

# Hubman Landing: Wildlife Follow-Up

## August 11, 2016

### Coast Canmore Hotel and Conference Centre

#### Attendees

1. Steve Baylin
2. Hans Wolf
3. Curtis Scherer
4. Dale Bathgate
5. Murray Hunter
6. Jane McClellan
7. Rimma Goodfellow
8. Trevor Goodfellow
9. Paul Ysselmuiden
10. Andrew Grasmuck

#### Support

- Jessica Karpat- QPD/Facilitator  
Jenn Giesbrecht- QPD  
Tracy Woitenko- Town of Canmore  
Kyle Knopff- Golder Associates

#### Agenda

1. Welcome and Introduction
  2. Overview of Previous Meetings
  3. Wildlife Follow-Up
  4. Conclusion
- Attendees

#### Agenda Item #1: Welcome and Introduction

- The facilitator welcomed everyone to the meeting and thanked everyone for coming.
- The purpose of the meeting was to follow-up on the previous wildlife meeting. The Project Team felt that an additional meeting on wildlife would be useful as there were lots of questions were left unanswered after the last meeting and we left the previous session with the intention of working together towards solutions. The objective of the meeting is to provide people with more information regarding the wildlife mitigations proposed in the Smith Creek ASP and the Resort Centre ASP amendment, clarify questions from the previous session and give the group the opportunity to discuss solutions.
- Notes from the previous meeting are in the process of being approved by Hubman residents and the notes from the first meeting (June 20, 2016) have been posted on the project website after obtaining permission from Hubman residents.

#### Agenda Item #2: Overview of Previous Meetings

- The facilitator briefly outlined what was discussed at the previous sessions. At the first meeting there was a request for TSMV to adjust the Resort Centre ASP amendments to provide for

recreational space in the area behind Hubman Landing (often referred to as the “Hubman Triangle”).

- TSMV is still exploring this option and will respond to the community in a comprehensive manner after the completion of the small group community conversations.
- The second meeting addressed the wildlife mitigation proposals outlined in the Smith Creek ASP and the Resort Centre ASP amendments. This meeting is intended to follow-up that meeting and address any unanswered questions, provide additional information and explore potential solutions.

### Agenda Items #3: Wildlife Follow-Up

#### Overview of Environmental Study (Golder- Kyle Knopff)

- The wildlife component of the meeting began with an executive summary of the overall approach to wildlife mitigation.
- Golder’s role is to provide an impact assessment of the proposed development. This is an iterative process.
  - There is only one Environmental Study (impact assessment) for both the Smith Creek ASP and the Resort Centre ASP amendments because the environmental issues associated with both developments overlap and mitigations related to wildlife are best implemented in a comprehensive and consistent manner.
- Golder examined the project description. Overall, Golder looks at where development is proposed in the Plan Area, where the environmental attributes are (i.e. riparian areas, old growth forests, and wetlands). Avoidance of development in these types of areas is the preferred mitigation option. However, given that development will have environmental impacts, the Environmental Study provides recommendations to mitigate and minimize disruptions that cannot be avoided.
- After the mitigations are identified to minimize environmental risks, the residual impacts are assessed. The Environmental Study is then provided to the Town to help in their assessment of the Smith Creek ASP and Resort Center ASP amendment projects.
- Overall, the recommendations outlined in the Environmental Study for both Smith Creek and Resort Centre primarily pertain to wildlife. Although there are other environmental issues associated with development on these lands, the wildlife component is the primary issue. This was also the case during the development of the Environmental Study for the PriceWaterhouse Coopers ASP application in 2013.

#### Soft Edge vs. Hard Edge

- When considering the reality of living with wildlife, there is a trade-off between use by wildlife and negative interactions between people and wildlife.
- Over the last decade it has become very clear that wildlife do not have as much difficulty moving through developed areas as was originally predicted during the 1990s when potential impacts of the TSMV development were first assessed. There was a perception that wildlife would exhibit

lower use of corridors adjacent to development. However, data has shown that there is less avoidance than originally thought.

