growth while managing its ecological footprint.

Strategy 4.1
Focus Management Approaches on Outcomes

Considerable time and effort was spent by the GRMWG in addressing the five land management approaches identified in the questions posed to the group under the Terms of Reference. These approaches comprised:

(a) applying criteria for patterns of density, intensity or rates, and type of activity;

(b) limiting or capping specific activities;

(c) setting priority land uses;

(d) increasing, decreasing[10] or directing activities in certain areas; and

(e) phasing activities over space and time.

The GRMWG offers the following assessment of these approaches and provides information on how these approaches could be implemented at the strategic level, who would be involved, and on what scale the decisions should be made. The group did not go into specifics about the criteria to be developed, which activities need to be managed, nor did it set priority land-uses, since these tasks fell beyond the scope of the mandate set out in the Terms of Reference.

Approach (a)
Applying criteria for patterns of density, intensity or rates, and type of activity

Criteria are necessary to sustain the integrity and health of the QBL. They must be measurable, understood, and applied to all activities on the landscape. It is acknowledged that it might be more challenging to develop social and cultural criteria that meet this test. Criteria should be based on the QBL and the carrying capacity of the land. In addition to sustaining the integrity and health of cultural, economic, environmental and social systems, the following prerequisites for applying criteria were discussed and considered essential:

- setting provincial guidelines or broad criteria through the LUF, as well as related and amended legislation, regulation and/or policy, and integration of all water, air and land strategies;
- using regional bodies to set out regional and local guidelines enabling local involvement, including nomination of seats on regional bodies, and public and stakeholder participation;
- using an outcomes-based plan at the provincial level to establish limits and targets in areas such as carrying capacity, percentage of agricultural and forest lands to be maintained or reclamation strategies for brownfield sites; and
- an ongoing review process to determine the effectiveness of the criteria.

Each element within the approach of applying criteria can be viewed as a tool necessary to achieve a value/principle-based objective established for application regionally and/or provincially.

Notwithstanding, it was noted by the group that applying criteria for rates and types of activity may be justified when there is clear evidence of a threat to the carrying capacity of a regional or sub-regional area in which the cumulative effects of that activity, in concert with others, is occurring or is proposed to occur.

As mentioned in the prerequisites for criteria, the Government of Alberta takes a leadership role to adopt the LUF vision and outcomes to achieve integrity of the four pillars of the QBL, and for monitoring and adjustment. Specificity increases down through regional and local levels, allowing for regional diversity, but regional plans must be consistent with the LUF vision and outcomes. This model is implemented by legislation and supported by appropriate resources, including data, knowledge and skills.

In terms of decision-making this approach involves provincial, region-based and local elements, as well as an appeal function. It would be inter-governmental and include inter-sectoral coordination and partnerships through consultation. Local governments would then agree to a set of activities that meet the objectives.

Approach (b)
Limiting or capping specific activities

The group agreed in general that this approach should be applied, but that the use of limits or caps must have a justified, informed basis for their application. It was also generally agreed that a process for encouraging more efficient use of land within the carrying capacity should take priority over the arbitrary setting of limits and/or caps on activities.

The concept of limiting or capping activities must be subject to defining the QBL values necessary to meet the carrying capacity of a region or sub-region. The values

[10] The word "decreasing" was added by the GRMWG to represent a balanced approach.

to be protected must be defined at a provincial scale, with specific targets and/or thresholds established and monitored using science. Once established, management of specific values becomes a regional responsibility aligned with the provincially-defined values.

The concept of limiting or capping activities should also:

- enable the identification of clear strategies to be applied when thresholds are approached or when targets are reached;
- reflect that cumulative effects are an essential element in decision-making and must be established within the context of cumulative land and resource development;
- be strongly science-based;
- be applied temporally and spatially through various tools, including targets, thresholds or moratoria, when there is insufficient science;
- be consultative, i.e. limits should not be set in isolation within a ministry or sector;
- account for inter-provincial considerations, e.g., water, pipelines, and power lines;
- encourage efficiencies and creativity in resource management and allow adaptation as technologies develop; and
- provide incentives for sectors to perform at a higher standard.

Action 4.1.1
The Province should develop and put in place systems to determine application of limits

The GRMWG agreed that, while it was inappropriate and impractical for the group to attempt to define specific limits, it strongly encourages the Government of Alberta to put in place systems to determine the application of limits within/across regions.

Once the QBL values are defined at the provincial level, decisions could then be made at the regional scale or, for example, occur at a watershed scale, and could be integrated with existing watershed councils. It is key to involve First Nations and other stakeholders at all levels, including during implementation. The scale of decisions should match the QBL values.

Approach (c)
Setting priority land-uses

There was considerable debate within the GRMWG both in defining "priority" land-use models and about their use as an approach for managing growth. It was acknowledged that priority land-use could be appropriate as a means of providing an overall management approach to resolve conflicts, but it was also acknowledged that by establishing a priority land-use, the process may create conflict among land-users.

The group agreed in general that:

- the absence of setting priorities is a reactive rather than a proactive approach: it is too late to apply effectively once issues and/or conflict have arisen;
- assigning priority land-uses in areas where conflict is likely to occur may be a practical option;
- priorities may be appropriately adaptive as circumstances and technology allow;
- a three-pronged approach that allows for three levels of usage may help in the practical implementation of assigning priority (see discussion under Approach (d); and
- while priority land-use may not be required now in every region, it is necessary to start to incorporate it, in particular in areas where water constraints are an issue.

If priority land-use is adopted as an approach, the following cautions are noted:

- priority land-use designations must be made in the context of managing impacts to the landscape at a regional or sub-regional level in order to protect and maintain a provincial value;
- processes that utilize a risk-based approach, and through consultation identify and provide for

compatible land-uses, should be implemented ahead of setting priority land-uses;

- the implementation of a prioritized list of land-uses, and establishing the top land-use as a priority, has the potential to create significant conflict among land users; and
- consideration of priority land-uses should focus on the identification of compatible land-uses, some of which are preferred over others, rather than the identification of single land uses to the exclusion of all others.

Approach (d)
Increasing, decreasing[11] or directing activities in certain areas

It was recognized that while this may be an acceptable approach in theory, its practicality may be limited due to the geographical placement of natural features. The group identified certain activities that, if directed geographically, could be mutually beneficial, i.e. this approach may be more applicable to housing, farming, industry and conservation activities.

The GRMWG concluded that arbitrarily increasing, decreasing or directing activities should only be considered where there is clear evidence of a threat to the carrying capacity of a regional or sub-regional area in which the activity is occurring or is proposed to occur.

Strategy 4.2
Apply A Three-Pronged Management Approach

The group concluded that a three-pronged approach to growth and resource management should be incorporated into the systems discussion under Strategy 4.1. This three-pronged approach is a method of identifying areas that require greatest attention. It allows planning agencies to establish thresholds based on three levels of usage.

The three levels are:

- intensive use (e.g., cities and industrial areas like oilsands);
- zero use (e.g., protected areas, benchmark areas); and
- somewhere in between (e.g., areas where best management practices and efficient use of land are compatible with existing/future land-uses).

Depending on the management issues, each level can attract a different degree of action and planning, and employ a different array of tools.

Approach (e)
Phasing activities over space and time

The GRMWG felt that this approach has merit if it will reduce or mitigate an immediate threat to the carrying capacity of the land on a regional basis. The group suggests that the application of this approach must be flexible to allow for implementation of new technology and innovation; ensure that it does not disproportionately affect one industry over another; and ensure that the phasing of activities may be used as a management tool with consideration given to the type of activity, e.g., settlements, and renewable and non-renewable activities.

Decisions must occur at a high level to address the need for leadership. The Province must set priorities, articulate conditions of time and space, and deal with legislative and regulatory changes to recognize ecological integrity. The process guides and allows local governments to make local decisions.

The terms and conditions of authority must be defined clearly and entrenched in legislation and/or policy so that they cannot be changed easily.

Strategy 4.3
Establish Targets, Limits and Thresholds on Impacts

The LUF must provide targets that guide land-use decision-making. These are determined using the most current science with recognition of the need to develop new information as necessary to fill gaps in existing resource information. These targets must address clear objectives for each of the four pillars of sustainability, and could be defined on a regional basis to guide region-based decision-making and planning.

[11] The word "decreasing" was added by the GRMWG to represent a balanced approach.

There was general agreement in the GRMWG that the Government of Alberta should establish a process for defining regional and/or sub-regional carrying capacity. This would be based on the discussion provided under Directions 2 and 3.

Action 4.3.1
Identify and address "hotspots" and over-capacity areas immediately

This involves determining existing and potential future hotspots within Alberta that require immediate attention and action. These hotspots are typically defined as follows

- high growth or demand areas for population and development;
- areas where particular interests of stakeholders are in conflict with each other; and
- areas that have high impact on land, air, water, wildlife or social issues such as labour, housing and other social service shortages.

Examples may include Fort McMurray, Calgary and Edmonton; existing initiatives dealing with the southern Alberta rangelands and Eastern slopes; Upgrader Alley; and the Northeast Edmonton Initiative; as well as existing initiatives and/or areas that have, for example, declining caribou herds and grizzly bear habitat. The Province should conduct an inventory of the land and identify key benchmark metrics. In advance of the establishment of a responsible authority, and of a comprehensive inventory, a provincial agency can be assigned interim authority to identify and receive information, in consultation with stakeholders, and begin to address these hotspots.

In addition, it is necessary to determine an equitable process for regions that, given the existing level of activity, have surpassed the carrying capacity. It has been recognized that some regions may have already reached over-capacity and that no current approach is available to rectify the problem. For example, in a 2000 AEUB decision to approve Canadian 88 Energy Corporation's application to drill a critical sour gas well and construct a pipeline in the Castle Crown region:

> *"(T)he Board notes that both the public and the industry participants took a common view that it was possible or even likely that the biological thresholds for at least some key species identified as important in the IRP may now have been exceeded in the region. This would appear to strongly suggest that the current publicly available planning tools for the region may now be outdated and inadequate to address the current level of development. The Board also agrees with the position taken by the parties that, in the absence of threshold values against which to measure such ecological effects, it is difficult for an applicant, the public, or the Board to evaluate to what degree incremental impacts from new development would be acceptable. Nor is it possible to determine what mitigative actions, such as facility, road, or cut-line abandonment and reclamation in other portions of the region, might be used to reduce the cumulative effects to suitable levels.[12]"*

Mechanisms that could be considered are the establishment of targets in some areas, i.e. at hotspots, regulatory contraventions, and the purchase of land or wetland offsets. If limiting or capping activities is determined to be the best option for mitigation, compensation for previously approved industrial activities may be required. Tools to apply here may include development of remedial action plans and disallowing further approvals.

Action 4.3.2
Integrate with other provincial planning initiatives

Ensure that the LUF and planning is coordinated with the CASA and Water for Life processes, given that terrestrial impacts are linked to impacts on air, water and biodiversity.

Action 4.3.3
Identify beneficial management practices

To mitigate impacts, identify a suite of beneficial management practices that must be adhered to. These include, but are not limited to, integrated land management, multi-use requirements on infrastructure, management of high-impact recreational activities such as all-terrain vehicle use, establishment of corridors, and low-impact seismic. See Direction 5 for more discussion on a toolkit.

[12] Canadian 88 Energy Corporation's application to drill a critical sour gas well and construct a pipeline and related activities in the Castle Crown region (AEUB 2000-18). http://www.eub.ca/docs/Documents/decisions/2000/2000-18.pdf, p. 10.

Action 4.3.4
Build on experiences of other jurisdictions

Consider and incorporate the experiences and successes from other jurisdictions that have implemented processes to determine carrying capacity. Good examples exist in the Jurisdictional Review of Land-use and Land Management Policy conducted for the Government of Alberta. These include but are not limited to Ontario's Greenbelt Protection legislation, Alberta's Eastern Slopes Plan, the Southern Foothills Study, and Integrated Watershed Management Plans.

Strategy 4.4
Account for Cumulative Effects to Manage Long-Term Results

Today's current practice is to conduct environmental impact assessments ("EIAs") to assist in defining appropriate limits for individual developments. EIAs are not typically conducted for areas larger than a single development, nor are all projects subject to an EIA. A move to establishing cumulative effects assessments is the group's suggested approach to address this gap.

Addressing the cumulative effects of economic growth and its impacts on land, air and water was discussed extensively by the GRMWG. Two types of actions to address cumulative effects are advised. One is the creation of an advisory group and the other is to implement regulations to manage for cumulative effects.

Action 4.4.1
Implement legislation, regulation and/or policy to address cumulative effects

The GRMWG supports the development of legislation designed to address the cumulative effects of development. The legislation should be cross-ministerial, involving existing regulatory agencies, and have broad public and expert consultation. This action may change the mandate of existing regulatory agencies in terms of requirements to incorporate cumulative effects considerations in their decision-making processes. In particular, the GRMWG supports the proposal to develop an *Environmental Sustainability Act* that is designed to address regulation of the cumulative effects of development.

Action 4.4.2
Within legislation, establish a governing body for cumulative effects

There are already some examples of regional working groups addressing cumulative environmental effects in Alberta. The Cumulative Environmental Management Association ("CEMA") and the Clean Air Strategic Alliance ("CASA") are good examples of multi-stakeholder groups that are designed to understand and address the cumulative effects of development. Using these as examples, the Government of Alberta should establish a governing body that has multi-stakeholder and Aboriginal representation and authority, with ministerial support for decision-making related to cumulative effects. See Direction 6 for more detail.

Direction 5: Promote Eco-Efficiency and Innovation

The consensus among the GRMWG is that the Government of Alberta will need to utilize more than just incentives to successfully implement an LUF. A full growth and resource management toolkit supporting eco-efficiency must be developed in conjunction with the LUF to promote the efficient and innovative use of scarce and non-renewable resources. This toolkit would include mechanisms for compliance, knowledge and innovation, incentives, and planning.

As defined by the World Business Council for Sustainable Development ("WBCSD") eco-efficiency "is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle to a level at least in line with the Earth's estimated carrying capacity." In short, it is concerned with creating more value with less impact.[13]

[13] http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=MTgwMjc

Strategy 5.1
Create and Encourage a Toolkit of Compliance, Knowledge, Innovation, Incentive and Planning Tools

Action 5.1.1
Develop compliance tools

In order to support the possible governance framework for growth and resource management described under Direction 6, the GRMWG identified the importance of developing sound environmental compliance tools. The most significant tool identified was the development and implementation of land and resource management legislation and regulation that would enable and create specific parameters around land-use practices in Alberta.

Action 5.1.2
Develop knowledge and innovation tools

One of the group's key themes is the notion of having a credible body of information, tools and best practices as key underpinnings to all aspects of growth and resource management. For example, it is advised that a centre of excellence be established to facilitate enhancement in these areas, including knowledge-building and educational extension, using science to gather and disseminate information on the four pillars of sustainability. Further, the centre of excellence should support the process of decision-makers incorporating this science into land-use decision-making.

More specifically, the role of a centre of excellence would be to:

- develop and house tools, best practices and processes that could be utilized by growth management authorities in decision-making and planning;
- promote and support innovation which fosters sustainability, as a critical component to growth and resource management;
- enable access to the cultural, economic, environmental and social science/knowledge available wherever it may be found;
- reduce the gap between science/knowledge and policy and planning; and
- integrate our shared knowledge base and generate innovative ways to ensure long-term cultural, economic, environmental and social well-being; diversity; and prosperity within the land's carrying capacity.

Science and knowledge, in this context, includes many fields comprising traditional ecological knowledge; the biophysical sciences; the health sciences; the social sciences such as philosophy and economics, particularly focusing on societal wellbeing and true prosperity; and engineering, e.g., with regard to ecologically safe and viable technological innovation in areas such as public transportation.

A centre of excellence should be an independent and flexible coalition of contributors, recognizing the need for change and for diversifying the set of assumptions, concepts, values, and practices that constitute the way Alberta's culture, economy, environment and society are viewed.

