

December 21st, 2016

The Honourable Shannon Phillips  
Minister of Environment and Parks  
Legislature Office  
208 Legislature Building  
10800 – 97 Avenue  
Edmonton, AB T5K 2B6

Dear Minister Phillips,

We recently received a copy of your response to citizens of Alberta about the designation of the Three Sisters Wildlife corridor in Canmore. We understand that more than 150 residents of Canmore wrote to you expressing their support for the conservation of wildlife corridors in the Bow Valley. We were surprised and concerned to see in your response that you are considering 350 m to be a minimum acceptable width. While there are various references to the 350 m width in documents pertaining to the Three Sisters property and the NRCB decision that relates to it, there is no scientific or legal basis for this government to stand behind that number.

As your Ministry has committed to making science-based decisions and to “lead the achievement of desired environmental outcomes”, please allow us to outline the original rationale behind a 350-m corridor and the reasons that science now supports a significantly wider corridor of between 850 and 1,000 m in the Bow Valley. In the past, Y2Y has advocated for an absolute minimum of a 450-m wide corridor under the 25 degree slope line. Based on the body of evidence outlined below, we are prepared to revise what we consider to be a minimum acceptable width to reflect the best available science.

In addition, we’d like to introduce you to recent public survey numbers we have commissioned that show there is overwhelming support for strong, functional, and scientifically-based decisions on wildlife corridors.

With this letter we are requesting that Alberta Environment and Parks, as the decision-maker on this matter, do the following:

- 1) Determine, using the best science available, the width of the wildlife movement corridor necessary that will allow for the long-term functionality of the corridor in the Three Sisters area, and mandate that this corridor be adhered to by the developer of Three Sisters Mountain Village and the Town of Canmore. We believe that an objective scientific assessment will show that a corridor of between 850 - 1000 m in width is needed to meet the long term



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- needs of wildlife based on new information gathered by Y2Y over the last six months.
- 2) Ensure that the cumulative impacts of development in the Three Sisters area of the Bow Valley be considered by reviewing both the Smith Creek Area Structure Plan and the Resort Centre Area Structure Plan Amendment simultaneously.

### **Previous Rationale for 350 m**

A 350-m width was proposed by Three Sisters Resorts prior to the 1992 NRCB decision. It was based on the needs of only one species (elk), considering only one metric (thermal cover) in an entirely different ecosystem than the Bow Valley (Blue Mountains of Washington and Oregon). It is taken from the lower end of the 12 to 24 hectare (350 m<sup>2</sup> to 500 m<sup>2</sup>) estimate of the optimum stand size for thermal cover on spring and summer ranges. The report from which this result was taken was written in 1979 by Jack Ward Thomas and does not examine: a) width in relation to elk movement within a corridor, b) width for corridors adjacent to human development, c) width in relation to corridor length, d) the needs of elk on winter (snow covered) ranges, or e) the needs of any species other than elk.

Using this 350-m minimum width today clearly contradicts the recommendations in the 1992 NRCB Decision Report for a number of reasons. The report states conclusively that conservation of ecosystems and their key components should be the main planning priority in the region<sup>1</sup>, that the needs of species other than elk must be considered<sup>2,3</sup>, that cumulative effects must be taken into account<sup>4</sup>, and that the advice of a regional ecological advisory group should inform a decision on corridor width<sup>5</sup>.

Additionally, Steven Kennett, in his 2005 paper for the Canadian Institute of Resource Law, offers the opinion that the NRCB decision report *de facto* recommends using the latest science by insisting that the 350 m standard be reviewed in the future with consideration of all species expected to use the corridor. Kennett says, "The Board evidently viewed the applicant's suggested parameters for corridor design (e.g., 350 metre width) as provisional, minimum requirements that were expected to be modified in light of subsequent scientific information and analysis"<sup>6</sup>.

A vast amount of research has been conducted on multi-species wildlife corridors in recent years. The following documents and studies are among the most relevant and should be used to inform the decision-making process on corridor width:

1. The science-based guidelines developed by the Bow Corridor Ecosystem Advisory Group<sup>7</sup> (BCEAG; developed in 1995 following the recommendation of the 1992 NRCB Decision Report) for the design and assessment of multi-species wildlife corridors in the Bow Valley. In 1999, these guidelines received a Premier's Award of Excellence for providing "clear and consistent standards for wildlife corridor design, and for the acceptable development activities in and

near these corridors.” In 2000, Herrero and Jevons applied these guidelines to the Three Sisters corridor and determined that at absolute minimum, the corridor should be **850 m** wide on slopes of less than 25 degrees<sup>8</sup>. As the corridor is over 10 km long, it was also recommended that a habitat patch be introduced in the middle of the corridor (a local habitat patch is an area of at least 4.5 km<sup>2</sup> in size containing adequate hiding cover and resources). These guidelines were reviewed and updated in 2012.

