

Towards a biodiversity policy for Alberta



By Dr. Richard Schneider

In 1995, Alberta became a signatory to the Canadian Biodiversity Strategy, establishing our commitment to the conservation of biodiversity. Despite this commitment, Alberta's species and ecosystems are today substantially worse off than they were 20 years ago. What has gone wrong?

Part of the problem is that our commitment to biodiversity was never followed up with an effective strategy or policy designed to achieve it, other than responding to catastrophic failures once species become critically endangered. Like the explorers of old searching for the new world, we have a rudimentary notion of where we would like to go, but no map or real understanding of how we are going to get there. Second, Alberta's landscapes are very busy. No province or territory outside of the Maritimes has an industrial footprint as extensive as that in Alberta. Given this combination of circumstances it should come as no surprise that our wildlife and wild places have not been faring well.

The fundamental change that needs to occur, if we hope to improve biodiversity outcomes in the future, is a shift to integrated land-use planning. There are simply too many players on the landscape with too many conflicting objectives for the old "all you can eat" approach to land management to work. Trade-offs and compromises are now a fact of life in Alberta and it is better for these types of decisions to be made in a structured and transparent planning forum than to deal with conflicts and problems after they

arise in the field. This is especially true for biodiversity, where the understanding of long-term outcomes and proactive decision making are critical for preventing gradual and irreversible declines.

A transition to integrated planning is now underway in Alberta, but remains a work in progress. The critical first step was the release of the *Alberta Land-use Framework* in 2008, providing general direction for the development of regional land-use plans. But the Framework is very generic and does not provide the level of guidance needed for achieving specific outcomes. In particular, there remains an acute need for a comprehensive policy on biodiversity. This policy needs to set forth biodiversity objectives in terms that are meaningful to planners and managers. What do terms like "conserve" and "maintain" actually mean in practice? The policy also needs to provide strategic guidance for how biodiversity outcomes are to be achieved; that is, it should serve as a roadmap for getting us where we want to go.

Biodiversity Objectives

Articulating the policy's objective may seem straight forward — we want to conserve biodiversity — but there are pitfalls to be avoided. First, we need to ensure that we do not confuse what we want to do with why we want to do it. The policy's statement of intent needs to remain focused on the conservation of biodiversity, not on higher-level outcomes such as societal prosperity and quality of life. This is an issue because of a growing

trend within government to link biodiversity with ecosystem services (i.e., the benefits that biodiversity provides to humans). The rationale is to build support for conservation by broadening its appeal to a wider audience (based on the motivational power of self-interest). There is merit to this argument, but caution is warranted. Once we begin thinking about nature primarily in terms of the direct benefits it provides, land-use conflicts start to look like engineering problems. For example, our forests provide oxygen, erosion control, wood products, hunting opportunities, and jobs. But so do plantations of non-native trees, and they mostly do a better job of it in terms of direct benefits to humans.

Another concern with linking conservation to ecosystem services involves threatened species, most of which are sensitive to human disturbance and therefore often in conflict with resource development initiatives. These species are usually rare, and in many cases their loss from an ecosystem would have little discernable impact, either ecologically or economically. Their continued existence depends primarily on their intrinsic right to exist rather than on any direct benefits they provide.

Given these cautions the intent of the biodiversity policy should remain squarely focused on maintaining biodiversity, not on the delivery of ecosystem services. The many benefits that biodiversity provides to us should certainly be highlighted, but as context. Moreover, we should not get carried away. Most Albertans un-

derstand that we have a moral obligation to share the land with native species and this conviction should remain paramount in the policy document.

Another potential pitfall in articulating the objective of the biodiversity policy is a failure to provide sufficient clarity. It is fine to say that we aim to maintain biodiversity, but for the policy to provide effective guidance to planning teams, additional detail is required. What is it, exactly, that we hope to maintain? Terms like “health,” “integrity,” and “function” are not useful because they are too subjective and too difficult to measure. After all, a wheat field is a functioning ecosystem. We need instead to link the concept of maintenance to a specific reference landscape, characterized using terms that are measureable, practical, and meaningful. Key features to be included are species composition, structure, pattern, and process, measured at multiple scales.

The remaining issue is what to use as the reference landscape. The current state of the landscape is not an appropriate biodiversity baseline because some areas have experienced significant declines in habitat quality as a result of industrial development and agricultural conversion. On the other hand, we are not about to roll back the clock on European settlement so using something like the preindustrial landscape as our reference seems problematic as well.

This dilemma is resolved by understanding the role of the biodiversity policy in the broader context of land-use planning. Given competing interests and a finite landscape, compromise solutions are inevitable. But the biodiversity policy is not the place for those compromises to be made; that is the function of integrated plans. The biodiversity policy should instead provide clarity around what the *desired* biodiversity outcomes are, irrespective of other land-use objectives or historical use. This means that the natural state (or an estimate of it) is the appropriate baseline after all, providing the best starting point in the search for opti-

mal land-use solutions. This baseline will not be achievable everywhere; in some areas human development objectives will be paramount. But the important point is that whenever compromise is required we will always understand what we are giving up.

Strategic Direction

The biodiversity policy's other major task is to provide strategic direction with respect to how the biodiversity objectives are to be achieved. There is much material to draw on, including more than 30 years of research in the field of conservation biology. Moreover, countless hours have been spent developing workable conservation strategies as part of earlier planning initiatives, including (but not limited to) *The Alberta Forest Conservation Strategy* (1997), *The Northeast Slopes Strategy* (2003), and the *Terrestrial Ecosystem Management Framework* (2008). The biodiversity policy should build on these earlier efforts.

Protected areas are the cornerstone of biodiversity conservation and should be included as one of the core strategic directions of the biodiversity policy. The establishment of new conservation areas was integral to the development of the *Lower Athabasca Regional Plan* but this precedent was not effectively carried over to the South Saskatchewan Regional Plan. The biodiversity policy should set forth clear direction for protected area planning in future regional plans. It should reference state-of-the-art conservation planning and the *Convention on Biological Diversity's* commitment to protect 17 percent of all major ecosystem types.

The policy should also include conservation strategies applicable to the managed landscape. In particular, the policy should reaffirm the commitment to cumulative effects management made in the *Land-use Framework* and provide specific guidance for the development of regional biodiversity management plans. This should include direction on the selection of biodiversity indicators (that

link back to the reference state), the implementation of an effective monitoring system, and the setting of thresholds for management action. Guidance should also be provided concerning proactive management approaches (e.g., harmonized road construction) and appropriate management responses when biodiversity thresholds are crossed.

Another important strategy, applicable mainly to public lands, is the emulation of natural disturbances. The idea is to adapt industrial practices and rangeland management such that the patterns and intensities of human landscape disturbances approximate those from natural disturbances such as fire or bison grazing. Other strategies applicable to public lands include minimizing barriers to species movement and managing human access where it is having a detrimental effect on wildlife.

For private lands, the policy should include strategies to encourage land stewardship and conservation-oriented agricultural practices. More generally, the policy should include communication strategies designed to raise awareness of biodiversity benefits as well as issues of concern. Last but not least, direction should be provided for future research efforts, into both ecology and effective management approaches for maintaining biodiversity.

Former Premier Prentice stated: “Alberta must become a world leader in environmental stewardship or risk being left behind.” Nothing could be truer and I hope the Notley government will see the release of a biodiversity policy along the lines described in this article as an obvious step in that direction. ▲

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