The role of the Government of Alberta should be to:

- provide a mandate for the proposed centre of excellence;
- provide funding as required for that centre of excellence;
- procure key expertise wherever it is found;
- amend the legislative, regulatory and/or policy framework as required to ensure that the expertise is duly considered by decision-making bodies; and
- vet management tools and innovative ideas across industry and the general public.

Action 5.1.3
Develop incentives

The broad concept of incentives was discussed by the GRMWG. The notion of growth management stewardship incentives suggests different things to different people. Some imagine market-based incentives in which land-use decisions stimulate improved management. Others envision direct financial and taxation support for land protection. Some focus on technical assistance or recognition as rewards for stewardship.

For the purpose of this report the group defined incentives broadly to include anything that may motivate people to adopt beneficial land management practices to conserve Alberta's land resources.

Action 5.1.4
Develop planning tools

Sound land-use planning is integral to a multi-pronged LUF. The group identified the need to ensure all local planning agencies are equipped with tools to make effective land-use decisions. A number of possible tools were identified for development including:

- zoning and development planning tools;
- land-use forecasting simulators;
- density transfer tools (e.g., development credits);
- other tools to assist with infrastructure and integrated land management and development; and
- industrial ecology.[14]

The industrial ecology approach to development promotes a shift from separate, linear systems to an integrated, interacting network of manufacturing systems similar to those found in Nature. Through a holistic view of industrial systems, industrial ecology clusters facilities to maximize energy efficiency and resource use, minimize pollution, and eliminate waste. For example, eco-industrial parks are located and designed to take advantage of the outputs of adjacent operations and facilities, turning their wastes into raw materials for other processes. Specific environmental benefits of the eco-industrial approach include reduced greenhouse gas emissions; reduced air emissions; and improved community health; promotion of pollution prevention and the 4 Rs (Reduce, Reuse, Recycle, Recover); improved resource conservation; promotion of green technology development; increased environmental awareness; and regeneration of green space. See Appendix F for an illustration of the linkages created through the application of industrial ecology.

Strategy 5.2
Support Continuing Development of Tools

Growth and resource management practices must be assessed continually. It is important that the information gathered through monitoring practices be used to adjust management practices for continuous improvement.

Action 5.2.1
Develop continuous improvement tools

To support continuous improvement the GRMWG advises the Government of Alberta to:

- allocate resources for data collection, monitoring and evaluation of growth and resource management practices;
- support targeted research; and
- identify practices to maximize the efficiency of land-use to reduce overall intrusion and improve mitigation on the landscape.

[14] Prevention/Continuous Improvement Framework. Final Report of the CASA Pollution Prevention/Continuous Improvement Project Team, 2002. http://www.casahome.org/wp-content/uploads/2006/10/P2CIFinalReportJUN-21-2002.pdf

Direction 6: Distribute Decision-making Appropriately at Provincial, Regional and Local Scales

Strategy 6.1
Establish a Comprehensive Provincial Structure for Land-use Decision-making

Decisions related to land-use, where those decisions are made, the information used in making those decisions, and how those decisions are coordinated, are all critical to growth and resource management. The GRMWG determined that decisions affecting growth and resource management should be made on the basis of the principles set out in Table 3.

Table 3

Key Principles of Decision-Making	
Strong provincial leadership	Values and principles must be established that guide long-range planning and the implementation of provincial strategies, as well as direct changes in legislation, regulation and policy, including additional legislation, if necessary. The Government of Alberta must make provision for appropriate infrastructure, mechanisms and resources (e.g., coordination of data, establishment of knowledge centres). The Province may also have a role in guiding, overseeing and monitoring land-use across the province to meet provincial objectives and values, as determined by the LUF Planning and Decision-Making Working Group.
Integrated planning	Effective planning must use a regional concept where decisions are inter-governmental, respecting the attributes and priorities of natural regions and/or river basins in addition to political boundaries.
Public involvement including Aboriginal	Public consultation, and consultation with Aboriginal peoples, needs to occur at the provincial and regional scales to determine strategies, goals and objectives, and then be applied and implemented at the local level.

Recognizing that the LUF Planning and Decision Making Working Group will be addressing governance in detail, the GRMWG offers a Possible Model for Provincial Land-Use Authority (see Figure 1) as an example of a potential governance structure that supports these principles and enables the QBL model to be applied. Components that the GRMWG believes are essential to the governance model are described in Table 4.

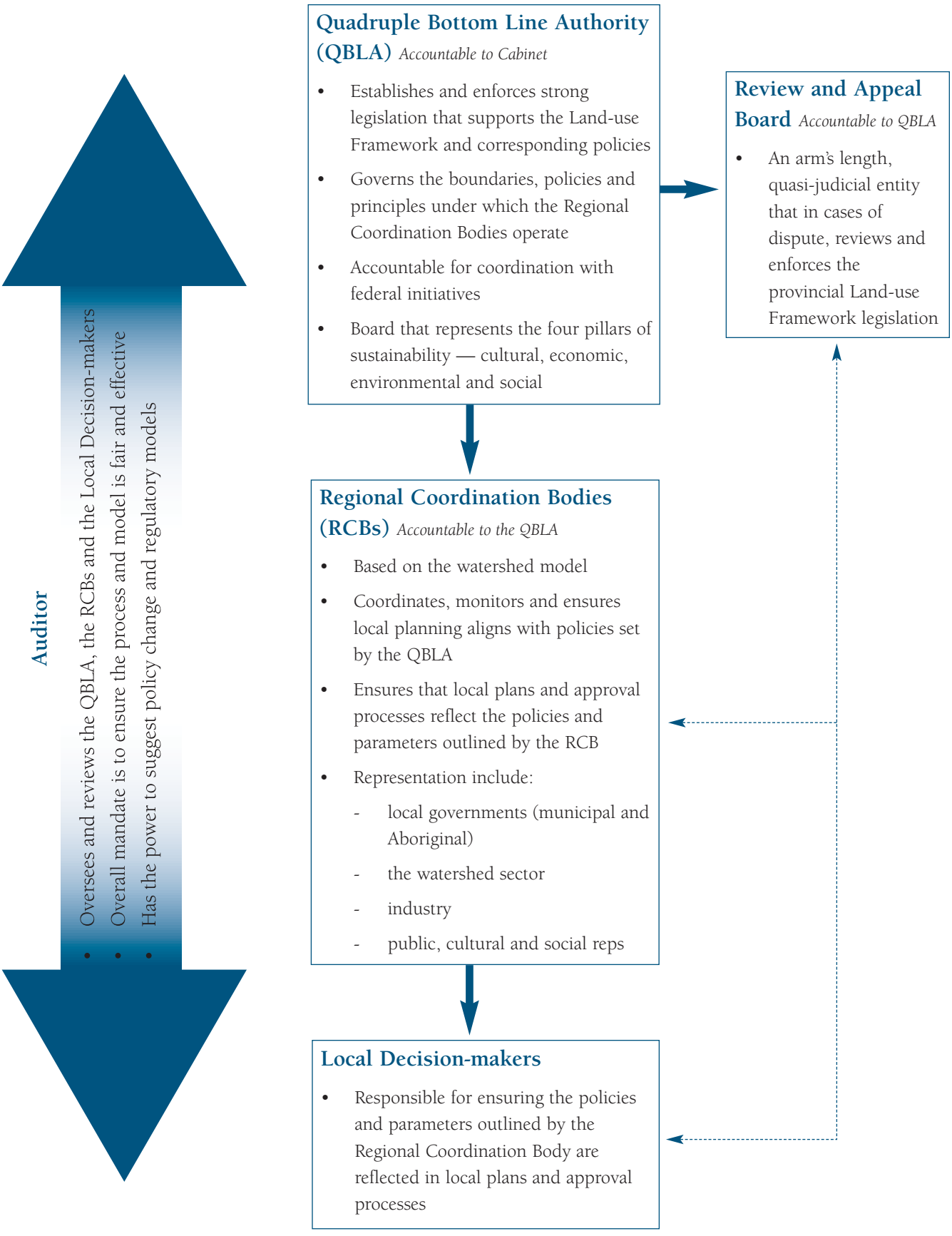


Figure 1
Possible Model for Provincial Land-use Authority (QBLA)

Table 4

Key Components of Governance	
1.	A provincial authority with the responsibility for establishment and enforcement of legislation and policy related to the LUF.
2.	Regional coordination bodies to coordinate and collaborate, providing a regional framework that will allow local planning to conform to policies set by the provincial authority.
3.	Local decision-makers to implement land-use planning decisions within provincial and regional parameters.
4.	An appeal process to resolve disputes.
5.	An auditor to ensure the process is fair and effective.

This proposed structure has the following elements.

(a) Quadruple Bottom Line Authority ("QBLA") - The QBLA establishes and enforces strong legislation that supports the LUF. It will govern the boundaries, policies, and principles under which the regional approving authorities are accountable for the coordination and approval of land-use and development decisions. It is also accountable to work and coordinate with the Provincial Cabinet.

(b) Review and Appeal Board (as a separate body) - Reports to the QBLA (same kind of experts as regional) and is accountable for decisions/disputes made at a regional level. The Review and Appeal Board is quasi-judicial and has a mandate to enforce provincial land-use legislation.

(c) Regional Coordinating Bodies (may be based on the watershed model or similar regions) - Includes representation of First Nations, municipalities, the watershed sector, industry, the public, as well as cultural and social representatives. Local decision-makers need to be involved in a coordinative manner to make place-based decisions.

(d) Local Land-use Decision-makers - Municipalities, Aboriginal governments and other local authorities and landowners make decisions on a day-to-day basis consistent with the provincial framework and regional plans.

(e) Auditor - Oversees and reviews the QBLA, Review Board, and Regional Bodies, and has the power to suggest policy change and regulatory models. The overarching principle is to ensure that the process and the model is working, including that all four pillars of the QBL are being given fair representation.

Accountability is critical. The QBLA would have staff experts in all four QBL pillars, would report directly to the Provincial Cabinet, and would be ultimately accountable for enforcement and planning principles that are applied.

Action 6.1.1
Establish a provincial authority to provide leadership in land-use

The Government of Alberta must set the core values and principles as outlined under Direction 2. These values and principles will guide regional planning and are implemented and applied at the local level. Provincial direction must derive from an integrated body made up of all of the ministries that have jurisdiction over land-use issues.

Action 6.1.2
Establish regional coordinating bodies for local authorities

Coordinated regional-scale planning will enable responsiveness to variations in issues and land-uses within provincial parameters, resulting in variations in regional plans. The GRMWG suggests that regional boundaries be based on ecological rather than political boundaries. The regional boundary suggestion most favoured by the group was that reflecting major river basins (Figure 2). The GRMWG urges caution in establishing regional boundaries according to business activities such as

agriculture or forestry, because industries cross boundaries on the landscape and jurisdictional realities need to be accommodated. There should be a consistent regular review of regional plans and policies through an adaptive management process. Major changes should be incremental and recognize the variety of interests of the local population.

There are many local authorities and other decision-makers who make decisions regarding land-use in their jurisdictions. The purpose of the regional coordinating bodies is to ensure that provincial values and principles, and regional parameters, are reflected in local plans, policies and regulatory approvals.

Action 6.1.3
Establish the short-term and long-term mechanisms to develop the decision process

The Government of Alberta needs to set up a mechanism to develop the process to determine how decisions will be made in growth and resource management. This process must include public as well as scientific input, using the broad definition of science as used in this report. The Government of Alberta should borrow attributes of success from other areas, wherever possible. The GRMWG feels that stakeholder and public input should occur at all three scales of decision-making. The structure should also include a local advisory group made up of public sector representatives, which gives input to regional planning.

The GRMWG expects that setting up the decision-making system would not occur for a significant amount of time, until many of the other initiatives related to land-use planning are completed. Therefore, the GRMWG suggests setting up an interim decision-making system immediately due to the urgency of hotspots and need for action now. If it takes too many years before a decision-making system is established, then many of the resources will have been allocated already, and balancing the QBL would, consequently, become a moot point. Integration of the assessment of cumulative effects into decisions made on current and future activities must be immediate. The primary goal of the interim mechanism is to identify and deal with hotspots, working within the same six key directions for managing growth and resource management identified in Table 1, remembering that these key directions are complementary and integrated as opposed to discrete and linear.

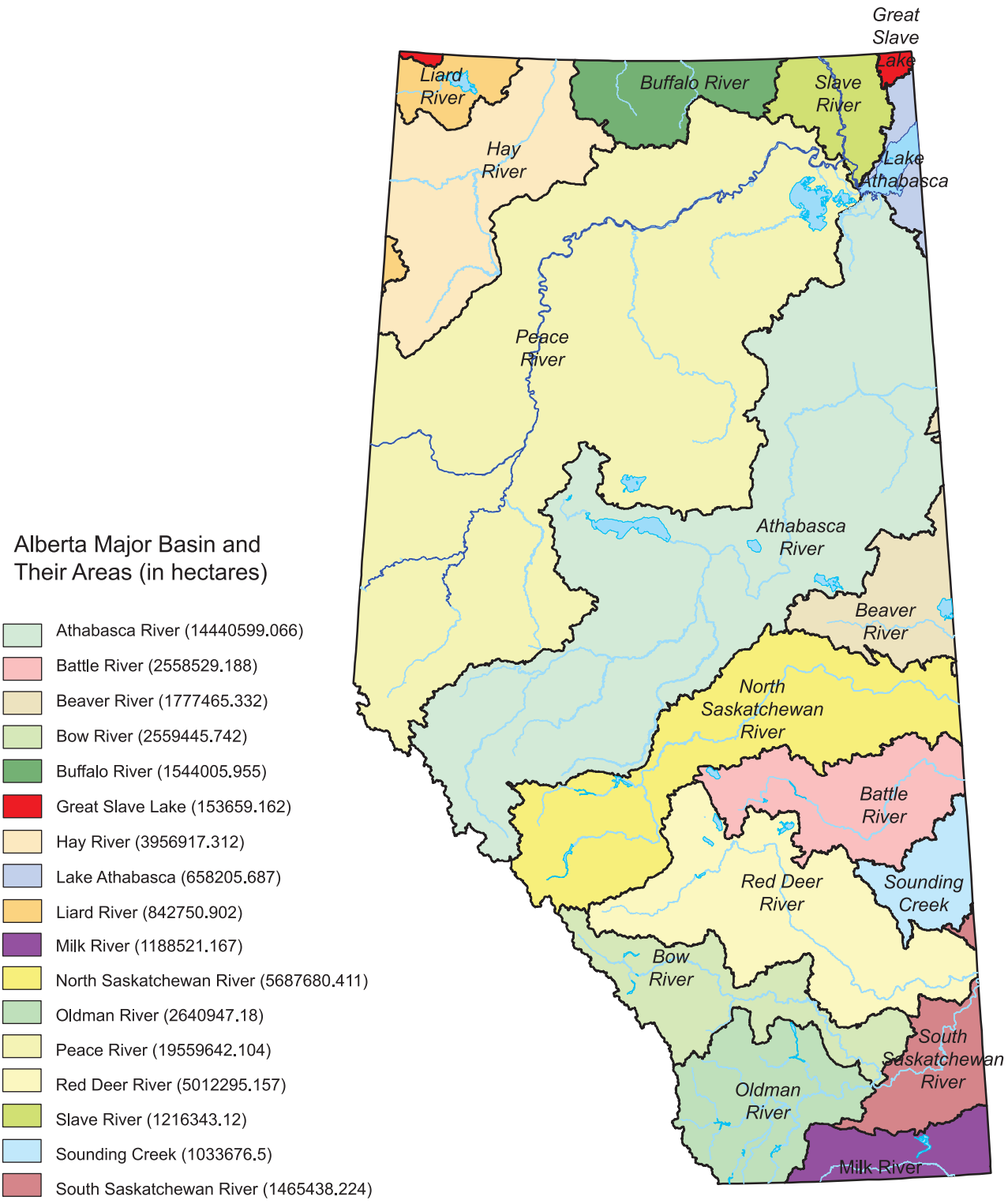


Figure 2
Alberta Environment's Major River Basins

Appendices

Appendix A

Schedule of GRMWG Meetings	
Location	**Date(s)**
Red Deer	June 5, 2007
Calgary	June 25, 2007
Canmore	July 8-10, 2007
Edmonton	July 26, 2007
Village at Pigeon Lake	August 8-9, 2007
Calgary	August 29, 2007
Red Deer	September 10, 2007
Red Deer	September 27, 2007

Appendix B - GRMWG Members

Facilitator
Ian Montgomerie

Summarizer
Nancy Bateman

Group Members
Alden Armstrong
Peter Aschenmier
Allan Bolstad
Harvey Buckley
Brad Churchill
Nigel Douglas
Neil Drummond
Mike Gatens
Karen Geertsema
Ken Glover
Nancy Hackett
Judy Huntley
Mark Johns
Myles Kitagawa
Ed Kulcsar
Norma LaFonte
Jillian Lynn-Lawson
Nicole Martel
Roger Marvin
Bob Miller
Dorothy Moore
Don Pope
Larry Roy
Ed Schultz
Jennifer Steber
Glen Tjostheim
Andre Tremblay
Peter Vana
Don Whittaker
Dianne Zimmerman

Appendix C - LUF Working Group Terms of Reference

Background

The LUF is intended to identify an approach to manage public and private lands and resources to help achieve Alberta's long-term social and economic goals, based on a foundation of sound environmental management. When completed this framework will provide the overall direction and decision-making framework to manage land-use activities and help address growth on Alberta's land base. The LUF is intended to apply to public and private lands in Alberta with the exception of federal lands such as national parks.

