

## 5.2 Existing Conditions in the LIZs

Following are thumbnail sketches of each LIZ, including a list of parameters characterized for each zone. A rationale for prioritizing is also included. The rationale was part of the evaluation process by the ALIVE Committee as to why the LIZ was considered important or not, and what were the major issues affecting the LIZ.

### 5.2.1 LIZ 1 – Dotsero (milepost 131.4 to milepost 134.5)

Sitting at the mouth of Glenwood Canyon, LIZ 1 is adjacent to the BLM Glenwood Canyon lynx linkage that provides movement through shrub-steppe habitats between Flattops Wilderness and Red Tables on the WRNF. CDOW DWM Bill Andree suggested that as few as 30 percent of the roadkills in this area are ever reported. Most deer and elk in this zone cross from milepost 133 west to the mouth of the Glenwood Canyon, avoiding the nearby lakes south of I-70 where several planned developments will be built.

There is game fencing between milepost 131.9 and milepost 133.5 north and south of I-70. This is a known movement corridor for deer and elk, and the area is fairly heavily used for crossing. There are four I-70 bridges in the LIZ: two for roads, one for railroad, and one for Colorado River, but the transportation underpasses in this area are not being well used as wildlife crossings as they are not suitable for wildlife. The area is predominantly sagebrush with little tree cover. The Nature Conservancy (TNC) recently purchased the Bair Ranch property near this zone.

- **Wetlands:** Palustrine (old gravel quarries), palustrine scrub shrub (PSS), and riverine wetlands surround the Eagle and Colorado rivers through this LIZ.
- **Major drainages:** The confluence of the Colorado and Eagle rivers occurs here, and West Cottonwood Creek runs south of I-70 at the western end of this LIZ; three other unnamed drainages exist through this area.
- **Culverts and bridges** (not always including interchanges): Four sets of open span bridges over two cross roads, the Colorado River, and the Union Pacific Railroad (UPRR) between milepost 133 and milepost 134, also a concrete box culvert (CBC) of unknown dimensions within that mile distance.
- **Barriers:** Primarily fencing along the north side of the Corridor from the Colorado River area east, and on the south side near private parcels.
- **Land ownership/management:** Surrounded by mostly BLM lands with some private industrial lands on the south side.
- **Slopes:** Surrounded by slopes generally under 50 percent.
- **Dominant vegetation:** Piñon-juniper woodland, herbaceous understory.
- **Surrounding lands used or zoned as:** BLM resource lands; private lands in the area are zoned for agriculture through this area, though lands to the west of the confluence of the Eagle and Colorado rivers have scattered commercial and industrial zoning.
- **Recreation:** The Ute Trailhead lies just to the northwest of the intersection of I-70 and the Colorado River; the trail extends west through BLM lands.

- **Wildlife:** Elk and mule deer severe winter range to the north of I-70 and west of the Colorado River through this LIZ; mule deer severe winter range and winter concentration areas to the south and east.
- **Animal-Vehicle Collisions (AVC):** Average for entire Corridor was 0.63 AVCs/mile/year from 1990 to 1999 for the documented events; numbers are undoubtedly low due to inconsistency of documentation across the Corridor. Average in this LIZ is 1.40/mile/year, which is high relative to the fairly low traffic volumes and suggests high animal use and attempts to cross.
- **Special Management Areas:** The BLM's Deep Creek Area of Critical Environmental Concern (ACEC) is located approximately 5 miles north of this LIZ.

### Rationale for Prioritizing

This area is rapidly being developed; 475 acres on two parcels south of I-70 are planned for development, including high-density residential (trailer park) and a school. Current land uses in the surrounding area are not conducive to wildlife crossing, but this is a historic migration corridor. Because of continuing development, conservation easements are crucial to maintain the integrity of this zone.

### 5.2.2 LIZ 2 – Eagle Airport to the Town of Eagle (milepost 142.0 to milepost 145.3)

The area around Eagle Airport, which constitutes LIZ 2, provides for movement to and from deer and elk severe winter range, winter concentration areas, and fawning/calving habitat to the north and south of I-70, and has experienced rapid development through the 1990s. This section of I-70 experiences greater than 6 AVCs/year/mile and is described by CDOW as a highway crossing area for big game. The recorded AVC rate is 0.4. There is game fencing throughout the entire length of LIZ 2 on both sides of I-70. I-70 has a large median between the separated lanes; three bridge underpasses at milepost 143.1, milepost 143.8 (Cottonwood Creek), and milepost 144.4 with wing fences at drainages allow wildlife under I-70.

Numerous potential future developments may be built near this zone depending on water availability and other factors. Potential future developments include Adam's Rib, Frost Creek, and Diamond S Ranch developments south of I-70. The area has virtually no tree cover. Lands managed by the WRNF as elk habitat are located several miles to the south of LIZ 2.

- **Wetlands:** Palustrine, palustrine forested (PFO), and palustrine emergent (PEM) wetlands exist predominantly on the south side of the Eagle River through LIZ 2.
- **Major drainages:** Cottonwood Creek, Skillmans Gulch, and numerous irrigation ditches (5 total) flow through LIZ 2; the Eagle River runs parallel to I-70 through the center of LIZ 2.
- **Culverts and bridges:** There are three sets of open span bridges over drainages in the middle of LIZ 2 (milepost 143.1 to milepost 144.4), Cottonwood Creek surveyed to be used frequently in fall by wildlife, another to the west also was well used.

- **Barriers:** Deer fencing on both sides of the Corridor from milepost 142 to milepost 146.
- **Land ownership/management:** BLM lands along the north side; private agricultural low-density estates surround the Eagle River in between the Corridor and US 6 south; gravel operations also on the south side.
- **Slopes:** Generally under 50 percent.
- **Dominant vegetation:** Piñon-juniper woodland and some irrigated agriculture.
- **Surrounding lands used or zoned as:** BLM resource lands; private lands in this area include significant new commercial, light industrial, and residential developments to the south of US 6; private lands immediately surrounding the Eagle River are zoned as residential (very low density); Eagle County Airport lies at the western edge of LIZ 2.
- **Recreation:** Eagle County Fairgrounds are at the eastern edge of LIZ 2; numerous BLM trails exist to the north and south of I-70 through LIZ 2.
- **Wildlife:** Mule deer severe winter range and winter concentrations are located to the north and south of LIZ 2, mule deer migration corridors and elk severe winter range are located along the northern side of I-70 through LIZ 2.
- **AVCs:** Average approximately 0.39/mile/year, which is relatively low and is probably due to the heavy use of wildlife exclusion fencing on both sides of I-70 throughout LIZ 2.
- **Special Management Areas:** BLM's Bull Gulch Wilderness Study Area (WSA) is approximately 4 miles north of this LIZ.

### Rationale for Prioritizing

One existing structure could be modified to improve the potential for use by larger animals. In steep areas where fence damage occurs, repairs and realignment are necessary to prevent animals from getting onto the Corridor. Conservation easements along the Eagle River would ensure future winter range is available primarily for mule deer.

### 5.2.3 LIZ 3 – Eagle to Wolcott (milepost 147.3 to milepost 153.6)

LIZ 3 extends through Red Canyon, with steep slopes on both sides of the highway for most of its length. Providing for lynx movement across shrub-steppe habitats from Flattops Wilderness in the east to Castle Peak in the west, LIZ 3 is designated as a lynx linkage area by the BLM. Large areas of BLM lands are located to the north and south with mixed private lands in between. CDOW DWM Bill Andree stated that carnivores frequently cross through this zone and that the existing CDOT game fencing through this zone is well maintained. The south side game fence ends at milepost 152.8 while the north side fence ends at milepost 153.2.

LIZ 3 has an AVC rate of 0.39 kills/mile/year despite the solid 8-foot fencing on both sides of I-70 through the entire zone. No suitable game crossing structures currently exist through most of this area. Recreation uses near the zone include numerous BLM trails. The eastern portion of the LIZ is moderately forested, while the western portion closer to the Town of Eagle is sparsely forested.

Easements have been suggested as a part of mitigation because of the development occurring in the area.

