

Wildlife-Highway Mitigation Recommendations

General crossing structure types are provided based on the identified target species and the current roadway footprint as preliminary guidance for project planning and budgeting. Tenth-milepost locations were recorded in the field with a car odometer calibrated to milepost signposts. Multiple potential locations for wildlife crossing structures may be suggested for a given priority segment to provide project planning teams with flexibility to balance project needs. Exact structure locations, dimensions, and other design characteristics will need to be determined by Colorado Department of Transportation (CDOT) during project development and design.

For some top 5 percent highway segments discussed in this chapter, the locations for potential wildlife crossing structures fall beyond a top 5 percent segment boundary; however, the location may offer the best opportunity for a wildlife crossing structure. In other instances, an existing structure that could function for wildlife passage (for example, a large span bridge over a river corridor) lies outside a top 5 percent segment, yet wildlife-exclusion fence could be connected to the structure to create a comprehensive mitigation system. Wildlife-exclusion fencing is always recommended in conjunction with wildlife crossing structures to guide animals to a structure. Escape ramps, deer guards, gates, and fence end treatments are integral components of a wildlife-highway mitigation system; however, specific recommendations for these types of features are not included because they are best addressed at the project level.

Priority segment maps and recommendations discussed as follows also highlight where these highway segments overlap with Brownian Bridge Movement Models for deer and elk winter range and migration, as well as the Getis-Ord wildlife-vehicle collision (WVC) cluster analysis. Although these data were not ultimately used in the prioritization process, they may help inform mitigation decision-making at the project level. For example, the movement models provide additional detail regarding target species movements during migration or within winter range where these data are available. The Getis-Ord WVC cluster analyses are useful at the local scale for determining where WVC hotspots may be located within a high-priority segment to ensure that these local hotspots are sufficiently mitigated. Accordingly, it should be noted that where a segment is identified as being not significantly different from the surrounding segments, this does not mean that the WVC rate is necessarily low. Rather, these areas should be interpreted as having a consistent WVC rate relative to the surrounding segments, and the WVC data should be consulted to determine whether the WVC rate is consistently low, medium, or high for a stretch of highway.

Wildlife crossing mitigation may not be feasible or currently advisable in all priority segments, such as where the terrain or other landscape conditions are not conducive to wildlife crossing structures, or where there is a high level of permeability across a road because of low traffic

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volumes (less than 2,000 annual average daily traffic [AADT]) that are expected to remain low in the foreseeable future. In such instances, replacing existing right-of-way fencing with wildlife-permeable fencing helps decrease the fencing barriers along the roadway. This action can decrease the amount of time during which an animal is temporarily trapped within the right-of-way and the likelihood of WVC. AADT and future predicted AADT (CDOT 2017) are provided for each highway segment and may be used to judge the barrier effect of a segment (Jacobson et al. 2016; Riginos et al. 2018).

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Acronyms and Abbreviations

AADT	annual average daily traffic
ALIVE	A Landscape Level Inventory of Valued Ecosystem Components
C-470	Colorado 470
CDOT	Colorado Department of Transportation
CPW	Colorado Parks and Wildlife
I-25	Interstate 25
I-70	Interstate 70
I-76	Interstate 76
LIZ	Linkage Interference Zone
MP	milepost
mph	mile(s) per hour
N/A	not available
SH	State Highway
US	U.S. Highway
VMS	variable-message sign
WVC	wildlife-vehicle collision

1. CDOT Region 1 (CPW Northeast Region)

1.1 Interstate 70 Priority Segments

1.1.1 Interstate 70, Mileposts 246.3 to 250.7, Floyd Hill to Bergen Park

1.1.1.1 Clear Creek and Jefferson Counties

Interstate 70 (I-70) is a major east-west transportation corridor through the Rocky Mountains and is considered a major barrier to wildlife because of its large footprint and high traffic volumes and speeds. There are few opportunities for deer or elk to safely cross I-70 in this segment. Despite high traffic volumes and speeds, wildlife continue to attempt crossing the roadway and the WVC rate is high. This segment lies within the home range of a resident elk herd, and Colorado Parks and Wildlife (CPW) identifies this landscape as winter range and overall range for both elk and mule deer. The western portion of the segment (mileposts [MPs] 246.3 to 248) is identified as an elk highway crossing zone, and the eastern portion (east of MP 249.6) as a mule deer highway crossing zone.

This segment lies within the Beaver Brook Linkage Interference Zone (LIZ) and is one of 17 LIZs identified along the I-70 Mountain Corridor (Kintsch et al. 2011). This segment overlaps with the I-70 Floyd Hill to Veterans Memorial Tunnels project, which includes expanding the westbound travel from two to three lanes from the interchange at the top of Floyd Hill through Clear Creek Canyon. The eastern half of this segment is already three lanes in each direction. From 2018 to 2020, as a part of the I-70 Mountain Corridor Context Sensitive Solutions process, the ALIVE (A Landscape Level Inventory of Valued Ecosystem Components) Issue Task Force convened multiple times to review the potential impacts of the project on connectivity for wildlife and WVCs and to make recommendations for mitigating these impacts, per the requirements of the ALIVE Memorandum of Understanding (CDOT 2008). The Task Force ultimately determined that future development in the Floyd Hill project area, combined with the high cost of a wildlife overpass near the top of Floyd Hill relative to the anticipated benefits to local wildlife populations and long-term genetic connectivity, warranted consideration of an alternative mitigation plan, including mitigation outside the project boundaries. The alternative mitigation plan includes (1) applying the equivalent cost of constructing a wildlife overpass on Floyd Hill to construct one or more wildlife crossings outside the project area on I-70 in Region 1, where such mitigation will have a greater benefit to wildlife and reduction of WVCs; and (2) installing wildlife-exclusion fencing on the north and south sides of I-70 from the Floyd Hill exit to east of Soda Creek to reduce WVCs within the Floyd Hill project area (CDOT 2021).

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1.1.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
6	44,000	57,860	Elk, Mule Deer	Resident elk; winter and overall range for deer and elk	Deer—Low Elk—High

1.1.1.1.2 Preliminary Mitigation Recommendations

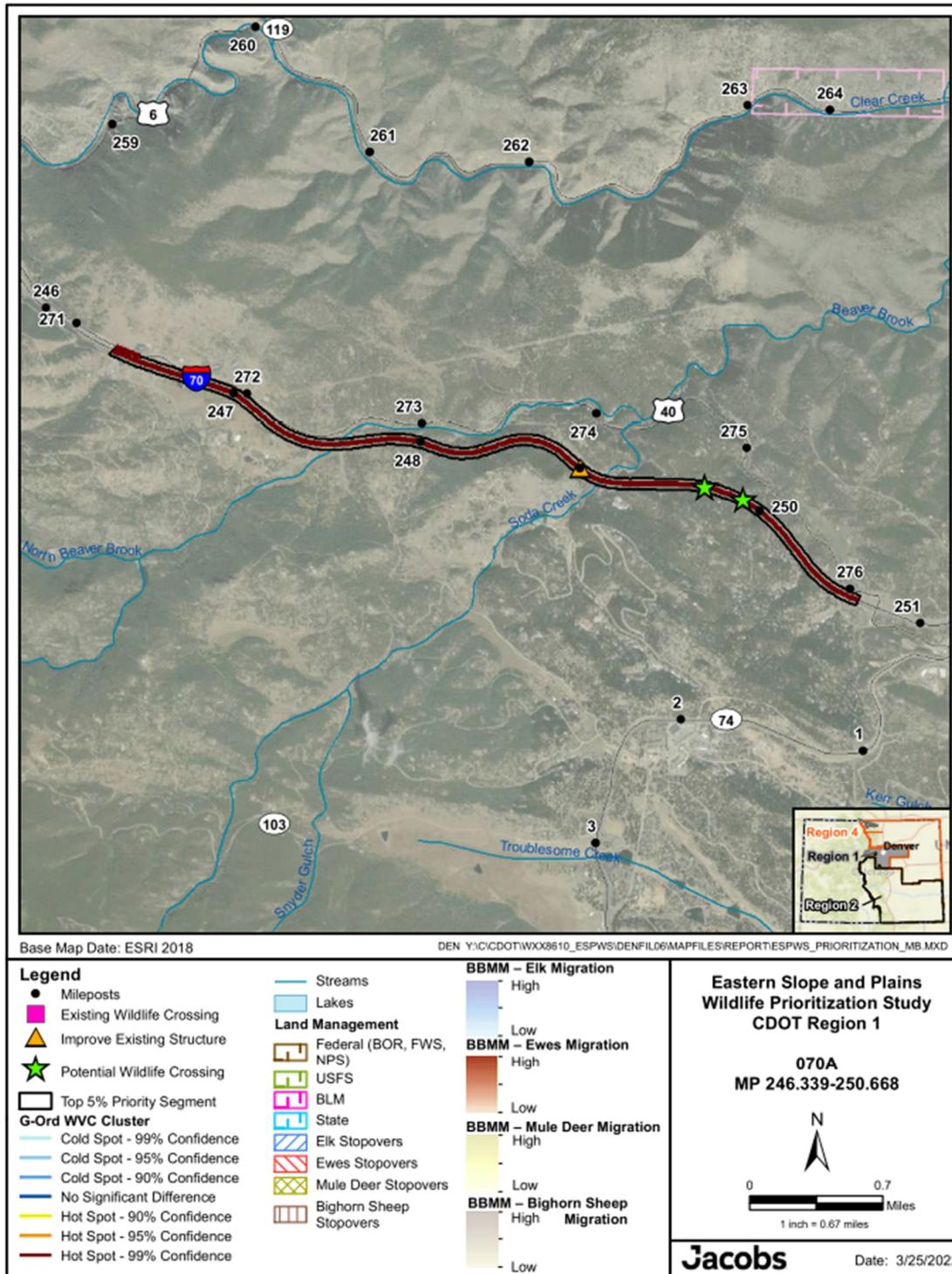
As a part of the I-70 Floyd Hill to Veterans Memorial Tunnels project, wildlife-exclusion fencing will be constructed through much of this segment to reduce WVCs. The fence will be constructed from the Floyd Hill interchange and tie into the cliffs east of Soda Creek. The project will be in design through 2022, and fence construction is anticipated in 2023. The project includes escape ramps and a wildlife guard on the south side of I-70 across the County Road 65 interchange. Because this priority segment extends farther east, a new wildlife underpass is recommended at MP 250 to address wildlife connectivity and WVC concerns in the eastern portion of the segment, between Soda Creek and the westbound Evergreen interchange.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
247.5	Beaver Brook pipe culvert. Pipe is long and heavily skewed relative to the roadway. Small perennial stream. Upstream riparian corridor is in good condition, but downstream corridor is impacted by domestic bison.	None	Not available (N/A)
249.0	Bridge over Soda Creek Road, a low-volume dirt road	Tie into wildlife-exclusion fencing.	
249.7	Cut slopes on either side of I-70	Potential location for a wildlife overpass, instead of an underpass at MP 249.9	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
249.9	<p>Ruby Ranch. Drainage from south bisected by I-70 with a large fill slope on the north side.</p>	<p>Large bridge or culvert suitable for deer and elk passage. This location was ranked #3 for a wildlife underpass in the I-70 Mountain Corridor in Region 1 by the ALIVE Issue Task Force (CDOT 2021). Extend wildlife-exclusion fencing from Soda Creek to tie into the underpass and terminate at the westbound Evergreen interchange.</p>	

