TOWN COUNCIL
SPECIAL MEETING
Wednesday, April 21, 2010; 11:00 A.M.

I CALL TO ORDER and ROLL CALL

II APPROVAL OF AGENDA

III NEW BUSINESS
A. Continued consideration of and final action on request by Vail Summit Resorts, Inc., for Summer Operation of the Breck-Connect Gondola

IV OTHER MATTERS

V ADJOURNMENT

NO BUSINESS SHALL BE CONDUCTED AT THE SPECIAL MEETING UNLESS THE SAME HAS BEEN STATED IN THIS MEETING NOTICE; EXCEPT THAT ANY BUSINESS THAT MAY LAWFULLY COME BEFORE A REGULAR MEETING OF THE TOWN COUNCIL MAY BE TRANSACTED AT A SPECIAL MEETING IF ALL MEMBERS OF THE TOWN COUNCIL PRESENT CONSENT THERETO AND ALL ABSENT MEMBERS FILE THEIR WRITTEN CONSENT.
MEMORANDUM

To: Mayor and Town Council
From: Tim Gagen, Town Manager
Date: April 19, 2010
Subject: Gondola Summer Operations – Special Meeting 4/21/10

We have received a revised proposal from Pat Campbell regarding their request to operate the gondola this summer, which is attached for your review. In addition, I am attaching the original requests and biologist reports that Council has already received. Also attached is Christy Carello's response to Mr. Thompson's report.

As Council requested, BOSAC has scheduled an initial discussion of the broader questions of human impacts (bikers and hikers) within the gulch. Both biologists highlighted this as potentially having a larger impact, and this will be discussed at the BOSAC meeting of 4/19/10.

CC: Tim Berry
    Kate Boniface
    Peter Grosshuesch

Attachments:
- BSR letter dated 3/1/10
- Western Ecosystems, Inc report dated 2/25/10
- Carello Environmental Consulting, Inc memorandum dated 8/24/09
- BSR/Campbell Letter of 4/16/10
- Carello Environmental Consulting Memo of 4/16/10
April 16, 2010

Timothy J Gagen
Town Manager
Town of Breckenridge
PO Box 168
150 Ski Hill Road
Breckenridge, CO 80424

Dear Tim,

This letter is in follow up to the summer gondola proposal that was discussed at the March 23, 2010 Town Council work session. We are asking for the Town’s support and approval of summer gondola operations at the upcoming April 21, 2010 Town Council work session.

Based on comments and feedback from the March 23 session, we would like to propose the following for your consideration:

- We have reviewed Christy Carello’s April 16 letter and appreciate her willingness to respond to Rick Thompson’s analysis. It is clear that the two biologists concur on much of their analysis but that Ms. Carello’s opinions diverge significantly from the conclusions drawn from Mr. Thompson’s analysis. Given the continued divergence in analysis, I’m not sure that further efforts to push the biologists to consensus would be fruitful.

- While we would still like to operate the gondola beginning June 18 with the opening of our Fun Park, we understand that concerns surrounding potential environmental impacts could suggest a later start date in this first summer of operations. We would be willing to delay our start date until July 1 and to work with the Town to explore ways of determining the impacts in Cucumber Gulch due to gondola operations and reevaluate start dates for future years.

- Regarding daily operating hours, we feel it is necessary to operate the gondola per the original proposed operating hours (8:30 am until 5:45 pm). Managing the guest experience between two different types of access during the day would not work well for our guests, our staffing and for managing guest flow into the resort. We feel that operating reduced gondola hours in combination with buses would potentially negate the overall benefits of using the gondola and as a result we would likely choose to operate only buses and not operate the gondola at all during the summer.
• We will support any reasonable recommendation from BOSAC on how to help mitigate impacts in the gulch from hiking or biking related to our customers having increased access to the gulch because of gondola operations. We understand the importance of a complete and thorough review by BOSAC and see that process as distinct from our gondola operation proposal.

We expect to operate the gondola in subsequent summer seasons for similar time periods, although the exact dates and times may be adjusted based on how holidays fall and to react to changing guest preferences or other similar factors.

Thank you for your consideration and support. As stated in our original proposal, we feel the expansion of gondola operations to the summer season will prove beneficial for our guests and the community. Please contact me if you have any further questions or concerns.