- **Wetlands:** PSS, PFO, and PEM wetlands exist predominantly along the Eagle River through LIZ 3.
- **Major drainages:** Eagle River, Rube Creek, and Castle Creek are the major water features through this section; Rube Creek is at milepost 153.4, Castle Creek at milepost 148.2, and the Eagle River parallels the highway.
- **Culverts and bridges:** Two sets of open span bridges over county roads at approximately milepost 149.7 and milepost 152.8 allow crossing; none noted at Rube Creek so animals may cross at grade there (milepost 153.3).
- **Barriers:** Scattered shoulder guardrail and center median barriers exist from milepost 149 to the eastern edge of LIZ 3, generally not on both the westbound and eastbound lanes through the same areas; game fencing throughout zone.
- **Land Ownership/management:** BLM lands to the northwest and southwest; private lands surround the Eagle River in between the BLM lands; more private lands to the southeast end of LIZ 3.
- **Slopes:** Greater than 50 percent through Red Canyon.
- **Dominant vegetation types:** Piñon-juniper woodland and sagebrush shrubland; some mixed forest to the north.
- **Surrounding lands used or zoned as:** BLM resource lands; private lands in this area include mixed agriculture, commercial, and rural residential, all at very low densities.
- **Recreation:** Hell's Pocket Trailhead lies at the northwest end of the zone, north of I-70; numerous trails and recreation roads are found on the surrounding BLM lands. Fishing easements to the Eagle River occur at irregular intervals through the area.
- **Wildlife:** Mule deer severe winter range and winter concentrations are located to the south of LIZ 3; elk severe winter range at the southwest end of the zone.
- **AVCs:** Same low rate as that for LIZ 2 (0.39/mile/year) due to fencing on one or both sides of I-70, but not contiguous on both sides.
- **Special Management Areas:** The BLM Castle Peak WSA southern boundary is approximately 4 miles northwest of LIZ 3.

### Rationale for Prioritizing

Development exists to the south and west. A crossing of some sort is greatly needed in this zone; no suitable underpasses exist primarily because of topography. One area at milepost 151.8 may have the potential for some type of crossing; further investigation is needed to assess costs.

### 5.2.4 LIZ 4 – Wolcott to Avon (milepost 154.4 to milepost 166.5)

Rapid development around Avon and Edwards occurring through the 1990s and to the present combined with habitats historically occupied by deer, elk, and forest carnivores has created significant wildlife issues in this sparsely forested LIZ. CDOW DWM Bill Andree indicated that Bellyache Ridge, south of I-70

near milepost 155 to milepost 157, is a heavily traveled area by forest carnivores, including black bear and mountain lion. Significant development is still occurring through the eastern half of LIZ 4, including 250 housing units, soccer fields, a school, and a church south of milepost 163.

WRNF recently exchanged a 400-acre parcel of land north of milepost 165 that will be developed into 300 employee-housing units on 40 acres of the property for Vail Resort, with the remaining acreage to remain as conservation easement. Red Sky Ranch, a large development of 35-acre lots southwest of the zone, is being subdivided into 15-acre lots. The BLM recently completed a 1,400-acre land swap to private interests near the zone in exchange for lands outside Grand Junction.

LIZ 4 is located at the western edge of the Castle Peak area lynx linkage. The federal lands to the north are managed by the WRNF for deer and elk winter range, while the Holy Cross Wilderness Area is several miles to the south. The area south of I-70 through the eastern portion of this zone is elk severe winter range and calving areas. The majority of LIZ 4 sees more than 6 roadkills/mile/year. The recorded value is 1.2/mile/year. DWM Andree suggested that as many as two elk per week are killed through this zone every year. This LIZ currently has no CDOT game fencing. Most of the area is considered a highway conflict zone for deer and elk. Easements have been suggested as a part of mitigation due to the private lands in the area.

- **Wetlands:** PSS, PEM, palustrine and PFO wetlands surround the Eagle River.
- **Major drainages:** Numerous creeks enter the Eagle River in LIZ 4 including Alkali, Ute, Travis, Red Canyon, Squaw, Spring, Tames, Lake, Beard, Berry, Beaver, McCoy, Metcalf, and June, as well as Brett, Dodd, Howard, and Winslow ditches, and several other unnamed drainages. The Eagle River runs the length of this zone.
- **Culverts and bridges:** There are five open span bridge sets along LIZ 4, primarily over roads, with one over the Eagle River.
- **Barriers:** Guardrails and median barriers are intermittent throughout LIZ 4.
- **Land Ownership/management:** LIZ 4 includes BLM, WRNF, municipal, and private lands (including ski area lands primarily on the east end).
- **Slopes:** Primarily under 50 percent and become steeper on the north and south sides at milepost 158.5 to milepost 160.5.
- **Dominant vegetation types:** Sagebrush shrubland, agricultural, mountain shrubland, and piñon-juniper woodland.
- **Surrounding lands used or zoned as:** Deer and elk winter range (WRNF), agricultural, commercial, and resource lands (Eagle County) primarily around Wolcott; and resource, agricultural, commercial, residential, public facilities (three golf courses that may attract wildlife), open space, and planned unit development (Eagle County) in the Avon/Edwards area; heaviest residential from milepost 160.6 to the eastern edge of LIZ 4 at milepost 165.0.
- **Recreation:** BLM recreation site and Eagle River access near Wolcott, Berry Creek/Miller Ranch recreation area between the highway and Eagle River at milepost 163 to milepost 164, Nottingham Lake Park in Avon, the

private Arrowhead Ski Area near Avon, river rafting activity near milepost 160.6, and fishing easements and boat access to the Eagle River in several locations.

- **Wildlife:** Elk highway crossing conflict areas are found throughout LIZ 4, with elk severe winter range and migration corridors south of I-70 near milepost 160, elk winter concentration areas north and south of I-70 between the towns, elk severe winter range and winter concentration areas around Avon/Edwards, and an elk calving area south of Avon; mule deer highway crossing conflict areas are found throughout LIZ 4, with mule deer severe winter range and winter concentration areas north and south of I-70 near Wolcott and severe winter range spreading along the highway corridor to milepost 162; black bear and mountain lion human conflict areas are extensive throughout LIZ 4 north and south of I-70; the Wolcott area near milepost 154 to milepost 160 is thought to be a crossing used by lynx.
- **AVCs:** Average 1.2/mile/year, with an unusually high number reported for milepost 157 and milepost 165; AVCs include carnivores but relatively low traffic volume numbers in this area suggest high animal crossing use.
- **Special Management Areas:** The BLM Castle Peak WSA southern boundary is approximately 5 miles northwest of LIZ 4.

### Rationale for Prioritizing

The eastern end of LIZ 4 from Edwards to Avon is heavily developed on both sides of I-70. Several large developments are underway, including a subdivision of sixty 35-acre lots into 15-acre lots at Red Sky Ranch PUD. The Vasser Land Exchange planned for the area between Avon and Forest Service just north of milepost 165.0 will add 40 acres of development (300 employee units for Vail Resorts). Land directly south of milepost 163.0 has recently been developed with 256 employee units for Colorado Mountain College, a high school, a church, and soccer fields. BLM is considering exchanging 1,400 acres of surrounding land where up to 1,000 potential housing units could happen. Priority ranking is high because opportunities for connecting with habitats on adjacent federally managed lands are becoming more scarce throughout the zone.

### 5.2.5 LIZ 5 – Dowd Canyon (milepost 169.5 to milepost 172.3)

Designated as a lynx linkage area by the Forest Service, LIZ 5 is a known elk roadkill area. A CBC and several land leases by CDOW exist in LIZ 5 for the purpose of wildlife movement. The existing crossing structure is long and only 10 feet in height, inhibiting the movement of large elk. Camera studies performed by CDOW have shown the area to be used by elk, deer, and mountain lion. WRNF surrounds the zone to the north and south, while pockets of residential development exist to the east and west. Good ungulate habitat is located both north and south of LIZ 5, which includes elk winter range and severe winter range on the south side.

The area has little forest cover adjacent to I-70. The majority of I-70 includes CDOT game fencing on both sides, but which is often damaged by rockfall on the north and winter snowplowing activities from residences to the south. A paved bike path with restricted winter usage is located near the existing crossing structure in addition to several trails and a river rafting “put-in” location. Eagle County has plans for expanding the paved bike path to the west. LIZ 5 has median and guardrail barriers along the majority of I-70.