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1.1.2 Interstate 70, Mileposts 252.8 to 260.8, Genesee

1.1.2.1 Jefferson County

I-70 is a major east-west transportation corridor through the Rocky Mountains and is considered a major barrier to wildlife because of its large footprint and high traffic volumes and speeds. There are few opportunities for deer or elk to safely cross I-70 in this segment. Despite high traffic volumes and speeds, wildlife continue to attempt crossing the roadway and the WVC rate is high. This segment lies within the home range of resident mule deer and elk herds, and CPW identifies this landscape as winter range and overall range for both elk and mule deer. Much of the segment is identified as highway crossing zones for mule deer and elk. This segment encompasses the Mount Vernon LIZ and is one of 17 LIZs identified along the I-70 Mountain Corridor (Kintsch et al. 2011).

This priority segment includes a short section of Colorado 470 (C-470) (0.4 mile) at the I-70/C-470 interchange. Another top 5 percent segment (U.S. Highway [US] 40, MPs 282.3 to 283.6; Mother Cabrini) runs parallel to I-70 around MPs 257 to 258. Mitigation planning for these two high-priority segments should be considered jointly.

1.1.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
6	61,000 to 106,000	80,215 to 132,712	Elk, Mule Deer	Resident deer and elk; deer migration; winter and overall range for deer and elk	Deer—Low Elk—High

1.1.2.1.2 Preliminary Mitigation Recommendations

A new wildlife underpass is planned for this segment at MP 254.4 with wildlife-exclusion fencing extending from MPs 253.1 to 256 as a part of the wildlife mitigation commitments for the I-70 Floyd Hill to Veterans Memorial Tunnels project (CDOT 2021). Thirteen escape ramps and three wildlife guards are planned as a part of the Genesee underpass project; additional escape ramps and wildlife guards at the Chief Hosa exit and across the bike trail would be required if the fencing is extended farther west. Additional mitigation in the eastern end of the segment (MPs 250 to 260.8) should be considered in conjunction with US 40, which parallels the north side of I-70; a top 5 percent segment is also located on this portion of US 40 from MPs 282.3 to 283.6.

Future mitigation may also be warranted at the westernmost end of this priority segment and extending into adjacent 94th percentile highway segments. An additional crossing structure is

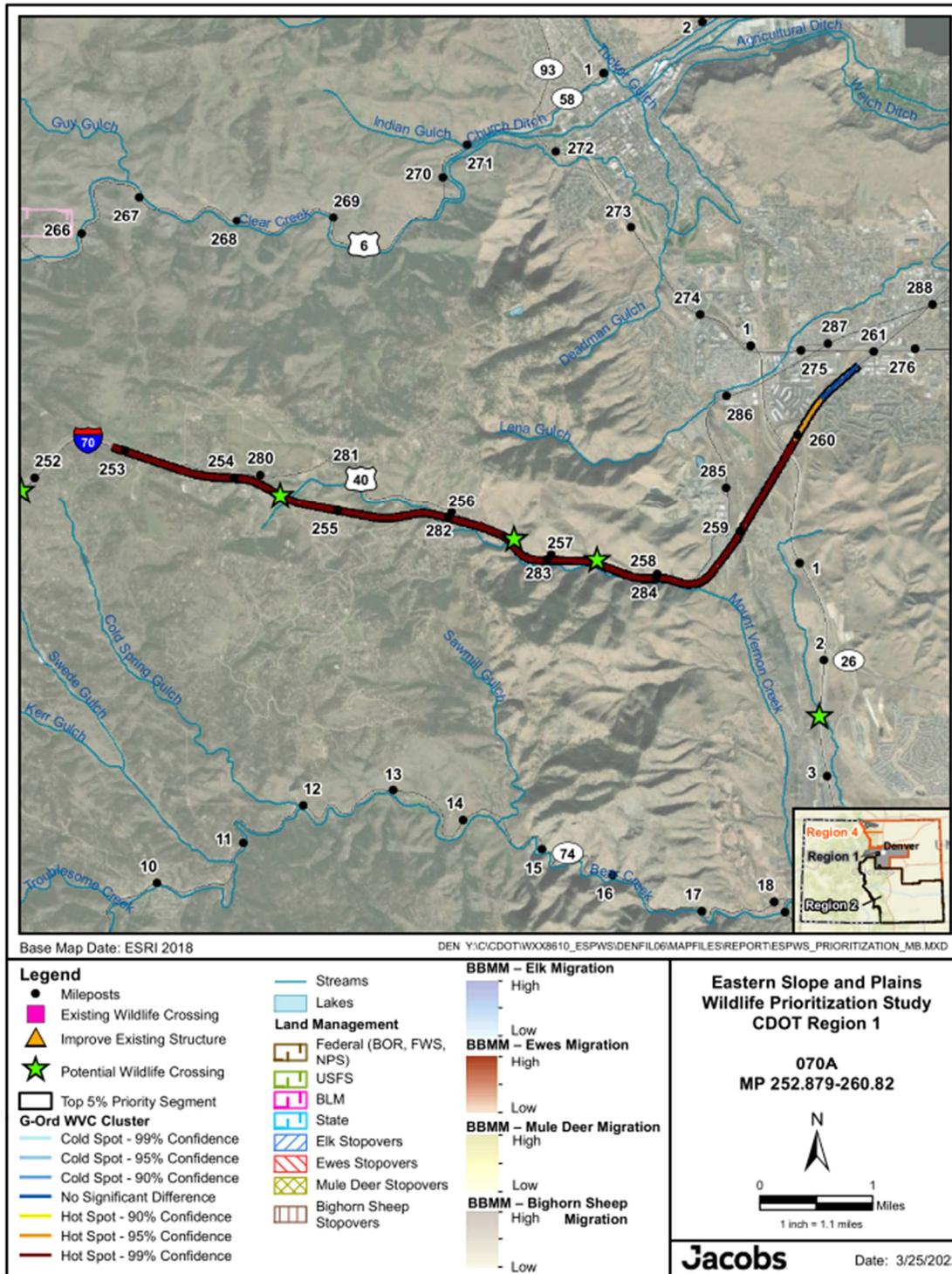
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feasible at MP 251.8 to accommodate; this would require extending the fencing from MP 253.1 to approximately MP 251.4.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
251.8	Drainage/fill slope west of the priority segment (94th percentile). Camera monitoring in 2009 and 2010 documented mule deer, elk, coyote, bobcat, and other wildlife (Singer et al. 2011).	Large bridge or culvert suitable for deer and elk passage. Install wildlife-exclusion fence from the Evergreen interchange to connect with the planned fence for the Genesee underpass.	
254.4	Large fill slope with drainage pipe. Camera monitoring conducted by Singer et al. (2011) documented elk, mule deer, and other species here.	Large bridge underpass with wildlife-exclusion fencing from MPs 253.1 to 256. Construction anticipated 2022 to 2023.	 <p data-bbox="971 1220 1105 1247">Credit: Atkins</p>

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1.1.3 Interstate 70, Mileposts 304.6 to 306, Bennett/Kiowa Creek

1.1.3.1 Adams and Arapahoe Counties

I-70 is the major east-west highway through the state. This stretch of I-70 is a four-lane divided highway with the segment extending from the Bennett interchange east for approximately 1.5 miles. Although this segment was identified as a CDOT WVC pattern recognition area, the Getis-Ord WVC cluster analysis did not differentiate this segment relative to neighboring highway segments, which ranked much lower in the prioritization (≤ 70 th percentile). The landscape around this segment is characterized by agricultural land uses and the Kiowa Creek riparian drainage.