Sincerely,

[Signature]

Pat Campbell
SVP & COO Breckenridge Ski Resort
Memorandum  
April 16, 2010

From: Christy Carello, PhD

To: Heide Anderson, Town of Breckenridge

RE: BreckConnect Gondola Summer Operation

The purpose of this memo is to address the summer operation dates and hours of the BreckConnect Gondola and to respond to Rick Thompson’s assessment of wildlife issues (February 25, 2010). Rick Thompson is a wildlife biologist with Western Ecosystems, Inc. This gondola connects the Town of Breckenridge with the Peak 7 and Peak 8 base areas. The gondola crosses a sensitive wetland habitat, Cucumber Gulch, which is an area of relatively high biodiversity (documented by the EPA, US Fish and Wildlife Service and Colorado Natural Heritage Program). The following points are issues of most concern for non-ski season operation of the gondola.

Moose Habitat and Calving

Cucumber Gulch is a year-round habitat for moose. The ample availability of willows, a major staple in the diet of moose, makes this an ideal location for moose during all seasons of the year. Cucumber Gulch is an oasis for moose providing ample cover for young, access to fresh water and abundantly high quality food. Moose calving in Colorado begins in late May and extends through early June. Rick Thompson states in his report that Cucumber Gulch is an unlikely location for moose calving. I have evidence that is contradictory to his opinion: motion sensor cameras have recorded moose with calves within 100 meters and within 200 meters of the gondola every May and/or early June since 2006 (photos below).

The greatest predatory threat to calves in Cucumber Gulch is black bears. Predation on calves by black bears has been well documented and in many cases results in a slow and painful death. All measures should be taken to minimize any disturbance to nursing cows so as not to distract them from their normal vigilant behavior. Human caused disturbance can be perceived by a cow as a predation threat that could ultimately result in a decrease in her ability to provide adequate protection against real predators (Frid and Dill 2002).
Motion sensor cameras and direct observation has also shown that moose cows also use Cucumber Gulch throughout the summer months as a nursery (Carello and Hoffa, 2010). Rick Thompson also states that summer displacement of moose would not affect calf survival. However, at least one study has shown that moose cows will move away from high quality feeding grounds to areas that provide a poorer quality diet in order to avoid predators (Edwards 1983). This behavior could result in cows and calves that do not have the necessary reserves to survive the winter months. It is very likely that moose, at least initially view the movement of the gondola as a potential predator. Anti-predatory behavior was observed in one moose after the gondola began running in 2007 when Nordic skiers were charged by a moose (Berwyn 2007). I believe that the shadows cast by the moving gondola cabs were perceived by the moose as a ground predator and caused the moose to react accordingly. Once again, I recommend that gondola operation does not occur between May 15th and the end of June so as not to disturb moose cows and their offspring during the sensitive calving and early rearing stages.

Photo 1. Moose calf, 2006. Camera is located less than 100 meters from the gondola.
Photo 2. Moose calf, 2007. Camera is located less than 100 meters from the gondola.

Photo 3. Moose cow and calf, 2008. Camera is located less than 200 meters from the gondola.
Photo 4. Moose cow and calf, 2008. Camera is located less than 200 meters from the gondola.

Photo 5. Moose cow and calf, 2009. Camera is located in the gondola corridor.
Breeding birds

Cucumber Gulch has a relatively high level of avian diversity due to a high degree of plant diversity for the overall area (Carello and Hoffa 2010). The wetland habitat in particular provides access to free-standing water in a relatively dry landscape. The open water associated with the wetland complex, the extensive willow/shrub habitat and the mature forested areas results in excellent habitat for avian reproduction.

More birds and more species have been observed in Cucumber Gulch in June and July compared to any other months of the year (Carello and Hoffa 2010; see figures below). Rick Thompson states in his report that the sensitive period for birds extends from May 1 – June 21. This may be the case for birds found along the Front Range of Colorado. However, Summit County has a breeding season that is later than what Rick Thompson stated in his report (February 25, 2010). We know from six years of studying bird populations in Cucumber Gulch that the sensitive breeding season for birds is June and July and not May 1 – June 21.

I do agree with Mr. Thompson’s statement that research has shown that disturbance to breeding birds can result in nest and young abandonment as well as complete reproductive failure. Some of our most sensitive neotropical migratory species are likely to be nesting in the trees and shrubs along the gondola corridor. This is because they are the last to arrive on the breeding grounds and thus are often forced to nest along forest edges, as resident birds and short-distance migrants already occupy interior nest sites. It has been documented that Neotropical migrants are more sensitive to human disturbance (Croonquist and Brooks 1991).