Purpose and Scope

Four working groups will identify specific strategies and actions to achieve the proposed vision and outcomes for the LUF that have been developed through previous stages of the process. Each of the working groups will develop and propose a range of specific short, medium and long-term high-level strategies and actions for one of the four focus areas that will be provided to the GoA. The proposed strategies and actions, as well as other advice provided by the working groups, will be important input for the development of the draft LUF. As such, the strategies and actions proposed by the working groups should be consistent with the proposed principles for the LUF developed earlier in the process.

The working groups are to consider available stakeholder, Aboriginal and public input gathered to date and other background information provided by the GoA in completing their work.

Appendix 1 highlights key operational guidelines for working group members.

Working Group Deliverables

Working groups are expected to complete and provide a report on proposed strategies and actions for their particular focus area to the GoA by October 5, 2007. This report will include specific short, medium and long-term strategies, actions and options based on the summaries of previous stakeholder and public input received to date and the elements of the focus areas outlined below.

In identifying the range of strategies and actions, the working groups will be expected to identify their implications, the potential timeframes for implementation (e.g., at individual, local, regional and provincial scales.) and a proposed priority or priorities, including any different priorities for a particular timeframe or scale. Where consensus cannot be achieved on a proposed action or strategy, it is expected that the working group will identify and describe a set of potential options.

Elements for each focus area are as follows.

1. **Growth and Resource Management**
    - Limiting or capping specific activities; increasing activities; directing activities to specific areas; priority land-use; phasing activities over space and time
    - Criteria for patterns of density, intensity and type of activity
    - Guidance on setting land objectives at different scales that are measurable and incorporate social, environmental, economic and cultural considerations
2. **Planning and Decision-making Processes**
    - Sector and cross-sector planning and decision-making; provincial and municipal planning; new regional and local processes; surface and subsurface activity integration; conflict resolution
    - Definition of roles and responsibilities in shared decision-making (provincial and municipal governments; provincial vs. local decision-making; landowners)
    - Level of authority of the Land-use Framework and its relation to current polices and other initiatives such as Water for Life
3. **Conservation and Stewardship**
    - Involves the development of a stewardship and land ethic through encouraging innovation; incentives; stewardship tools; education and awareness; capacity building; evaluation/ incorporation of ecological goods and services.

4. **Monitoring and Evaluation**
    - Identification of land-use and natural resource indicators
    - Identification of land information, monitoring, evaluation and assessment processes
    - Identification of appropriate continuous improvement process for land-use

Tasks and Timelines

The following are key tasks to be undertaken by working groups and key milestone dates. Working groups are expected to develop a more detailed work plan that will include the following tasks and timelines.

1. Familiarization with working group preparatory materials (e.g., stakeholder input to date, Understanding Land-use in Alberta) – working group members to complete prior to joint working group orientation meeting.
2. Joint working group overall orientation meeting (June 5–Red Deer). Proposed meeting program as follows.
    a) Plenary session: orientation on project scope and scale:
        - Confirm understanding of scope in relation to achieving the three draft LUF outcomes
        - Define the level and focus of proposed strategies and actions, and develop a common understanding of terminology (e.g., short, medium and long-term)
        - Roles and responsibilities (working group, reviewers)
    b) Plenary session: need for integration:
        - Each working group will need to consider its relationships with the other three including information sharing and flow
    c) Working Groups' break out sessions - develop a preliminary approach to identify:
        - How each focus area element will be addressed
        - In what sequence the elements will be addressed
        - Develop and adopt a work plan for the working group
3. Following the initial joint session, working groups each meet 4-5 times (suggested minimum) throughout the process. Meeting dates will be at each working group's discretion but must accommodate the schedule for the joint sessions. Over the course of their meetings, working groups will be expected to proposed strategies and actions, including priorities, timelines for implementation (e.g., individual, local, regional and provincial levels) for presentation and discussion at the final joint working group meeting (tentatively scheduled for September 27 or 28)

    Mechanisms will be established to facilitate the exchange of information between working groups as the process proceeds. This will help the working groups to address any gaps, duplications, and identify opportunities for integration between the work of the four groups.
4. Final joint working group meeting (tentatively September 27 or 28–Red Deer):
    a) Presentation and discussion of proposed strategies and actions by working groups. These proposed strategies and actions will be prepared and shared with the other working groups at least one week in advance of the final working group sessions.
    b) Discuss and identify the opportunities for integration of each of the working groups' proposed strategies and actions including priorities, timelines and responsibilities for implementation at different scales (e.g., at individual, local, regional and provincial levels).
5. Submission of final working group reports and overall wrap up report of proposed strategies and actions, including priorities, timelines to GoA by October 5, 2007

Operational Guidelines

A. Working Group Members' Roles and Responsibilities

Member

- Role: Members are expected to provide perspectives from their area of expertise, while remaining cognizant of sector perspectives as well.
- Responsibility: Working Group members will develop draft materials and other information as appropriate to address the deliverable to which they are designated.
- Attendance: If a member cannot continue to participate in the Working Group, a replacement may be identified by the GoA.

GoA Members

- Role: GoA working group members are ex-officio members who will act as a liaison between the working groups and the GoA. They are expected to be active participants in the working group's discussions. They will be senior level staff of participating government departments and must meet the expertise standard set for other members.
- Responsibility: They will bring GoA interests and perspectives to the working groups recognizing that the final policy decision regarding the LUF rests with Cabinet. GoA working group members will not be considered part of the quorum.

Facilitator

- Role: The role of facilitator will be served by Praxis personnel.
- Responsibility: The facilitator will be responsible to chair and facilitate meetings, prepare meeting notes, reports and other working group materials, circulate them to check for accuracy, post the materials on the extranet website, bring issues forward for consideration, and help manage working group schedules. Praxis will prepare the final wrap up report, which will include an executive summary and the four working group reports, in consultation with each working group.

Communications

The GoA will be the primary media for contact for the Land-use Framework and the status of the working group process.

B. Resources

Technical support and background information will be provided by the GoA as appropriate.

Meeting facilities, website access, conference call connections, and other physical materials required for the completion of the working group's work will be provided.

C. Working Group Operations

- Quorum: A quorum of the Working Group will be defined as half the working group plus one for decision-making purposes. A quorum is required to conduct Working Group business.
- Consensus: Decision making by the Working Group will be by consensus of the quorum assembled.
- Confidentiality: Working Group members agree to respect the confidentiality of any information identified as confidential that is distributed to the group. Working Group members are free to share and circulate any information obtained during meetings to their respective organizations that has not been identified as confidential.
- Code of Conduct: The Working Group will identify and commit to meeting "Ground Rules". These are described in Section E below.

D. Proposed Meeting Ground Rules

Working Group Members, and where applicable Reviewers, agree to:

Stay Focused

…on the tasks at hand, which are outlined in the Terms of Reference. Issues outside of this focus area will be tabled for discussion outside of the Working Group's meeting time or be sent to the appropriate area.

Respect Timelines

…to ensure that work is completed in a timely manner.

Speak Freely

…with candor and honesty, recognizing that what is said during meetings will not be recorded and attributed to any individual.

Participate Actively

…by providing information and data to the Working Group where such information/data will help the group to complete its work.

Work For Consensus

…on matters before the Working Group. This does not necessarily mean than everyone will be in total agreement on all the decisions made by the group but everyone can accept the decisions.

Respect Decisions

…that the Working Group has made even if not all members of the group were present during the meeting. Where every possible, working group members not part of the decision will be given an opportunity to comment within the designated time period. Fairly and accurately represent decisions made at working groups meetings when reporting to member organizations.

Respect Each Other

…by using respectful language, providing constructive feedback on others' opinion, and avoiding interruptions; and

… by respecting their working group colleagues' commitment to the process and maintaining an atmosphere of trust.

Appendix D - Glossary

Balance	A partitioning that meets the needs of present and future generations and is supported by a majority of Albertans
Carrying capacity	Ability of a landscape to support human activity without exceeding air quality, water quality, land-use (footprint) and biodiversity standards
Eco-efficiency	Eco-efficiency is achieved by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle to a level at least in line with the Earth's estimated carrying capacity. In short, it is concerned with creating more value with less impact
Growth	Increase in economic investment and development
Indicators	Specific observable and measurable changes or characteristics that represent achievement of a goal
Limit	A standard that cannot be exceeded without penalty
Local government	Refers to and includes both municipal/county governments and Aboriginal governments in Alberta
Natural capital	Refers to a stock of natural assets that yields a flow of valuable goods and services into the future; the stock that produces this flow is natural capital while the sustainable flow is natural income
Natural resources	Economically-valued resources such as oil, natural gas, wood, soil
Priority land-uses	Order of priority of acceptable land-uses in a given area

Quadruple bottom line	A model for sustainability that includes accounting for a balance of cultural, economic, environmental and social values that meet the needs of society
Resource management	Control of the rate of natural resource consumption
Scale	Area on which a balancing or decision is made (i.e. province, region or local area)
Science	In this report, includes the physical and social sciences as well as traditional ecological knowledge
Stakeholder	In the context of this report, includes users and stewards of the land, such as landowners, members of the public, and representatives of Aboriginal peoples, industry and non-government organizations
Strategy	A set of coordinated activities designed to accomplish specified goals
Target	A desired level of performance in a specified period of time
Traditional ecological knowledge	Information defined by an Aboriginal holistic perspective which looks at ecosystems as being numerous components in balance
Triple bottom line	A balance of social, economic and environmental values that meet the needs of society

Appendix E - GRMWG Questions and Responses

Questions

1. Is there currently an appropriate balance among social, cultural, economic and environmental considerations in land-use decision-making? If not, what rebalancing do you see as necessary?
2. Given that stakeholders to date have said that the provincial government needs to take a leadership role in growth and resource management, and have identified a number of approaches, what is the specific suite of approaches or options that should be pursued? Why or why not?
    - Applying criteria for patterns of density, intensity or rates, and type of activity?
    - Limiting or capping specific activity?
    - Setting priority land-uses?
    - Increasing or directing activities to certain areas?
    - Phasing activities over space and time; coordinating or linking activities in space and time?
    - Other?
3. How should the approaches in Question #2 be carried out, if at all? At what scale should they be applied (provincial, regional, sub-regional, local)? Who should be involved? Who should make the decisions?
4. What mechanisms should be put in place to support the implementation of the desired approaches?
5. Cross-sector Forum participants noted that targets and limits are driven by science and values. If targets or limits would be set, what are the possible processes that could determine the mix of science and values?
6. If the GRMWG determines that priority land-use ("PLU") is a desired management approach, stakeholders have previously identified some potential land-use priorities, listed below, that might be brought under a PLU umbrella. Are these appropriate? Are there any others?

- Transportation and transmission corridors
- Prime agricultural land
- Ecologically sensitive areas
- Watershed areas
- Critical areas where immediate action is required

GRM Question #1:
Is there currently an appropriate balance among social, cultural, economic and environment considerations in land-use decision-making? If not, what rebalancing do you see is necessary?

Overall, the GRMWG felt that land-use decisions in Alberta are based more on economic considerations than social, cultural and environmental considerations. However, the group noted some excellent examples of existing successful balanced decision processes, such as CASA.

The following were suggested as successful approaches/tools that could be built upon in the LUF.

- The Water for Life Strategy;
- MLA involvement with back-up support by the Government of Alberta;
- Integrated Resource Plans ("IRPs");
- Integrated Land Management Plans ("ILMs");
- Integrated Community Sustainability Plans ("ICSPs");
- Clean Air Strategic Alliance ("CASA");
- GIS tools and data;
- *Agricultural Operations Practices Act*;
- *Willmore Wilderness Act*;
- AEUB Synergy Groups initiatives;
- Environmental Farm Plans and various watershed initiatives;
- Grizzly Bear Recovery Plan; and
- AEUB Land Challenge.

Common characteristics across these initiatives that were associated with successes included:

- consultation and communication, regardless of the focus of the initiative;
- multi-stakeholder involvement;
- a monitoring and predictive focus, including data, evidence, targets, and ability to measure; and
- provincial leadership and commitment.

Rebalancing is necessary at regional and local planning levels, including recognition of, and balance at, social/cultural, economic and environmental levels. Provincial leadership with a clear values system is critical to direct balanced approaches and processes. The values must incorporate the TBL to address cumulative effects. The following were suggested as being elements needed in rebalancing:

- develop evidence-based outcomes;
- adopt common language for TBL;
- recognize natural capital;
- keep economic expansion within our ability to deal with negative peripheral impacts, such as labour shortages/housing;
- incorporate measures and indicators;
- preserve "treasures";
- address tenure issues;
- be transparent;
- develop greater science-based understanding of social/cultural impacts;
- include personal responsibility and accountability for consumption;
- reward good behaviour (monitoring and compliance); and
- focus on economic prosperity rather than economic growth, with an emphasis on land-use rather than the economy.

GRM Question #2:
Given that stakeholders to date have said that the provincial government needs to take a leadership role in growth and resource management, and have identified a number of approaches, what is the specific suite of approaches or options that should be pursued? Why or why not?

- Applying criteria for patterns of density, intensity or rates, and type of activity?
- Limiting or capping specific activity?
- Setting priority land-uses?
- Increasing or directing activities to certain areas?
- Phasing activities over space and time; coordinating or linking activities in space and time?
- Other?

Applying Criteria for Patterns of Density, Intensity or Rates, and Type of Activity

Consensus was reached that this approach was worth pursuing, because criteria are necessary to sustain the integrity and health of all four pillars of sustainability. The key discussion points on applying criteria are set out below.

1. Criteria that are established must be; measurable (quantifiable), understood and apply to all activities (i.e. not sector based) on the landscape. It was acknowledged that it may be more challenging to develop social and cultural criteria that meet this test.
2. It was noted that applying criteria for rates and type of activity would be the wrong approach unless justified by a threat to the carrying capacity of a regional or sub-regional area in which the activity is or is proposed to occur.
3. Each element within this approach (e.g., criteria for patterns of density, intensity or rates and type of activity) can be viewed as a tool necessary to achieve an objective(s) set regionally and/or provincially.

Limiting or Capping Specific Activities

It was generally agreed that this approach be applied in the LUF, but not through the application of arbitrarily set limits. The application of caps or limits must be done in the context of informed decision-making which considers the carrying capacity of the region in which the activity is being, or is being proposed to be, carried out. It was also generally agreed that arbitrary caps or limits that did not have a justified, informed basis for their application could have negative consequences (both short- and long-term) that could negate the intended benefits. In addition, it was generally agreed that a process for encouraging and driving more efficient use of land should take priority over setting limits and/or caps, and that these would be considered as last resort approaches.

Overall, it was agreed failure to set limits or capping activities (when appropriate) compromises the integrity and health of Alberta's valued ecosystems and by the very nature of a limit or cap may act to limit conflict among competing land-users.