1.1.3.1.1 Segment Characteristics

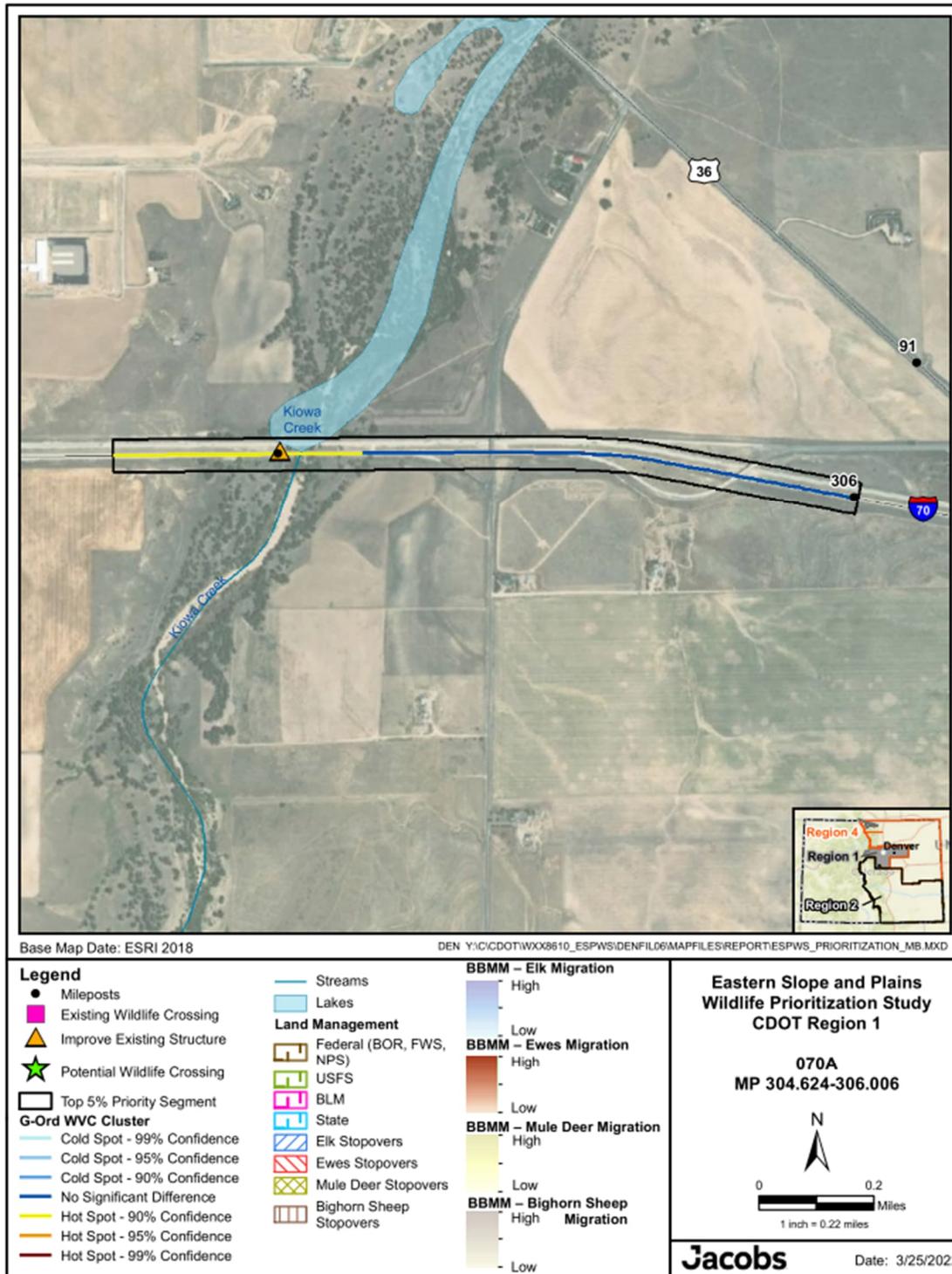
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	21,000	28,497	Mule Deer	Winter, year-round	Low

1.1.3.1.2 Preliminary Mitigation Recommendations

The focus of this segment is the bridge over the Kiowa Creek drainage, which is a dry streambed through much of the year and highly functional for wildlife passage. Adding guide fencing to the bridge would help to encourage wildlife to pass under the bridge rather than crossing I-70 at-grade. Depending on the extent and alignment of the wildlife-exclusion fencing, a wildlife guard may be needed at the Kiowa Road interchange.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
305	Large, divided, multispans bridge (eight chambers; 160 feet total width) over Kiowa Creek. Riparian habitat along drainage. Game trails and turkey tracks were observed under the bridge.	Install wildlife-exclusion fencing to tie into the bridge. Fence should extend from the State Highway (SH) 79/Bennett interchange (MP 304.4) to the US 36 interchange (~MP 305.6) to capture the full connectivity zone and WVC hotspot.	

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1.1.4 Interstate 70, Mileposts 312.5 to 316.1, Strasburg to Byers

1.1.4.1 Arapahoe County

I-70 is the major east-west highway through the state. This stretch of I-70 is a four-lane divided highway. The segment extends from the I-70 bridge crossing over US 36, east, to the town of Byers. US 36 and a railroad line run parallel to this segment of I-70 on the south side. In addition to this high-priority segment, both I-70 and US 36 toward Strasburg ranked in the 85th to 89th percentile. Although this segment was identified as a CDOT WVC pattern recognition area, the Getis-Ord WVC cluster analysis did not differentiate this segment relative to neighboring highway segments, which ranked much lower in the prioritization (≤ 70 th percentile). The landscape around this segment is characterized by agricultural land uses and the West Bijou Creek riparian drainage at the eastern end of the segment.

1.1.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	15,000	20,198	Mule Deer	Winter, year-round	High