- **Wetlands:** No major wetland areas have been identified for LIZ 5.
- **Major drainages:** Whiskey Creek, Eagle River, and Gore Creek.
- **Culverts and bridges:** Two open span bridge sets cross Gore Creek, the Eagle River, US 24, the bike path, and the UPRR; a CBC at approximately milepost 171.7 (101' x 10'w x 10'h) under I-70 allows some wildlife crossing in an important drainage. Neither the CBC nor the bridges are used frequently by elk; and the bridges also are not used by many other species.
- **Barriers:** Shoulder guardrails and median barriers throughout curves and in many other locations; game fencing from milepost 170.3 to milepost 173 on both sides helps funnel wildlife to the CBC crossing at milepost 171.7 and the bridge at milepost 171.1, but bike path traffic on the north side causes hesitation in some species, and damage to fencing on the south side in West Vail is a problem.
- **Land Ownership/management:** State, WRNF, and some private lands.
- **Slopes:** All of the north side and a small section in the southeast greater than 50 percent.
- **Dominant vegetation types:** Mountain shrubland, aspen forest, sagebrush shrubland, grass/forb meadows, and some spruce-fir forests occur primarily where slopes are not too steep.
- **Surrounding lands used or zoned as:** Deer and elk winter range, elk habitat, forested flora and fauna, and intermix (WRNF and CDOW), residential estate, agricultural, and resource lands (Eagle County).
- **Recreation:** Whiskey Creek trail system on CDOW lease land, North Vail Trailhead, Eagle County (ECO) bikepath along north side of rivers, rafting put in and take out, and two fishing access locations.
- **Wildlife:** Elk severe winter range and winter concentration area south of I-70 on both sides of US 24, mule deer migration corridors on both sides of US 24, black bear and mountain lion human conflict area around Minturn to the south.
- **AVCs:** Average of 0.59/mile/year, which is below average but because it is a major mule deer migration corridor, many must have success crossing here plus many AVCs are likely not reported; approximately two bear and one mountain lion per year are killed in LIZ 5 and the AVC rate for the wildlife underpass at milepost 171.7 is 0.70, about average for the Corridor.
- **Special Management Areas:** Holy Cross Wilderness Area (WRNF) is approximately 4 miles south of LIZ 5.

### Rationale for Prioritizing

CDOW owns several properties surrounding Dowd Canyon and leases 114 acres from the State Land Board. LIZ 5 is developed on its east and west ends near West Vail and Eagle-Vail, respectively. A trail beginning at milepost 171.0 extends toward Vail; Eagle County has proposed extending that bike trail from milepost 171.0 west into Eagle-Vail. There are rafting put-in and take-out locations along Eagle River. Condominium owners adjacent to game fencing at the eastern end on the south side plow snow against the fences and cause damage.

## 5.2.6 LIZ 6a & 6b – Upper and Lower West Vail Pass (milepost 181.7 to milepost 186.0 and milepost 186.0 to milepost 188.5)

Surrounded by the WRNF, this zone is used heavily by wildlife and has a low rate of roadkill. Designated as a lynx linkage area by the Forest Service, the land on the southwest side of lower West Vail Pass is managed as forested landscape linkage, allowing a connection between Eagle's Nest Wilderness to the east and the Holy Cross Wilderness to the southwest. The termini for this zone were still under discussion as of March 2003. Six open span bridges exist matched in the eastbound and westbound direction of I-70 through lower West Vail Pass, although there are no existing crossing structures through upper West Vail Pass. A lynx was killed in a vehicle collision on upper West Vail Pass in 1999. The area is moderately forested and has forested cover close to I-70. Biologist Sarah Barnum performed a wildlife study of West Vail Pass that found animals in the area would readily jump over median barriers but showed reluctance to cross in areas with guardrail structures (Unpublished report presented to ALIVE Committee meeting November 20, 2002).

The Vail Pass–Tenmile Canyon paved bike path runs the length of this LIZ to the east. Forest lands at the top of upper West Vail Pass are managed for year-round motorized backcountry recreation to the west and for non-motorized backcountry recreation to the east. Improvements under the Sediment Control Action Plan (SCAP) have proposed walls for upper West Vail Pass and were considered in the proposed mitigation for the area.

- **Wetlands:** PSS, palustrine, and PEM wetlands are extensive along Gore Creek and Black Gore Creek.
- **Major drainages:** Gore Creek and Black Gore Creek and drainages tributary to them including Polk, Miller, Timber, Bighorn and three unnamed creeks.
- **Culverts and bridges:** Seven open span bridge sets, with eastbound and westbound spans closely aligned for excellent wildlife crossings, span Black Gore, Timber, Miller and Polk Creeks. A corrugated metal pipe (CMP) that is 5' x 5' near milepost 183.2 is probably used by some smaller animals.
- **Barriers:** Taller (Texas) barriers on shoulders and in median throughout the LIZ that end at the top of Vail Pass at Black Lake 2.
- **Land Ownership/management:** Primarily WRNF with some private ownership from milepost 180.7 to approximately milepost 182 in the northern portion of LIZ 6a.
- **Slopes:** Greater than 50 percent between milepost 184.5 to milepost 186.5 on the west side on the Corridor.
- **Dominant vegetation types:** Spruce-fir forests, grass/forb meadows, lodgepole pine forests, and aspen forests.
- **Surrounding lands used or zoned as:** WRNF managed as primitive and pristine wilderness, dispersed recreation, forested landscape linkages, backcountry motorized (south side) and non-motorized recreation (north side); various residential, resource, and open space near east Vail (Eagle County).



- **Recreation:** Vail Pass-Tenmile Trail follows the length of the LIZ and experiences various summer activities as well as by skiers in winter; Two Elk Trailhead at approximately milepost 183.7 (WRNF) experiences heavy hunter usage.
- **Wildlife:** Bighorn sheep summer range occurs on the north side of milepost 180.7 to milepost 182; black bear and mountain lion/human conflict areas occur from milepost 180.7 to milepost 182.
- **AVCs:** Average of 0.03/mile/year on west side of Vail Pass, most likely so low due to good opportunities for wildlife to cross under large bridges; however, one of the three lynx killed on I-70 occurred on the southern edge of this zone, which also seems to be used by coyotes, bobcats, and bighorn sheep for crossing I-70.
- **Special Management Areas:** Eagles Nest Wilderness Area is approximately 0.5 mile away from I-70 along the east of the LIZ, and the Holy Cross Wilderness Area is approximately 5 miles west of Vail Pass.
- **Sediment Control Action Plan:** A SCAP is planned for areas from milepost 186.1 to milepost 187.0 and from milepost 187.5 to milepost 187.9.

### Rationale for Prioritizing

The termini for this zone are still under discussion. The northern end of the LIZ is near the east end of Vail. There is no development in the zone, except developed recreation along Vail Pass-Tenmile bike path, Black Lakes, and numerous trails along drainages. WRNF manages the area for forested landscape linkage. Any crossing or fencing structures need to be closely coordinated with the SCAP program, as the two could coincide in stretches near the top of the pass.

### 5.2.7 LIZ 7 – East Vail Pass to Copper Mountain (milepost 190.4 to milepost 194.0)

Five existing open span bridge structures exist in the eastbound direction through LIZ 7. Only one structure exists in the westbound direction and is not directly adjacent to a corresponding structure in the eastbound direction. The eastbound and westbound lanes of I-70 are separated through this section with an open wetland area containing West Tenmile Creek. LIZ 7 is located within the Forest Service Vail Pass lynx linkage zone and is surrounded by forest property managed as forested landscape linkage, non-motorized and motorized backcountry recreation, and primitive wilderness.

Several parcels of private land are located within the east end of the zone, within the Copper Mountain Ski Area near the Guller Creek and West Tenmile Creek bridges. According to CDOW DWM Bill Andree, wildlife cross through drainages predominantly at Smith, Stafford, and Wilder gulches, and Guller and Corral creeks. DWM Bill Andree also noted that forest carnivores are frequently seen crossing at Stafford Creek. The forest cover is less dense in this area than that seen on West Vail Pass. In addition to the Vail Pass–Tenmile paved bike path that runs the length of LIZ 7, Forest Service trails exist through Stafford and Wilder gulches, and Guller and Corral creeks.

- **Wetlands:** One of the most important wetland areas with springs/seeps/fens, palustrine, PEM, PSS and PFO wetlands found throughout the Corridor.