- Specifically, data shows that elk prefer to be in Town, on golf courses and in developed areas.
- While bears and cougars do not select to be in high density areas, they also do not avoid development.
- Typically wolves are shy and take longer to habituate in contrast to other wildlife and therefore, the wildlife corridors are less functional for wolves in some areas. However this year wolves were shown on the cameras in the south side of the wildlife corridor.
- Currently, the concern is more related to human-wildlife interactions near and within the wildlife corridors that can result in localized population sinks.
- Wildlife movement through corridors remains an important issue, but available data indicate that this concern is less important than originally believed. Early concerns that wildlife would not use areas near human development resulted in application of “soft edges” as a mitigation. .
- A soft edge (or an area of low density development adjacent to the wildlife corridor such as a golf course or low density residential development) increases the probability of use by wildlife. While soft edges are effective in minimizing sensory disturbance in wildlife corridors (such as noises and lights), it was not anticipated that wildlife would use the soft edge as much as they do and therefore, the amount of negative human-wildlife interaction was not anticipated.
- The unintended consequence of the soft edge is that wildlife are selecting to be in the area and in some cases are moving further into developed areas. Lower density areas with green spaces are highly selected by ungulates.
- Hard edges through development can serve to frame green space; however, wildlife in the Bow Valley are extremely adaptive and even higher density developments on the edges of wildlife corridors in Canmore experience high rates of negative interactions between wildlife and people.
- A fence was recommended as a more effective hard edge.
  - In May, the Town organized a wildlife fencing workshop with wildlife experts from Alberta Fish and Wildlife, Parks Canada, and Alberta Environment and Parks to discuss this option. At this session, experts discussed how a fence would be an effective way to reduce human/wildlife interaction provided that it was implemented as part of a broader, comprehensive wildlife strategy.
- Wildlife can be bold—for instance, a bear will climb a fence to get at an apple tree.
- Boldness may have increased in recent decades due to changing human behavior in the Bow Valley. In the 1960’s or 1970’s, animals that entered into a developed area might be shot. This deterred them from entering developed areas. Human behaviours with respect to wildlife have become much less aggressive and the level of deterrent to wildlife entering developed areas is low; rather, there are many attractants.

**Attendee Question: How is “conflict” defined?**

- The term “conflict” is related to the consequence that an interaction between humans and wildlife has on the wildlife population and can be thought of as a continuum. Some “conflicts” are worse than others. For instance, a bear that killed a human would be put down resulting in a

negative impact on the bear population. A bear that is seen but does not hurt anyone is left alone and therefore, does not have a negative impact on the population. Observing a bear in the wild can be a positive experience. If this second type of interaction is referred to as conflict, it does not mean the same thing, either for people or bears as the more serious negative interactions. The focus of our work and the mitigations identified relate to the more serious negative interactions between people and bears (i.e., interactions that result in management action taken against wildlife such as hazing, lethal control, or translocation).

- It was pointed out that when “problem” wildlife is moved from an area to another (i.e., translocated), this animal is considered to be “removed” from a population also contributing to the localized population sink.
- The group acknowledged that while the term “conflict” is used by experts in a technical manner, it has a very different connotation when used publically and is an extremely value-laden term. Consequently, meeting attendees suggested that the Project Team should refer to the objective of reducing human-wildlife conflict as reducing negative human-wildlife interactions.
  - *NOTE: The Project Team felt this was a very good suggestion and has since changed the language they use at the Hubman residents’ suggestion. The notes now reflect this term throughout the document.*

**Attendee Question: If the former golf course was restored and remained a golf course, would the fence still be a recommended edge treatment?**

- Yes, a fence would be recommended because the data shows the adverse effects of removing wildlife from a system outweighs the small benefits of habitat patches in developed areas. The exception of this would be for the elk population because by fencing the area we would be eliminating habitat. However, Golder argues that moving elk into a more natural state of the ecosystem where they are subject to normal predation may not be a bad thing.
- Additionally, it has been suggested that certain areas of town would benefit with a wildlife fence, such as behind Peaks of Grassi and around public parks and school yards.
- The benefits that wildlife gain from not having a fence are outweighed by the human and wildlife safety consequences of not having a fence.

**Attractant Management**

- Attractant management is another wildlife mitigation recommended in the Environmental Study. While attractant management is a key part of the solution with or without a fence, the wildlife conservation fence would not be effective without attractant management because a fence is not impermeable.

**Attendee Question: Is there a list of plants that you should have to avoid having wildlife attractants in Town?**

- Yes, WildSmart has a list (*author’s note*- the list is found here: <http://www.wildsmart.ca/berriesandfruits.htm>)
- There is also a list of plants that do not attract wildlife provided in the Planting Index of the TSMV architectural guidelines.

- Interestingly, Mountain Ash is proving to be an issue.
- The Town is working on an initiative to remove crab apple trees from private properties in Town and replace with non-attractant species at no cost of the landowner (starting with high interaction areas).

**Attendee Question: Is there any discussion with the Town on doing a sweep of sheperdia?**

- While the Town can do a sweep on public land, it is the responsibility of private landowners to take initiative to remove sheperdia. It was noted that Stewart Creek Golf Course does a sheperdia sweep every year and in TSMV, there is a sheperdia sweep prior to development as part of the fire thinning program.