1.1.4.1.2 Preliminary Mitigation Recommendations

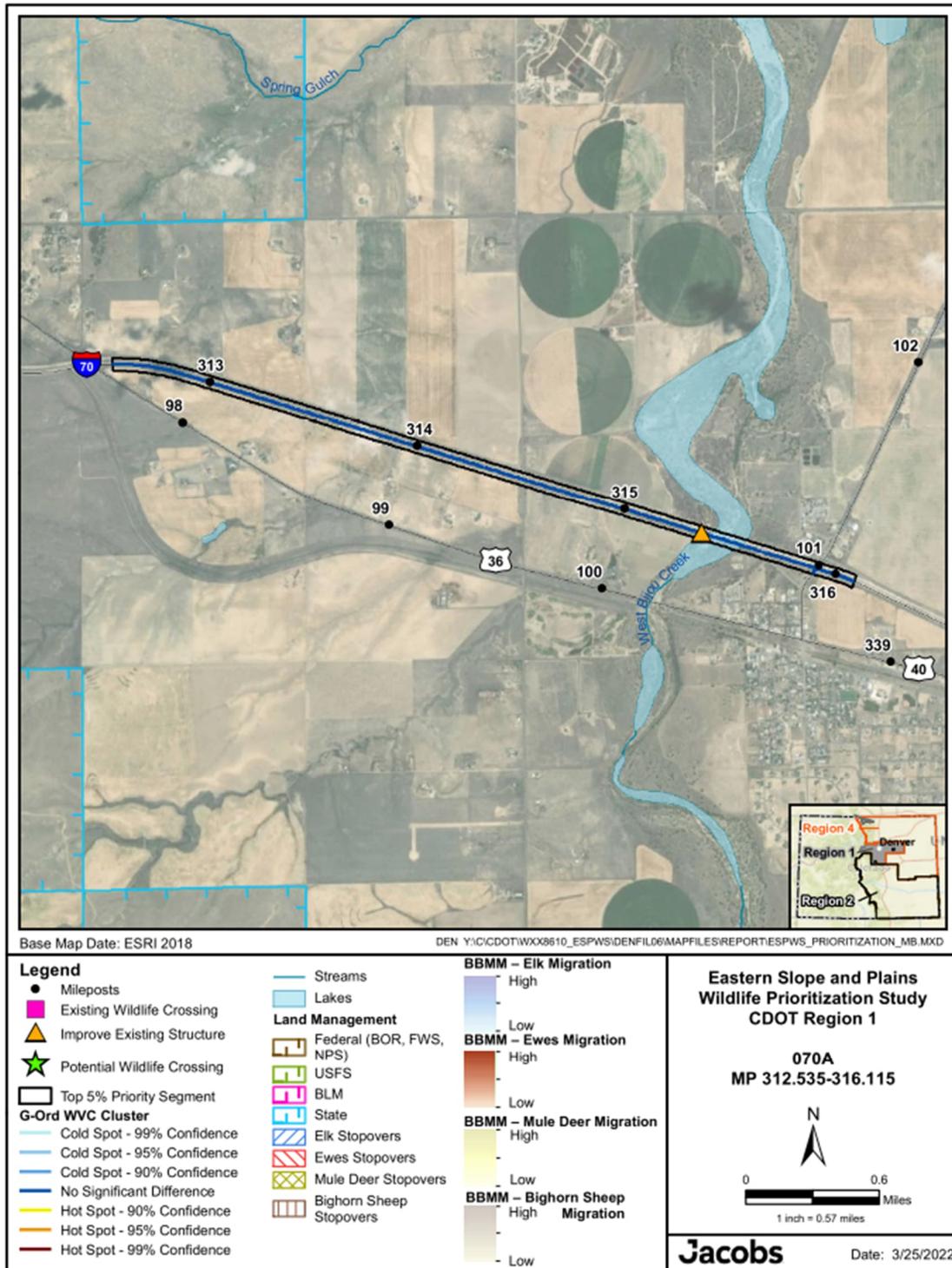
The focus of this segment is the bridge over the West Bijou Creek drainage, which is a dry streambed through much of the year and highly functional for wildlife passage. Adding approximately 1 mile of guide fencing on either side of the bridge would help to encourage wildlife to pass under the bridge rather than crossing I-70 at-grade. No wildlife guards are needed in this segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
313.7	Concrete box culvert—farm access road	Investigate potential functionality for deer passage; consider extending wildlife fence to tie into culvert.	N/A
314.2	Concrete box culvert—farm access road	Investigate potential functionality for deer passage; consider extending wildlife fence to tie into culvert.	N/A
314.5	Divided bridge over Bradbury Road (County Road 173) bridge	Tie fence end into road bridge.	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
314.9	Concrete box culvert—farm access road	Tie culvert into wildlife fence.	N/A
315.4	Large, divided, multispans bridge (five chambers; 196 feet total width) over West Bijou Creek. Riparian habitat along drainage.	Install wildlife-exclusion fencing to tie into the bridge. From the bridge, fencing should extend east to the US 36/Byers interchange; the west fence end could tie in to the County Road 173 bridge, or may extend farther west if the farm access culverts are deemed sufficient for deer passage.	 <p data-bbox="972 810 1105 837">Credit: CDOT</p>

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1.1.5 Interstate 70, Mileposts 322.2 to 328.8, Peoria to Deer Trail

1.1.5.1 Arapahoe County

I-70 is the major east-west highway through the state. This stretch of I-70 is a four-lane divided highway. The segment extends from the I-70 bridge crossing just east of Peoria to the town of Deer Trail. US 40 and a railroad line run parallel to this segment of I-70 on the south side. Although this segment was identified as a CDOT WVC pattern recognition area, the Getis-Ord WVC cluster analysis did not differentiate this segment relative to neighboring highway segments, which ranked much lower in the prioritization (≤ 75 th percentile). The landscape around this segment is characterized by agricultural land uses and includes two major drainage crossings at Middle and East Bijou creeks, which are separated by 1.4 miles. The Richmil Ranch Open Space lies within this segment around MP 326.

1.1.5.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	12,000	14,646	Mule Deer	Winter, year-round	Low

1.1.5.1.2 Preliminary Mitigation Recommendations

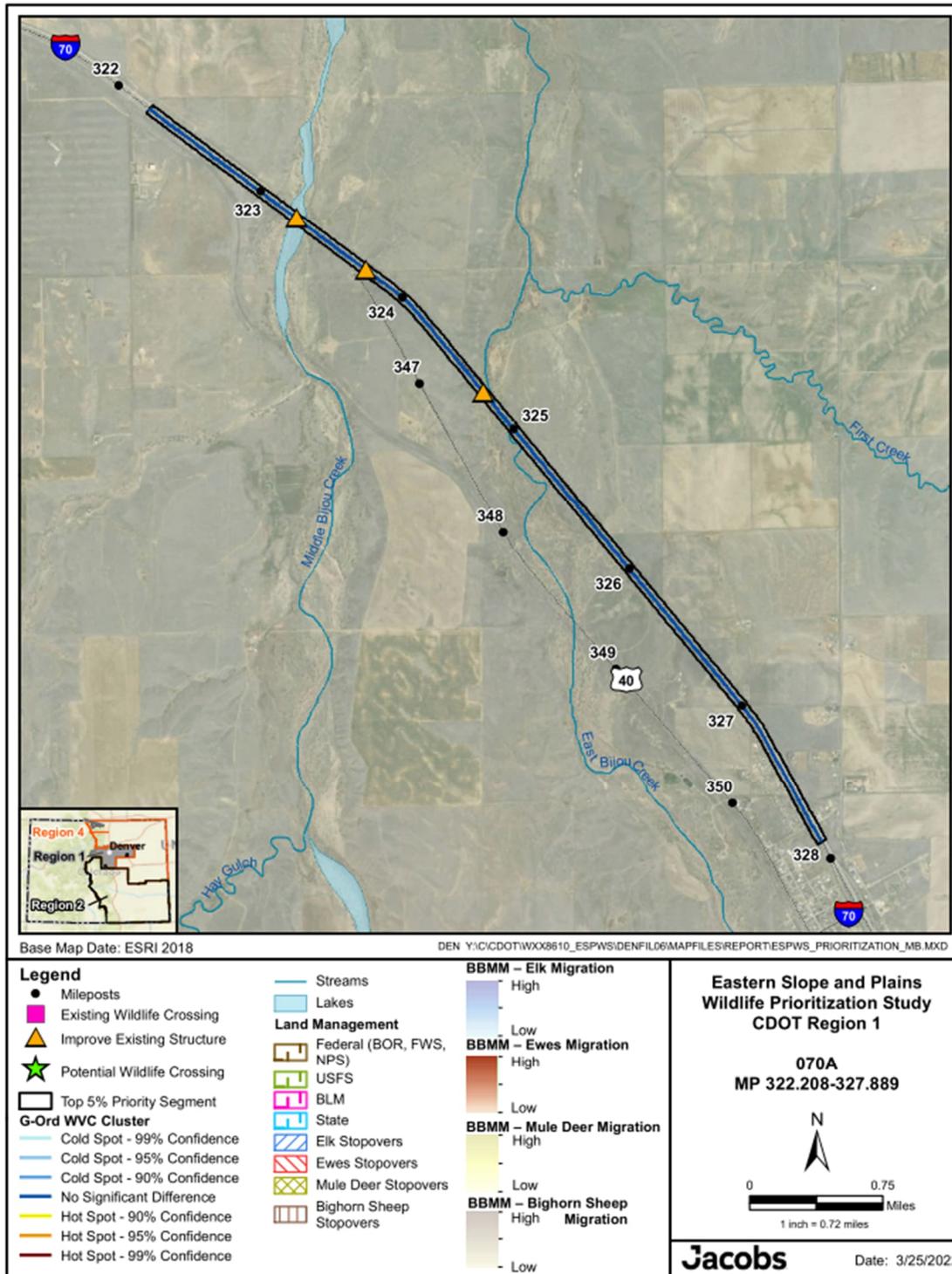
This segment includes two large riparian corridors with large bridges spanning the drainages. Middle and East Bijou creeks are dry streambed through much of the year and highly functional for wildlife passage. Guide fencing connecting the two bridges is recommended to help encourage wildlife to pass under these bridges rather than crossing I-70 at-grade. No wildlife guards are needed in this segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
323.3	Middle Bijou Creek bridge—large, divided, multispans bridge (six chambers; 148 feet total width). Riparian habitat along drainage. Four-strand barbed-wire fence runs in front of both structure entrances. A third bridge span carries US 40 traffic over the drainage along the south side of I-70.	Install wildlife-exclusion fencing to tie into the bridge and connect to the bridge over East Bijou Creek. Remove or replace barbed-wire fence with wildlife-permeable fence.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
323.7	I-70 bridges over dirt county road	Tie wildlife fence into this bridge.	 <p data-bbox="972 659 1105 684">Credit: CDOT</p>
324.7	East Bijou Creek bridge— large, divided, multispans bridge (six chambers; 149 feet total width). A farm access road runs through one side of the bridge. Riparian habitat along drainage. Four-strand barbed-wire fence runs in front of both structure entrances.	Install wildlife-exclusion fencing to tie into the bridge and connect to the bridge over East Bijou Creek. Remove or replace barbed-wire fence with wildlife-permeable fence.	 <p data-bbox="972 1052 1105 1077">Credit: CDOT</p>

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1.2 C-470 Priority Segments

1.2.1 C-470, Mileposts 1.7 to 3.4, Green Mountain to Bear Creek

1.2.1.1 Jefferson County

C-470 is a six-lane high-traffic beltway that extends around much of the Denver metropolitan area. This segment of C-470 extends from Alameda Parkway, south toward Morrison Road. Major natural features in this landscape include the hogbacks, which run parallel along the west side of C-470 and mark the transition from plains to foothills landscapes; and Rooney Gulch, a riparian drainage that runs from the open space on the northwest side of C-470 down into Bear Creek Lake Park. Major human features in this landscape include Bandimere Speedway, a drag racetrack that sits adjacent to the west side of C-470 between MPs 2.8 and 4, and, to the east, expanding residential development. Nevertheless, the Rooney Gulch drainage remains largely intact, including some open space protections along the west side of C-470 around MP 2.4. On a broader landscape scale, despite encroaching development, this segment is situated between several large parks and protected open space that provide important wildlife habitat: Green Mountain Park to the north, Matthews/Winters Open Space to the northwest, Red Rocks Park to the west, and Bear Creek Lake Park to the southeast.