- **Major drainages:** Wilder, Smith, and Stafford gulches, and Guller and Corral creeks and five unnamed drainages all run into West Tenmile Creek, which runs parallel to I-70.
- **Culverts and bridges:** One lane bridges span Wilder, Stafford, and Smith gulches, and Guller and West Tenmile creeks on the EB lane, but only Corral Creek is bridged on the westbound lane, thus providing noncontiguous access for wildlife. Two small (3.5' x 3.5') CMPs under the westbound lane may provide access to and from the area between lanes for smaller animals.
- **Barriers:** Median barriers are present fairly consistently along westbound, but infrequently on eastbound lane.
- **Land Ownership/management:** WRNF and private land at Copper Mountain Ski Area.
- **Slopes:** Less than 50 percent within 0.5 mile of I-70 throughout LIZ 7.
- **Dominant vegetation types:** Spruce-fir forests, grass/forb meadows, lodgepole pine forests, aspen forests, riparian forest, and shrubland.
- **Surrounding lands used or zoned as:** Backcountry recreation (non-motorized on north side and motorized on south side), forested landscape linkages, primitive wilderness, ski-based resorts, and utility corridor (WRNF), planned unit development (Summit County).
- **Recreation:** Corral Creek, Wilder Gulch, Stafford Gulch and two other trails connect to Vail Pass-Tenmile Trail, which runs parallel to the LIZ; downhill skiing at Copper Mountain.
- **Wildlife:** Mule deer migration corridor from southwest to northeast across LIZ, elk use Smith and Wilder Gulches, and carnivores use Stafford Creek.
- **AVCs:** Average 0.68/mile/year, about average for the entire Corridor.
- **Special Management Areas:** LIZ 7 is the southern boundary of the Eagles Nest Wilderness Area.

### Rationale for Prioritizing

LIZ 7 is used extensively for recreation on numerous trails: Vail Pass-Tenmile Trail, Guller Creek Trail, and Stafford Gulch Trail. Motorized recreation south of the highway and some north of the highway (non-permitted). Copper Mountain ski area located at the southeastern end of zone, with housing units under construction at the far western end of Copper Mountain PUD. Housing in this area is being set back to allow wildlife movement over West Tenmile Creek Bridge. WRNF lands in the western half of the zone are managed as forested landscape linkage.

### 5.2.8 LIZ 8 – Officer’s Gulch/Owl Canyon (milepost 195.5 to milepost 200.9)

This steep canyon area has several water bodies, including Uneva Lake, Officer’s Gulch Pond, and Wheeler Flats Ponds. The zone is located within the Forest Service Officer’s Gulch lynx linkage area, providing connectivity between Eagle’s Nest Wilderness and the Tenmile Range. The area is heavily forested with cover for wildlife growing close to I-70. While the area is encompassed by the WRNF, the land surrounding Uneva Lake and an area east of I-70 are private inholdings, although the owners have indicated to the Forest Service that they do

not plan to develop the land. Several other private mine inholdings exist to the east of I-70 in this area, although they are located on very steep slopes. Forest Service biologists have indicated that most of the ungulate movement in the area is parallel with the highway.

A cement pipe provides drainage under I-70 from Officer's Gulch Pond at milepost 197.9, a 2' CMP passes under the highway at milepost 198.9, and a concrete box culvert exists in the area at milepost 199.6. Forest Service biologists and CDOW DWMs view box culverts as acceptable structures for the area due to mostly carnivore highway crossing activity in the area. The smaller pipes may also provide some opportunity for crossings by smaller animals. An interchange exists at Officer's Gulch and is used as an informal overnight truck stop. An area adjacent to Officer's Gulch Pond is proposed as an overnight camping area by the WRNF. Although the area is currently not for overnight use, Forest Service Biologist Gary Patton indicated overnight use would potentially inhibit carnivore movement. The lands are managed by the WRNF as pristine wilderness, non-motorized backcountry recreation, and scenic byways or travel corridors. The Vail Pass-Tenmile trail/bike path runs through the length of LIZ 8.

- **Wetlands:** To the east of milepost 198, very scattered palustrine and PSS wetlands occur along Tenmile Creek.
- **Major drainages:** Tenmile Creek and Officer's Gulch.
- **Culverts and bridges:** One open span bridge at milepost 197.8 over a county road, a CBC, a cement pipe, and a CMP of 5' x 5' or less from milepost 197.9 to milepost 199.6.
- **Barriers:** Few guardrails or fences throughout LIZ 8.
- **Land Ownership/management:** WRNF, private and agricultural (Summit County).
- **Slopes:** Exceed 80 percent on southeast side and more than 50 percent on the rest of the eastern side; west side typically less than 50 percent.
- **Dominant vegetation types:** Lodgepole pine forests, spruce-fir forests, aspen forests, grass/forb meadows.
- **Surrounding lands used or zoned as:** Pristine wilderness, recreation, backcountry recreation (non-motorized) (WRNF); planned unit development and agricultural around Copper Mountain, agricultural closer to Frisco (Summit County).
- **Recreation:** Wheeler Flats Trailhead (near Copper Mountain), Wheeler Lake Spur and Vail Pass-Tenmile trails running parallel to I-70, Officer's Gulch Trailhead at milepost 197.7, and Gore Range Trailhead at milepost 196.0.
- **Wildlife:** Mule deer migration corridor running parallel to LIZ 8, general connectivity zone between high-elevation habitats for wildlife such as bobcats, pine martens, other small carnivores and possibly lynx.
- **AVCs:** Average of 0.24/mile/year, possibly low because animals follow the riparian area rather than trying to cross I-70.
- **Special Management Areas:** LIZ 8 is along the southeast boundary of the Eagles Nest Wilderness Area.

## Rationale for Prioritizing

There is no residential development in this zone and no development is planned for private lands at Uneva Lake. There is recreational use at Officer's Gulch Pond and North Tenmile Trail and a paved bike trail that extends the length of the zone. Private historic mine inholdings are planned for a swap with WRNF. Topography funnels into a narrow band at Officer's Gulch, making it a natural location for some sort of crossing structure.

### 5.2.9 LIZ 9a – Laskey Gulch (milepost 207.0 to milepost 209.7)

Located within the Forest Service Loveland Pass lynx linkage area, LIZ 9a provides for north-south lynx movement from the Ptarmigan Peak Wilderness Area and Williams Fork River area to forestlands south of I-70. The majority of private lands are developed in this area, although the Denver Water Board possesses several large undeveloped inholdings in the central portion of the LIZ associated with the Snake River. The area is moderately forested, transitioning to sagebrush closer to the Town of Dillon. Condominiums have been built into the LIZ's western edge to within 0.5 mile of Laskey Gulch. Solid median and guardrail barriers exist through the length of the LIZ. No crossing structures currently exist, but three CMPs of 2', 3', and 5' diameters are present. I-70 was constructed on steep fill slopes through the area.

The viability of the zone as a movement corridor for carnivores is in question due to issues raised at Jones Gulch. Keystone resorts has submitted several proposals for ski area expansion into the Jones Gulch area, the latest in July 2003 for backcountry snowcat skiing at Little Bowl and Erickson Bowl, including a change to the special use permit boundary that Keystone currently holds. The ARNF solicited public comments through July 2003 for the proposal. The Environmental Analysis (EA) of Keystone's snowcat skiing proposal concluded that the operation would have appreciable beneficial cumulative effects on the recreation experience by enabling the resort to offer a wider variety of recreation opportunities. The USFWS submitted a formal letter to the Forest Service in August 2003 requesting that areas east of Jones Gulch be re-designated as forested landscape linkage management instead of ski-based resort management. DWM Tom Kroening noted that resident populations of elk and deer in the area were not obstructed by the golf course south of I-70 and would benefit from a crossing structure at Laskey Gulch to reconnect lands managed by the WRNF as deer and elk winter range north and south of I-70. CDOW has designated the area as a mule deer highway crossing area, due to the greater than six deer killed per year through the 3-mile long zone. The reported AVC is 0.5/mile/year

- **Wetlands:** PSS wetlands and springs/seeps/fens along Straight Creek.
- **Major drainages:** Six unnamed, small drainages enter Straight Creek, which runs parallel to LIZ 9a. Streams are small because the watershed represents the headwaters of Straight Creek.
- **Culverts and bridges:** One open span bridge over two-track at milepost 207, a CMP (5' x 5') with water running through at milepost 208.3 (Laskey Creek), and two smaller, long CMPs under both lanes.
- **Barriers:** Solid shoulder barriers on eastbound and a few on westbound; center median throughout LIZ 9a.
- **Land Ownership/management:** ARNF and private property near Dillon.

