Introduction

The Three Sisters application in 1992 was a major challenge for Alberta’s newly minted Natural Resources Conservation Board (NRCB or Board). At issue was a proposed recreational, tourism and residential development in the Town of Canmore, a community of 6,000 people located in the Bow River Valley just east of Banff National Park. The project included a resort and convention complex, housing, golf courses, commercial services and infrastructure spread over 1036 hectares. It was expected to add 15,000 people to the Town’s population over a 20 year build-out and would dramatically increase the development footprint in the Bow Corridor and adjacent Wind Valley, both of which were important habitat and movement areas for wildlife.

The NRCB’s mandate was to determine whether or not the project was "in the public interest", taking account of social, economic and environmental effects. This mandate was discharged through a quasi-judicial review process that included public hearings and culminated in a detailed decision report. The Board rejected development in Wind Valley, but approved the Bow Valley portion of the project subject to mitigation measures set out in terms and conditions attached to the project approval.

Framing these terms and conditions was a delicate matter given the "conceptual" nature of the Three Sisters application, the long time frame for project build-out, and the overlap with areas of municipal jurisdiction. Since the NRCB had no ongoing regulatory role, its task was to set parameters for development while leaving flexibility for the project to evolve in response to changing circumstances, new information regarding impacts and appropriate mitigation measures, and requirements imposed by the Town of Canmore pursuant to its authority over municipal planning and land use.

Despite the Board’s attempt to anticipate and address implementation issues arising from its decision, the Three Sisters project has continued to generate considerable controversy. In particular, the designation of multi-species wildlife corridors to mitigate adverse environmental effects has been the subject of a protracted conflict involving the developer, environmental groups and concerned citizens, Canmore Town Council, the Government of Alberta, Banff National Park and the NRCB.

The ongoing saga concerning the Three Sisters wildlife corridors shows clearly that the challenges for the NRCB and other participants in a project review do not necessarily end with the issuance of a decision report. Ensuring compliance with the terms and conditions of a project approval can itself be a difficult and controversial process.

This article describes the origins and evolution of the Three Sisters controversy and presents recommendations for strengthening the implementation process for NRCB decisions. It summarizes the principal findings and conclusions from a longer study published by the Canadian Institute of Resources Law.

The Three Sisters Decision

Wildlife movement across the Three Sisters property was a recurring issue in the NRCB’s public hearings and decision report. Located along one side of a mountain valley at the crossroads between Banff
National Park, Kananaskis Country and the Eastern Slopes of the Rocky Mountains, the project had the potential to fragment important habitat for large carnivores, elk and bighorn sheep. The NRCB concluded that the blockage of wildlife movement would constitute a "major impact" on certain species and, consequently, on regional ecosystems. It addressed this impact in four ways.

First, the retention of wildlife corridors "in as undeveloped a state as possible" was a condition of approval. Alberta Forestry, Lands and Wildlife was to oversee detailed corridor design and the Board stated that corridors should also be "subject to review and recommendation by the proposed Regional Ecosystem Advisory Group".

Second, the Board made specific recommendations to the provincial government. Corridors should be legally designated and reflect the needs of the full range of species that may use them. They should also correspond with known wildlife movement routes and ensure connectivity with adjacent land. Finally, disturbances such as road, pathway and utility crossings should be bundled to minimize impacts.

Third, the Board incorporated by reference the applicant’s undertakings relating to corridor design. For example, the applicant stated that corridors would consist of "relatively undisturbed forest, shrub and shrub meadow" and intrusions by development such as roadway crossings, service rights-of-way and portions of golf fairways would be minimized and oriented roughly at right angles to the long axes of movement corridors.

Finally, the Board underlined the need to coordinate corridor designation on the Three Sisters property with a regional corridor network. It recommended that the proposed Regional Ecosystem Advisory Group examine issues relating to the conservation of regional ecosystems, including "the locations and widths of corridors to be set aside for wildlife movements".