1.2.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
6	70,000	94,990	Elk, Mule Deer	Winter range and migration	Deer—Low Elk—High

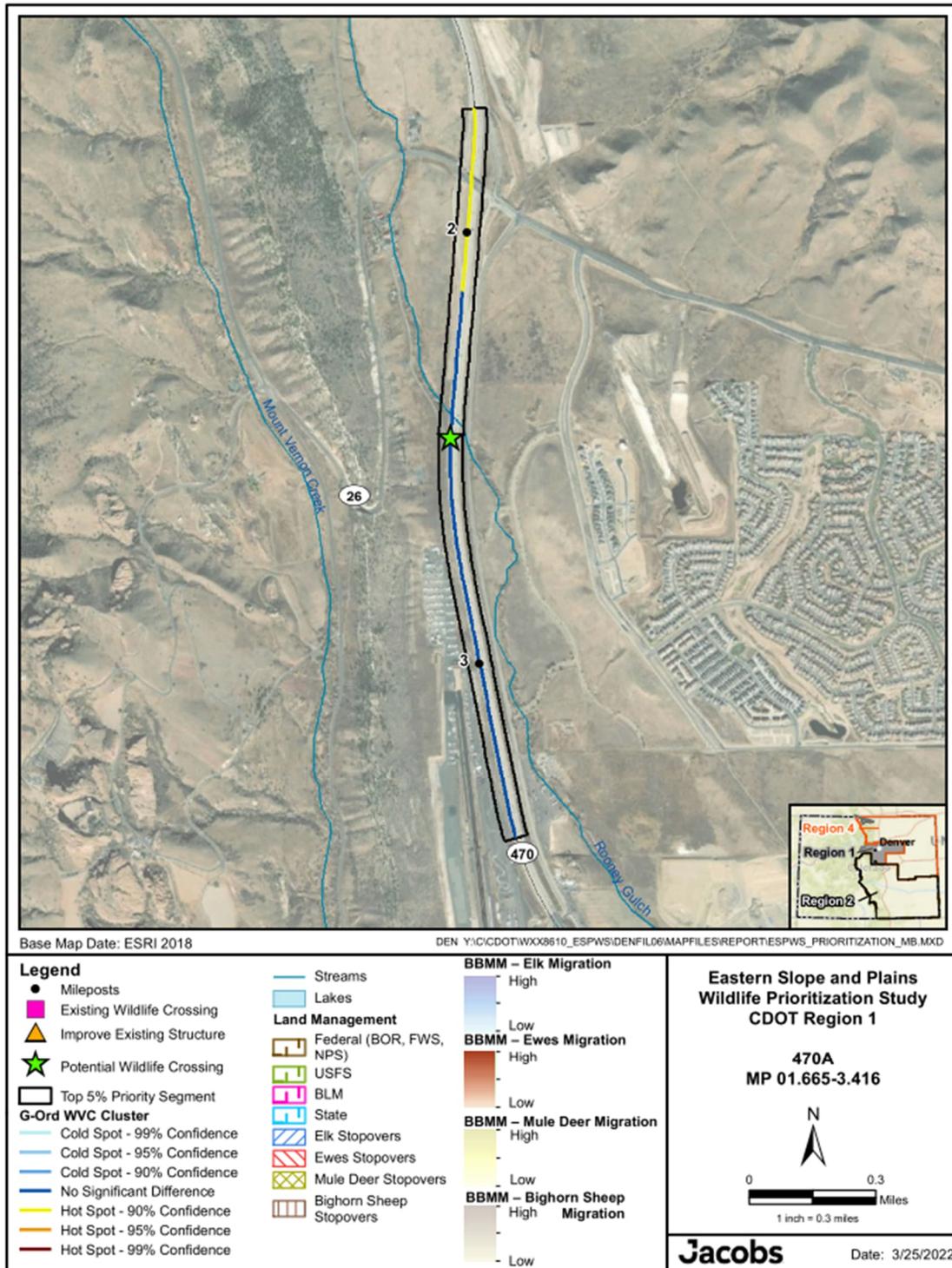
1.2.1.1.2 Preliminary Mitigation Recommendations

Coordinate with developers to implement extended setbacks around Rooney Gulch to ensure that it can persist as a functional ecological corridor and upsize the Rooney Gulch culvert under I-70 to support wildlife passage. Install wildlife-exclusion fencing to direct wildlife to the crossing structure. No wildlife guards are needed in this segment.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
2.5	<p>Concrete box culvert (~4 by 8 feet) under I-70 and frontage road.</p> <p>Culvert/drainage is heavily skewed relative to the roadway. Thick vegetative cover along riparian corridor.</p>	<p>Replace culvert with a large span bridge to accommodate deer and elk passage under I-70 and the frontage road. Install wildlife-exclusion fencing with the new bridge. Consider connecting wildlife fence to existing fence on the east side of C-470 along Green Mountain (~MPs 0 to 0.7; 86th to 88th percentile); however, extending the fence this far may necessitate adding an additional wildlife crossing opportunity connecting open space on either side of the highway.</p>	

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1.3 U.S. Highway 40 Priority Segments

1.3.1 U.S. Highway 40, Mileposts 282.3 to 283.6, Mother Cabrini

1.3.1.1 Jefferson County

This segment of US 40 parallels I-70 along the south-facing slopes of Mount Vernon Canyon. US 40 is stacked on the slope above the I-70 westbound and I-70 eastbound lanes. The opposing lanes of I-70 and US 40 combined with a concrete median barrier and guardrail between I-70 and US 40 create a formidable barrier to wildlife movement in this segment. However, a high rate of WVCs testifies to wildlife's persistent attempts to cross in this area. This segment of US 40 is adjacent to a 95th percentile segment of I-70, and these portions of both highways lie within the Mount Vernon LIZ (Kintsch et al. 2011). CPW identifies these portions of US 40 and I-70 as deer and elk highway crossing zones. The surrounding landscape is home to resident herds of deer and elk and provides winter range habitat and winter concentration areas for both deer and elk.

Left to Right, US 40, I-70 Westbound, I-70 Eastbound



This priority segment runs parallel to another top 5 percent segment on I-70 around MPs 257 to 258. Mitigation planning for these two high-priority segments should be considered jointly.

1.3.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	3,100	3,165	Elk, Mule Deer	Winter range, year-round	Deer—Low Elk—High