- **Slopes:** Scattered slopes above 50 percent on ridges above drainages.
- **Dominant vegetation types:** Lodgepole pine forests, grass/forb meadows, spruce-fir forest, wetlands.
- **Surrounding lands used or zoned as:** Utility corridor, forested landscape linkages, deer and elk winter range, primitive and pristine wilderness (WRNF) in eastern half; agricultural and high density residential (Summit County) on south side from milepost 207 to milepost 207.8.
- **Recreation:** Forest Service road runs parallel to LIZ 9a (uses unknown).
- **Wildlife:** Elk and mule deer highway conflict area, elk severe winter range, mule deer and black bear migration corridor. boreal toad occur along Straight Creek.
- **AVCs:** Average of 0.5/mile/year, concentrated in spring and fall; a re-introduced lynx may have successfully crossed here.
- **Special Management Areas:** Ptarmigan Peak Wilderness Area approximately 0.25 mile to the northwest of LIZ 9a.

### Rationale for Prioritizing

LIZ 9a is surrounded by WRNF land; adjacent to condominium developments in Dillon, to the southwest. Jones Gulch, located southeast of Laskey Gulch adjacent to Keystone ski area, south of US 6, is a potential development area but critical for continued wildlife linkage. Development is taking place nearby, including the Keystone area with 300 potential new homes. WRNF currently manages the lands as forested landscape linkage. Denver Water Board lands in the area are potentially for sale, which could add further fragmentation. Summit County may have an interest in acquiring the Denver Water Board lands.

### 5.2.10 LIZ 9b – Hamilton Gulch to Dead Coon Gulch (milepost 210.7 to milepost 212.6)

Added by recommendation of the Forest Service in June 2003, LIZ 9b is encompassed by the ARNF and lies within the Forest Service Loveland Pass lynx linkage area. The Forest Service noted that numerous elk and deer tracks are seen through the area, and the zone would connect areas north of I-70 managed as forested landscape linkage and pristine wilderness to lands managed for forested landscape linkages south of I-70. The area is densely forested except for the cut-and-fill slopes of I-70.

Several large road cuts and a runaway truck ramp exist north of I-70 in this zone. I-70 was constructed on large fill slopes through this zone and no crossing structures currently exist, although a 4-foot diameter plastic pipe is installed at both Hamilton and Dead Coon gulches, and one 4' CMP at milepost 211.0. Solid median barriers and offset height between eastbound and westbound directions of I-70 exist through the length of this zone.

Hamilton Gulch reaches I-70 at milepost 211.5, while Dead Coon Gulch reaches I-70 at milepost 212.2. Straight Creek and wetland areas are immediately below I-70 through the entire LIZ. ALIVE Committee members from both the Forest Service and CDOW commented that Hamilton Gulch and Laskey Gulch were both important and that one should not preclude the other in importance.

- **Wetlands:** PSS wetlands and springs/seeps/fens along Straight Creek.

- **Major drainages:** Four unnamed, headwater tributaries enter Straight Creek in LIZ 9b.
- **Culverts and bridges:** Three 4' pipes pass under I-70 in LIZ 9b.
- **Barriers:** Solid shoulder barriers on eastbound and a few on westbound; center median throughout LIZ 9b.
- **Land Ownership/management:** ARNF and private inholdings.
- **Slopes:** Scattered slopes above 50 percent on ridges above drainages.
- **Dominant vegetation types:** Lodgepole pine forests, spruce-fir forest, wetlands.
- **Surrounding lands used or zoned as:** Utility corridor, forested landscape linkages, deer and elk winter range, primitive and pristine wilderness (ARNF).
- **Recreation:** Dispersed, non-motorized recreation.
- **Wildlife:** Elk and mule deer highway conflict area, elk severe winter range, mule deer and black bear migration corridor.
- **AVCs:** Average of 0.5/mile/year, concentrated in spring and fall.
- **Special Management Areas:** Ptarmigan Peak Wilderness Area approximately 0.25 miles to the northwest of LIZ 9b.

#### Rationale for Prioritizing

There is a utility corridor through the area, the lands to the north and south of Hamilton and Dead Coon gulches are managed for forested landscape linkages and pristine wilderness.

#### 5.2.11 LIZ 10 – Herman Gulch/Bakerville (milepost 216.7 to milepost 220.8)

LIZ 10 was added to the original linkage zones in 2002 because it was considered a lynx crossing zone. LIZ 10 is situated 3 miles east of the EJMT, surrounded by the ARNF. The Forest Service Herman Gulch lynx linkage area lies within this zone, designated as a connection between suitable lynx habitats to the north and south of I-70. Snowshoe hare inhabit the Bethel Avalanche Slide east of Herman Gulch and other avalanche paths in the area, providing forage for lynx and other forest carnivores. A lynx was killed by a vehicle in 2000 on the eastern edge of this LIZ. Forest Service Biologist Gary Patton stated that evidence existed that two female lynx were using the area as home range. CDOT has created retention ponds in the area and boreal toads maintain breeding populations in the ponds.

Nine seasonal homes exist near I-70 north of the underpass at Herman Gulch. This is a heavily used recreation area, as the Continental Divide National Scenic Trail coincides with the Herman Gulch Trail through Herman Gulch and with the Loveland to Bakerville Trail south of I-70. Motorists use the shoulder of I-70 as informal parking on the south side of I-70 near milepost 219. Few median barriers exist through this zone, although shoulder guardrails exist along the majority of its length. A twin span bridge occurs at milepost 218.4. Five CMPs of various diameters cross under I-70 at the following locations: milepost 217.3 (5.5'), milepost 217.9 (2.5'), milepost 219.3 (6'), milepost 219.4 (3'), and milepost 220.1 (2.5'). Large animals can cross at the bridge and smaller animals can use the larger CMPs (5.5'). The surrounding forest lands are managed for

scenery, forested landscape linkages, ski-based resorts (Loveland), and non-motorized backcountry recreation.

- **Wetlands:** PSS wetlands, palustrine ponds, and springs occur along Clear Creek.
- **Major drainages:** Dry, Herman, Watrous, and Kearney gulches enter Clear Creek in LIZ 10.
- **Culverts and bridges:** One twin span bridge crosses a gravel road at the Bakerville exit and five CMPs carry drainage under I-70 to Clear Creek in this zone.
- **Barriers:** Solid shoulder barriers on eastbound and a few on westbound; center median throughout LIZ 10.
- **Land Ownership/management:** ARNF and private inholdings.
- **Slopes:** Scattered slopes above 50 percent on ridges above drainages.
- **Dominant vegetation types:** Lodgepole pine forests, spruce-fir forest.
- **Surrounding lands used or zoned as:** Utility corridor, forested landscape linkages, lynx linkage, deer and elk winter range, primitive and pristine wilderness (ARNF).
- **Recreation:** Dispersed, non-motorized recreation. Intersection of the Continental Divide National Scenic Trail, the Bard Creek Trail and the Bakerville to Loveland Access Trail. Loveland Valley ski area 2 miles west.
- **Wildlife:** Elk and mule deer highway conflict area, elk severe winter range, mule deer and black bear migration corridor. Boreal toads reproduce in local retention ponds.
- **AVCs:** Average of 0.5/mile/year, concentrated in spring and fall.
- **Special Management Areas:** Ptarmigan Peak Wilderness Area approximately 0.25 miles to the northwest of LIZ 10.

### Rationale for Prioritizing

Herman Gulch and its accompanying parking area north of I-70 is a heavily used recreation area. People using the Continental Divide National Scenic Trail (CDNST) can connect under the I-70 interchange at milepost 218.4 with the Bakerville-to-Loveland Trail. Kearney Gulch and Watrous Gulch Trails connect with the Bakerville-to-Loveland Trail in the eastern part of the zone. Nine seasonal homes are located north of I-70 underpass. LIZ 10 is surrounded by ARNF land managed for scenery, non-motorized back country recreation, and Loveland ski area development (west of zone). Dry Gulch has the most potential for protection because it is far away from the CDNST, cabins at Herman Gulch, other developed areas around Bakerville, and recreational activity.