The NRCB thus set out the basic requirement for multi-species wildlife corridors on the Three Sisters property, while leaving the details of corridor design to be settled through the subsequent project planning and regulatory processes. As it turned out, the operation of these processes was not always consistent with the Board’s expectations.

**One Step Forward ...**

The first significant response to the NRCB’s recommendations was the establishment in 1995 of the Bow Corridor Ecosystem Advisory Group (BCEAG). It reviewed the scientific evidence – including local fieldwork – relating to the design of functional multi-species wildlife corridors and published the *Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley* (BCEAG Guidelines) in 1998.

Beginning with a basic model of corridor design, a stepwise approach was proposed for determining the shape, width and size of wildlife corridors with reference to the interaction of corridor length and width, topography, and vegetative hiding cover. BCEAG also recommended a very limited set of land uses within wildlife corridors so that they would be largely free of development and human presence.

The BCEAG Guidelines thus provided precisely the type of information that the NRCB presumably expected would be forthcoming from a Regional Ecosystem Advisory Group. In a remarkable turn of events, however, the BCEAG Guidelines do not apply to various projects, including "projects for which approvals have been granted by the Natural Resources Conservation Board."

This formal limitation did not prevent the BCEAG Guidelines from becoming an important reference point for the debate over wildlife corridors. Nonetheless, the detailed development plans for the Three Sisters project were not required to conform to this science-based and relatively precise method for corridor design.

The prospects for functional wildlife corridors on the Three Sisters property suffered another setback with the
negotiation of a draft conservation easement agreement between the developer and the Government of Alberta in 2001. This document, which described the locations and land uses for wildlife corridors on the Three Sisters property, was a response to the NRCB’s requirement that corridors be satisfactory to Alberta Forestry, Lands and Wildlife (now Alberta Sustainable Resource Development) and its recommendation that they have legal designation.

Critics of the draft agreement argued that it did not satisfy the NRCB’s substantive conditions for corridor design and the relevant undertakings by the applicant. The main difficulty was that the draft agreement permitted extensive golf course development, including fairways running the length of the corridors, in the areas designated for wildlife movement. Furthermore, the scientific basis for the proposed corridors was unclear and corridor location appeared to be highly correlated with undermined areas on the Three Sisters property that were unsuitable for development.

Among those familiar with this process, a frequently repeated observation is that the wildlife corridors agreed to by the Government of Alberta and the developer in 2001 reflected “political science, not wildlife science”. These suspicions were reinforced by the results of two scientific reports released in 2000.

The first report, *Golf Courses and Wildlife: A Literature Review*, was commissioned by the Government of Alberta and prepared by the Mistakes Institute for the Rockies at the University of Calgary. It concluded that the use of golf courses for habitat or movement corridors appears to provide “very few long-term benefits to wildlife”, the increased human presence associated with golf course development is difficult to mitigate, and the economic objective of maximizing human use of this type of recreational facility “is fundamentally at odds with the needs of most wildlife.”

The second important scientific report, *Assessing the Design and Functionality of Wildlife Movement Corridors in the South Canmore Region* (Herrero-Jevons Report), was prepared for several environmental groups by two environmental scientists and consultants, Jacob Herrero and Scott Jevons. This report pointed out that the developer’s design parameters for wildlife corridors were derived from studies on the needs of deer and elk in conjunction with forestry operations in a remote setting in Washington and Oregon. The authors applied the BCEAG Guidelines to the proposed Three Sisters wildlife corridors and concluded that these corridors “consistently fail to meet the minimum standards for functional, viable corridors set by BCEAG” and that “this failure has the potential to severely impair the movement of wildlife in the Bow Valley between the Kananaskis Valley, Banff National Park and beyond.”

The combination of public opposition to the proposed corridor design and scientific evidence that golf courses are unlikely to constitute effective multi-species wildlife corridors led the province and the developer to abandon the 2001 draft conservation agreement. The controversy over wildlife corridors was, however, far from over.