Sensory Disturbance

- Golder showed a diagram demonstrating that when sensory disturbance is low, interactions are higher. High sensory disturbance results in less negative human-wildlife interactions, but also less effective movement. The challenge with a soft edge is that while it minimizes sensory disturbance (maximizing probability of use and movement), it also provides wildlife with access into developed areas resulting in negative human-wildlife interactions.
- Golder noted that they will send literature on the science related to sensory disturbance and habituation by wildlife. There is a paper in *Science* about the adaptability of large carnivores and how they are making a comeback in Europe in areas that are highly developed. The comeback is related to increasing tolerance by people and finding ways to reduce negative human-wildlife interactions, not on creating new wilderness habitats.

**Attendee Question: What happens to the sensory disturbance diagram with a fence?**

- With a fence, measures to minimize sensory disturbance can be implemented without a result in negative human-wildlife interactions because the fence will prevent wildlife from entering the developed area.
- While a soft edge facilitates movement better, with a fence and sensory disturbance mitigation, we can improve probability of movement in ways that will not result in an increased risk to wildlife populations.

**Attendee Question: Are there others that will disagree with the science you provided?**

- Yes, there will still be disagreements about the interpretation of the data and people referencing the 25 degree slope.
- It is also worth clarifying that despite the new science, we remain concerned about wildlife movement through the Bow Valley. Our role is to ensure that wildlife corridors are functional. However, currently the major issue is human use management and reducing negative human-wildlife interactions.

Conservation Fencing

**Attendee Question: If Hubman Triangle is going to be used as recreation does the area need to be fenced? Why can't we put the fence along Hubman?**

- The Town has had discussions with the Province regarding fencing of recreational areas and school yards because the local wildlife interaction specialist is frequently chasing elk out of these areas. Consequently, it is recognized that recreational areas would benefit from being inside a fence.
- Off leash dog parks for example would benefit from a full enclosure because it prevent dogs from running into the wildlife corridor.
- Not only would a fence clearly delineate the wildlife corridor, it also offers the opportunity for educational signage to help limit human use in the wildlife corridor. It was noted that currently humans are the most common animal in the wildlife corridor.
- An attendee noted that the fence is not only for the safety of humans, but for the safety of wildlife as well.

**Attendee Question: What about foxes and coyotes? Will the coyotes threaten the other populations? Does the fence have any impact on these types of animals?**

- These are referred to as “meso-carnivores.”
- Overall, coyotes are great at living with people and are frequently seen in Town. The fence has very little impact on these animals as they can get through the fence. This is why managing attractants is so important.

**Attendee Question: What happens when animals breach the fence? What happens if there is another change in wildlife science that yields the fence a less effective option?**

- It is recognized that there will be incursions in the fence. While fences can be very effective, if there is something that motivates a bear or cougar to enter a developed area, they will climb over the fence. Attractant management is therefore important.
- However, with a fence, it is predicted that there will be a substantial reduction in “problem wildlife” that would have to be removed from developed areas.
  - To remove wildlife, there will be swing gates located at intervals around the fence. The specific location of these swing gates and other logistics will be determined at a later phase in development. Active management will be required to remove some animals.
  - There are conflicting opinions on jump-outs, but it is possible for both to be used in the fencing design.
- The fence requires maintenance. The Town and QPD have been working on a strategy to maintain the fence through consultation with Parks who have a lot of experience maintaining the fencing along the highway.
- It is acknowledged that there is always uncertainty associated with Environmental Studies.
- To address uncertainty in the Environmental Study, one key recommendation of the Environmental Study is to implement an adaptive management approach and monitoring program to understand how wildlife are moving in relation to the fence.
- Given that development of Smith Creek and the Resort Centre will take place over several decades, there will be opportunities to learn from early monitoring findings and adjust the plan if necessary. That being said, once development is complete and there are people occupying the space, there will be less area to adapt.

**Attendee Question: Who pays for the fence and who maintains it? Who assumes the responsibility for dealing with people who damage the fence?**

- The developer would pay to construct the fence and the Town is currently exploring the idea that the Town take over the maintenance. This would likely be through some sort of tax. If the Town were to take over the fence, they would assume the responsibility for dealing with people who damage the fence.
- Pathways would be created adjacent to the wildlife fence on the developed side to ensure that there is access for maintenance.