### 5.2.12 LIZ 11 – East of Empire on US 40 (I-70 Exit 232)

LIZ 11 was delineated specifically to address issues with bighorn sheep. Originally, LIZ 11 encompassed the interchange of US 40 and I-70 (milepost 231.2 to milepost 231.8), but sheep pose a greater problem along US 40 west of the interchange. LIZ 11 encompasses an area extending 4.2 miles west of the interchange but east of Berthoud Falls. Sheep inhabiting the mountains north and west of Douglas Mountain are attracted to salts applied to I-70 and US 40 and have been killed at the edge of both roadways. They

generally do not attempt to cross I-70, but do cross US 40 and are frequently hit along an area from west of Empire to the Henderson Mine. The surrounding land has steep, rocky slopes on non-forest property, although the ARNF is north and south of the US 40 Corridor. CDOW DWM Ron Oehlkers stated that CDOW did not support the permanent use of salt licks to attract the sheep away from the area. DWM Oehlkers stated that bighorn sheep would not use an underpass or enclosed structure to cross a roadway. The wetlands near the US 40 and I-70 interchange also support boreal toad populations.

- **Wetlands:** PSS, PFO, palustrine wetlands along Clear Creek and West Fork Clear Creek.
- **Major drainages:** Bard Creek and West Fork Clear Creek. Minor drainages include Miller, Blue, Mad, and Lion creeks.
- **Culverts and bridges:** US 40 bridge over I-70 at milepost 231.4, Clear Creek runs through CBCs that total 201'1 x 15'w x 6.5'h under I-70 at milepost 231.3 and a slightly shorter one at milepost 232.3. There are culverts under US 40 for Blue, Mad, Lion, and Miller creeks.
- **Barriers:** Guardrails on shoulders intermittent along I-70 in both directions, and along US 40. Median barrier through the interchange on I-70.
- **Land Ownership/management:** Primarily private surrounded by ARNF.
- **Slopes:** North side of I-70 very steep except around wetlands surrounding Clear Creek, south side also steep at US 40 crossing. Steep slopes used by bighorn sheep on both sides of US 40.
- **Dominant vegetation types:** Mountain shrubland, ponderosa pine forest, Douglas-fir forest, spruce-fir forest.
- **Surrounding lands used or zoned as:** Dispersed recreation, forested flora and fauna, scenery, backcountry recreation (ARNF); agriculture, mining, residential, open space (Clear Creek County and Town of Empire)
- **Recreation:** Little recreation on primarily privately-owned land, dispersed recreation on adjacent ARNF.
- **Wildlife:** Elk calving area approximately 2 miles west of LIZ 11, three mule deer/highway conflict areas, mule deer winter concentration area on US 40 just west of LIZ 11, bighorn sheep winter and summer range, bighorn sheep winter concentration area and lambing areas to the west and south, mountain lion human conflict area (Empire Pass Trail). Boreal toad in wetlands in the interchange area.
- **AVCs:** Average of 0.42/mile/year, primarily bighorn sheep and about one bear per year.
- **Special Management Areas:** None. Numerous mining claims and scattered private lands complicate wildlife management in the area.

## Rationale for Prioritizing

LIZ 11 is surrounded by ARNF and managed for scenery.

### 5.2.13 LIZ 12 – Fall River (milepost 237.2 to milepost 238.2)

The Fall River area is a significant break in the surrounding topography and functions as a movement corridor for mule deer, elk, bighorn sheep, mountain



goat, black bear, and mountain lion. This moderately forested zone is situated entirely on private land with the ARNF approximately 2 miles away to the north and south. Two concrete box culverts, one 4' in height at Georgia Gulch, the other 10' by 10' at Fall River, are present in LIZ 12. An underpass exists at the intersection of Fall River Road and I-70 with an open height of 10 feet. Solid median barriers exist through the length of LIZ 12 and guardrail exists on the south side of I-70 through most of the zone.

Numerous residences exist along Fall River Road and several along US 40. CDOW personnel noted that bear and mountain lion are frequently hit in this area. DWM Ron Oehlkers expressed concern about elk populations becoming habituated and inhabiting the area year-round. Questions were raised in the ALIVE group regarding whether or not habitat connectivity should be improved through this area. CDOW does not desire populations of introduced mountain goats currently inhabiting the Mount Evans area south of I-70 to have the ability to reach areas north of I-70 where they would compete with the native bighorn sheep.

- **Wetlands:** PFO and PSS along Clear Creek and Fall River.
- **Major drainages:** Clear Creek, Fall River, and Trail Creek.
- **Culverts and bridges:** Open span bridge at Fall River Road exit (milepost 237.7), CBCs at Fall River and Georgia Gulch (10' x 10' and 4' x 4', respectively), 3' x 3' CMP at Oro Gulch.
- **Barriers:** Shoulder guardrail solid on eastbound side, center median throughout Zone, shoulder guardrail on westbound side only from Fall River exit to Fall River.
- **Land Ownership/management:** All private.
- **Slopes:** Steep slopes surround LIZ 12 on both sides.
- **Dominant vegetation types:** Ponderosa pine forest, Douglas-fir forest, sagebrush shrubland.
- **Surrounding lands used or zoned as:** Mining, open space, residential and planned unit development (Clear Creek County), on adjacent forest lands is intermix.
- **Recreation:** Scott Lancaster Memorial Bike Path/Bike Way runs parallel, otherwise primarily private so none near by.
- **Wildlife:** Mule deer severe winter range and winter concentration area, elk calving area approximately 3 miles northwest, bighorn sheep winter and summer range, bighorn sheep lambing area.
- **AVCs:** Approximately one mountain lion per year but other wildlife not reported; however, thought to be an important travel corridor and perhaps I-70 is crossed successfully.
- **Special Management Areas:** None.

### Rationale for Prioritizing

LIZ 12 is surrounded on all sides by private land, mostly historic mine claims. A significant number of homes are located along Fall River Road; scattered residences along US 6 south of Clear Creek. CDOW has had difficulty in providing possible solutions for problems in this LIZ.

## 5.2.14 LIZ 13 – Mount Vernon Canyon (milepost 246.5 to milepost 258.1)

CDOW designated several areas in LIZ 13 where six or more roadkills/mile/year of deer and elk occur. Overall, this zone sees more reported roadkill than any other zone through the Corridor. Several Denver Mountain Park and Jefferson County open space properties are situated in or adjacent to the area. No game fencing and very little guardrail and median barriers exist in this zone. No suitable wildlife crossing structures currently exist for larger mammals except for a transportation dirt road underpass at Soda Creek near milepost 249.1. Mountain subdivisions are extensive through this area and elk have habituated to human presence. Groups of five or more elk have been killed in individual accidents in this LIZ. CDOW DWM Tom Howard indicated that fencing in this area would be detrimental and could trap wildlife in the roadway. DWM Howard also indicated that it would be difficult to direct wildlife to any crossing structures in this LIZ.

- **Wetlands:** PEM, PSS, and PFO concentrated in western portion of Zone.
- **Major drainages:** Beaver Brook, Soda Creek, Swede Gulch, Bear Gulch, Cold Spring Gulch, several ditches and one unnamed drainage.
- **Culverts and bridges:** A divided bridge spans Soda Creek Road at milepost 249 and the creek goes through a 4' CMP, Beaver Brook goes through a 5' CMP near the Bergen Park bridge over I-70 at milepost 247.6, four other roads cross over I-70 in this Zone; Bear Gulch goes through a CBC and four unnamed CMPs occur between milepost 253 and milepost 256, all 3.5' x 3.5' or smaller.
- **Barriers:** Even though a high AVC area, very few barriers are used here, primarily shoulder guardrails on the outer curves with more median barriers towards the east end (beginning near milepost 255.5) with fencing occurring only where bison are kept.
- **Land Ownership/management:** Primarily private plus the Town of Genesee.
- **Slopes:** All under 50 percent.
- **Dominant vegetation types:** Forested with ponderosa pine, Douglas-fir, and lodgepole pine, mountain shrubland.
- **Surrounding lands used or zoned as:** Agricultural, resource, commercial, residential and planned unit development (Clear Creek and Jefferson Counties), heaviest residential between milepost 246 and milepost 256.4 on the south side.
- **Recreation:** Denver Mountain Parks (Genesee) between milepost 251 and milepost 254.
- **Wildlife:** several elk and mule deer highway conflict areas, elk migration corridor, elk winter concentration areas to the north, black bear summer concentration and human conflict area approximately 1 mile south.
- **AVCs:** Ranged from 0.70 to 5.20 with an average of 2.37/mile/year, the highest in the I-70 Corridor.
- **Special Management Areas:** None.