**NRCB Re-Engagement**

The exemption of the Three Sisters property from the BCEAG Guidelines and the plans for golf courses in the draft conservation easement agreement sent a clear message to environmental groups and concerned citizens. Maintaining functional multi-species wildlife corridors – as required by the NRCB’s project approval – would require ongoing vigilance and mobilization. One component of the resulting strategy was to call on the Board to oversee implementation of its decision.

A coalition of environmental groups initiated this process in April 2001 with a letter to the NRCB, requesting that it review compliance with the terms and conditions set out in the Three Sisters decision. Correspondence and meetings involving various interested parties kept the issue before the Board over the following year. Specific concerns were documented by the environmental coalition and Banff National Park.

The Board responded by affirming that it "has a responsibility to ensure that the substantive commitments and undertakings made by applicants are met" and noting that "such commitments and undertakings are critical because they are a key element of all the various trade-offs that the Board has considered in determining whether a project is in the public interest." The Board’s letter also summarized the condition of approval and the applicant’s undertakings relating to wildlife corridors.

The NRCB acknowledged the conservation easement agreement between the developer and Alberta Sustainable Resource Development (SRD), but cautioned that "if more significant levels of protection were originally committed to by the company in its application, meeting the requirements of SRD may not be sufficient to meet the original expectations of the Board in granting its approval." It also commented that "the conceptual designs it reviewed in 1991 were based on limited site-specific wildlife movement data and an incomplete scientific understanding of the requirements for functional corridors."
The NRCB thus signaled that it would ensure implementation of the wildlife corridor condition in the Three Sisters decision and that it had not delegated ultimate responsibility in this area to SRD. It also clearly implied that improved scientific knowledge should be reflected in detailed corridor design. The Board did not, however, assume direct responsibility for corridor design. That role was left to Canmore Town Council and SRD, with input from the developer and the other interested parties.

**Science Gains Ground**

The Board’s intervention in the controversy set the stage for additional efforts by the Town of Canmore, SRD and the developer to refine and apply science-based standards for functional wildlife corridors on the Three Sisters property. Two important reports advanced this process in 2002.

The Town and the developer commissioned Golder Associates Ltd. to review proposed corridors for part of the project area and to suggest alternative designs if appropriate. The Golder Report’s proposed corridors did not conform to the BCEAG Guidelines in all respects, but they were significantly wider than those described in the original application and the recommended land uses within corridors were very restricted. Golf courses would not be permitted. The report also recognized that corridor functionality could be compromised by development and activities on surrounding land. It therefore recommended layering land uses adjacent to corridors – moving from less intensive to more intensive uses as distance from the corridor increases.

The second important report, the Regional Wildlife Corridor Study – Wind Valley/Dead Mans Flats (Wind Valley Study), applied the BCEAG Guidelines and wildlife monitoring data to produce specific recommendations for wildlife corridors crossing the eastern end of the Three Sisters property. This report was prepared for the Wind Valley Wildlife Corridor Committee, a group of regulatory agencies and developers with an interest in an area including part of the Three Sisters property.

The Golder Report and the Wind Valley Study show that the science of wildlife corridor design in the Bow Corridor had progressed significantly in the decade since the Three Sisters decision was released. They also suggest a measure of consensus among experts and key decision-makers that wildlife science, not ‘political science’, can and should provide the basis for corridor designation.

**As Strong as the Weakest Link**

The ongoing conflict over wildlife corridors on the Three Sisters property was occurring within a regional context where various factors impinged on wildlife movement. Two key obstacles to wildlife movement on adjacent land warrant mention here because of their direct relevance to the Three Sisters corridors.

The first obstacle, to the west of the Three Sisters property, was the Rundle Forebay reservoir and an adjacent subdivision. This obstacle reduced the ability of the main along-valley corridor to provide connectivity with Banff National Park. The second obstacle was the Trans Canada Highway at Dead Man’s Flats, which threatened the effectiveness of the across-valley corridor extending from Wind Valley.