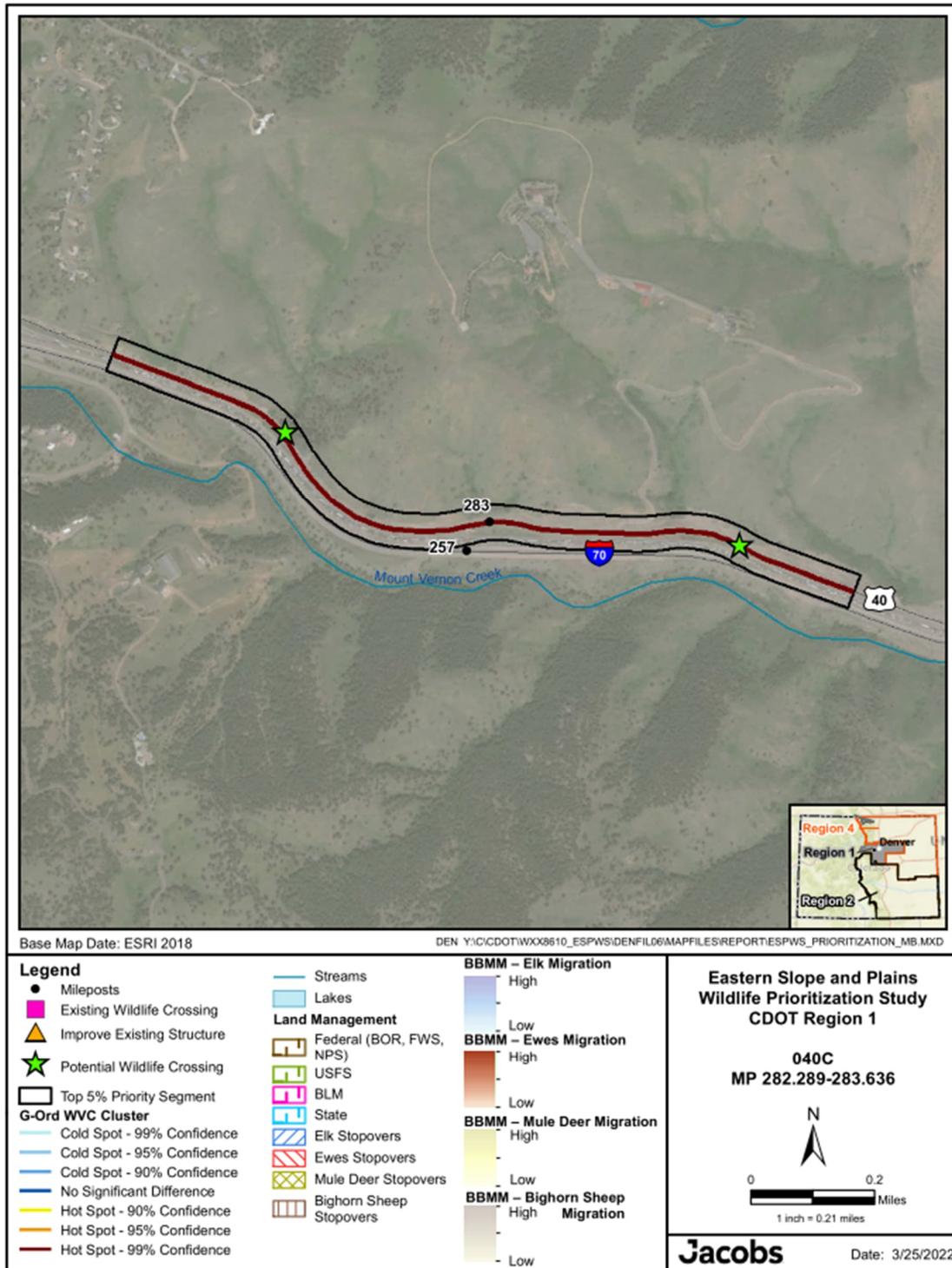
1.3.1.1.2 Preliminary Mitigation Recommendations

Mitigation on this segment of US 40 must be considered in tandem with easternmost portions of the I-70 Genesee segment. While the roadway configuration in this mountainous terrain makes constructing a wildlife crossing difficult, several locations for a wildlife underpass are presented as follows for further engineering and biological evaluation. Guide fencing on the north side of US 40 and the south side of I-70 is recommended from the Lookout Mountain interchange (MP 282) to approximately MP 282.6, where the fence can be tied into the cliffy slopes on the north side of US 40. A wildlife guard will be required across the access road to Mother Cabrini.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
282.4	Small drainage on north side of US 40 feeds into Mount Vernon Creek on the south side of I-70.	Drainage is likely too small to accommodate a wildlife underpass.	N/A
282.6	Drainage, large fill slope. Feeds into Mount Vernon Creek on the south side of I-70.	Construct a large wildlife underpass suitable for elk and tie into wildlife-exclusion fence.	
283.4	Drainage, large fill slope on the east side of Cabrini Boulevard. Feeds into Mount Vernon Creek on the south side of I-70. Game trails present along the side slopes. Four-strand barbed-wire fence along the side slope on the northeast side of the drainage.	Construct a large wildlife underpass suitable for elk and tie into wildlife-exclusion fence.	

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1.4 U.S. Highway 85 Priority Segments

1.4.1 U.S. Highway 85, Mileposts 231.1 to 231.6, Henderson

1.4.1.1 Adams County

This section of US 85 runs north of the E-470 interchange for 0.5 mile. This segment is in a mixed landscape of irrigated croplands and industrial and commercial development. There are several nearby water sources, including wetlands and ponds along the South Platte River corridor to the east. The river corridor provides habitat for both resident and seasonal mule deer, whereas the irrigated fields along US 85 act as a draw for these animals.

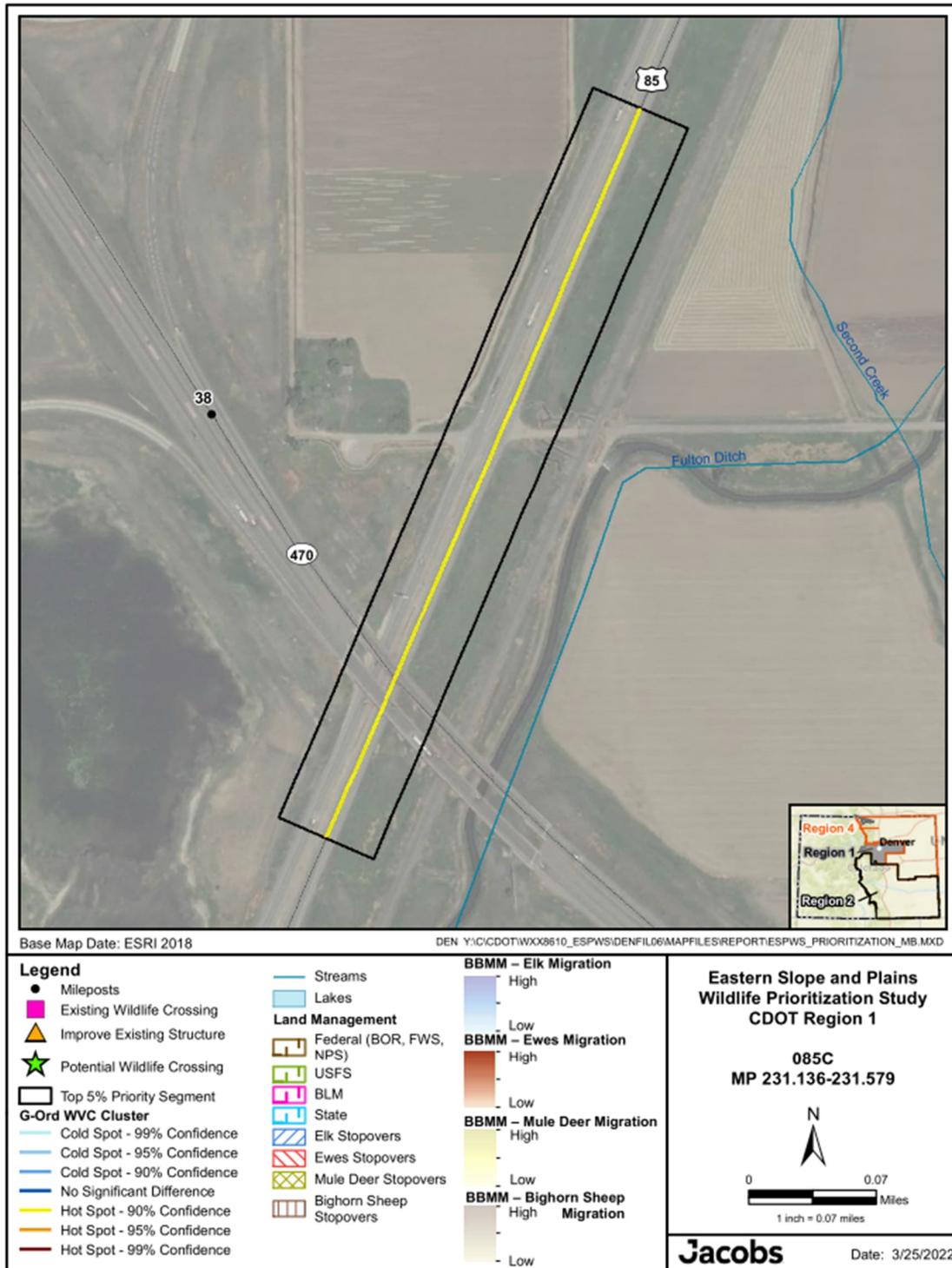
1.4.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	32,000	41,408	Mule Deer	Winter range	Low

1.4.1.1.2 Preliminary Mitigation Recommendations

Wildlife crossings are not recommended in this segment and are largely unfeasible because of the flat terrain. Wildlife-exclusion fencing may be considered but could cause new WVC concerns at the fence ends. Variable message signs may be used to warn drivers of seasonal peaks in wildlife activity in this segment.

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1.5 U.S. Highway 285 Priority Segments

1.5.1 U.S. Highway 285, Mileposts 233.7 to 235, Richmond Hill

1.5.1.1 Jefferson County

This segment of US 285 is a four-lane highway with a 55-mile-per-hour (mph) speed limit west of Conifer and Foxtan Road. The highway runs through curvy and rolling mountainous terrain and is a major arterial between Denver and communities to the southwest. This forested landscape includes substantial exurban development with some commercial development along the highway. Much of this segment has been identified by CPW as elk and mule deer highway crossing zones.

This priority segment includes a short section of State Highway (SH) 8 (0.3 mile) at the Morrison/Willow Springs exit.