**Attendee Question: Putting a fence around development will have an impact on the Bow Valley. It is important to recognize that this development is not isolated from the rest of the Bow Valley. How will you offset impacts? Do you have plans to compensate for these impacts?**

- The Bow Valley is a system that has been severely impacted already. The fence is a means to reduce impacts associated with Smith Creek and Resort Centre by separating humans and wildlife. The proposed wildlife mitigations also might improve the existing situation in some wildlife corridors.
- The EIS scope is to look at the anticipated development and develop a set of mitigations to ensure the development does not impact the environment or wildlife. In other developed areas, it is the Town or the Province that is responsible to address existing and/or emerging issues related to wildlife and the environment.

**Attendee Question: Will the fence be electric?**

- No, the fence will not be electric. Electro-mats are being explored by Parks Canada at highway interchanges and on certain trails (Legacy Trail). Elk have figured out how to cross cattle guards (such as the one near Three Sisters) and so Parks Canada is currently working towards solutions and the electro-mat and wider cattle guards are some possibilities.

**Attendee Question: Is the Town looking at this holistically?**

- While the Town could explore the option of a broader fencing strategy in Canmore, it depends what the experience is in TSMV. Cost is a huge contributing factor. The fence is an extremely expensive mitigation. It was noted that installation of the fence (without maintenance) is approximately \$125,000 per km.

**Attendee Question: Will the fence be a condition of approval for development in Canmore moving forward?**

- There is not a whole lot of developable land in Canmore where this mitigation could be considered. However, a fence may be considered in alignment with EIS recommendation in appropriate locations.

**Attendee Question: The fencing concept that was shown at the previous meeting has a gap in the fence. What was the rationale for having a gap in the fence?**

- Overall, the reason there is a fence gap is due to the complicated nature of land ownership.
  - We are looking into closing the gap and exploring whether or not it is necessary to close the gap. There are a number of issues to consider while exploring the option of closing the fence including ownership of the land, how to facilitate a line through private property, construction and maintenance limitations, and whether it is necessary to close the gap.

**Attendee Question: How wide is the wildlife corridor from the fence?**

- In Resort Centre, the wildlife corridor is 425 meter including the 35 meter conservation easement (a 35m buffer for fire-thinning and recreational trails).

**Attendee Question: Are there examples of this kind of fencing elsewhere in the Rocky Mountains?**

- Jackson Hole Wyoming is an example of fencing despite the fact that it is not a full enclosure. In Jackson Hole, there is a line primarily separating the highway and a residential developed area from the wildlife conservation area. Food is placed on the other side of the fence in the winter and that may help keep elk on the Elk Refuge side of the fence. There are reports that the residents adjacent to the fence do not have issues with it and understand the significance of having the fence next to them.
- The proposal to fence TSMV is unique in the sense that we are dealing with ungulates and carnivores and a complete enclosure
- However, the idea of a fence and the design of the fence is not new. There are fences along the Trans-Canada Highway, Highway 98 to Radium as well as examples of similar fencing in places like Japan.

**Question: Could the Town be held liable if the fence is not put up and something goes wrong?**

- No, the Town is not liable.

Wildlife Corridor and Wildlife Movement

**Attendee Question: How much of the wildlife corridor has more than a 25 degree slope?**

*Vertisee mapping showing the 25 degree slopes in the wildlife corridor was shown to the group. It was noted that it is very challenging to identify a contiguous 25 degree line. The LIDAR data shows where all of the slopes above 25 degrees are.*

- It is important to recognize that the 25 degree slope was used as a guideline in the BCEAG guidelines to capture the concept that a less-sloped landscape facilitates wildlife movement. However, 25 degrees is not a threshold, rather it is a gradient of use.
- There is a high correlation between elevation and slope. While highly sloped areas at higher elevations see much lower use by wildlife, especially in winter, slopes more than 25 degrees at lower elevations still get used.
  - *Clarification:* at the meeting we discussed slopes in relation to ski runs. It was noted that a ski run with a 25 degree slope would be easier terrain to ski. Golder would like to clarify that a green slope would be around 15 degrees while a 25 degree slope would be



a steeper blue run or even a black run depending on how it is groomed. A double black run can be as steep as 50 degrees.

- It is also important to recognize that movement is different than habitat. For instance, in the winter, elk are more likely to stay in the valley bottom and especially right in Town.