It is unclear how gondola operation would affect these species, but efforts should be made to minimize the impact. The operational noise and visual movement of the gondola cabins will likely cause some level of disturbance to breeding birds. Any perceptible vocal noise and movement noise (stamping of feet) of the passengers will likely add to the overall disturbance (I have experienced this type of noise on many occasions when working along the gondola line in Cucumber Gulch). I recommend that the gondola not run during June and July. If that is not possible then to limit its operation to four hours after sunrise and four hours prior to sunset so as not to affect the main foraging time for breeding birds. Also, I would recommend that the gondola begin operation at the latest possible date when breeding birds are in the brooding and fledging stages and are less likely to abandon their nests.
Figure 1. The mean number of birds at each point count location observed in all habitats in Cucumber Gulch, Breckenridge, CO 2004 - 2009.

Figure 2. The mean number of species at each point count location observed in all habitats in Cucumber Gulch, Breckenridge, CO 2004 – 2009.
Conclusion

The impacts of summer operation to wildlife in Cucumber Gulch are not quantifiable at this time. Cucumber Gulch is a unique habitat and specific studies on the affects of gondola operation of wildlife have not been published. However, the Town of Breckenridge has over eight years worth of data from an extensive conservation monitoring program. The results of the monitoring program have consistently shown that moose use the gulch during calving and as a nursery and avian abundance and species richness is greatest in June and July. If the goal of the Town of Breckenridge is to minimize impacts on wildlife from the gondola, than I would recommend that gondola operation cease from mid-May until the end of July. If the gondola must run during this critical period for wildlife, then operation should begin at the latest possible date and the hours of operation should be limited to the time frame between four hours after sunrise and four hours prior to sunset (09:30-16:30).

Respectfully Submitted,

Christy Carello

Literature Cited


MEMORANDUM

To: Mayor and Town Council  
From: Tim Gagen, Town Manager  
Date: March 16, 2010  
Subject: Gondola Summer Operation

The Town is in receipt of the attached request by the Breckenridge Ski Area to expand operations of the gondola during the summer season from 6/18/10 to 9/610. The purpose, primarily, is to service the Peak 8 Fun Park during that time period. As noted in the request, the gondola agreement that the Town and the Ski Area signed in March of 2006 contemplated that the Ski Area and the Town would explore extended hours and seasons of operations of the gondola.

Tim Berry and I have reviewed the various agreements, variances, and development permits that make reference to the gondola and its operations. We found language and intent that makes it permissible to allow extended hours and seasonal operations. Such an action would be subject to agreement with the Town, as long as best management practices for operation of the gondola are followed. This would include that the seasonal operations do not coincide with elk migration, to the extent possible.

The approval process by the Town is not specifically articulated in any of the prior agreements or approvals. Tim has suggested – assuming Council is in agreement to allow the summer operation – that the easiest way to grant approval to the request is to authorize a simple letter of agreement allowing summer operations on a trial basis.

Included in this attachment of information are letters from the Town’s consultant regarding the Cucumber Preserve, as well as the Ski Area’s Biological Consultant. The information addresses possible issues of concern related to the summer operations of the gondola over Cucumber Gulch.

As this request does not seem to require any other formal review than by the Council, I am scheduling it as a work session item for your discussion or direction, or additional information as needed.

CC: Tim Berry  
Kate Boniface  
Peter Grosshuesch

Attachments:  
- BSR letter dated 3/1/10  
- Western Ecosystems, Inc report dated 2/25/10  
- Carello Environmental Consulting, Inc memorandum dated 8/24/09
March 1, 2010

Timothy J. Gagen
Town Manager
Town of Breckenridge
PO Box 168
150 Ski Hill Road
Breckenridge, CO 80424

Dear Tim,

This letter is to notify you that Breckenridge Ski Resort would like to expand operations of the Breck Connect Gondola this coming summer in conjunction with its Peak 8 Fun Park operation. The Gondola Agreement contemplated expanded operations outside the winter season and we believe it will be beneficial for our guests, our operation and the community. We are asking for the Town’s support of expanded operations.