The key discussion points on limiting or capping activities are set out below.

1. These approaches are considered "management-by-values" concepts.
2. These approaches must be anchored by an assessment and review process based on a triple bottom line, i.e. sustainable within a longer-term vision.
3. These approaches must be supported by an understanding of carrying capacity which would identify science-based minimum and maximum limits.
4. Capping is an approach that would be considered if/when a maximum threshold was exceeded or if exceedance was imminent.

The concept of capping or limiting activities must be subject to defining social, economic and environmental values necessary to protect (a region or sub-region) from inappropriate use by various activities. The values (to be protected) must be defined at a provincial scale with specific thresholds established based on sound science. Once established, management of specific values is a regional responsibility aligned with the provincially-defined values. Therefore, the Province should not impose arbitrary caps or limits on land use.

Setting Priority Land Uses

In considering whether this approach should be applied, the group considered the term priority land use in a literal definition meaning that one particular land-use activity (e.g., agriculture) would take complete priority to the exclusion of other land uses, should a conflict arise. It is recognized that the concept of priority land use has been in place for several years in Alberta (e.g., green zone vs. white zone lands); however, in the context of the group discussion, this would be considered as a primary land-use designation, not priority land use.

It was generally agreed that priority land use would be appropriate as a means of providing an overall management template to resolve conflicts. It was also acknowledged that by establishing a priority land use, the process will create conflict among land users.

The key discussion points on setting priority land uses are set out below.

1. Priority land-use designations must be made in the context of managing impacts to the landscape in order to protect/maintain a provincial value.
2. Processes that utilize a risk-based approach and, through consultation, identify and provide for compatible land uses, should be implemented ahead of setting priority land uses.
3. The implementation of establishing a seriatim of land uses and establishing the top land use as a priority has the potential to create significant conflict among land users, unless activities are in direct competition with the priority land use.

The LUF will establish a long-term use of land (e.g., 100+ years) and will integrate the social, economic and ecological/environmental interests of Albertans. The LUF will establish a means for regional determination of carrying capacity, recognize cumulative effects and entrench these principles in legislation and policy when considering land-use changes, developments and resource extraction (e.g., oil, gas, water etc.).

Increasing or Directing Activities to Certain Areas

It was recognized that while this may be an acceptable approach in theory, the practicality may be limited due to the geographical placement of natural features. For example, it may be desirable to direct agricultural activities to specific parts of the province; however, given the distribution of existing agricultural lands, consolidation would be largely impossible. Having said this, the group identified certain activities which, if directed geographically, could be mutually beneficial. Note that this approach may be more applicable to housing, farming and conservation activities, and less suitable to permit an increase of certain industrial development if they compromise ecosystem health.

It was generally agreed (with a qualified "yes") that this approach should be used in the LUF, based on the above points, but considering that in some instances, the status quo is not producing the desired outcome.

The key discussion points on directing activities are set out below.

1. The LUF requires programs, policies and incentives that promote efficient use of land space.
2. The LUF requires a mechanism to consider the impacts of all activities.
3. The LUF needs to allow for management of multiple land-uses within a framework of thresholds that proactively identify constraints.
4. The LUF needs to accommodate the interests of all sectors, but not necessarily at the same time or in the same place.

The guiding principle regarding increasing or directing activities to certain areas is the carrying capacity of the area/region. Arbitrarily increasing or directing activities should not be considered unless there is evidence of impacts on an established land threshold.

Phasing Activities Over Space and Time/Coordinating or Linking Activities in Space and Time

It was generally agreed that this approach has merit, if it will reduce or limit an impact on the landscape, by determining the appropriate level of activity in time and space over various areas.

The key discussion points on phasing activities are set out below.

1. The application of this approach must be flexible to allow for implementation of new technology and innovation.
2. Interests of various impacted parties must be balanced.
3. Phasing activities may be used as a management tool with consideration given to the type of activity (settlements, renewable and non renewable activities).
4. Clear direction to/from province/regions/local governments.

Under government leadership, apply triple bottom line decision-making that incorporates research (cultural, historical, geological, scientific, social), inventories of air, land and biodiversity; and a review of the state of the landscape to determine the appropriate level of activity over time and space.

GRM Question #3:
How should these approaches be carried out, if at all? At what scale should they be applied (provincial, regional, sub-regional, and local)? Who should be involved and who should make the decisions?

While all five approaches addressed in Question 2 were supported in general, the group did articulate the need to modify the language in some of the options (as discussed in answering Question #2), and recognized that each option may require a different approach to its management. While no single management direction emerged for all five approaches, it was agreed that strong provincial leadership will be required: leadership on principles, changes in policies and legislation (including additional legislation if deemed necessary); providing appropriate infrastructure/mechanisms and resources (coordination of data, knowledge; etc.); and guiding, overseeing and monitoring land-use across the province to meet provincial objectives/values that support the LUF.

In addition to strong provincial leadership, growth and resource management across the province should be characterized by the following.

1. Use of a governing body (e.g., as depicted in Figure 1 or through a process similar to that of the CASA or the Water for Life process).
2. Integrated planning (e.g., using a regional concept of some type where decisions must be inter-municipal).
3. Local implementation of provincial strategies.

Strong provincial leadership was a consistent message when addressing this question and all other questions. This was broadened to identify the need to have authority and accountability of implementing a LUF beyond more than a single Ministry (e.g., a cross-Ministerial approach), hence the interest in a governance structure similar to that depicted in Figure 1, or the development of a similar structure to CASA.

While the definition of a region was not fully defined (yet), a frequent suggestion was the use of a natural region, that which could be provided by Alberta's watersheds. This not only aligns with the interests identified in the Water for Life process, but provides a natural region that respects the land and water, rather than arbitrary districts, municipalities, private and public lands, etc. Watersheds could be further subdivided by ecoregions to enable aggregation of data within and across watersheds, and to enable integrated planning and sound monitoring. Ontario's Green Belt legislation was used as a good example of a natural region, where municipalities, landowners and governments needed to work together to find a solution on the landscape.

Some mechanism at the provincial scale is required to do the following.

1. Guide, oversee and monitor regional decision-making and ensure implementation (through strong tools such as legislation, policy and independence) so that all areas of the province conduct land-use in ways that meet the provincial objectives/values.
2. Provide a separate review/appeal function.
3. Be independent of any single Ministry and the election cycle.

4. Consult, with inclusion of stakeholders, inter-sectoral, inter-ministerial and inter-municipal decisions.

Each approach/option has a slightly different perspective on the "how" (strategic level), "who's involved" and on "what scale/who makes decisions". This is not surprising given the nature of the approach/option and its different implications.

Applying Criteria for Patterns of Density, Intensity or Rates, and Type of Activity

This would be achieved by the province establishing principles, values and broad thresholds to achieve integrity of the four pillars of the QBL, and for monitoring and adjustment. Specificity would increase down through regional and local levels, allowing for regional diversity -- but it must not conflict with regional plan. The Province would implement this via legislation, and provide resources e.g., data, knowledge and skills.

This approach would involve provincial, regional and local elements, as well as an appeal function. It would be inter-municipal and include inter-sectoral coordination and partnerships.

Once the Province establishes principles, values and broad thresholds, the region and local governments agree to set of activities to meet objectives. Any appeals would go to provincial level.

Limiting or Capping Specific Activity

This would occur at a watershed level, e.g., could be integrated with existing Water Councils. It is key to involve stakeholders at all levels and at implementation. The scale of decisions matches QBL values, and decisions are made by a type of provincial board or commission.

Setting Priority Land-Uses

Refer to Figure 1. This structure would involve the following.

1. Quadruple Bottom Line Authority - establishes and enforces strong legislation that supports the LUF. It will also govern the boundaries, policies, and principles under which the regional approving authorities are accountable for the coordination and approval of land-use and development decisions. It is also accountable to work and coordinate with the Office of the Premier.
2. Review/Appeal Board (as a separate tool), reports to the QBLA (same kind of experts as regional) and is accountable for decisions/disputes made at a regional level. Any decisions made need to be accountable back to the top.
3. Regional Coordinating Body (may be based on the watershed model or similar regions) which includes representation of the municipalities, watershed sector, industry and public, cultural and social representatives. Land-use planning models need to be involved in a coordinative manner to make place-based decisions.
4. Municipal Level - municipalities make local decisions on a day-to-day basis, including local taxpayers, etc.
5. Auditor – to oversee and review the QBLA, Review Board, and Regional Boards; has the power to suggest policy change and regulatory models. The overarching principle: is the process and model working? Are all four elements of QBL being given fair representation in decisions?

Accountability is critical. The QBLA would have staff experts from all four QBL quadrants. The QBL would report directly to the Office of the Premier (i.e. ideally it should be under the direction of a higher authority than a single Minister). QBLA would be ultimately accountable for enforcement and planning principles that are applied.

Increasing, Decreasing[15] or Directing Activities to Certain Areas

The provincial level develops the framework through broad public input, involving First Nation and federal governments, incorporating policies, legislation, incentives, science based decision-making. There are roles at the provincial, region and local levels, as well as for a regulator (for enforcement). For decision-making, regions can align with criteria developed by the Province and integrate with all levels of government.

[15] Added by the GRMWG to represent a balanced approach

Phasing Activities Over Space and Time/Coordinating or Linking Activities in Space and Time

This can occur by first dividing the province into watersheds, then dividing watersheds into ecoregions (in order to understand and compare flora and fauna high value characteristics). The Province will need to develop an inventory to determine ecological function of the ecoregions (human populations, current activity, infrastructure, natural resource values including cultural and social). The Province will need to conduct a science-based risk assessment, set targets within a CASA-like model, and phase in over time.

Stakeholders have legislative authority to make decisions. This is not a wish for another level of government — the intent is to guide for consistency, and to tie-in to into similar initiatives such as Water for Life.

In terms of who makes decisions, this must occur at a high level to address for the need for leadership, other decision levels not yet articulated. The Province must set priorities, conditions of time and space, and deal with regulatory/legislative changes to recognize ecological integrity. The Province must not be able to bypass decisions e.g., via Cabinet, so the terms and conditions of authority must be clearly defined. The process guides and allows local governments to do local operations.

GRM Question #4:
What mechanisms should be put in place to support the implementation of the desired approaches?

The primary approach proposed by GRMWG is a possible provincial land-use authority model (see Figure 1). The proposed model incorporates regional planning and a development review process through:

- a Quadruple Bottom Line Authority;
- regional coordination bodies;
- local planning authorities;
- a Review and Appeal Board; and
- an Auditor reporting to Cabinet.

Within this context, the group reviewed the five approaches suggested under Question #2.

Applying Criteria for Patterns of Density, Intensity or Rates and Type of Activity

In addition to the previous discussion on the need for criteria to sustain the integrity and health of economic, social, cultural and environmental systems, the following were proposed as prerequisites for applying criteria:

- setting provincial guidelines or broad criteria through the LUF and related and amended policy and legislation, and integration of all water, air and land strategies;
- using regional bodies to set out regional and local guidelines enabling local involvement, including community group nomination of seats on regional bodies, and public and stakeholder participation;
- using an outcomes-based plan at the provincial level to establish community standards, ecological capacity, percentage of agricultural and forest lands to be maintained, reclamation strategies for brownfield sites; and
- a review process.

The criteria would be characterized by:

- provincial leadership and strong legislation;
- maintenance of ecological capacity;
- ensuring some common non-negotiable standards and criteria across the province; and
- adaptive, innovative, with appropriate regional variation.

Limiting or Capping Specific Activities

As in Question #2, the group agreed that that this approach could be applied, but only if it is not applied arbitrarily.

After constructive deliberation on avoiding an arbitrary approach, the group reached a consensus on a critical interpretation on limiting or capping activities:

"After the discussion, it was clarified and mutually agreed that we are not focusing on limiting or capping specific activities; rather, everyone is accepting that limits and caps are necessary at some scale to reduce impacts on the resource – and not focus on specific activities."

The group also indicated that the use of limits or caps should:

- reflect that cumulative effects are an essential element in decision-making and so must be established within the context of cumulative resource development;
- be strongly science-based;
- be able to be applied temporally and spatially through various tools, including targets, thresholds or moratoria, when there is insufficient science;
- be consultative, i.e. limits should not be set in isolation within a department or sector;
- account for inter-provincial considerations, e.g., water, pipelines, power lines;
- encourage efficiencies and creativity in resource management and allow adaptation as technologies develop;
- be tied to incentives and "rewards for good behaviour"; and
- provide an incentive for sectors to "perform at a higher standard".

The group agreed that, while it would be inappropriate and impractical to attempt to define specific limits, it recommends strongly that systems be put in place to determine the application of limits within/across regions.

Setting Priority Land-Uses

Building on the previous priority land-use discussion, three mechanisms were modeled into a procedure for setting priority land-uses, within an overarching set of principles and visions set by the Province, which balance the four pillars of sustainability, as follows.

1. Each regional body (e.g., watershed council or other body) should conduct a regional natural capital inventory, including activities and development/use of that capital, followed by an evaluation of the natural constraints in the region that will define its carrying capacity.
2. The regional body should then prepare a priority land-use plan identifying spatial and temporal use of the capital, through the use of low, medium and high intensity ratings by each land-use type. This would be analogous to the Eastern Slopes Plan. Within each zone, targets based on sub-regional environmental thresholds will be required to permit measuring, monitoring and adaptation.
3. The priority land-use plan should be then integrated with local authority plans, assuming they exist, to enable working together. A dispute resolution mechanism will be required.

Members of the group debated whether setting priorities may create conflict where none existed, or whether setting priorities could deflate rather than create conflict, since they provide clarity and reduce expectations.

The group generally agreed that:

- not setting priorities is reactive rather than proactive, making it "too late" to apply effectively once conflict has arisen;
- assigning priority land uses in areas where conflict is likely to occur may be a practical approach;
- priorities may be appropriately adaptive as circumstances and technology allow;
- the TRIAD approach which allows for high, low and no development, may help in the practical implementation of assigning priority; and
- while priority land use may not be required now in every region, it is necessary to start to incorporate it, in particular in areas where water constraints are an issue.

Directing Activities to Certain Areas

The group proposed amending the approach to "directing activities to certain areas" rather then increasing activities; and delineated a three-tier model to implement directing activities to certain areas, as follows.

1. The Province:
    - creates the vision;
    - builds a quadruple bottom line framework that is science-based and values-based;
    - defines the regions, e.g., watersheds;

- establishes broad policies and incentives to encourage innovation;
- establishes land use legislation;
- controls use of public lands; and
- establishes a dispute resolution body.

2. The regions:
   - are inter-municipal and multi-stakeholder, and interact with the provincial level;
   - interpret provincial values and apply them to the specifics of their region using medium-term and long-term plans that promote innovation; and
   - set appropriate targets and limits that consider factors unique to the region, the sustainability pillars, and the provincial vision.
3. Local governments:
   - deliver balance and sustainability in line with provincial vision;
   - implement targets and limits;
   - control zoning and develop incentives that apply to specific land parcels or development projects;
   - permit flexibility to account for community factors and input;
   - recognize and reward innovation; and
   - use land and resources effectively.

Phasing Activities over Space and Time/Coordinating or Linking Activities in Space and Time

The group proposed a ten-step model for phasing activities over space and time.

1. Make the establishment and funding of an ecological and current land-use baseline database a priority.
2. Determine effects of activity on the land.
3. Establish a preliminary list of land-uses compatible at a provincial scale.
4. Set priority for compatible land-uses based on geography and ecological carrying capacity, and incorporate into a schedule (not all land-uses can occur in all places, even if compatible in some areas.
5. Set priority land uses in policy and legislation.
6. Establish regional sustainable planning groups(s) to identify boundaries, policies and legislation to help establish local priorities.
7. Develop threshold criteria.
8. Establish schedules of land-use activities that are compatible.
9. Develop enforcement/incentives in ways that ensure the model will be followed.
10. Establish an adaptive, long-term planning cycle.