1.5.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	21,000	25,573	Elk, Mule Deer	Winter range, year-round	Elk—High Deer—Low

1.5.1.1.2 Preliminary Mitigation Recommendations

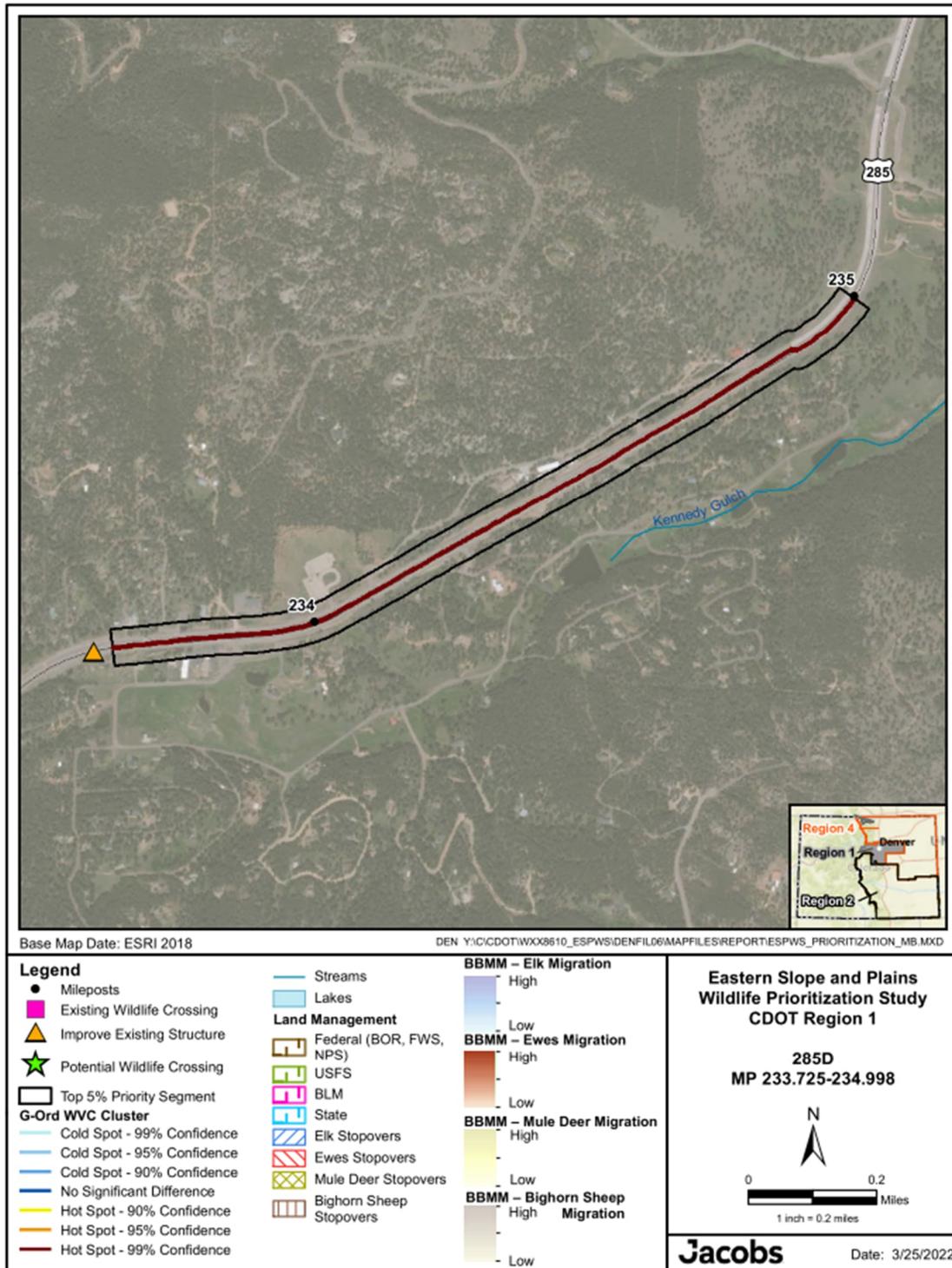
An arch underpass for wildlife was constructed in 2009 at MP 233.6, due west of this 95th percentile segment. This area (from MPs 233.3 to 233.7) ranked in the 94th percentile. Wildlife-exclusion fencing was not included with the underpass construction because of complications and additional costs associated with the high number of highway access points in this area. Given that a wildlife crossing structure exists here and WVCs are ongoing in this area, the primary near-term mitigation recommendation for this segment is to install wildlife-exclusion fencing, extending from the Richmond Hill Road interchange (MP 233.3) to Willow Springs Road (MP 233.9). Three wildlife guards would be required for this 0.6-mile-long section of fencing. For a more comprehensive wildlife mitigation system for the entire priority segment, evaluate installing a second wildlife crossing around MP 234.9 with continuous fencing from Richmond Hill Road to Foxtan Road (MP 235.1); fencing this longer section of highway would require a total of 11 wildlife guards.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
233.6	Arch underpass wildlife crossing constructed in 2009. There is no wildlife-exclusion fencing associated with the structure. Short section of woven wire fence on the south side of the crossing.	Install wildlife-exclusion fencing to direct all local wildlife activity to the crossing structure and to prevent at-grade crossings. Remove woven wire fence on the south side of the underpass to prevent wildlife entanglement.	

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1.5.2 U.S. Highway 285, Mileposts 237.6 to 250.3, Aspen Park to C-470

1.5.2.1 Jefferson County

This segment of US 285 is a four-lane highway with a 55-mph speed limit between Aspen Park and C-470. The highway runs through curvy and rolling mountainous terrain and is a major arterial between Denver and mountain communities to the southwest. This forested landscape includes substantial exurban development. The westernmost portions of the segment include commercial development along the highway. Much of this segment has been identified by CPW as elk and mule deer highway crossing zones. Several open space properties are located along the segment, including properties managed by Jefferson County Open Space and Denver Mountain Parks.

1.5.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	26,000 to 39,000	32,552 to 51,285	Elk, Mule Deer	Winter range, migration	Deer—Low Elk—High

1.5.2.1.2 Preliminary Mitigation Recommendations

Although few of the existing structures in this segment are functional for deer and elk passage, there are multiple opportunities for replacing existing culverts with larger crossing structures or constructing new structures—specific locations are listed in the following table. Crossing structures with continuous fencing are recommended to provide safe passage opportunities for wildlife and reduce WVCs. The research team documented numerous opportunities for crossing structures; however, there remain several gaps (e.g., between MPs 239.5 and 242; and MPs 243 to 244), where additional crossing opportunities should be investigated to ensure sufficient spacing between crossing structures and to avoid creating a barrier to wildlife movements. Mitigation projects in this 12.7-mile-long segment could be undertaken in phases. Wildlife guards would be needed at all interchanges and road access points within the fenced segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
238.8	Small cross-drainage. Limited fill on both sides of highway. Both sides of the highway at this location are managed by Jefferson County Open Space (Meyer Ranch Park).	Flat road grade between Aspen Park and Meyer Ranch Park bridge limits opportunities for new crossing structures in this portion of the segment.	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
238.9	Bridge over Meyer Ranch Park access road. Both sides of the highway at this location are managed by Jefferson County Open Space (Meyer Ranch Park).	Tie in fence end to existing road bridge and extend northeast to new crossing structure at MP 239.2.	 <p data-bbox="972 695 1105 720">Credit: CDOT</p>
239.2	Large, long fill slope with good ponderosa tree cover.	Excellent opportunity for a large crossing structure for elk and other wildlife; this could be managed as separate fenced segment or part of a larger system of multiple crossing structures and continuous fencing along this priority segment.	
242.5	Small cross-drainage in a low fill slope adjacent to Sourdough Drive. Scattered residences.	Construct a low bridge or culvert.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
244.2	<p>North Turkey Creek arch culvert (~14 feet high by 20 feet wide by 260 feet long) adjacent to North Turkey Creek Road. Culvert runs under westbound off-ramp. Dogleg in culvert prevents a clear line of sight. Perennial stream with rocky creek bed and thick riparian vegetation. Both sides of the highway at this location are managed by Denver Mountain Parks (Turkey Creek Park).</p>	<p>Replace with a bridge or culvert with a clear line of sight suitable for deer and elk passage with dry, natural pathways on either side of the streambed. Create pathways through adjacent riprap to ensure access to the crossings. Integrate into system of multiple crossing structures and continuous fencing along this segment. Fence around this crossing location can tie into cliffs to the northeast, cross over the top of the crossing structure, cross the bottom of the westbound off-ramp with a guard rail, and then tie into the bridge over Turkey Creek Road.</p>	
245.9	<p>Parmalee Gulch double box culvert (each chamber ~10 feet high by 11 feet wide by 170 feet long) located in a narrow drainage adjacent to the Indian Hills interchange (culvert also runs under eastbound on-ramp). Small perennial stream with dense riparian vegetation. Both sides of the highway at this location are managed by Jefferson County Open Space.</p>	<p>Replace with a single chambered bridge or culvert suitable for deer and elk passage and integrate into system of multiple crossing structures and continuous fencing along this segment.</p>	