The benefits of expanded gondola operation include:
- reduce traffic, noise and pollution by eliminating ski resort buses from Ski Hill Road and Park Avenue;
- decrease parking and congestion on Main Street by encouraging guests to park in gondola lots for free and without time limitations, which should increase the connectivity between town and the mountain and encourage guests to use transit to experience all of town from there;
- provide a free amenity/attraction for town enabling large number of visitors to experience Cucumber Gulch without impacting the trails or the environment of the Gulch;
- improve Fun Park experience enabling visitors to flow in and out rather than pulsing in larger numbers by bus.

Proposed operating hours for the gondola for the first summer season are from 8:30 am until 5:45 pm daily beginning June 18, 2010 through September 6, 2010. Peak 8 Fun Park hours including the alpine slide and scenic chair lift rides operate daily from 9 am until 5 pm. All foot passengers will be able to access the gondola for free. In addition to free foot passenger access, we would like to propose a fee for bicycle transport to help manage demand and offset cabin cleaning costs, and may need your support with CDOT to implement such a fee. We feel that if bike transport were free that we could see significant usage resulting in some potentially negative impacts including, gondola capacity issues, impacts to trails in Cucumber Gulch and significant volume of downhill bicycle traffic on Ski Hill Road.
We expect to operate the gondola in subsequent summer seasons for similar time periods, although the exact dates and times may be adjusted based on how holidays fall and to react to changing guest preferences or other similar factors.

Our proposed operating plan does not require an amendment to the Variance from the Cucumber Gulch Overlay Protection District Regulations and we are committed to remaining in compliance with the Variance. However, we understand that the Town’s agreement to expanded seasonal operations is needed and that there are questions regarding potential environmental impacts of summer gondola operation. To address these questions, we have asked Rick Thompson, Western Ecosystems, Inc., to respond to a memorandum from the Town’s environmental consultant, Christy Carello. Mr. Thompson is a well respected biologist and has extensive experience in the Breckenridge area. His attached letter speaks for itself and I believe addresses Ms. Carello’s questions in a thorough fashion.

Given the original intent when the gondola was installed (that operations would be expanded), the many benefits to the Town and Ski Area of summer gondola operation and the limited potential environmental impacts of operation described in Mr. Thompson’s letter, we believe that the gondola operations should be extended as we propose.

Finally, as the expansion of the gondola operating times does not require any changes to the Variance, we hope you will agree that no formal action by the Town Council is necessary but rather our proposal can be addressed by some informal consent or even as an administrative matter.

Please let me know if you have any further questions or concerns.

Sincerely,

Pat Campbell
SVP & COO Breckenridge Ski Resort
Western Ecosystems, Inc.
Ecological Consultants
905 West Coach Road, Boulder, Colorado 80302 (303) 442-6144

February 25, 2010

Pat Campbell, COO
Breckenridge Mountain Resort
P.O. Box 1058 (BK1)
Breckenridge, CO 80424

e-mail transmittal

Re: Expanded BreckConnect Gondola Operations Wildlife Issues

Dear Pat:

Breckenridge Mountain Resort (BMR) is proposing to operate the BreckConnect Gondola during summer, outside the current ski season operating period. The Town of Breckenridge (Town) has expressed some wildlife concerns associated with the proposed summer operations (Carello 2009). At your request, this letter provides my professional opinion regarding those wildlife concerns.

As background, I have been conducting professional wildlife, aquatics, and botanical surveys at BMR since 1991. Beginning in 1997, I assisted BMR on Peak 7 base areas issues (involving Cucumber Gulch) and acted as a third-party biologist for the U.S. Forest Service on BMR’s Peaks 7 and 9 upgrading. That work included designing and locating the spanning bridge south of the Peak 7 base area and designing intertrail islands in the Peak 7 pod to accommodate post-breeding boreal toad movements into terrestrial habitats.

Existing BreckConnect Gondola Characteristics

Breckenridge Ski Resort’s gondola began operations in January, 2007. The gondola extends between the downtown Transportation Center and the Peak 8 base area, with mid-stations in the Shock Hill Neighborhood and the Peak 7 base area. With a 7.5 minute ride time, the BreckConnect Gondola transports skiers, riders, and visitors up to 7,592 feet (391 ft. vertical), while greatly reducing the need for bussed transportation between the Town and BMR. The eight-passenger gondola cabins operate just below tree top level at about 1,000 feet per minute (11.36 mph). Where the gondola crosses through forested terrain, a 40-foot-wide corridor was created by removing the overstory. The gondola currently operates from mid-November through mid-April, BMR’s ski season. Operating hours are from 7:30 AM until 5 PM. There are also a few other times when the lift may operate for maintenance.