Prospects for a regional corridor network brightened considerably in 2002 with the Government of Canada’s commitment to build wildlife crossing structures in both of these areas, recognizing the regional and national significance of these corridors. The regional picture was complicated in 2004, however, by a proposal to develop land owned by the Municipal District of Bighorn at the northern end of the Trans Canada Highway crossing structure. Critics argued that this development would compromise the functionality of the crossing structure and across-valley wildlife corridor. Environmental groups and SRD opposed the proposal at municipal hearings.

These events illustrate both the potential for joint efforts to establish a functional corridor network and the risk to the entire enterprise if an important linkage is compromised by the actions of a single decision-maker. Despite evidence of improved cooperation among jurisdictions on regional wildlife issues and some design changes to the Dead Man’s Flats project in order to reduce environmental impacts, the approval of this proposal suggests that the regional corridor network remains vulnerable to the creation of weak links.

**The Devil in the Details**

One might have anticipated that the specific recommendations in the Golder Report and the Wind Valley Study would have brought a close to the controversy over wildlife corridors on the Three Sisters property. The Wind Valley study has, it appears, resolved this issue at the east end of the property. Elsewhere, however, there has been some reluctance by the project developer and, at times, the Alberta Government, to accept the Golder Report as the definitive standard for corridor design.
For example, a revised conservation easement agreement between the developer and SRD in April, 2003 was criticized for deviating from the Golder Report’s recommendations, notably by failing to incorporate all of the specified buffer areas into the ‘effective width’ of the corridors and by anticipating a broader range of land uses within corridors.40 Development plans submitted to Canmore Town Council have also been criticized for including cabins within the golf course ‘buffers’ and for not following the sequence of adjacent land uses that the Golder Report recommended as necessary for corridor functionality.41

Environmental groups42 and wildlife scientists43 have argued that the Golder Report is itself a compromise of the BCEAG Guidelines and that rigorous compliance with its recommendations is essential to ensure the effectiveness of the entire corridor network. Despite the clear intent of the NRCB’s project approval and the specific scientific guidance now available regarding the design of functional wildlife corridors, the designation of corridors on the Three Sisters property continues to be controversial.

Lessons Learned

The Three Sisters wildlife corridor saga is not yet over, but important lessons are already evident. In many respects, the NRCB’s decision has stood the test of time remarkably well. The Board’s condition and recommendations regarding wildlife corridors continue to provide the broad parameters for specific decisions on corridor design.

Key elements of the implementation process have also unfolded as the Board expected. The scientific basis for corridor design has improved and this knowledge has been applied to designate some of the required corridors on the Three Sisters property. The Town of Canmore has assumed primary jurisdiction over the detailed planning and approvals process for the project. There appears to be a reasonable prospect that the designation of wildlife corridors will soon be completed and will be consistent with the approval issued in 1992.

The final result may therefore be satisfactory when measured against the Three Sisters decision, but the path from 1992 to 2005 has been a tortuous one. Despite the clear language and intent of the NRCB’s project approval, a difficult and time-consuming public campaign has been required to ensure a reasonable prospect of wildlife movement across the Three Sisters property. It is abundantly evident from this experience that compliance with the terms and conditions of NRCB decisions cannot be taken for granted – and that the NRCB cannot simply rely on provincial government departments to implement the letter and spirit of its decisions.

Even more troubling is the fact that implementation of the wildlife corridor condition in the Three Sisters decision depended on a particular constellation of circumstances – notably the tenacity and organizational ability of the environmental groups and concerned citizens who intervened repeatedly in the process and the willingness of Canmore Town Council to stand up to development pressure. Had these circumstances been different, pressures to maximize development could easily have irrevocably compromised the functionality of wildlife corridors on the Three Sisters property and, as a result, throughout much of the Bow Corridor.