Concerns were raised that market forces and natural resource-siting factors may override decisions, and that this approach may result in over-stepping carrying capacity in space and time. Consequently, it was agreed that this phasing approach may have the least chance of being implemented due to its complexity.

GRM Question #5:
Forum participants noted that targets and limits are driven by science and values – if targets or limits would be set, what are the possible processes that could determine the mix of science and values?

This was a complex matter to address, since a basis of science and information of all kinds was required from which a process could be drawn.

"Until we know the current state, we can't see the future state." A wide provincial baseline assessment of the state of land, water, air, biodiversity and people within landscape based regions (such as watersheds) and the carrying capacity of the regions or sub-regions would provide the inventory of baseline data required to monitor impacts and cumulative effects over time.

The TBL (economy, environment, and social) was replaced with the QBL, or four pillars of sustainability, to include culture[16] (to incorporate Aboriginal perspectives). The QBL is to act as an integrated filter for determining overall carrying capacity, and hence the appropriateness of development.

The Province sets the broad overall land-use principles and policies and the guidelines to address the principles (like carrying capacity or allocations). The integration of

the QBL would be applied broadly at the provincial level with landscape-appropriate impact targets. Limits and guidance would be set collaboratively at the regional level using the QBL determinants to be applied locally to specific developments and properties.

Stakeholders would continue to be involved in the generation and review of the provincial principles and guidelines, and again at the regional level to determine the appropriate regional values and principles under the provincial framework, which suit the unique landscape and activities of their region.

Encouraging and rewarding alternate measures to mitigate anticipated negative impacts, as well as using targets to support resiliency in both natural and human systems (ecosystems and communities), was believed to promote innovation, improved technology and smart decisions. Efficiency and conservation may be increased without limiting growth by adopting a range of tools, such as best practices, limits and key performance indicators ("KPIs") to ensure and monitor accountability within determined impact loads.

The key discussion points on science and values are set out below.

1. Current state of the landscape assessment by the Province would provide a baseline on which to base decisions.
2. Science and knowledge of all kinds will provide an increasing body of impact measurement tools over time, which will inform decisions at all levels (e.g., criteria target loading in the New York region has demonstrated that environmental impacts might be calculated in a way that demonstrates their tangible financial value). This could include an aboriginal holistic perspective in relation to science and knowledge, which attempts to look at the ecosystem(s) as being dependent on all components being in balance.
3. The increasing body of relevant science needs to be available to decision-makers.
4. Even the values of at least the social and cultural pillars are essentially informed by social science, which can be accomplished through an engagement of citizens.
5. KPIs for a region would incorporate the best science available with human values through stakeholder consultation, and incorporate the QBL to determine the appropriateness of a development within the determined carrying capacity of the landscape.
6. Within a region or a local jurisdiction, there may be areas of high, medium or low activity, and in some circumstances, no activity.
7. The landscape appropriate balance sought in carrying capacity is somewhat different than a priority land-use model, in that integration, compatibility and mutual or collaborative innovation is seen as more desirable than designating an area for a particular use.
8. A monitoring or evaluation process, focused on efficacy of planning systems).
9. Conflict resolution process.
10. Unique nature of some landscapes may override negotiations or trade-offs, but that such practices associated with landscapes may need to be considered fluid over time.
11. Need to prioritize rub areas and issues that would be better dealt with sooner rather than later, to avoid knee jerk reactions when the issues do arise.

[16] Aboriginal culture is a broad term, and deals with specific cultural practices/beliefs that are often unique to individual communities. It further must be stated that often, aboriginal communities are extremely protective of information, as it has been used without permission in the past. Therefore, any information of this sort must be treated carefully. There are further protocols that are required of people asking for information from Aboriginal peoples, and these protocols are to be followed before information is given in many cases. Therefore, any group that attempts to obtain information must find out the proper protocols from the community or from a person that may be knowledgeable in such matters.

An assumption about governance is that a governance model for land use will include a provincial framework, vision, integration of information and overall principles, as well as guidelines and a multi-stakeholder body, with multi-stakeholder and inter-jurisdictional regional application and adaptation within the provincial vision to set more specific targets and limits appropriate to the region. Regional direction is then followed and applied locally to specific developments within the overall regional impact targets and limits.

The group agreed on the following.

1. A provincial baseline inventory and accessible body of science and other kinds of knowledge will inform the decision-makers at all levels, who will then integrate multi-stakeholder values (which may also be informed by social science) into decisions most appropriate for their unique landscape and its carrying capacity.
2. Decisions at all levels would be based on a QBL, including an understanding of the economic, social, environmental and cultural impacts of the activity.
3. An integrated science-based system could calculate not just negative cumulative effects, but also positive, innovative and collaborative impact load mitigation within a region's determined carrying capacity.

A range of solutions and tools were suggested.

1. KPIs could integrate the best science available with human values to guide decisions. Tools that could encourage efficient use of land would include best practices within all sectors.
2. Scientific data and human valuation should be balanced side by side, since decisions about knowledge/science are made by humans and are values-based. It will be important that we document the scientific basis on which decisions have been made for the future, and to incorporate high-level consultation when incorporating science with values. The process for balancing science and values provincially and regionally involves criteria target loading, which uses carrying capacity to define a range of human induced impacts, which are then balanced by zones within regions, as high, medium or low target areas.
3. Science will include additional ways of calculating the financial implications of what may be seen as strictly human values now (as has been done for clean water).
4. Expertise and information could be offered through a provincial center of excellence, though there was not clear consensus on the form such a center should take – it may be a physical group, library or technological database (but the governance QBLA provincial multi-stakeholder expert body may align with a physical repository of expertise and arbitration).
5. Simply put, decisions should be based on information, education and knowledge.

GRM Question #6:
If the Working Group determines that priority land-use (PLU) is a desired management approach, stakeholders have previously identified some potential land-use priorities, listed below, that might be brought under a PLU umbrella. Are these appropriate? Are there any others?

- **Transportation and transmission corridors**
- **Prime agricultural land**
- **Ecologically sensitive areas**
- **Watershed areas**
- **Critical areas where immediate action is required**

In answering Question #6, group members presented a variety of responses ranging from qualified support to rejection of establishing province-wide priorities. Many within the group thought that priority land-use could be an instrument used in the management of impacts within a land-use context. This complemented the earlier group consensus notion of not focusing on limiting or capping specific activities - rather, that limits and caps are necessary at some scale to reduce impacts on Alberta's land resources. However, the group attempted to evaluate the merits of the identified land-use type within Question 6. Further, they identified a number of other potential priorities not identified within the context of the question.

Priority land use was rejected by some group members as contrary to outcomes-based management. It was noted that this approach might not achieve the balance intended across the four pillars of sustainability, by creating a framework where some land uses supersede others. The group felt that managing toward valued-based impacts would be more appropriate than emphasizing the coordination of compatible land uses. In some cases, special key factors would be driven by the overall land-use framework vision and, in effect, would become priority land use for geographic areas (e.g., preserving headwaters within watersheds).

Priority land use could also be considered inappropriate because it appears to preclude the desired science-based standard for decision-making, particularly in the absence of inventories that identify what is currently taking place on the land. Therefore, it would be inappropriate for this group to arbitrarily identify geographies or specific resource uses as priorities.

Although the five priority types were seen as important, it was noted that they are not easily incorporated into a priority-based approach to land-use management.

1. Transportation and transmission corridors – It was identified by the group that although corridors can create an adverse effect on land, they also create an opportunity to consolidate a number of critical land-use functions within a finite area, thereby reducing impact.
2. Prime agricultural land – The group identified the preservation of agricultural land as integral to a successful land-use strategy. Its inherent importance to Alberta's economy is a key consideration, but so is the proliferation of other land uses impacting agricultural land. Preservation of premium soil areas was also identified as a key factor for consideration.
3. Ecologically sensitive areas – The entire working group acknowledged the importance of considering ecologically sensitive areas in growth management activities.
4. Watershed areas – The watershed approach was identified as an appropriate mechanism to facilitate regional growth management and land-use planning. The size and variation within some watersheds could preclude effective management at this scale. It was also noted that only certain parts of a watershed should be set as priority areas. Examples include headwaters, wetlands and riparian zones. An alternate planning unit may be the natural eco-regions of the province.
5. Critical areas where immediate action is required – It was identified by the group that both ecological areas and critical areas should not be classified as priority land uses, but rather as areas that are impacted by priority land uses.

The group identified a number of other categories that could be classified as priority land uses. These included:

- traditional lands;
- high-sensitivity habitat and natural areas; and
- known or anticipated heritage sites.

As previously mentioned, priority land use is not the desired approach to land and growth management. Therefore, the group recommended that managing toward valued-based impacts would be more appropriate, emphasizing the coordination of compatible land uses (e.g., limiting impacts, not activities).

If a priority-based approach to land-use management is adopted, the following would apply.

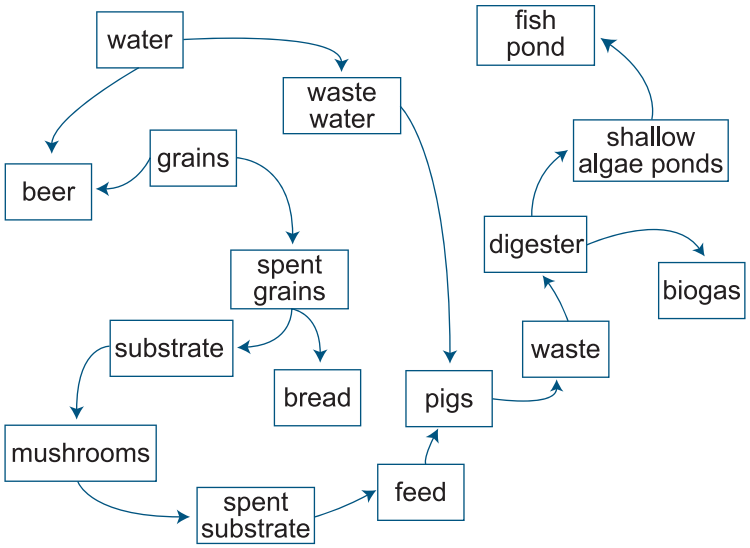
1. Integrated management would be an essential component of priority land use, including:

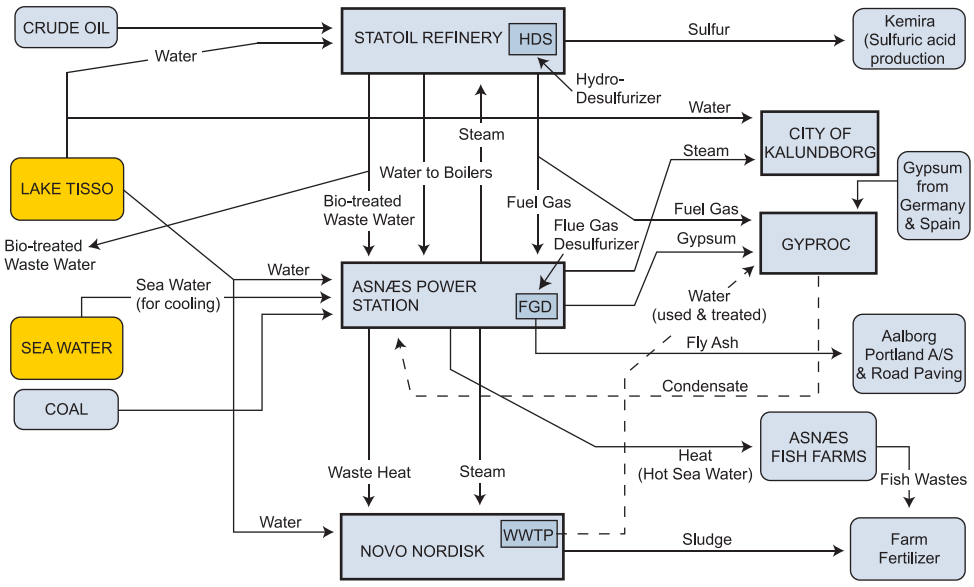
- identifying complementary uses within various geographies would be essential to determining priority land uses; and
- sensitive or emergent issues should be given priority within growth management practices while following the processes established for priority land use.

2. Empirical evidence would be required to create a QBL framework for informed decisions.
3. Sector-specific conservation measures should be adopted as it relates to priority-based land and growth management.

Appendix F

Linkages Demonstrated by Industrial Ecology





Kalundbord Industrial Symbiosis - 1995

Appendix G - Group Member Verbatim Comments by Stakeholder Category

Meeting 1 (in alphabetic order by stakeholder category)

Agriculture

1. I would like to see some clarity re #3. Supplemental Information to Assist the Working Group. It was my understanding from the meeting that a request was made to have clarity provided by the Minister of Energy on the priorities of the government as to the prevailing impression that oil and gas has a priority/need/desire over other sectors in Alberta. This understanding would have a major impact on the discussion of the group. In addition – at the conclusion of the meeting, I made a request to Ian that it would be beneficial to have a private landowners' perspective on how development impacts their lands. This is an area of which I am personally well versed (and regularly speak on to a variety of audiences). I am sure there are other competent and available speakers around, and did not intend to solicit an invitation to speak. I feel strongly that it may be helpful if the entire group understood these impacts as we move forward. You would not have an official record of that discussion – but if possible, could you please confirm it with Ian and include in the updated Summary?

Municipal (Rural)

2. It is accurate and coincides with my notes and overall recollection of the meeting.

Recreation

3. The summary looks fine. It reads like we were in the same meeting.

Meeting 2 (in alphabetic order by stakeholder category)

Environment

1. The use of "the Minister" is not appropriate in a cross-ministry initiative such as LUF. There are purportedly at least 7 Ministers committed to the LUF.

   Discussion, Para 4d, third last bullet should be "Ministers" not "Minister". Discussion, Para 4e, first bullet should be "The Minister of Sustainable Resource Development" not "The Minister".

2. The minutes do not seem to include the products of our small group work. Is this material recorded elsewhere?

Forestry

3. I have reviewed the minutes and the only question I have is: it says the LUF applies to Federal Lands. I thought that the LUF only applied to Provincial and Public lands in Alberta. I did not think that Parks (Banff, Jasper etc. or Federal Lands i.e.: Indian Reserves) were part of the Framework process. Maybe we could have this cleared up at the next meeting.

Meeting 3 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. I have no problem with the original wording and don't agree with the nuance that the new terminology is supposed to impart. I did not hear any no's except for examples of where some balance was achieved. The question was overall in the province rather than are there any examples of where balance was achieved.

Agriculture

2. A solution/strategy that is not being addressed is the correlation of the amount of agricultural land available and food production. The United States, which has lost millions of acres of food producing land to urban sprawl, for the last 2 years (2005/2006) has been a net importer of food. The preservation of land first and foremost is about the production of food and maintaining a clean water supply for future generations.

3. AB Energy Presentation

   There were a few points presented that do not seem adequately captured in our summary. These being:

   - Tenure (the right to lease the minerals is Market Driven

- industry requests the minerals to be put on market
- risk and reward goes to private industry
- Certainty of Access is GUARANTEED on private lands

EUB Presentation

The presentation was based on the EUB as it stands today. It is imperative that the group as a whole look at and consider the changes proposed by Bill 46 which was just introduced at the last session of AB Gov. If Bill 46 goes forth, the presentation information we received was worthless. We need to hear and review the changes proposed by Bill 46, as it will substantially alter the current processes re public involvement and consultation in order to effectively discuss how best to move forward within managing our growth and resources within the LUF.

Points not captured:

- The EUB makes decisions in the Public Interest, which includes the following:
- Economic orderly and efficient development
  - conservation (not to waste the resource – without consideration to other resources)
  - need
  - pubic safety
  - technology
- They are also to consider – environmental, social and economic factors such as:
  - emissions
  - benefits/costs
  - equity
  - public safety
  - land-use
  - disturbance
  - infrastructure
  - lifestyle
  - risks

However – they are not able to make decisions on the factors above that are listed as those to consider, they are only able to make decisions on the previous four factors (example: Fort McMurray Decision)

They are bound by the Rules of Natural Justice.

EUB Decisions cannot be appealed unless there is an "error in law" or "in jurisdiction".