Proposed BreckConnect Gondola Summer Operations

Breckenridge Mountain Resort is proposing to operate the gondola during summer, from approximately June 18 through September 6, between 8:30 AM and 5:45 PM (8.25 hrs. per day). The summer start date would vary between years, tied to Fathers Day weekend (June 18-20, 2010) or the weekend that is about two weeks before July 4th. Other than regular operating hours, the gondola
would run prior to opening for start-up procedures and for short periods at other times for maintenance. Proposed summer gondola operations would reduce motorized vehicle traffic on Ski Hill Road between the Town and Peak 7 and 8 base areas.

Environmental Baseline

The ecological significance, community value, and threats to Cucumber Gulch are well established (e.g., SAIC and Conservation Partners 1998, Carello and Hoffa 2009). From the Town’s website (http://www.townofbreckenridge.com/index.aspx?page=431):

Cucumber Gulch and its wildlife inhabitants are surrounded by, and vulnerable to, human disturbance. The area also encompasses many of the trails that make up the Breckenridge Nordic Center, as well as popular summer hiking and biking trails. At the same time, the Gulch is almost completely surrounded by existing or pending development.

The 2.2 miles of trails (http://www.trails.com/tcatalog_trail.aspx?trailid=11GR298-015) innervating the Cucumber Gulch area are well used by Nordic skiers and snowshoers in winter and hikers and mountain bikers during summer (mostly late May to October). Dogs are not permitted. In addition to this recreational use, the existing gondola corridor bisects approximately 2,496 feet of the 225-acre Cucumber Gulch Overlay Protection District (CGOPD) between the Shock Hill and Peak 7 mid-stations. The gondola also passes over approximately 832 feet of the main Cucumber Gulch wetlands.

Potential Summer Gondola Operating Effects

The effects of gondola operations, per se, on wildlife are poorly documented, largely because gondolas are relatively rare on the landscape and their operational impacts are so benign. Clearly, the greatest impact of gondola installation and use is the habitat conversion associated with the required corridor. With respect to the BreckConnect Gondola, that impact has already occurred. Therefore, impacts resulting from proposed, summer, BreckConnect Gondola operations would be limited to visual and noise disturbances as the gondola cabins move through and above the adjacent habitat. The operating gondola is quiet, with noise levels within the range of background noise. The enclosed cabins also attenuate human voices from extending into the passing habitat. While noise, per se, can have adverse effects to wildlife (Bowles 1995), the levels associated with the gondola would not. The visual impact of moving cabins would be greatest in open habitat (e.g., over the Cucumber Gulch wetlands) and least within closed forest. Humans being transported in gondola cabins would be entirely enclosed, essentially within self-contained “blinds.” This is significant. Wildlife view humans as potential predators. Wildlife in view of the operating gondola will not associate the moving gondola cabins with humans or predators, merely as moving objects, like cars. Humans recognizable as such (e.g., on foot, on snowshoes, on skies, and presumably, on bikes) elicit more intense reactions by ungulates (e.g., deer, elk, and moose) than do vehicles (Ward et al. 1976, Schultz and Bailey 1978, Eckstein et al. 1979, MacArthur et al. 1982, Freddy et al. 1986) and this reaction extends to other wildlife groups. Another important concept with respect to anticipated wildlife responses is the predictability of the event. The gondola cabins will be traveling at the same rate of speed, at the same intervals (i.e., between cabins), and along the same exact route during the same period each day. When animals perceive a non-threatening disturbance frequently enough to be “expected”, they show little overt response (Knight and Cole 1995). Such animals are considered to be “habituated” to the activity.
Town’s Wildlife Concerns

As expressed by Carello (2009), the Town identified wildlife concerns resulting from proposed summer use of the gondola related to moose habitat and calving, elk migration and calving, and breeding birds. Below, I address each of these concerns.