2. The work currently being completed by Dr. Adam Ford of UBC evaluating the effect of width on probability of movement within a corridor. Dr. Ford’s work is based specifically on the Bow Valley and uses movement data collected from species within it<sup>9</sup>. The Province should not officially designate the Three Sisters corridor until the results of his research are available.
3. Beier et al.’s 2008 paper outlining a modeling method for designating corridors entitled “*Forks in the Road: Choices in Procedures for Designing Wildland Linkages*”<sup>10</sup>. Dr. Beier is an internationally-renowned wildlife corridor expert, and has said that based on the geography, topography and developmental footprint of the Bow Valley, the “no regrets” width of the Three Sisters Along-Valley corridor should be 1,000 m<sup>11</sup>.
4. The well received 2016 publication by Dilkina et al. entitled “*Trade-offs and efficiencies in optimal budget-constrained multispecies corridor networks*”<sup>12</sup>. This paper outlines a method for deriving optimal corridors for species with different habitat needs.

It is important to note that it is not acceptable that some or even most of the corridor being proposed by Three Sisters Mountain Village is over 350 m in width. It is essential that the number of pinch points that animals must navigate in a 10-km corridor be minimized. The portion of the Bow Valley accessible to both people and wildlife is about 4 km wide, and is criss-crossed by highways, roads, trails, a railway, and many pockets of dense development. Animals moving through the Valley from either Banff or Kananaskis Country have very few options. From Banff, for example, animals have to navigate the Nordic Centre, the Rundle forebay and the Peaks of Grassi before moving onto the TSMV lands and the wildlife corridor. Pinch points already create constrictions on the Three Sisters side of the Valley and almost certainly restrict the movement rates of animals along the corridor. Give that the NRCB requires a cumulative approach be taken, we therefore suggest that the entirety of both the Smith Creek and Resort Centre ASP amendment be considered when making this decision and that no further pinch point be allowed along the Three Sisters corridor.

We would also like to address the line in your letter about needing to “[strike] a balance between development and wildlife movement opportunities in the Bow

Valley”. As stated in its 2015-2016 Annual Report, the AEP’s role is “protecting and conserving Alberta’s air, land, water and biodiversity” (p. 8). The 1992 NRCB Decision Report recommends that the province assign to “Alberta Forestry, Lands and Wildlife the legal designation of such corridors. The Board would also make recommendations to Alberta Forestry, Lands and Wildlife to ensure the continuity of corridors through adjacent lands.<sup>13</sup>”

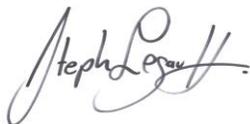
While we understand that the government of Alberta must on the whole balance a wide variety of interests and needs, we don’t believe in this case sacrificing functional corridors is in the best interests of Albertans nor consistent with the mandate of AEP. AEP’s obligation is to achieve a functional wildlife corridor. The Bow Valley is already an ecosystem under considerable stress. It is the most heavily developed mountain landscape in the world that still contains the full complement of large carnivores. It could easily be argued that we have already reached, if not exceeded, the balance you mention in your letter.

There is overwhelming support for a definitive decision on wildlife corridors in the Bow Valley. In a November 2016 poll conducted by eNRG, 400 Canmore residents were asked if they had heard the term “wildlife corridor” and 94% said yes. When asked to define it more than 90% were able to. When asked “*How important is it to you that measures are taken to ensure animal populations remain connected by maintaining wildlife corridors in the Bow Valley?*” 98% said it was either somewhat important or very important. We believe there is strong support for the Government of Alberta to make a scientifically defensible decision that ensures the long term success of the Bow Valley Corridor.

As we’ve mentioned in the past, Minister, the Bow Valley in one of just four low elevation, east-west migration routes in the entire Yellowstone to Yukon region. Making a good decision here has implications that reach beyond the Bow Valley, and Alberta.