The EUB does not have the mechanism in place to look at cumulative effect impacts

Cumulative effects must also be looked as a Government Policy level.

When it comes to the Regulatory Framework = the Government/AB Energy department decides what the policy is and the EUB decides how to administer the policy – they do not make the policy, policy is made by the Government.

I would also like to comment on the following bullet:

"This may represent a "sea change" in the way to do business; it may prevent landowners from being "picked off" by one company over another, even though some landowners may perceive an advantage in individual negotiations". I do not recall this conversation or recognize it in the format presented. I believe the concern raised was that landowners feel that the current methodology of both "public consultation" and the definition of "adversely affected" (i.e. within 200 meters of a proposed well), allow industry to move forward with large projects without adequate community consultation. The comment "picked off" was definitely related to information sharing and not compensation, therefore I feel the comment regarding negotiations is a bit misleading.

Industrial Presentation

I did not see mention of the following, which was brought up in discussion by the Industry Group:

- Managed land-use – Triad approach – based on the concept of thresholds
  - TRIAD = intensive use – zero use and – somewhere in between
  - Access to the resource – is it everywhere all the time
  - Triad looks at a range – some areas intensive, some not, some protected areas
  - Some areas have big issues some areas do not
  - Prioritize issues based on the areas with big issues

Agricultural Presentation

Summary of the Lucad report (check sp of Lucad):

- Land-use and Lack of Management
  - every concern led back to a lack of provincial direction
  - inconsistency was rampant industry would need to meet a standard and encompass a review to ensure that they were meeting the policy
  - to be effective, must be ongoing and not static
  - need to be proactive to fine tune emerging issues
  - create the need for the government to go there – via educating the public to the needs and benefits of the policy needed
  - Education of the benefits of Good Land Planning
  - Exploring the option of using new and different methods to round out the tool box by looking at other areas with problems and adapt them to our proactive response

The land supports the service industries of towns and cities.

- 100 years ago – 83 000 farms now 50 000. Who owns the land – more land is rented than owned and rented from owners that are not necessarily farm based holdings, often foreign interests. Try to keep the land in its entirety.
- Tax regime – onerous to the land. If it is not passed on within a family, the tax base requires a large payout, often requiring the sale of extra land to developers
- Public – awareness of land is lacking
- need preserving agricultural land and wet lands for the future
- the right to farm issue: a great deal of issue, AOPA provides for the right to farm, but as urban encroachment happens they are not happy with farm nuisances and we need to protect the right to farm
- The lack of recognition of cumulative impact by AB Energy and by the EUB means it is almost impossible to measure or manage the impacts to the surface of the land
- Private landowners are bearing the burden of the "Alberta Advantage", but do not have the right to refuse surface access or share in the wealth. They are entitled to be "made whole" by legislation
- Regulatory processes are hindering landowners ability to work within the system, need assistance in education of the process and unbiased representation
- Gaps within the regulatory system that need to be addressed through regulation
- Permanent scars to the land that future development will never be allowed,
- Pipelines are sterilizing future development on many scales, not just agricultural

Redefine a theoretical structure – based on a spectrum of values

Move to a diverse and healthy environment and society – economy should be a subset of the people

Change our measure of success –

Change our accounting system – right now energy trumps all else, because it appears that they make all the money

Incorporate the concepts of natural capital – natural resources and eco systems

Need to eliminate non-economic industries

Recommendations:

- Create an Advisory body with less political influence (similar to the Water Council in the Water for Life Strategy) that could review the areas of mandate and respond appropriately.
- Redefine "Public Interest"
- Monitor and create a data base deemed to be in the public interest, measurement of air, land and water (surface and subsurface) - potentially could include an ADR like process

- Provincial Land-use Policy that was enforceable
- *Municipal Government Act* – is written for development of land as a commodity, this needs to be reversed, we need to keep the land for production.
- Need a Water and Land Inventory – required, similar to the NRCS and the farm bills.
- Redefine a theoretical structure – based on a spectrum of values
- Move to a diverse and healthy environment and society – economy should be a subset of the people
- Change our measure of success – and change our accounting system – right now energy trumps all else, because it appears that they make all the money
- Incorporate the concepts of natural capital – natural resources and eco systems
- Need to eliminate non-economic industries
- Burden of proof needs to go back to industry to prove they did NOT cause the problem as it relates to water well contamination
- Recommendation for discussion: how do we ensure that private lands do not bear the burden of the :Alberta Advantage; Regions of Alberta need to be looked at as "off limits"; Tenure – how do we realign Tenure requirements with private land rights; how do we recognize and measure cumulative impacts

Under the "Solutions and Strategies"

I don't agree with all of the points as they were captured:

1) Help landowners get educated about the oil and gas business – NOT WELL DEFINED

Landowners need help in working with the oil and gas business which may include education as well as representation with their rights. Ability to obtain assistance is negated by regulations that were intended to protect them. i.e. *Surface Rights Act*, *Land Agents Licensing Act*, the EUB

2) Need clear protocols to direct industry to investigate changes to water regime, including supply of water, that may be caused by drilling. DISGAREE – What was stated was that we need clear protocols where industry is NOT responsible to investigate water complaints that are though to be caused by them. Complete and total independent investigations are critical. Protocols need to be developed which not only investigate the changes to the water but that include immediate supply of water until a determination as to cause can be made.

Environment

4. My memory is of a different emphasis of responses to Section F Working Group Questions, Question 1: For the first part - "Is there currently an appropriate balance among social, cultural, economic and environmental considerations in land-use decision-making?" - The answer to the first part was a "qualified no" as reported. For the second part – "If not, what rebalancing is necessary?" – My memory is of most participants saying that the emphasis was too skewed in favour of the economy, but this is not recorded here.

    - Also cashing in non-renewable resources such as gas today may be of short term benefit to the economy, whereas leaving them in place might be better for the long term economy. There was also some discussion on growth and whether it is (a) inevitable or (b) desirable. If Premier Stelmach has committed to not taking his foot off the economic gas, then this has already restricted the ability of the LUF to "manage growth."

Forestry

5. I request that the Canmore Meeting (#3) Summary for Group Member Comments be amended as follows: Table 2 pg 10 of the Summary document: Under 'Responses to Question # 1' it reads, "Overall a qualified no"... I support the bullets within this area, however I suggest that this statement did not entirely represent to discussion I recall on this question. Rather I would seek the following change to this initial statement, "Majority of group responded "no", with arguments presenting a "yes" and "no" position". …I think the bullets now better substantiate this revised statement vs. the original.

Municipal (Urban)

6. I agree with [Forestry rep's] recollection of the responses and his request.

Meeting 4 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. In Table 1, Item 2 says "the Province should not impose arbitrary caps or limits on land-use." Left of its own, I don't think these words quite capture the thought expressed by the group that proposed them, which I was part of. As I recall, we intended to say that the Province shouldn't try to stop any sector from growing at all by imposing a hard cap. There must be room for some growth, in various parts of the province. However, we supported the idea of limiting the amount of space allocated to various sectors in various parts of the province and noted that these limitations or directions should be reviewed from time to time so they might be adjusted.

Agriculture

2. In our small group discussions, our group agreed on the following statement (captured in Table 1) that could be considered as one of the over arching principles or philosophies that could be utilized in the final recommendations: "Setting Priority Land-uses. The LUF will establish long term use of the land (100 plus years) to recognize a broad scope and definition of Public Interest to include the social, economic and ecological interests of Albertan's. The framework will establish the carrying capacity, recognize cumulative impacts and entrench these in legislation and policy when considering land-use changes, developments, and resource extraction (oil, gas, water etc.)." During the second group exercise as to "who and how" the above statement could be implemented, we came up with the Quadruple Bottom Line Authority flow chart. After the meeting and while emailing back and forth to create the flow chart, there were some secondary thoughts as to who the QBL Authority should report to; and I would like to ensure that these comments are also captured. These comments include that the QBLA perhaps should report to the overall Cabinet versus only the Premier. This may be a better model to consider for stability of decision making as the QBL Authority would be less likely to be affected by election cycles and political pressures. In addition, in the news of late have been reports on TILMA (the Trade, Investment and Labour Mobility Agreement) between Alberta and BC, which came into force without public consultation as of April 1, 2007. Saskatchewan has refused participation as they believe that TILMA would place serious restrictions on their politicians' ability to govern, and ultimately place most decision-making in the hands of large corporations. Both BC and Alberta governments have agreed to pay a $5 million fine for each "infraction" of restricting or impeding investment (very broadly defined). Environmental assessments such as would be required under any Triple Bottom Line or QBL approach are not exempted and would clearly be considered an obstacle to investment. I bring this topic into the discussion simply because I am truly concerned that all of our hard work and labour to bring LUF recommendations to reality are likely to be quashed with this agreement in place. Perhaps Minister Morton or Premier Stelmach could address this concern; either in a written format or in person at our next meeting?

Energy/Industry/Development

3. I have had a chance now to catch up on the materials from the Growth and Resource Management working group. No concerns related to what I have read, looks like the group is making good headway, and I hope that the outcomes and recommendations are acted on when the team has finished it's work. The focus of the group appears to be around urban, rural, and environmental land-uses, and how to balance that with oil and gas resource development in Oil-berta. I agree that there is leadership and direction required from the provincial level. My observation is that some MDs and Counties are very pro-development, encouraging subdivision of agricultural lands for country residential and industrial development, and some MDs or Counties are more concerned about preserving agricultural lands. This may, or may not, be appropriate in each situation. Regions by watershed is a good approach, particularly since water will continue to be a growing concern into the future for Alberta. One thought I had was to be

crisp on what we mean by managing growth, and more specifically managing growth of what. Growth of urban areas? Growth of industrial development? Growth of which, or what, industrial development? How are these all linked, and which do you manage?

- Two comments on the meeting notes sent today: 1 page 8: #1 under "Common Themes"; "Criteria need to be measurable and understandable, and apply to all activities." It may not be appropriate to use the same criteria for all activities. For example, you would not use the same criteria for housing density and oil well site density.
- Figure 1: "Review and Appeal Board". I would be curious to know how the other members of the GRM view the Energy and Utilities Board (EUB) in relation to this proposed role. They are a quasi-judicial body whose mandate is the "safe, responsible, and efficient development of Alberta's energy resources ...in an environmentally acceptable way that does not compromise social values or public health and safety." (from the EUB's Guide 29 Brochure). The EUB is there to resolve disputes related to specifically proposed oil, gas, coal and electrical energy development. There are also other existing provincial entities that could enforce appropriate criteria in different domains. Another one that comes to mind is Sustainable Resource Development (SRD) that can enforce environmental aspects of appropriate development. If we can use existing provincial bodies, rather than invent more, that would be more efficient and easier to integrate.

Meeting 5 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. I recently attended a City of Edmonton meeting where they are trying to put together a regional plan. Naturally, their focus is on municipal development, as it has always been, with no thought whatsoever to agriculture, oil and gas, forestry or any other sector you might want to name. Consequently, I am becoming more and more convinced that we need to push for a different regional planning unit, specifically watershed-based, to force the various sectors to work together and get out of their particular niche. You know, I don't think urban municipalities necessarily want to ignore everything else; they've just never known anything else as a result of all the rules they now follow when it comes to land-use planning and land development. However, I think we have to force them out of this practice if we ever want to move toward comprehensive land-use planning and consider the cumulative effects of different types of development. I'm pleased to see that the idea of conserving space and finding ways to use land more efficiently was mentioned in the summary. My thoughts from here on in are to focus on this point and try to get this message across more effectively, particularly with some examples like the LEED neighborhood development standards. Given that we are the growth and resource management group, I think it is incumbent on us to spend a little more time on that area and see what we can come up with.

Agriculture

2. Under the "Key Elements of the GRM Working Group Report" – our group struggled [Ed. Note: would appear to refer to this member's sub-team within Working Group session, rather than the Working Group collectively] with some specific wording and wanted to ensure that this wording was captured. The majority of our discussion was reflected in the summary notes provided, however we would still like to ensure that the following thoughts are not lost in the process (we struggled very hard to reach consensus on some of these).
    1) The LUF must have components similar to the QBLA diagram from the previous meeting, with appropriate levels (including a Centre for Excellence component -- well designed with a broad scope of knowledge).
    2) Science-based decisions are required; however, a broad definition of science, including both traditional and non traditional science must be utilized.
    3) Baseline data, carrying capacity and cumulative impacts must underline all parts of the LUF model.

4) Integrated management and model should include air, water and land strategies at a provincial level.

5) Governance is not enough – we need strong public policy and legislation (including reform of some policy) including regulatory review and changes.

6) Stakeholder and public participation is critical.

7) A guiding principle must be conservation and effective use of Land. All sectors need to be cognizant of how much land is used and how it is used.

8) Long term (50 plus years) vision…at the minimum.

Meeting 6 (in alphabetic order by stakeholder category)

None

Meeting 7 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. I agree entirely with the comments made at this meeting, particularly with respect to adding more examples and greater detail to the document to make it more understandable. I would suggest that this include the need to conserve land, to allow for a greater diversity of uses and to keep more options open for future generations. I would expect the conservation working group will focus on this but we might want to highlight it in our package as well, along with some examples of how it could be done.

Meeting 8 including review of Final Draft Report dated October 3, 2007 (in alphabetic order by stakeholder category)

None

Appendix H - Reviewer Verbatim Comments by Stakeholder Category

Meeting 1 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. The prioritization of land-uses seems to be a big issue, so getting the input from land developers and the Ministry of Energy is essential to developing a plan to act on this (or alternative ideas). I think a couple of good questions for the future might be: How would a prioritization plan be implemented? What would be needed from the various levels of government, concerned industries and other parties to develop a land-use prioritization plan? This is speculative, however, until all crucial input is in, and there is a better idea of what all the major concerns are.

2. A land-use framework that takes into account cumulative effects on water and other resources needs to be applied BEFORE the Department of Energy auctions off exploration permits in the petroleum sector. As it is, rights are first issued, with considerable outlays occurring, and the EUB is downstream of this decision before it reviews, and before the public has any input into, the environmental effects of the project. My understanding (based on a comment Neil McCrank made in a public forum this spring) is that Norway initiates environmental impact reviews including public participation before exploration rights are issued.

Energy/Industry/Development

3. Who defines what priority land-use is? Who is given priority? Those that have the deepest pockets or those that make the most noise?

4. Support the process as clarified by the Working Group. Look forward to more detailed discussion on questions highlighted.

Municipal (Urban)

5. Representativeness. I would agree on the need for a representative from a land developer's organization. This potentially has profound influences on their industry. I think otherwise the representativeness is covered off. Not every group can have a member on the team. Section 3 and the member comments refer to the Energy Minister providing some comment on his department's priorities / needs / desires with respect to other sectors. I think that to have some validity to this process, there needs to be some sort of public declaration that there will be some consideration given to not having energy / oil / gas issues predominate over all others. There is an impression that they do, and there needs at least to be a public statement that "balancing" interests is "on the table."

Meeting 2 (in alphabetic order by stakeholder category)

Energy/Industry/Development

1. a) In the objectives that indicate LUF success it should be noted that social and economic needs within the province are an expectation and, therefore, responsible economic development will be an indicator of success.

   b) In the barriers to success it should be added that not striving to improve existing processes and incorporating these processes into the Land-use Framework would also indicate a failure.

   c) In Scope of the Working Group, yes, some existing tools aren't working while others are working. The main focus should be to improve existing tools whenever possible rather than reinventing them. It is the integration of the processes and tools that is lacking. This integration will provide a more streamlined Land-use Framework.

   d) The principles of sustainability should include the economic wellbeing of Alberta as well as the ecological wellbeing of Alberta. An integrated approach to land management must be promoted.

   e) Representativeness. Hopefully when GoA implements LUF objectives all agencies and industries will be bound, whether they participated at the table or not. Not binding to LUF will just go full circle and end back here for another go-around.

   f) Word protect implies "no-go" in relation to natural capital. Perhaps sustain, maintain, conserve are more appropriate.

   g) Intent should be to provide strategic recommendations to GoA on land-use objectives, not develop new tools.

   h) Unsure of the issues section. There are broad land-use issues that need recommendations to government on resolving. To drill down to specific issues based on species and/or site may be to time-consuming.

   i) There is, within some sections, an unbalanced direction that favors protection rather than conservation and maintenance of the ecology. Sustainability must consider that need for a healthy Alberta for all citizens includes sustainable resource growth that provides funding through royalties and workforce taxation to maintain our health, education and social systems.