While the ongoing involvement of civil society in scrutinizing this type of project is not surprising, the fact remains that an NRCB approval is a legally binding document, issued by a quasi-judicial public body under its statutory mandate to determine whether – and under what conditions – proposed projects are in the public interest. A Board decision is also the outcome of a rigorous and demanding public hearing process that provides interested parties with an opportunity to present evidence and argument.

The integrity of this process depends on compliance with the Board’s approvals and on the effectiveness of required mitigation measures. Implementation of NRCB decisions should not be left to chance, nor should the value of mitigation measures be put in jeopardy by decisions affecting adjacent land.

From this perspective, the wildlife corridor saga reveals the following deficiencies in the implementation process for the Three Sisters decision:

- The lack of formal monitoring and accountability mechanisms to ensure compliance with terms and conditions, especially for a project built over an extended period of time after the project review;
- The relatively ad hoc process for involving the Board in the oversight of its decision; and
- The absence of authoritative mechanisms to ensure that detailed planning decisions for the Three Sisters property in combination with the multitude of other decisions on particular projects and land uses within the Bow Valley will yield a functional regional network of wildlife corridors.

The final section of this article suggests several measures to address these deficiencies.
**Strengthening the NRCB Process**

The experience with wildlife corridors and the Three Sisters project shows that the implementation process for NRCB decisions should be reinforced, particularly in the areas of compliance monitoring, accountability, enforcement and regional coordination. Four ways of addressing these issues could be considered.

First, the NRCB could require or facilitate the establishment of a multi-party implementation committee when a project approval gives rise to complex and potentially contentious implementation issues. Membership should include the project developer, regulators and interested intervener groups. The functions of this committee could include information exchange, project monitoring and regular reporting to the Board on the implementation of the project approval. It could also provide a forum for anticipating and addressing compliance issues.

Second, the process for engaging the NRCB’s oversight role could be more clearly defined. For example, interested parties could apply formally to the Board for a documentary review or a public hearing to investigate implementation issues. Interested parties might also request clarification regarding the interpretation of the project approval or ask the Board to revisit the decision if key underlying assumptions prove to be incorrect or specific terms and conditions are ineffective or unworkable. A distinction could be made between an expedited process for minor ‘variances’ and requests for major changes that might require a new hearing and a more formal reconsideration of the basis for the approval. This process could include fact-finding and dispute resolution before moving to a detailed review and final ruling by the Board.

Third, the NRCB’s mandate and capacity to undertake compliance monitoring and enforcement at its own initiative could be enhanced. While this role need not imply direct involvement in ongoing project regulation, it would at least make the Board responsible and accountable for ensuring compliance with the terms, conditions and applicants’ undertakings that are integral to its determination that approved projects are ‘in the public interest’. Adequate staff and other resources would, of course, be necessary to track approved projects and ensure follow-up in the event of compliance issues.

Finally, improved linkages between the NRCB review process and integrated regional frameworks for land-use planning and management are needed to reduce the risk that project-specific mitigation measures will be rendered ineffective by developments elsewhere. Wildlife corridors illustrate well the types of linkages that are needed. First, the regional framework should guide and constrain the project planning and review processes so that new projects fit with overall corridor design and contain appropriate mitigation measures to facilitate wildlife movement. Second, it should complement other mechanisms to ensure the full implementation of the terms and conditions in project approvals that relate to individual components of the regional corridor network.

**Conclusion**

The NRCB project review process places significant demands on all participants and results in a legally binding decision by a quasi-judicial body charged with protecting the public interest. Full implementation of a Board decision should therefore be a matter of course, not the fortuitous result of a particular confluence of circumstances.

To this end, the principles of procedural fairness, transparency and independence from direct political influence that characterize the Board’s project review process should guide the establishment of formal mechanisms to ensure compliance with the terms and conditions contained in project approvals. Putting these principles into practice requires specific measures to strengthen compliance monitoring, formalize the Board’s oversight role, and link project-specific mitigation measures with effective regional planning and management regimes.