Please do not hesitate to be in touch. I would be pleased to meet with you at your convenience to work collaboratively toward a solution to this challenge.

All the best for the holiday season

A handwritten signature in black ink, appearing to read "Stephen Legault". The signature is fluid and cursive, with a large initial 'S' and 'L'.

Stephen Legault  
Program Director, Crown, Alberta and Northwest Territories  
Yellowstone to Yukon Conservation Initiative

cc. Cam Westhead, MLA, Banff-Cochrane  
Andre Corbould, Deputy Minister, AEP  
Graham Statt, Assistant Deputy Minister, Operations, AEP  
Roger Ramcharita, Regional Director, South Saskatchewan Region, AEP

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1. NRCB Decision Report, 1992, pg. 158: "The Board believes that the overall objective of regional ecosystem management should be the conservation of ecosystems and their key components."
  2. NRCB Decision Report, 1992, pg. 143: "The minimum width for primary corridors recommended by the Applicant was 350 m. The Board would recommend that movement corridors should not be narrower than this except in very unusual circumstances. The Board would recommend to Alberta Forestry, Lands and Wildlife that **widths and locations of corridors be reviewed with the full range of species that are expected to make use of each corridor in mind [...]** and that corridors correspond with known movement routes of the animals. Favouring areas unsuitable for development which may or may not be used by elk is not likely to result in successful mitigation."
  3. NRCB Decision Report, 1992, pg. 149: "The Board believes that more work is needed to determine what measures are required to ensure the long term survival of the regional population of grizzly bears and it considers the proposed Regional Ecosystem Advisory Group the appropriate body to consider the matter."
  4. NRCB Decision Report, 1992, pg. 157: "The Board believes that **regional management should take into account cumulative effects of existing and foreseeable developments, the key areas and the corridors linking them which should be preserved for ecosystem health**, the types and extent of programs to control human access to such key areas and corridors and the types and frequency of monitoring programs to assist in ongoing management decisions. **The Board considers that the appropriate region to be considered would include Banff National Park, the Bow Corridor, the Spray Valley and the Kananaskis Valley.**"
  5. NRCB Decision Report, 1992, pg. 187: "Pursuant to the Board's review, recommendations for subcommittees have been made, including an Undermining Review Group and a **Regional Ecosystem Advisory Group.**" One of the recommended matters to be referred to the Regional Ecosystem Advisory Group is listed as "**the location and widths of corridors to be set aside for wildlife movements**".
  6. Kennett, S. 2005. Wildlife Corridors and the Three Sisters Decision: Lessons and Recommendations for Implementing NRCB Project Approvals. Canadian Institute of Resources Law Occasional Paper #16. pg. 5.
  7. The Bow Corridor Ecosystem Advisory Group, 2012. Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley. Prepared for Town of Canmore, Town of Banff, MD of Bighorn, Banff National Park, Government of Alberta. 143 pp.
  8. Herrero, J. and S. Jevons. 2000. Assessing the Design and Functionality of Wildlife Movement Corridors in Southern Canmore. Prepared for BowCORD, Bow Valley Naturalists, Canadians for Corridors, CPAWS, UTSB Research. 39 pp.
  9. Adam Ford's professional page and research overview can be found at: <http://atford.weebly.com/research.html>
  10. Beier, P. D. Majka, and W. Spencer. 2008. Forks in the Road: Choices in Procedures for Designing Wildland Linkages. Conservation Biology 22(4): 836 – 851.

11. A copy of Dr. Beier's correspondence with Y2Y can be provided upon request.
12. Dilkina, B., R. Houtman, C. Gomes, C. Montgomery, K. McKelvey, C. Kendall, T. Graves, R. Bernstein, and M. Schwartz. 2016. Trade-offs and efficiencies in optimal budget-constrained multispecies corridor networks. Conservation Biology DOI: 10.1111/cobi.12814 (Early online publication).
13. NRCB Decision Report, 1992, pg. 156: "A further potential for major impact on large animal species in particular would be blockage of their movement through the proposed project area. To combat this, the Board would require that the Applicant retain corridors in as undeveloped a state as possible in order to allow animal movements to continue and **would recommend to Alberta Forestry, Lands and Wildlife the legal designation of such corridors. The Board would also make recommendations to Alberta Forestry, Lands and Wildlife to ensure the continuity of corridors through adjacent lands.**"