Municipal (Rural)

2. Question: who and what is the urban development institute?

   Add to 2a: recognition of land as a Resource not a commodity.

   Add to 2d: recognizes need for additional human resources at government level to police initiative and policy. Some mention of codes of practice.

   Add to 4d: should not create primary stakeholder status for any one user.

Meeting 3 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. I can't believe people are still asking for another "level of bureaucracy" - regional planning - they are not elected, are not accountable to the public, they only "muddy" the waters. The task of the LUF is to help the GoA to set land-use policies that are meaningful and useful (not like the existing set from 1996) to decision-makers. Make use of regional cooperation through the watersheds, which are natural boundaries.

Energy/Industry/Development

2. Just a comment on the agricultural discussion. Whose role is it to educate the public? The oil and gas companies or the GOA? What role would this include?

3. As I review your meeting notes, it becomes more apparent how overwhelming and daunting your task. I urge you to stay the course. In the Regulatory Overview, C 1(b) it greatly concerns me that there is no mechanism to "incorporate cumulative" effects. Nowhere is that more obvious than in Wood Buffalo Region. This has serious ramifications. Please push hard on this point. In the very next point, AEUB says " Decisions must consultative, onus is on industry to do public consultation". This is not acceptable. Albertans own the assets. The onus must be on industry "to prove that they are mitigating the risks and that there is a serious economic penalty for failure". In 2(d), it says " the AEUB can send a message through its decisions to the GoA that a policy gap exists" . The AEUB must go further… if the gaps exist, fix them before allowing development. Industry has a habit of thumbing their noses at government. Case in point… CNRL was to build upgrades to road to Fort MacKay as part of their approval. AIT has been asking for over 3 years for this to be done… asking?? Why can't they demand it? Because they have no "stick" In Section E 1(b)(i) it says" the LUF protects key environmental assets". Does it? Take a look at reports on Athabasca River and the surrounding boreal forest. Subsection (ii) says the LUF will ensure that Albertans live within the province's natural carrying capacity. I doubt if anybody in Alberta really knows what the "province's natural carrying capacity is". Okotoks is the only municipality that I am aware of that is doing more than paying lip-service. This must be an integral part of Land-use legislation... if it takes 10 years to do... then take the 10 years... put in place a moratorium on exploration and development. But that would take courage, do we as Albertans have that courage? Enough said... Keep up the good work... Stay the course... Thanks for your hard work.

4. 1. The lists of LUF outcomes from 2006 (referred to as the list of eight) missed recognizing social and economic health. Going forward it is important this be recognized as a priority outcome of the LUF.

   2. Existing successful approaches must be incorporated into the LUF so that it does not become another bureaucratic layer. This will make LUF successful in integrating processes and streamlining the approval system.

   3. Managing growth must provide the triple bottom line of social, environmental and economic considerations. It does need structure and integration but also requires a flexible approach as all these factors will change both regionally and through time.

   4. Operational level components must integrate the triple bottom line considerations regionally and provide flexibility in their execution so that they do not limit options or chances for success.

   5. Good work, there is a lot of good information and progress by this group. There are still some concerns about tenure issuance and stakeholder rights, etc., that may become less of an issue as further direction comes from the formulation of the LUF.

   6. Dealing with labour and housing shortage may be outside of the LUF and as such should not become a major focus.

7. I am not sure that one can deal with consumption and economic growth, these things seem to run themselves. I like the idea of focus on economic prosperity, as the term seems to encompass all facets of the triple bottom line.

Municipal (Urban)

5. With relatively minor exceptions, I would agree with the directions that the discussions are taking. They seem to be making good progress and touching on the important points.

6. Thank you for the opportunity to provide comment on this very important project.

   General Comments:

   - The difference in the view toward growth should recognize that growth occurs in at least two ways—the intensification of an existing use/activity or the expansion of the overall footprint or addition of new activities. The Working Group (WG) appears focused on new activities and it would be useful to have a discussion about intensification of existing uses.
   - The WG appears to be focusing on the development of a set of principles that has general agreement. This WG should set its sights on producing/recommending a policy direction to the GofA. Growth is a huge issue in the province and this growth is, in turn, putting considerable pressure on the management of both renewable and non-renewable resources and on the municipalities who are experiencing the impacts of growth.
   - Members of the working group should be aware that the report of the Minister's Council on Municipal Sustainability was prepared not only by the President's of AAMDC and AUMA but also by the Mayors of the Cities of Calgary and Edmonton.
   - In the previous session a link to one municipality's work could be construed as trying to bias the deliberations of the working group. A more neutral and transparent approach might be to review land-use strategies in other jurisdictions both in Canada and abroad to identify best practices or to review the best practices of a broad cross-section of municipalities across the province.
   - Page 3, 1st bullet, references the AEUB's current inability to incorporate cumulative effects into decisions. This is an important point, and one that was not revisited in the following discussions. Might be useful to emphasize the importance of referencing cumulative effects in LUF development and implementation.
   - Page 4, section E. Agree that the first set of outcomes (2007 LUF Workbook) are far too general and high level. Of the outcomes listed, the 2006 LUF Cross-Sector Forum report outcomes are the best jumping off point. The 4th bullet under this section should reference urban-urban integrated land-use planning, as well as urban-rural.

   Section 1 - LUF Outcomes:

   - While there appears to have been much discussion on the make up of the Outcomes, there does not appear to have been any significant formulation of an agreed upon set of Outcomes. This is an important step as any Outcomes would drive the process of ultimately developing recommendations for consideration as LUF principles/ outcomes etc.

   Section 2 - Successful Approaches and/or Tools

   General Comments:

   1. There would be value in presenting more than the Alberta experience. A review of best practices from across Canada and the United States would provide some up-to-date and innovative approaches and tools that would help in considering what could be done in the future.
   2. The description of an ICSP is not accurate and should be amended to reflect the generalized definition rather than the Calgary example.

   The following tools/approaches should be added for consideration; once again it is strongly recommended that other tools and approaches beyond the Alberta experience be put forward for consideration.

1. Inter-municipal Development Plans—provide a good framework for integrated plans amongst jurisdictions.

2. Regional Plans—the past successes of the former regional planning structures in addressing environmental, resource extraction, agricultural, and urban growth areas should not be overlooked.

3. Integrated Growth Management Plans—as recently directed by the Province for the Capital Region --should be considered. The Terms of Reference are available on the Provincial Web site.

Section 3 Common Themes in Managing Growth

- Agree with 3a) which includes mention of regional-level planning and local control/jurisdiction
- 3b) - it's not clear what the purpose of the central body would be—Regulate? Enforce? Encourage? Fund?
- 3f) page 9 - do not agree that "decisions are science based". While "science" may be an important piece of the framework for making decisions, it is only one of many considerations that decision makers have to take into account

Section 4 Priorities for Managing Growth

- 4a) the regional level planning and local control/implementation aspect of the previous sections set of key components has not been picked up in this section. It is very important to recognize that while provincial leadership will provide the framework for the other jurisdictions, success will be dependant on how the priorities and strategies are taken up and put into action by other jurisdictions. In particular, regional level planning will be very important for dealing with provincial priorities which span a larger geographic area with multiple jurisdictions. Also, it may be advisable to identify key at-risk, high growth or vulnerable areas where action must be taken immediately.

Other Comments:

- pg 12—agrees that the MGA should be revised to provide municipalities with the tools to both conserve and develop the resource.
- Both industry and agricultural sectors noted the importance of provincial leadership and clarity to promote regulatory certainty.

Page 13 - municipal. Note that intensity can (and arguably must) be achieved in existing areas. Not consistent with point that intensity can work only in new areas.

Agree with point that regional planning is needed.

Page 14 - conservation. Recommended using the seven major watersheds in Alberta to set regional priorities in planning – this is certainly one method of identifying a regional-level planning boundary but must be evaluated with other potential models.

Meeting 4 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. It appears that both the Growth and Resource Management and the Planning and Decision Making Working Groups have raised questions about the size (scale) and kind of regional boundaries to be considered. Watersheds and White-Green Areas have been suggested. I would suggest that a better (more logical) framework for LU decisions and management should be the Natural Regions and Subregions of Alberta. These are areas such as the Dry Mixedgrass, the Central Parkland, the Lower Foothills, the Central Mixedwood, the Subalpine and the Peace-Athabasca Delta. These regions reflect a degree of ecological uniformity in terms of climate and physiography (and therefore vegetation and soils and wildlife) that controls much of surface land-use in Alberta. Also, it is a hierarchical framework that can be accessed at different levels of detail. Natural regions encompass issues such as natural carrying capacity and, while not exact, groups of natural regions approximate the White and Green Areas of Alberta. We already use these natural regions for managing our forestry, agriculture, wildlife and parks resources. Although our energy resources do not recognize these boundaries, how the resources are exploited and reclaimed certainly does. This is not to suggest that watersheds and particularly municipalities are not needed or useful. T hey are. Rather, it simply suggests that this is a natural, logical general

framework within which to consider, plan and manage land-use in Alberta. Municipalities or other jurisdictions would still manage the resources, but within a natural regions context.

2. 1. Without access to the materials provided to the working group (e.g., Strategic Overview, Draft Land-use Framework: A Top-Down Approach, cross-jurisdiction review, reviewers' comments on previous meetings), it is difficult to understand the discussion and the challenges they are facing.

2. B.1.b "members should continue to focus at a strategic level of high-level thinking". The devil is in the details. The Working Group cannot be strategic unless they have a sound grasp of the strengths and weaknesses of current land-use policies, laws, programs, etc., particularly in terms of implementation. From what I have seen, the GofA representatives have not provided this information.

3. B.1.d "build on existing successes (e.g., Water for Life …"). Water for Life has been successful at correcting some of the mistakes of the past (e.g., lack of information on inadequate drinking water facilities). However, Water for Life has not proven that it is capable of creating sustainable water management.

4. C.2.b In addition to the items listed, provincial leadership is required on the pricing and subsidization of resources and infrastructure. Successful growth and resource management depends on creating an economically and environmentally sustainable market for land and other resources.

5. C.2.d There needs to be a common definition of region and regional governance worked out with the Planning and Decision-Making Working Group. There are many ways of looking at a region. However, two dominate: watershed and transportation.

6. C.2.f "Balance" is a meaningless term. Some people use it to mean fair or equal access to resources and provincial funding. However, a "balanced" approach to sustainable land-use will in all likelihood mean that some resource users will lose privileges, pay higher fees, or receive reduced subsidies.

7. Table 1 Row #1. What is "Western science"? It's either science or it's not. If the person was referring to values, they should demonstrate to the Working Group how "nonwestern" values can assist in making LUF better. "Judgment of criteria" is always subjective. It is "management by values." That's what decision-makers do – make subjective judgments on the criteria (the values) to apply to a decision. When things go wrong, you can usually trace it back to poor subjective judgments. The Working Groups need to grapple with this so LUF ensures that individuals make better judgments, those judgments are clearly tested and documented, and individuals are accountable for the judgments they make.

Row #2.

The "gap analysis" is needed now. The Working Group would profit from taking the idea of "inappropriate use" and defining what "inappropriate growth" is.

Row #3.

"Priority" is the right word. "Balance" is not (see point 6 above). What is a "management template" and how does it resolve conflicts? The "100 year" need is actually a question of defining what society needs to sustain itself at the appropriate level for 100 years. (See carrying capacity comment.)

Row #4.

Carrying capacity" is not absolute. It depends on how much degradation you are willing to accept to the environment or the economy (think labor shortages). This is a value-based question that the Working Group needs to resolve.

Row #5.

In terms of "flexibility," keep in mind that flexibility is the refuge of the weak, the indecisive, and the incompetent.

8. Figure 1.

"Sample of Possible Model for Provincial Land-Use Authority". "Cultural" is part of "social." Explain why the QBLA is better than and profits from the experience with these models of decision-making: Energy.

3. Timing.

   The government is to be commended for bringing forward the LUF and conducting a thorough work-up through the 4 WGs. That being said, the timelines are incredibly tight, especially in light of the fact that most participants and reviewers are doing so on an essentially voluntary basis. In addition, there are so many other things going on that are equally important (and time-consuming). The government should make it clear that this process is intended to generate a desired outcome, but once reached the outcome should be open to further scrutiny, review and refinement. Under no circumstances should the government ever adopt the opinion that further input is unwelcome and the time for development and comment has passed. It would be totally inappropriate with something as important as Land-use Policy to sacrifice quality public policy for the sake of expediency. The government cannot think that they are allowing sufficient time for this process to achieve maximum benefit. This point is reflected (I believe) in Point 2(d) on page 3 of the meeting notes. In addition there is a comment from a WG member (page 15) talking about "catching up" on the materials of the WG; again suggestive of the ambitious time-lines. Science. Science-based public policy is an imperative and the fact that this is receiving consideration is excellent. However, policy development must be based upon sound scientific judgment, and not scientific proof (of concept). Sometimes this "necessity" is brought up for no better reason than to stall progress. It is wrong to see sound policy development as being analogous to a criminal trial (proof beyond reasonable doubt). If this is allowed to be the case, in many if not all instances, by the time the proof is obtained the opportunity for fruitful, positive action will be long passed. We live in a civil society and the application of science in deriving public policy should be seen as more analogous to a civil trial, where the preponderance of evidence carries the day. This is the only way in which useful policy can be developed and implemented in time to actually do any good. Point 3(a) on page 6 seems to suggest that the term "science" needs to be clarified. Surely, there can't be much doubt on what the term means?? (def. Systematic knowledge of the physical or material world gained through observation and experimentation. Or the observation, identification, description, experimental investigation, and theoretical explanation of phenomena.) I hope the WG is struggling with the application not the definition. The 3 or 4 Pillars(?). I am fairly used to talking/hearing about the "triple bottom line", but I noticed especially in tables 1…

4. I liked the need for proper terminology for 'regions' (page 5), watersheds and the want of scientifically-based decisions. The inclusion of cumulative effects (Pg 6, f.): CEA's should be utilized in nature due to their broad scope of study. Table 1: Approach 2. Based on science (preferably not influenced by politicians' individual views/agendas), that's why universities should be used, should be unbiased.

5. The idea of defining regions by watersheds is solid, so long as there is [sic] clear guidelines about land-use at sources, transport/deposition areas and watershed margins. Additionally, while intensifying industrial development in specific regions is undesirable for obvious reasons, perhaps there should still be areas identified where industry and other economic activities which can be environmentally detrimental could be found to operate where they would have minimal effect on the surrounding ecosystems.

Energy/Industry/Development

6. In B.1.d)

   The group's advice to the GofA must: I disagree that the provincial direction should be aimed at managing growth - the direction should be how to respond to growth or lack of growth. In a market economy, whether it be grains or oil, government's job is to respond to the market opportunity. If natural gas or lumber are in a surplus position in world markets, there is little the provincial government can do to change that market situation. Similarly, when products are in short supply the government's job is to provide the environment and infrastructure for the opportunity to be realized. Governments are notoriously poor at picking winners and losers in the economy and should not be dictating which industries or sectors are allowed to seize new business opportunities. It would soon become a centrally managed economy destined for failure.

7. 1. Under Reflection of the Groups Approach point 1d. The role of the Provincial Government is to set the policies and regulations, it is therefore inherent that the Province over sees the implementation of the Land-use Framework. Regional input is essential in both implementation and planning to reflect a balance of land-uses as well as economic and social needs. The framework must ultimately support both the environmental and economic sustainability of the Province as a whole. 2. For Table 1 Approach 2. Caps and limits may be a viable option, however they must have temporal and spatial boundaries and therefore must not be in perpetuity. 3. For Table 1 Approach 3. If the Land-Use Framework is going to set priority land-uses then these priorities must be flexible through both time and space. An integrated approach to setting land-use priorities would provide maximum benefits for all Albertans. A balanced land-use based on cumulative effects seems appropriate, but again the balance will change in time and space. In any area there are always numerous land-uses; setting one above another will not provide flexibility for the framework through time.