*Data related to wildlife species movement patterns in the Bow Valley was distributed to the group.*

**Attendee Question: The data distributed shows that in contrast to bears and cougars, elk primarily use flatter areas. Does this not indicate that the elk are adhering to the 25 degree slope and validate the previous idea of wildlife pinch points?**

- These data highlight the fact that elk are rarely in the wildlife corridors, rather they select to be in Town and in developed areas.
- It is worth noting that the elk that provided these data wear collars. It appears that the elk with collars selected to stay in town almost all of the time. Having said that, camera data and snow tracking data show elk on higher slopes in and above the wildlife corridors.
- Elk select where they do because of food sources and predator avoidance and therefore, until elk are fenced out, they will stay in Town. Once the area is fenced the behavior is going to change.
- It is worth noting that width is not an issue for elk because they do not need a huge amount of space. Off leash dogs in the wildlife corridor are more of a problem for elk.
- When the fence goes up, we will be eliminating current habitat for elk. This is why monitoring following the implementation of the fence will be important. It is worth noting that while monitoring facilitates adaptive management, the options to mitigate wildlife would change as well.

**Attendee Question: In 2008, the maintenance compound was moved because the original site was thought to be a pinch point for wildlife. Now this “pinch point” is being developed. What changed? Are you worried about pinch points in the proposed wildlife corridor?**

- Moving the maintenance compound to the current site near the pond away from the corridor was a good idea.
- We are always looking to find good options for each new development.
- That said, the idea of a pinch point is only true if we assume that wildlife will not move on slopes above 25 degrees. There is nothing stopping the wildlife from moving above 25 degrees.
- Pinch points are less of an issue in the Along Valley Corridor. There are issues related to pinch points in the Across Valley Corridors (i.e., Tipple Valley) but these pinch points are related to human use. Tipple Valley Corridor is not overly functional currently due to the extensive human use.
- There are other much more important issues for which fencing is proposed as a mitigation. By developing Smith Creek and Resort Centre, there will be a number of new people moving into Canmore. If we do everything the same that has been done to date in Canmore, this will not have good results, especially in terms of negative human-wildlife interactions and potentially for wildlife movement. This has been identified as a “key” issue in the EIS.

**Attendee Question: What is the phasing for the development? Are there any phases that are already approved?**

- Overall, the development will be phased from west to east with Resort Centre being developed first.
- In Resort Centre there is an approved Area Structure Plan (ASP) and approved land use on parts of the land. The amendments will not change this.
- It is worth noting that fencing will be phased in with development.

**Attendee Question: Will there be any concurrent development?**

- The concept of phasing is very general and consequently, it is possible to work to two different phases at once, however, there would need to be a rationale submitted to the Town for approval prior to any concurrent development.

**Attendee Question: Where do the services come in Resort Centre?**

- There is already a line in place to service Resort Centre. One line runs south east from Town along the outside of the northern boundary of the Plan Area and another runs south east from the Grassi Reservoir through the Plan Area.
- Additional servicing will be installed when the Plan Area is developed.

**Attendee Question: What kind of density are you looking at in Resort Centre? How many storeys?**

- In the Resort Core (the area of highest intensity in the ASP) will have development of no more than four or five storey's. As development moves away from the Resort Centre, there is a decrease in intensity.

**Attendee Question: Why is there no affordable housing in Resort Centre?**

- Resort Centre will not have the same amount of permanent housing proposed in Smith Creek. In the Resort Centre, we are looking at having "resort accommodation" units which can be for short term and long term stays as well as permanent residential. The difference between resort accommodation and residential units is that resort accommodation units are taxed commercially.
- In the Resort Centre, we are also investigating a seniors area with a continuum of care (i.e., a range of care options including independent living all the way through to memory care).

**Attendee Question: What is the plan for transportation in Smith Creek and Resort Centre? Will there be a new parkway?**

- The existing Three Sisters Parkway is the only continuous line that will connect Smith Creek, Stewart Creek and Resort Centre. There will not be a new Parkway.
- The sloping of the land in Smith Creek provides an opportunity to develop an extensive trail network in Smith Creek to facilitate connectivity both within and beyond the Plan Area.
- Resort Centre is envisioned as being pedestrian focused. While there would be emergency access, vehicles would be limited in the Resort Centre. The way the transportation concept would function is similar to Whistler Village.

- Pedestrian connectivity between the Town, Smith Creek, Stewart Creek and Resort Centre will be further facilitated by a paved pedestrian trail along the buried transmission line creating strong east/west connections.

#### Agenda Item #4: Conclusion

- The Facilitator thanked everyone for attending the meeting.
- The group agreed that the extra wildlife session was a productive use of time and that they found the discussion very helpful.
- The next meeting will be held on Thursday August 18<sup>th</sup> and will relate to undermining.
- Draft notes will be distributed early next week. Please send any amendments to Jenn. After the notes are finalized they will be posted on the website to continue to work through a transparent process.