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**Notes:**

2. The term “Bow Corridor,” as defined in the Three Sisters decision, refers to the portion of the Bow River Valley between the Banff Park Gates and the Stoney Reserve. Ibid. at 1-1.
4. Three Sisters decision at 6-1 – 6-2, 7-1 – 7-7.
5. See, for example, Jeff Gailus, “The War for Canmore” in Explore: Canada’s outdoor adventure magazine (March/April 2002) at 44.
8. Ibid. at 10-51 – 10-52.
9. Ibid. at C-4, 10-38.
10. Ibid. at 10-38, 13-4.
11. Ibid. at D-5, 10-38, 10-51.
12. The applicant’s undertakings were summarized by the Board on page 2 of a letter dated May 27, 2002 from Dr. Brian F. Bietz, Chair, NRCB to Mr. Stephen Lervengar, representing the project developer [NRCB Letter] (on file with the author).
15. Ibid. at 2.
16. Conservation Easement: Three Sisters Resort Inc. and Her Majesty the Queen in Right of the Province of Alberta as represented by the Minister of Sustainable Resource Development (Draft – April 30, 2001).
17. See letters and supporting material from the Bow Valley Corridors Working Group to the NRCB, June 1, 2001 and October 23, 2001 (on file with the author). The core members of this working group were representatives of local environmental groups.
18. Ibid. Critics asserted that in the eight years since the release of the NRCB report, the Government of Alberta had failed to undertake systematic studies of wildlife movement in and around the Three Sisters property and had not interpreted data on wildlife movement provided by the project developer (confidential interviews).
19. Confidential interviews.
21. Ibid. at 1 (Executive Summary) and 39.
23. Ibid. at 3-4.
24. Ibid. at 5.
25. Letter and supporting material from the Bow Valley Wildlife Corridors Working Group to the NRCB, April 4, 2001 (on file with the author).
27. Letter from Mr. Bill Fisher, Superintendent, Banff Field Unit, Banff National Park to Dr. Brian Bietz, Chair, NRCB, April 26, 2002 (on file with the author).
28. NRCB Letter at 1.
29. This department was the successor to Alberta Forestry, Lands and Wildlife and therefore assumed oversight responsibilities regarding corridor design as specified in the Three Sisters decision.
30. NRCB Letter, supra note 12 at 2.
31. Ibid. at 2.
33. Regional Wildlife Corridor Study, Wind Valley Dead Mans Flats, Part II, Wildlife Corridor Delineation, prepared for the Wind Valley Wildlife Corridor Committee (November 2002) [Wind Valley Study].
34. See, Herrero-Jevons Report at 4 and Golder Report at 8.
35. See, Herrero-Jevons Report at 24, Golder Report at 9, 49 and Wind Valley Study at s. 7.2.
38. See, ibid., and CPAWS Action Alert – Public Input Needed on Dead Man’s Flats Development Proposal – Sept. 8 Hearing and Deadline, September 3, 2004 (on file with the author).
39. Ibid., and confidential interviews.
40. Letters and supporting material from representatives of four environmental groups to the NRCB, April 24, 2003 and to The Honourable Mike Cardinal, Minister of Sustainable Resource Development, Mr. Dave Nielson, Director, Kananaskis Country, Alberta Community Development and Mayor Glen Craig and Council, Town of Canmore, April 27, 2003 (on file with the author).
41. Confidential interviews and letters and supporting material from representatives of four environmental groups to the NRCB, August 11, 2004 and August 25, 2004 (on file with the author).
42. Ibid.
43. Letter from Danah Duke, M.Sc. and Dr. Shelley Alexander, Ph.D. to the Mayor and Canmore Town Council, August 17, 2004 and letter from Jacob Herrero to the Town of Canmore Council and Administration, August 16, 2004 (on file with the author).

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