## Rationale for Prioritizing

LIZ 13 is adjacent to the communities of Genesee, Evergreen, and El Rancho and is all private land except Denver Mountain Parks, which would have to be considered for any improvement ideas. LIZ 13 is developed along most of its length with single homes on large parcels that decrease in number toward the western end near Floyd Hill. The encroachment of development in the area contributes considerable pressure on existing wildlife habitats.

### 5.3 Priority Ranking of Linkage Interference Zones

The ALIVE Committee ranked all of the LIZs according to their need for wildlife crossings, or the need to improve the permeability of the LIZ. An initial ranking was made in November 2001 of the five highest priority LIZs, as follows:

1. Laskey Gulch
2. East Vail Pass
3. West Vail Pass
4. Officer's Gulch
5. Herman Gulch

One year later, the Committee prioritized all of the 15 LIZs as follows:

- HIGH – East Vail Pass, Laskey/Hamilton Gulches, West Vail Pass, and Herman Gulch
- MEDIUM – Wolcott to Avon, Dowd Junction, Eagle to Wolcott, Eagle Airport to Town of Eagle, and Empire Junction
- LOW – Dotsero, Officer's Gulch/Owl Canyon, Fall River, and Mount Vernon

**This page intentionally left blank.**

## **6. Publishing the ALIVE Information**

Following the work of the ALIVE Committee, the wildlife information and recommendations were made available to the PEIS contractor to incorporate into the Draft PEIS. Much of the information generated by the ALIVE Committee was not published in the PEIS because of space limitations, but much of the information about wildlife movement and habitat connectivity, linkage interference zones, and mitigation recommendations was published in the Draft PEIS. All of the information that was published in the PEIS is presented in Appendix C. In some cases, the mitigation recommendations have been phrased in more general language than that presented by the ALIVE Committee. This was done to reflect a broader level of analysis in the PEIS, which is a Tier 1 document. When more detailed analyses are performed in Tier 2 documents, the more specific language from the ALIVE recommendations will be appropriate.

**This page intentionally left blank.**

## 7. Final ALIVE Recommendations for Wildlife Mitigation

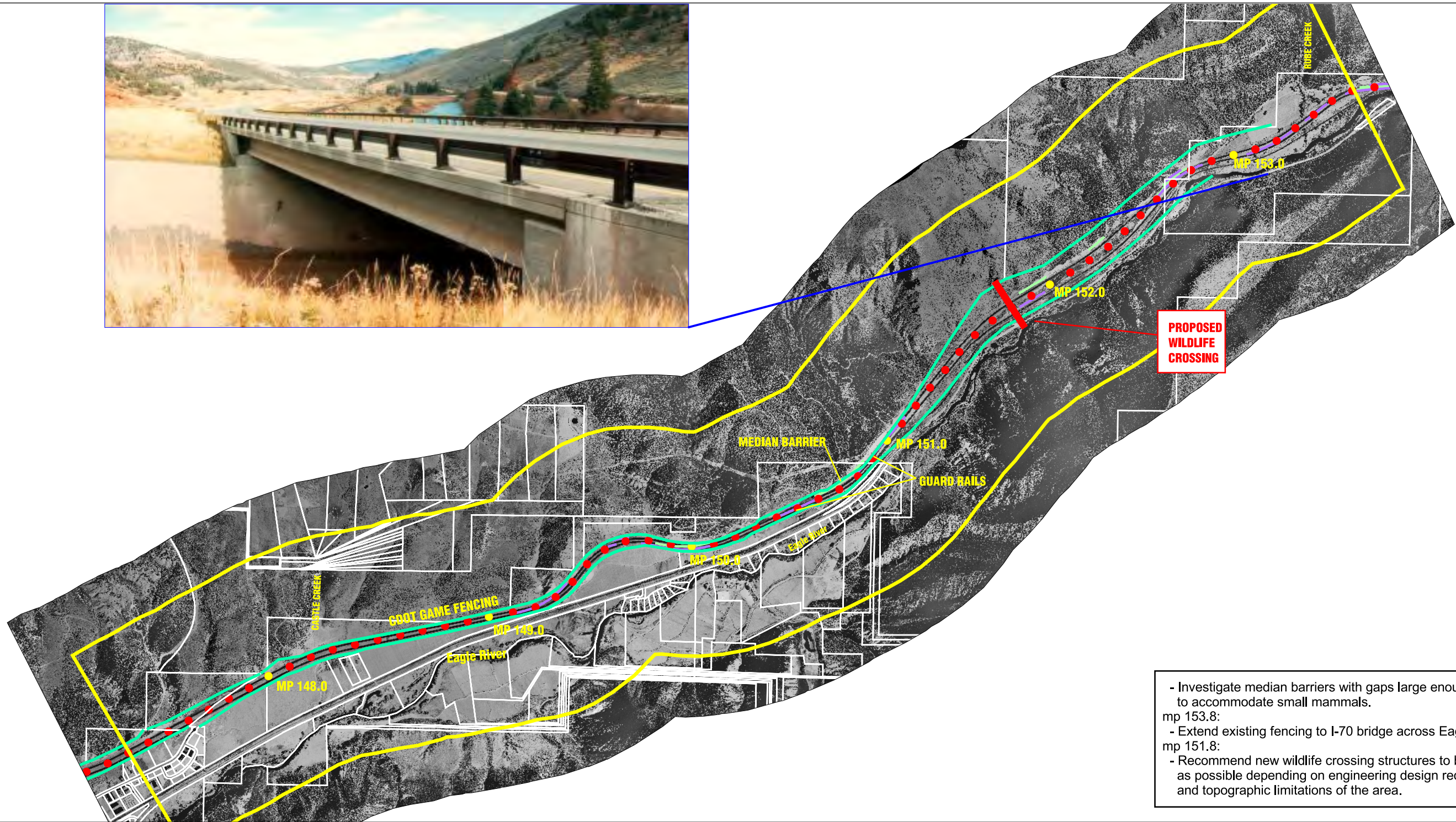
Table 3 presents the final recommendations for mitigation measures made by the ALIVE Committee. Whenever a mitigation measure recommends the construction of a crossing structure (excluding wildlife fencing), that structure is illustrated on an accompanying map of the LIZ, as presented on Figures 8 through 18, which follow Table 3.

