

# Integrated Landscape Management

Alberta makes major strides in collaborating to manage the industrial footprint on the landscape.

*By Robert Simpson,*

*with files from Bob Demulder, Integrated Landscape Management Coalition and The Alberta Biodiversity Monitoring Program*



*Fish Creek, near Hinton, AB: before reparation*



*Fish Creek: after reparation*

Over the past year, the Alberta Chamber of Resources Integrated Landscape Management Initiative (ILM) has made significant advances on the strategies and actions that seek to minimize the cumulative effect of industrial activity on the environment.

Given the rate, diversity and magnitude of development in Alberta over the past decade and its impact on landscapes, it has become a significant task to manage to ensure that the cumulative effects of development do not adversely affect the health of Alberta's ecological and environmental resources. However, through a sustained public awareness campaign and working closely with all levels of governments, academia and resource industries, the ILM program has made considerable strides in ensuring that integration is recognized as a core element of future land use management systems.

"A cornerstone of the ILM program is the integration of infrastructure planning to accomplish reductions in the total size, duration and intensity of industrial land use and over the past year there have been clear indications that all levels of governments and industry understand the challenges. We have moved past admiring the problem and are now working towards developing feasible solutions," says Bob Demulder, program manager for ILM.

In 2004, efforts by ILM to bring land-use policy issues to the attention of governments resulted in major breakthroughs. A challenge ILM identified in coordinated landscape management systems is that decisions made by various levels of government and by different government departments, are often made in isolation of one another, each department focusing solely on fulfilling its mission. Decision-making relationships are vertical and usually focused on the mandate of the host or lead department, and while these systems delivered a narrow scope of business, the decisions were generally not made in the context of considering other businesses or interests. ILM identified this silo effect as problematic, resulting in lines of authority that were arbitrary and inappropriate for managing landscapes for resource use and ecological sustainability.

In response to these observations, the Alberta Government announced that it would streamline the approvals process for Crown Land to better integrate land use management. The three provincial ministers that oversee publicly owned lands, environment, energy and sustainability, announced at the Alberta Chamber of Resources 2005 Annual General Meeting that they are taking a team approach towards development and protection of the landscape for multiple uses.

"It's a crowded landscape," David Coutts, minister for sustainable development said. "More people are using the land and more people want to use that land. They want to work it. They want it for recreation and they want it for their children and grandchildren."

Coutts along with Energy Minister Greg Melchin and Environment Minister Guy Boutilier, say they plan to integrate regulatory regimes so industry and the public will not have to call on each of them to make decisions on land use. According to Coutts, "We need to ensure that the rules are clear and that we minimize the footprint on our land base, without slowing industry down or inventing new rules."

With government on side, Demulder says the challenge for

ILM is to build the business-to-business relationships between different sectors of the resource industry and to begin looking for common ground on ways to minimize the industrial footprint. Two sectors that ILM has been working closely with is the Forestry and Energy sectors through a series of meetings aptly named "Stump and Pump" that build the trust and business relations that are fundamental to implementing ILM best practices.

"Although the issue of cumulative effects has its origins in provincial governance and land use policies, ILM represents an opportunity for industry and related contractors to lead the cumulative effects issue and better resource management practices. The risk to industry in not proactively addressing this issue is almost certainly increased restrictions to resource access, and that would negatively affect all resource related businesses," says Demulder.

An example of this planning is coordinating road access to accommodate both forest and energy sector requirements for access to resources. "Coordinated access has been identified as one of the top ways that cumulative environmental impacts can be minimized," says Demulder. By maximizing double-duty road access, industry is able to minimize impacts on a range of environmental resource values. The ILM program also recognizes that considerable cost and approval time saving as well as other values can accrue to both sectors with coordinated development and operations planning.

"The coordination of two sectors that until recently had operated quite separately on the same land base is not easy, but there are current mechanisms and practices which enable the required interactions," says Demulder.

The forest industries tenure system or Forest Management Agreement (FMA) is one mechanism. In Alberta, these large, long-term, landscape-based tenures require the FMA holder to maintain inventories of biophysical land base information and to plan well into the future. This provides the FMA with the information to consider and plan strategic resource access or infrastructure corridor requirements for a region in consultation with other resource users. When strategically shared with the energy sector, the landscape information can assist them with their activities and ensure that they are coordinated and addressing similar resource val-

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ues. The forest sector also plans harvesting at least three to five years into the future, therefore they generally have access and harvest areas identified and approved well in advance of construction. These plans have some flexibility, providing for possible changes and compromises to accommodate overlapping interest like those of the energy sector. By contrast, the energy sector's tenure system provides few of these advantages. The land tenure is short term and generally site specific, affording little in the way of capacity to look at the bigger picture. Secondly, the hydrocarbon resources are not easily detected, thus drilling is never a sure thing.

"The cooperative access and infrastructure-planning concept of ILM can have tremendous advantages for both the energy and forestry sectors. It can facilitate better route selection, enabling safer multi-sector and public use. It facilitates quicker regulatory approvals by demonstrating cooperation and provides an opportunity to share in development or reclamation costs. Ultimately, it also reduces the effects of industrial development on the forest and the other values like habitat that the public demands to be managed or protected," says Demulder.

There are policy and regulatory issues that also inhibit cross-sectoral cooperation. For example, it is relatively easy for a forestry company to transfer a road they no longer require to an energy company, whereas, an energy company cannot do the same without a reclamation certificate and significant levels of approval. In some instance this situation creates a perverse incentive to build more road access. Demulder says inequities such as this must first be

identified, and then, industry must cooperatively work with government to change them to ensure all land users are working within the same regulatory standards.