Municipal (Rural)

8. Overall we are impressed by the quality of discussion thus far and echoing Comment 2 already posted see that as long as AB government heeds the ideas put forth from this with clear leadership it will have been a very worthwhile initiative. As for the Land-Use Authority Model, we like its structure but worry about losing the arrows between jurisdictions. The comment about the EUB and the NRCB relates somewhat, however these quasi-judicial bodies lack effective fair public input. In our experience those who get intervener status may not be a reflection of public interest. As long as the QBLA can LEAD and reflect stakeholders fairly through input from the Regional and Local it is a good model. I notice the arrows are top down except for appeal. Appeal is too late. If "Community Based Social Marketing" were employed I think you could have 2-way arrows. (I think this has been used by Alberta Sustainable Agriculture on a trial basis effectively). Re. Table 1, 4. Increasing or directing activities to certain areas: Agricultural Easements with similar tax breaks to the "Eco-Gift" program would provide an incentive-based approach to sustaining agriculture. Keep up the good work!

Municipal (Urban)

9. Would agree that it is necessary for the Province to play a strong and clear role here. It needs to establish clear value, objectives and goals to form a plan against which decisions can be quickly evaluated for compliance. It should establish clear directions for all municipalities to follow. From this respect, I am not certain that new regional entities are required in all locations. If the direction from the Province is clear, then municipalities and decision-makers can see quickly what is consistent with municipal direction and what is not. I am not certain that a regional entity is required to make these decisions. Although in some cases I am sure that they will be required. I'm not sure that new regional entities should be a default position. There should be a review and appeal mechanism contained in the structure to keep it current and evergreen. The First Nations issue is one that should not bog down the process. First Nations representation should be at the table at a government-government level, but these issues of governance will be solved at the Federal-Provincial level and so should not be a big concern here. The "White" zone "Green" zone difference should be removed from our vocabulary. We should have one LUF for the province, with one set of values and objectives. Partitioning up the vision will pit one region and area against others. Watersheds are not the appropriate boundaries for regions. While they are important, they are only part of the picture. Watershed boundaries are too simple a picture. The boundaries will need to be a complex of political, physical and ecological boundaries, that will need some negotiation - but again, if the values and principles are common across the province, these boundaries become somewhat moot. Watersheds are too simple a rationale for boundaries. They represent only one aspect of the issue of land-use. The boundaries will need to reflect physical and distance constraints, ecological constraints (including watersheds), issues like commuter sheds and economic links. They will be complex, and will

need to be flexible. But if the LUF values and principles are well-crafted and clear, then following them should be easier and boundaries become somewhat less important. Where you are becomes less important than what you do, and how consistent these decisions are with the values and principles of the LUF. When there are references to draft documents, it would be nice to have a link embedded so that it was easier to link comments in the minutes with the content about which they are referring.

Water

10. I feel it is important that the discussion around regional boundaries seriously consider using watersheds and subwatersheds - for several reasons: 1. "Watershed" (all the land that drains into a river, tributary, or other water body) is an easily defined natural area - big or small. 2. Watersheds do intersect political boundaries in a peculiar fashion and cause various overlaps in jurisdiction; however these are the boundaries already designated province-wide under Water for Life. 3. Each provincially designated Watershed Planning and Advisory Council (WPAC) will be developing Integrated Watershed Management Plans (IWMPs). This means grappling with land-use issues. 4. Within each watershed region in the province there will be Regional Advisory Committees (RACs) and these areas will be designated according to sub-watersheds. Both words, INTEGRATED and WATERSHED, suggest that LAND USE will be a major and on-going discussion in the development of these plans. 5. The Province is committed to integrating its own jurisdictions to respond to these initiatives. 6. Other parts of the world are learning that recognizing watershed boundaries for government planning at all levels makes sense, in spite of intersecting political boundaries. 7. We give lip service to the notion of “partnerships”. This is a natural place to learn how to forge them.

11. Further to the question of how to create effective regions: There seems to be some confusion around the difference between eco-region and watershed divisions. Remember, Ecoregions CANNOT integrate Watersheds, but Watersheds CAN integrate Ecoregions.

Meeting 5 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. I like the general GRM approach as indicated in your minutes - impacts rather than activities, recognition of incentives, long term, flexibility etc. The decisions become more complex with the “setting of priorities", "directing activities" and "priority land-uses” – as they must. Because of the relative consistency of uses and responses (natural carrying capacity) of natural regions, I think their use could decrease the number of options and thereby help simplify the decisions. The applications could be by watershed (and/or MDs). You talk about impacts and results orientation and measuring of key elements. All of these require or imply monitoring but monitoring per se has not been explicitly identified as a provincial responsibility. As a prerequisite for flexible planning and application of LU priorities and incentive instruments, I think monitoring must be seen as a basic requirement. I agree that the concept of priority land-use is very useful as a planning tool but that it cannot be used as an absolute –situations change (see monitoring).

Meeting 6 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. The issue of timelines to do this work and review reports is very tight. I agree that regional planning should be done on a water basin level, not necessarily "watershed" because the two terms can mean something quite different. The Province has already identified major river basins. Watershed as a term is not found in our current legislation except in some regulations for forestry. What do we mean by watershed - and what will be managed within that geographic landbase? No one seems to know - there is a lot of talk but very little certainty. I prefer integrated environmental water basin management whereby plans are devised to manage the impacts of growth and cumulative place-based infrastructure and "buildings" by different sectors. Integrated planning for the land requires planning for impacts of growth and development on all elements of the "environment" and includes air, land, water, biodiversity, and the interactions between them - as

is defined clearly in the EPEA. The land is not a singular matter or element and the few feet of Earth's crust we survive upon is different depending on the wind, precipitation, water, and biodiversity and vice versa. It is an interacting natural system and we need to be mindful that these elements do not exist without each other anywhere in the world except in artificial man-made creations or mental models. I am not sure if the drafters are all using the same terms or even projecting consistent ideology or principles. I am 100% in favour of integrated environmental management and plans at the water basin level.

2. 1. Agreed that "a written report [is] insufficient to engage ministerial understanding and commitment to implement." A "Ministers' Forum" with the working groups or something similar would be a good idea. The Ministers and working group members would then have the opportunity to clarify and confirm matters. More importantly, the GofA would have a chance to respond to the ideas presented by the working groups. 2. Not having the Workbook results is very unfortunate and is sufficient reason to delay finalizing the working group reports. (It seems odd that it would take four months to document the Workbook results. That is not an analytical exercise, but a bookkeeping one. 3. The GofA is again being quite prescriptive about what the working group's report will be. They can provide their advice, but it is up to the working group to decide what they need. 4. The "absence of any growth strategy" is not a problem. The working group should draft one. Isn't that what the working group's report is really going to be? 5. The working group should consider whether "achieving sustainability" is what they are after instead of "managing growth" or "growth management." In some cases, growth will eventually have to stop either in particular areas (e.g., agricultural zones, watershed protection zones, riparian areas, parks and recreation areas) or for particular activities (e.g., utility corridors, roads, urban sprawl, motorized recreation). 6. It is unclear if the working group has developed a sufficiently detailed and meaningful definition of sustainability. If they have not, it seems that the report cannot include an effective discussion of natural capital, carrying capacity, growth management, limits and thresholds, natural regions, priorities, growth of settlements, recreation trend management, etc.

Energy, Industry and Development

3. 1. A key concept that should be included in the report is a balancing between economic growth and environmental sustainability. Growth and resource management has to include both economic and environmental analysis. 2. Another key concept is socio-economic regional and temporal variability. Both ecosystems and economic considerations change in both time and space. To manage growth and resources a very flexible adaptable framework is needed. 3. It is very important that the land-use framework integrates and streamlines processes if it is to be accepted by industry. Creating just another level of bureaucracy needs to be avoided. There must be a win-win for both the management of the environment and the continued prosperity of the province.

Municipal (Urban)

4. The group continues to focus on watershed-based regional planning. I think this is too narrow a basis. Consider the Red Deer region and the watershed boundary between the North and South Saskatchewan rivers. Where does Red Deer sit in relation to the watersheds? It has impacts in both. I think we need to give consideration to more than just watershed-based boundaries.

Water

5. There still seems to be some confusion around the terms 'watershed' and 'water basin'. From our understanding, the two terms are synonymous, with 'water basin' the more antiquated term in usage. In Alberta, all of the WPAC's except for the Bow use the term 'watershed' to denote major watershed boundaries, which are the boundaries used for Integrated Watershed Management Planning. Integrated Watershed Management Plans, by their nature, must include 'land-use' planning. As far as scale is concerned, within the major watersheds are sub-watersheds.

Meeting 7 (in alphabetic order by stakeholder category)

Academic/Consulting/Professional

1. Point C.2.c: "rather than focusing on all the components of the consultation". This advice should be avoided to ensure that the working group's findings are coherent and hopefully not contradictory, all relevant facts and views are considered, and the big picture is fully in focus. In cases where the working groups did not have sufficient information on components of the consultation (e.g., Workbook results) or were not provided with enough background and analysis, they should clearly identify those deficiencies. Point 3.a: "shift to an outcomes-based management approach … rather than a prescriptive approach". An outcomes-based approach is prescriptive. The supposed difference between outcomes and "prescription" is a red herring. The government has always allowed flexibility in achieving outcomes and presumably will continue to do so. However, in the end, government prescribes objectives it expects decisions and decision-makers to accomplish. There are different philosophies about how to achieve outcomes. Each successful philosophy, though, requires mandatory achievement of the outcomes. Voluntary approaches rarely succeed on any issue of importance, particularly approaches that do not include active and independent monitoring and enforcement. Point 4.b: Specific hotspots. These are "specific"? It seems very little has been left out.

Energy/Industry/Development

2. 1. Under specific hotspots the protection of headwaters is mentioned. Protection of watersheds and both surface and groundwater sources would be a better definition for this area of policy.

2. The report must emphasize that to manage growth and resources there must be an integrated streamlined process. Economic, social and environmental factors must all be balanced for the good of all Albertans.

Municipal (Urban)

3. It would be nice to have the "draft summary report" also available to review. Its unavailability makes it very difficult to comment on the notes. (Or am I missing something and it is posted elsewhere on the site?)

Meeting 8 including review of Final Draft Report dated October 3, 2007 *(in alphabetic order by stakeholder category)*

Academic/Consulting/Professional

1. I think the GRMWG has done a very good job of compiling, organizing and presenting a coherent and valuable discussion. I have only one issue with which I would like to respectfully disagree. That is the recommendation that the watershed model be used as the regional LU coordination framework. I entirely agree with the use of an ecological framework and with the emphasis on carrying capacity and sustainability of ecological services. Indeed, it is those arguments that would suggest to me that Natural Regions (and Subregions) or some modification based on natural regions would provide a better (more holistic, logical basis for planning and management) regional framework. Following are some of my arguments. 1. Watersheds only look at one ecological service – water. They are not homogeneous with respect to any natural parameters - they include many natural regions each with unique complexes of vegetation, habitats, land uses and therefore BMPs. That is, they include a mixture of natural capital and ecological services. 2. Natural Regions have developed in response to reasonably specific parameters of energy (temperature) and moisture and are relatively homogeneous in terms of natural characteristics of vegetation and land uses - it is easier to plan, manage, predict responses to changes in external forces and indeed define carrying capacities and maximum loading of cumulative effects within such a framework. 3. One can partition and predict change effects on a watershed much easier from a series of defined entities than by working backwards from a single factor (water) to a complex pattern of natural situations - cause and effect are the essence of planning and managing land use. One can go from defined complexes to a single output factor, but you cannot predict the other direction. One can model the first approach, but not the second. I think this is a very important consideration. Having

said that, it is recognized that there are often any number of ways to achieve target results. There is, in nature, generally no absolute right or wrong. One can usually make a number of approaches work. It is a matter of what is most logical, the easiest base from which to implement plans to manage land and limit the opportunity for mistakes. Water is without doubt a major concern. However, we should not just accept the framework for a single factor simply because it already exists and could reduce duplication. I think we are now working with a larger concept and should consider a more holistic Natural Regions framework.

Energy/Industry/Development

2. 1. Under action 3.1.1 should subsurface and surface issues be considered urgent? The issue of surface versus subsurface rights has been around a long time and will likely not be resolved in a Land Use Framework. 2. Also under action 3.1.1 and the point on the protection of water sources. The term "headwaters" should be replaced by "surface waters" or "watershed". 3. Section 5.1.2 talks about the development of a center of excellence. We agree that bringing together data sources into an integrated information system would be invaluable. There are several existing initiatives that should be built upon and modified to accomplish this. We do not support the establishment of a new institution. 4. Page 38 GRM Question #2, all five tools are reasonable options that can be used successfully based on working towards a set of provincial values and the threshold of impact or protection set for each value at the regional or provincial level.

Municipal-Urban

3. In general, I support the six directions outlined in the Final Report and recognize that more discussion will occur when developing an integrated implementation strategy for the entire LUF. The results of the other committees provide parallel, but not incongruent, directions at this point, in particular in the area of decision making or enforcement structures. I was left with no clear sense of exactly how municipalities would fit into this component (aside from the proposed QBLA governance structure). The report does not clearly articulate how the regions referred to in the report (defined akin to provincial watersheds) will interact with or affect municipal regions such as the Edmonton region. The land-use link is really fuzzy. Some specific comments follow: Direction 1-Adopt the LUF Vision and Outcomes. Outcomes are generally not presented as outcomes - they look more like strategies. Suggests poor understanding of the difference between outputs and outcomes. Ultimately will mean reliance on the draft LUF Vision as a proxy for hoped for outcomes. Direction 4-Limit Impacts to Manage Growth. Local government is not listed in the Appendix as a stakeholder in "increasing, decreasing or directing activities to certain areas". I believe local government is a critical stakeholder in this process and must participate meaningfully in the discussion. I also have some concern with the statement that the "LUF should instead manage the impacts of human activities on the land, not necessarily the activities themselves". Does this exclude "natural" events from the context? Direction 6-Distribute Decision-Making Appropriately at Provincial, Regional and Local Scales. The Possible Model for Provincial Land-Use Authority - Figure 1, pg 24 must be evaluated in the context of the structures outlined in the Planning and Decision Making Working Group. I understand that the group was working independently but the sum total of the proposed decision structures of the various Working groups paint a picture of very heavy intervention and multiple bureaucratic processes. In the list of Group Members (page 29) it is very important to know what group or agency the members are affiliated with.

4. Strategy 1.1 and 2.1 and 3.1 - There should be a consistent, singular piece of legislation under which the LUF resides and which crosses all ministries, and to which they are all subject. Direction 4, Approach "C" - Some caution should be exercised with "priority" land uses as they may unintentionally skew development towards that priority i.e. be careful what you wish for. Overall, Direction 4 is an excellent synopsis of possible options. The idea of using "hotspots" as pilot projects to test run these ideas is great. The Direction 6 proposed structure is excellent and more robust than that proposed under the P&DM document. Power is spread through the structure so

that one part cannot abuse or manipulate the remainder. Excellent proposal.

Unidentified

5. This report makes many worthwhile recommendations for managing land use and development, but that's also the crucial weakness -- too many directions, with little weighting among them, and too many resting on subjective or easily manipulated criteria. In my view the health and diversity of ecosystems must be given first priority, since healthy biodiversity gives us the best indicator of success or failure in our management (like the canary in the coal mine). I would urge that the Alberta Biodiversity Monitoring Program be expanded province-wide as rapidly as possible, and its findings integrated with historical data where available so that we can begin to determine objective thresholds for development based on the natural range of variability. This would complement some of the other objective criteria that are emerging for water use and air quality. I am concerned that too much heed has been given to essentially subjective criteria, i.e. cultural, social or economic values. Surely a healthy ecosystem is the sine qua non for healthy and sustainable human development. That said, I congratulate the task force members for their work. It does provide useful direction for government and society IF the recommendations can actually be implemented as described.