Moose Habitat and Calving

The CGOPD is a habitat cul-de-sac containing a relatively large area of high quality moose habitat. While that habitat block may be used year-round by moose, it is a small portion of the home ranges of moose that use that habitat. It is possible that there may be habitat patches within the CGOPD that are adequately isolated from surrounding development and trail corridors where a moose would feel secure enough to calve. However, the most interior habitat patch where a moose might calve along the gondola corridor is medially bisected by a trail, reducing the likelihood that this patch would be suitable for calving and that summer gondola operations would have any additional effect. Furthermore, moose calving is over before the gondola would start operating on June 18. Any locally born calves would have ended their hiding phase and be physically capable of travelling with the cow. Therefore, while summer gondola operations could displace a cow moose and her calf from habitat within and adjacent to the gondola corridor, it would be a temporary displacement from calf-rearing and summer habitat, not calving habitat. It is possible that any moose summering in Cucumber Gulch would have experienced the benign disturbance associated with the operating gondola during winter. Regardless, any temporary, diurnal, summer displacement of moose from the gondola corridor would be expected to have no discernable affect on calf survival. Furthermore, any such gondola displacement would affect a much smaller area and be much less acute than the displacement associated with summer recreational use of the Cucumber Gulch trail system (Ward et al. 1976, Schultz and Bailey 1978, Eckstein et al. 1979, MacArthur et al. 1982, Freddy et al. 1986).

Elk Migration and Calving

Elk migration does not temporally overlap the proposed summer gondola operating period. Elk migrate between summer and winter ranges. The intervening habitat through which migration occurs is considered to be transitional range. Calving habitat, per se, also occurs within transitional range, while calf-rearing habitat is usually associated with summer range. Portions of the CGOPD overlap the most southern, highest elevation, distal edge of elk winter range in this portion (the Breckenridge vicinity) of the Blue River Valley (http://ndis.nrel.colostate.edu/maps/frames.asp?cmd=INIT&MapLinksID=4&VisibleDataID=69.22&Topic=Hunting&Referer=http://ndis.nrel.colostate.edu/wildlifespix.asp?SpCode=051001&MAPSIZE=1&X=826&Y=834; accessed Feb. 15, 2010). Elk winter range is defined as the area typically occupied by elk from December 15 to May 15. This block of elk winter range extends down valley and around Dillon Reservoir. Winter elk use of the CGOPD is limited because of elevation, surrounding development, and the levels and distribution of recreational activity (primarily Nordic and snowshoeing). At the end of winter, elk begin migrating toward upper elevation summer range, following receding snowlines. For the few elk that may be in the CGOPD at the end of winter, they leave the area by the end of May, before the gondola would begin operating for the summer (June 18). Furthermore, they would not return to the CGOPD until after the gondola begins winter operations.

It is unlikely that elk calving occurs in the CGOPD and, even if it did, it would be unaffected by proposed summer gondola operations. Colorado Division of Wildlife (CDOW) elk Natural Diversity Information Source maps (as above, accessed Feb. 15, 2010) do not show elk calving habitat occurring closer than 1.14 miles north-northwest of the CGOPD (north of the north fork of Middle Barton
Guleh). Those data are wrong as elk calve at mid-elevations in the Peak 7 and 6 areas (Thompson 1998, 2010). I have never found evidence of elk calving or mature cows present in the CGOPD during the calving period and have concluded that elk that may have been present during winter in that area move out to calve at mid-elevations along the Tennmile Range. While the CDOW defines the elk calving period as extending from May 15 to June 30, inclusive, they also recognize that approximately 80% of all calving occurs from June 4-6 (J. Seidel, CDOW, pers. comm.). Therefore, any elk calving in the area would have ended before the gondola would start operating on June 18 and any locally born calves would have ended their hiding phase and be physically capable of travelling with the cow. Furthermore, it is unlikely that elk would calve in the CGOPD because it is surrounded on three sides by development, it is innurated by recreation trails, and it does not contain sufficiently secure “interior” habitat that cow’s seek for calving. As for moose, the most interior habitat patch where an elk might calve along the gondola corridor is medially bisected by a trail, reducing the likelihood that this patch would be suitable for calving and that summer gondola operations would have any additional effect.

**Breeding Birds**

Disturbances to birds have traditionally been considered most detrimental during the breeding season when abandonment of the nest or young can lead to total reproductive failure or less severe adverse effects (Knight and Cole 1995). The May 1-July 15 period encompasses the entire nest construction through fledgling period for all birds thought to nest in CGOPD habitats. The period of greatest sensitivity to disturbance occurs during nest building and incubation (Götmark 1992). Thereafter, adults have high fidelity to nestlings and the potential for abandonment from even moderate disturbances is low. That sensitive period likely extends from May 1 to around June 21 for all birds present. Therefore, that sensitive period would have nearly ended before the gondola would begin summer operations on June 18.