### **Biodiversity Monitoring**

Another significant achievement of the ILM program has been the role that it has played in fostering the development of a comprehensive provincial biodiversity monitoring system. The system is designed

to establish clear biodiversity base lines, track changes, identify potential causal factors and report on a regular basis. The program will be important in informing land use planning and policy development, stewardship and tracking and reporting on performance. The challenge ahead is to secure the funding necessary to operationalize the program and integrate the program / results into the government policy-making process.

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## Stream Crossing Association Proposed

A collaborative effort by the Foothills Model Forest (FtMF) and supported by the Alberta Chamber of Resources (ACR) Integrated Landscape Management Program (ILM) involves establishing a stream crossing association pilot in Alberta.

Road crossings of watercourses (stream crossings) once installed can have significant impacts on aquatic ecosystems if not properly maintained. Concerns include entry points for sediment and pollutants, barriers to fish movement (hanging culverts etc.), fish habitat loss or damage, and crossing failures during flood events. Other values associated with stream crossings include safety, cost, navigability and recreation. With the increasing priority that the public and regulatory agencies are placing on water and watersheds, it is important for resource users to equally increase their diligence on the impacts their existing infrastructure has on this precious and finite resource.

However, current regulatory systems have every company or agency managing or inspecting their stream crossing assets using different standards and frequencies and in isolation to each other even though they occur on the same watershed. This is inefficient and does not provide for good stewardship of the watershed, which ultimately is the appropriate scale for this kind of management.

Furthermore, managing on a watershed scale is consistent with the recently developed Alberta Water Strategy

The FtMF Stream Crossing Association proposal is a proactive, cross-sectoral pilot program that provides value and stewardship opportunities for its members while managing and reducing their impact on watersheds. Efficiencies are realized with the standardized assessment protocols that address risk areas such as:

- Water flow and passage
- Deleterious substances
- Fish passage and habitat
- Safety – Public and employee

The economies of scale are also realized during the field inspection assessments and developing cross-sectoral maintenance or upgrading plans.

The field testing of this pilot association will take place in the Foothill Model Forest region located in the Hinton region. Member companies and organizations to date include:

- Anadarko
- ConocoPhillips Canada
- Petro Canada
- Burlington Resources
- Talisman Energy
- BP Canada
- West Fraser (Hinton)
- Canadian Natural Resources Limited

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The Association members are currently developing standardized inspection protocols that they plan to have operational for the summer of 2005.

The stream crossing association concept has support from the regulatory agencies that manage water and fisheries in Alberta. The Department of Fisheries and Oceans, Alberta Environment and Sustainable Resource Development are aware of the initiative and will be providing input and advise to the protocol development. "Demulder says that this model if successful, and we have no reason to think it won't be, could be adopted in other areas of the province and may certainly influence future public policy surrounding stream crossings in the near future."

Initiated in the mid-1990s, the Alberta Biodiversity Monitoring Program (ABMP) has been developed to implement long-term monitoring, track performance and evaluate the sustainability of resource management practices as it affects biodiversity. From its inception the ABMP has been a collaborative effort involving government, industry and academics, designed to measure and report on the changing state of Alberta's species, habitats and human land use activities. The information tools that arise from the ABMP work will help to measure the success of initiatives such as ILM, assisting policy makers and the general public to make informed decisions about the development of natural resources.

According to Demulder, it is imperative that the work of the ABMP be continued and expanded to provide the information tools necessary for the land use management. He says that at present Alberta has an effective program that monitors air and water quality, and reports on the changes to these ecosystem components over time. However, monitoring and reporting on the health and sustainability of terrestrial or aquatic ecosystems is not well-developed or integrated

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within governments or among industry in Alberta.

For example, procedures used to access and report on biodiversity vary widely among industries. In addition, each company typically develops and collects biodiversity information for their own needs, in their specific area using non-standardized methods.

This individual approach creates costly duplication and limits the potential to combine information for assessing the effects of societal development on biodiversity, and hinders reporting results at more appropriate regional or provincial scales.

“Our challenge will be to develop a comprehensive land use strategy for the province that includes biodiversity monitoring. It is not surprising that we have dealt with air and water and land issues the way that we have. Air and water are considered public resources; they have standard measuring metrics and can be easily correlated with human health (clean air to breath and clean water to drink). Land, on the other hand is completely different. We have no standardized metrics for measuring land use changes, good or bad and the land is not always public and even when it is everyone has views on how it should be used. It is anticipated that the Biodiversity Monitoring Program will provide a important component, a biodiversity filter for lack of a better term of a better land management system for Alberta,” says Demulder.

Where does the ILM go from here? Demulder has identified three priorities for the coming year. First to maintain the business relationship development between the industry sectors, next to identify and tweak the land use policies that discourage cooperation between sectors, and finally to work with government agencies to take advantage of the business integration examples developed through ILM between resource industries and work collaboratively towards integrating them into the regulatory environment.

In Alberta, the land and the resources it provides to society is an enormously valuable asset, and needs to be treated as such. Land use decision processes need to move beyond our current state to one where “informed or conscious choices are made and consequences, trade offs or limitations are understood. Current and future generations will bear the cost of inaction. Albertans continue to demand improved land use and ecological resource delivery. People

are increasingly informed and knowledgeable about resource development and are demanding to be apart of the decision making process, and new institutional, legal and policy instruments are becoming increasingly necessary to ensure sustainable development and the preservation of development options for future generations. Although a challenge, ILM has proven to be a valuable tool in benefiting the environment, society and the economy. ■

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