**Table 3. ALIVE Committee Recommended Mitigation Measures by LIZ**

Linkage Zone	Proposed Mitigation Description (2003)
1. Dotsero mp 131.4 to mp 134.5	<ul style="list-style-type: none"> <li>• mp 132.5 to mp 132.8: Repair/replace approximately 300 linear feet of 8-foot game fencing, especially where property owners have cut away fencing for access and where rockfall damage has occurred. Build gates for property owners.</li> <li>• mp 132.5 to mp 132.8: Redesign fence in areas prone to rockfall (approximately 100 feet); use concrete barrier/fence combination.</li> </ul>
2. Eagle Airport to Town of Eagle mp 142.0 to mp 145.3	<ul style="list-style-type: none"> <li>• mp 143.1: Remove fill at bridge west of Cottonwood Creek to increase height to at least 12 feet, making it more suitable for an elk crossing.</li> <li>• mp 142.0 to mp 142.3: Realign approximately 1,500 feet of game fencing in steep areas north of I-70 where rockfall damage occurs, and repair damaged fencing necessary.</li> <li>• mp 145.5: Remove berm from south entrance of passage.</li> <li>• mp 143.8: Investigate potential costs for conservation easement on private land surrounding the Eagle River.</li> </ul>
3. Eagle to Wolcott mp 147.3 to mp 153.6	<ul style="list-style-type: none"> <li>• mp 153.8: Extend existing fencing to I-70 bridge across Eagle River; adding approximately 3,600 feet of new fence on the north and 5,100 feet on the south.</li> <li>• mp 151.8: Add wildlife crossing structure (12' x 24') or as large as possible depending on engineering requirements and topographic limitations of the area (Figure 8).</li> <li>• Investigate costs of conservation easements on adjacent private lands around mp 151.8.</li> <li>• Investigate median barriers with gaps large enough to accommodate small mammals (such as raccoons and skunks). Place barrier gaps every quarter mile.</li> </ul>
4. Wolcott to Avon mp 154.5 to mp 166.5	<ul style="list-style-type: none"> <li>• mp 153.9 to mp 159.0: Add wildlife fencing on south side of I-70 between the Wolcott interchange and where I-70 crosses the Eagle River (approximately 24,700 linear feet of new fencing). Create gaps with berms or one-way gates every 500 feet to enable wildlife to escape from highway side.</li> <li>• mp 155.3 or mp 155.6: Add crossing structure across I-70 and US 6 north and west of Bellyache Ridge, just south of Alkali Creek (Figure 9).</li> <li>• Mp 159.7: Add crossing structure south of Red Canyon Creek and Bear Gulch, south and east of existing road underpass.</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• mp 163 to mp 166.5: Add game fencing on both sides of I-70 (approximately 9,500 linear feet of new fencing).</li> <li>• Investigate conservation easements for each proposed crossing.</li> </ul>
5. Dowd Canyon mp 169.5 to mp 172.3	<ul style="list-style-type: none"> <li>• mp 171.7: Replace 10 foot by 10 foot CBC with 180-foot bridge; included in alternatives being considered under Dowd Canyon Feasibility Study (Figure 10).</li> <li>• mp 170.2 to mp 172.5: Replace existing game fencing with reinforced fence for approximately 5,500 linear feet through rockfall area north of I-70, where current fencing has numerous holes.</li> <li>• mp 170.5: Add 10 foot by 10 foot CBC for carnivores.</li> <li>• CDOT should coordinate with community at West Vail to avoid fence damage caused by plowing snow against fences.</li> </ul>
6a and 6b. Upper and Lower West Vail Pass mp 181.7 to mp 188.5	<ul style="list-style-type: none"> <li>• mp 188.0: Add wildlife overpass (Figure 11).</li> <li>• mp 186.3: Add wildlife underpass structure (arch at least 12 feet by 24 feet).</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• mp 186.3 to mp 188.0: Add CDOT game fencing between proposed structures on both sides of I-70 (approximately 18,000 linear feet total).</li> </ul>
7. East Vail Pass mp 190.4 to mp 194.0	<ul style="list-style-type: none"> <li>• mp 192.5: Add crossing structure to westbound side of I-70 north of Stafford Creek (arch at least 12 feet by 24 feet) (Figure 12).</li> <li>• mp 193.4: Add crossing structure to westbound side of I-70 north of Guller Creek (arch at least 12 feet by 24 feet).</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• Add berms and screening vegetation for approximately 2,300 feet to guide wildlife between existing Wilder Gulch (eastbound) and Corral Creek (westbound) crossings.</li> <li>• Add berms and screening vegetation for approximately 3,400 feet to guide wildlife between existing Smith Gulch (eastbound) and Corral Creek (westbound) crossings.</li> <li>• Provide space between guardrail structures and the road to allow wildlife jumping over barriers to avoid being hit directly by traffic.</li> </ul>
8. Officers Gulch/Owl	<ul style="list-style-type: none"> <li>• mp 198.0: Add 6 foot by 6 foot CBC across from Officers Gulch to allow forest carnivore movement (Figure 13).</li> </ul>

Linkage Zone	Proposed Mitigation Description (2003)
Canyon mp 195.5 to mp 200.9	<ul style="list-style-type: none"> <li>• mp 199.2: Add 6 foot by 6 foot CBC east of Uneva Lake to allow forest carnivore movement.</li> <li>• mp 200.8: Add 6 foot by 6 foot CBC just south of Frisco Exit 201 to allow forest carnivore movement.</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• Investigate amending WRNF plan to exclude overnight use of area surrounding Officers Gulch Pond, planned and secondarily managed as a campground site.</li> </ul>
9a. Laskey Gulch mp 207.0 to mp 209.7	<ul style="list-style-type: none"> <li>• mp 208.3: Investigate underpass crossing structure at least 12 feet by 24 feet to replace the existing 5 foot by 5 foot CMP at Laskey Gulch (Figure 14).</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• Coordinate with local planners to ensure that area zoning accommodates a wildlife structure in this location.</li> <li>• Investigate protecting Jones Gulch along with Laskey Gulch to maintain its integrity as a wildlife corridor. Explore the development potential of the Idabell Mine area and other key area lands.</li> <li>• Continue interagency efforts to ensure that future land planning and zoning efforts improve the viability of the wildlife corridor.</li> </ul>
9b. Hamilton Gulch to Dead Coon Gulch mp 210.7 to mp 212.6	<ul style="list-style-type: none"> <li>• mp 212.2: Investigate underpass or overpass crossing structure at least 12 feet by 24 feet to replace existing the 3.5-foot diameter CMP (Figure 15).</li> <li>• Recommend new wildlife crossing structures be as large as possible depending on engineering requirements and topographic limitations of the area.</li> <li>• Investigate protecting Jones Gulch as a part of Hamilton Gulch crossing to maintain its integrity as a wildlife corridor. Explore the development potential of the Idabell Mine area and other key areas.</li> <li>• Continue interagency efforts to ensure that land planning and zoning efforts improve the viability of the wildlife corridor.</li> </ul>
10. Herman Gulch/ Bakerville mp 216.7 to mp 220.8	<ul style="list-style-type: none"> <li>• mp 217.3: Add underpass structure at least 12 feet by 24 feet with fencing included to replace the current 5-foot CMP at Dry Gulch (Figure 16).</li> <li>• Investigate ARNF Plan amendment to designate Dry Gulch area as lynx linkage corridor.</li> </ul>
11. East of Empire on US 40 I-70 Exit 232	<ul style="list-style-type: none"> <li>• Good place for overpass structure 4.2 miles west of US 40/I-70 interchange, primarily for bighorn sheep crossing (Figure 17).</li> <li>• Investigate using jersey barriers or other barrier structures on both US 40 and I-70 to keep sheep away from road edge.</li> </ul>
12. Fall River mp 237.2 to mp 238.2	<ul style="list-style-type: none"> <li>• Any of the existing CMPs could be replaced with a 12-foot by 24-foot arch or CMP to improve permeability (Figure 18).</li> <li>• Factor improvements into bridge redesign (Fall River Road Interchange Alternative) such as a wider span and leaving adequate space along road and river for wildlife passage.</li> </ul>
13. Mount Vernon Canyon mp 246.5 to mp 258.1	<ul style="list-style-type: none"> <li>• This area is recognized as a problem area and additional mitigation measures will continue to be evaluated.</li> <li>• Fencing throughout the length of the zone may be the only solution, but CDOW has stated that fencing could be detrimental to the wildlife in the area by trapping them on the road and has suggested that game fencing through the zone not be considered as a mitigation measure for the area.</li> <li>• Investigate costs of adding intelligent signs to warn motorists about wildlife movement only during applicable seasons.</li> </ul>

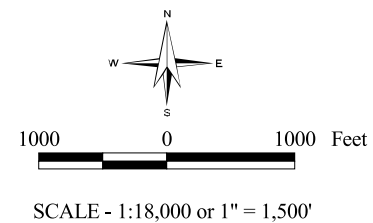
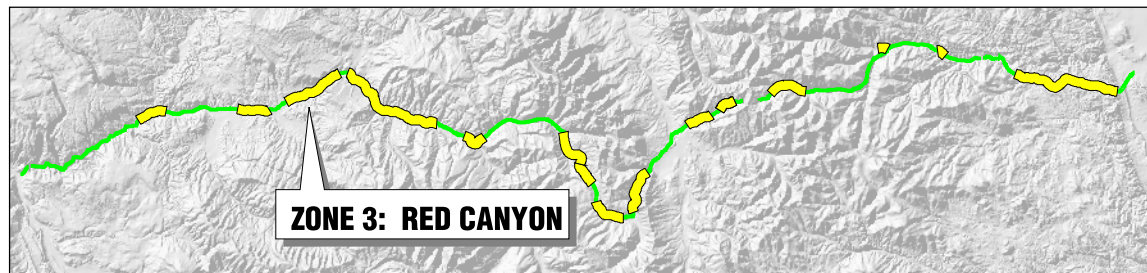




- Investigate median barriers with gaps large enough to accommodate small mammals.
- mp 153.8:
- Extend existing fencing to I-70 bridge across Eagle River.
- mp 151.8:
- Recommend new wildlife crossing structures to be as large as possible depending on engineering design requirements and topographic limitations of the area.

**General Features**

- I-70 Mile Posts
- ⚡ Existing CDOT Game Fencing
- ⚡ I-70 Shoulder Barriers
- ⚡ I-70 Median Barriers



**I-70 Mountain Corridor PEIS**  
 Wildlife Linkage Interference Zone 3:  
 Eagle to Wolcott  
**Figure 8**