While the visual and noise disturbances associated with the operating gondola are relatively benign, they would be most likely to adversely affect birds that may have started nesting in the canopy adjacent to the passing gondola cabins. It is uncertain how many such birds would be affected and the extent to which such birds would habituate to the passing cabins. Potential gondola effects would be less than those associated with the use of a comparable length of existing summer recreational trails (Miller and Knight 1995). As a worst case scenario, while it is possible that some affected birds could experience reduced recruitment, such disturbances would not measurably affect bird abundance or community composition in the CGOPD.

Proposed gondola operations extending between 8:30 AM and 5:45 PM (8.25 hrs. per day) would allow several undisturbed hours of foraging/ chick feeding after dawn and before dusk (important periods) for those birds that may be nesting within the gondola’s zone of influence, thereby reducing potential adverse effects.

**Conclusion**

Proposed, summer, BreckConnect Gondola operations would have a local, additive disturbance to some wildlife in and adjacent to the gondola corridor. Disturbances to birds nesting in the adjacent forest canopy are most likely. Those potential effects would be limited to individuals within and adjacent to the gondola corridor. Such disturbances would not measurably affect bird abundance or community composition. Anticipated gondola effects to all species and wildlife groups of concern would be far less than those associated with the use of a comparable length of existing summer recreational trails. Proposed summer gondola use would have no effect on the boreal toad or its habitat.
Please call me if you have any questions.

Sincerely,

Rick Thompson

Richard W. Thompson
Certified Wildlife Biologist
Western Ecosystems, Inc.

RWT/s

Literature Cited:


Memorandum

From: Christy Carello, PhD

To: Heide Anderson, Town of Breckenridge

RE: BreckConnect Gondola Operation

The purpose of this memo is to address the operation of the BreckConnect Gondola during months when the ski resort is closed to winter recreation. This gondola connects the Town of Breckenridge with the Peak 7 and Peak 8 base areas. The gondola crosses a sensitive wetland habitat, Cucumber Gulch, which is an area of relatively high biodiversity. The following points are issues of most concern for non-ski season operation of the gondola.

- **Moose Habitat and Calving** – Cucumber Gulch is a year-round habitat for moose. The ample availability of willows, a major staple in the diet of moose, makes this an ideal location for moose during all seasons of the year. Moose have been observed with calves multiple times since monitoring began in 2001 in Cucumber Gulch. The observations have been direct as well as captured on motion sensor cameras. Moose calving in Colorado begins in late May and extends through early June. It is recommended that gondola operation does not occur between May 15th and the end of June so as not to disturb the moose cows and their offspring.

- **Elk Migration and Calving** – Elk are migratory ungulates that travel to lower elevations in fall and higher elevations in spring. Cucumber Gulch has been identified as a wildlife corridor that is traveled by elk during the migratory seasons. Elk historically calve in the Peak 7 area during the first week of June, and it is critical for the continued maintenance of the population that elk reach their calving grounds. Since the direct affect of gondola operation on elk behavior is unknown, I recommend that gondola operation does not occur just prior to the elk calving season in late May and early June.

August 24, 2009
• **Breeding birds** – Cucumber Gulch has a relatively high level of avian diversity. The open water in the wetlands, the extensive willow/shrub habitat and the mature forested areas results in excellent habitat for avian reproduction. The avian community is at its greatest during June and July. During this time Cucumber Gulch is the breeding ground for migratory songbirds, raptors and aquatic species. It is unclear how gondola operation will affect these species, but efforts should be made to minimize the impact. Birds will most likely be disturbed by the operation noise of the gondola as well as the noise from the passengers. I recommend that the gondola not run during June and July and if that is not possible then to limit its operation to the afternoon so as not to affect the main foraging time of these species.

In order to minimize the impact of gondola operation on ungulate populations, I recommend that the gondola is not run from mid-May until the end of June. If the goal is to have the least amount of impact on wildlife as a whole then operation should not occur from mid-May until the end of July.

Respectfully Submitted,

[Signature]

Christy Carello