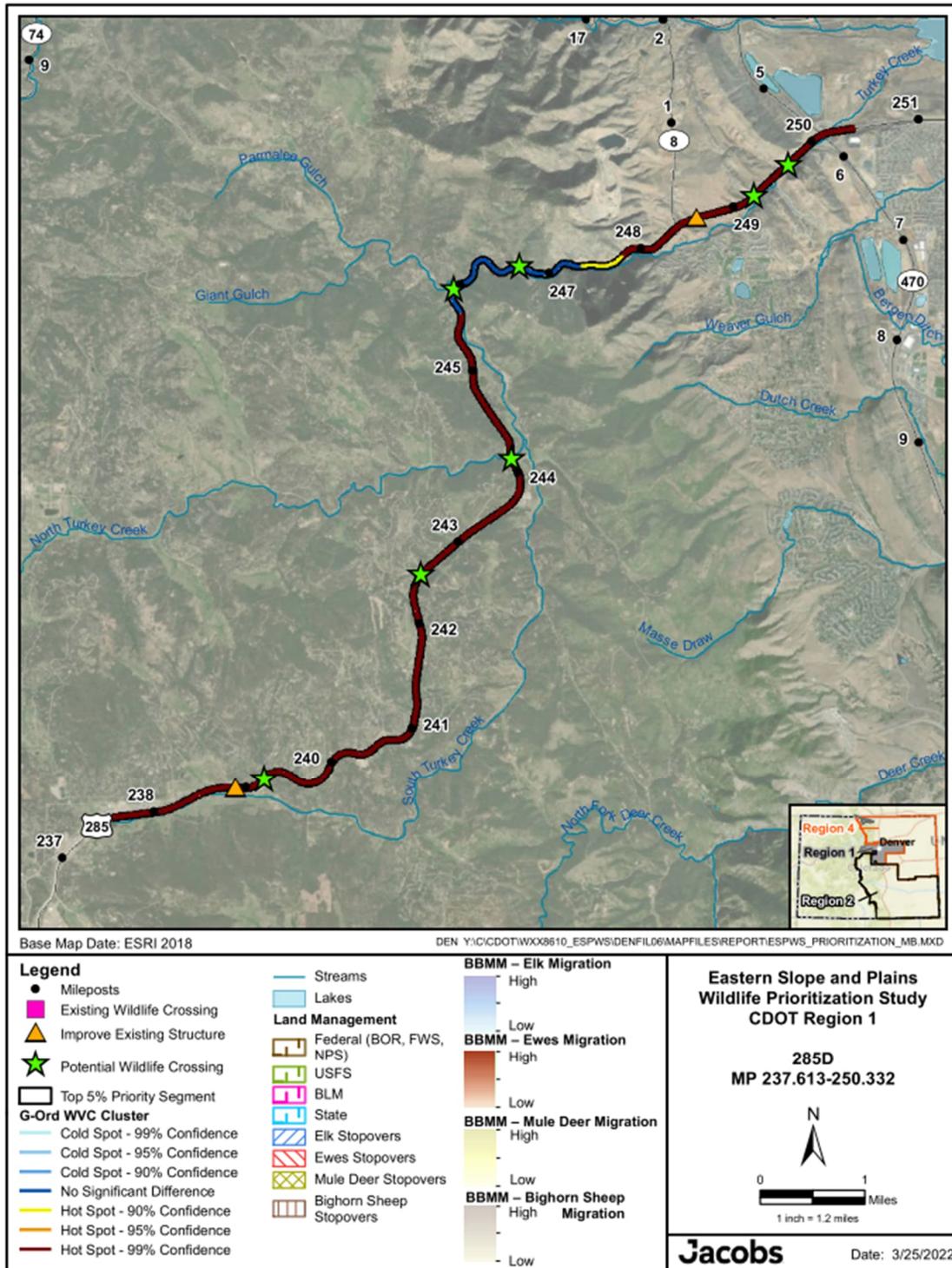
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
246.7	Small drainage pipe in fill slope; south side drops directly into Turkey Creek. The south side of the highway at this location is managed by Jefferson County Open Space.	Replace with a larger bridge or culvert suitable for deer and carnivore passage and integrate into system of multiple crossing structures and continuous fencing along this segment.	
247.8	Small culvert at unnamed tributary to Turkey Creek. Both sides of the highway at this location are managed by Jefferson County Open Space.	Replace with a larger culvert suitable for deer and elk passage and integrate into system of multiple crossing structures and continuous fencing along this segment.	N/A
248.6	Bridge over Willow Springs Road, a low-traffic local access road.	Install wildlife-exclusion fencing connecting structures between C-470 and SH 8; this could be managed as a separate fenced segment or part of a larger system of multiple crossing structures and continuous fencing along this priority segment.	 <p data-bbox="971 1493 1105 1520">Credit: CDOT</p>
249.2	Bridge over Turkey Creek Road (County Road 60), a low-traffic local access road.	Install wildlife-exclusion fencing connecting structures between C-470 and SH 8; this could be managed as a separate fenced segment or part of a larger system of multiple crossing structures and continuous fencing along this priority segment.	

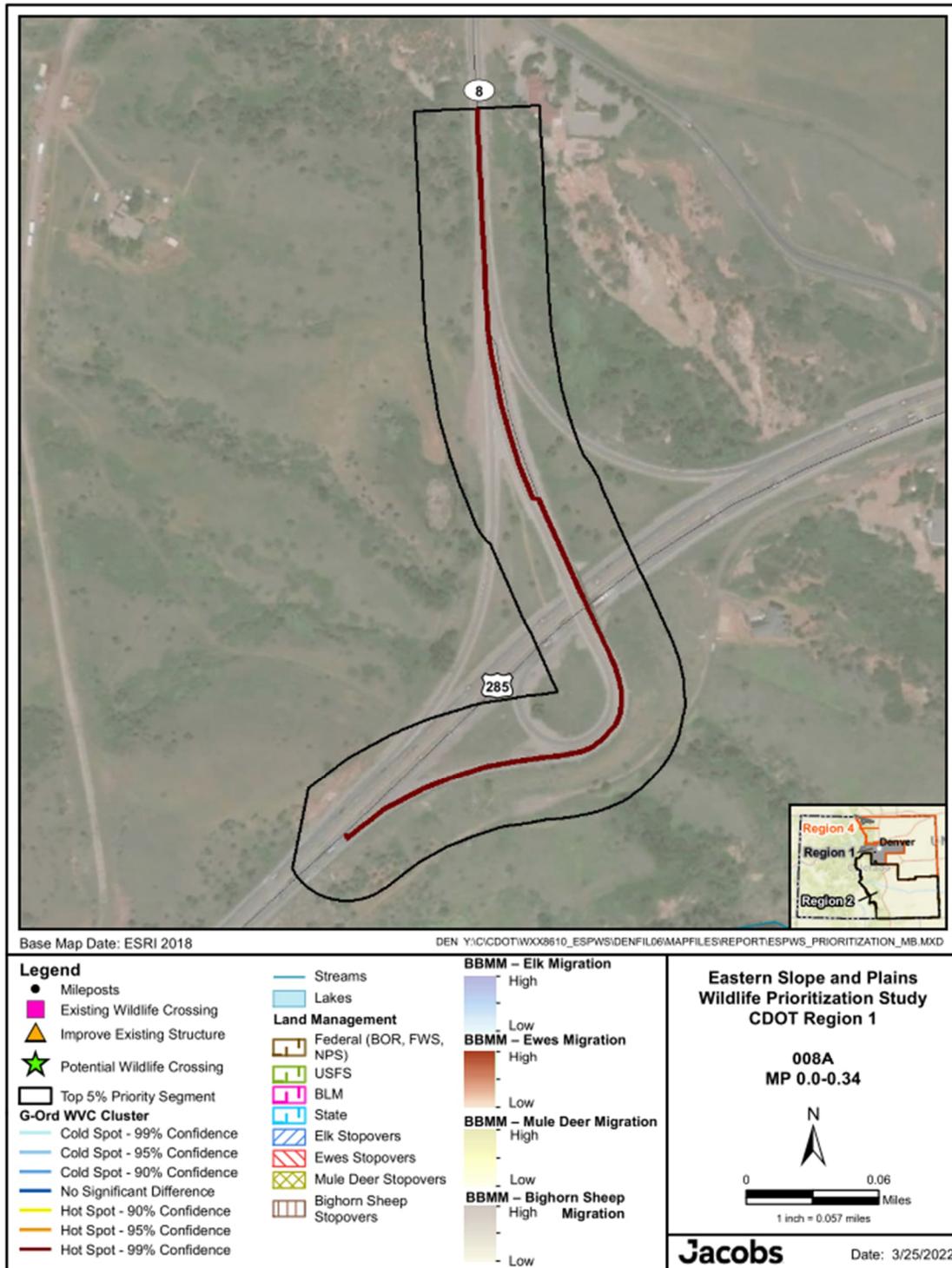
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
249.6	<p>Medium-sized box culvert with natural bottom at unnamed tributary to Turkey Creek along riparian corridor with thick vegetation. Currently functional for medium- and small-bodied fauna. The north side of the highway at this location is managed by Jefferson County Open Space.</p>	<p>Replace with a larger bridge or culvert suitable for deer and elk. Install wildlife-exclusion fencing from the C-470 interchange to SH 8 interchange (tie into the road bridges over Turkey Creek Road [MP 249.2] and Willow Springs Road at MP 248.5); this could be managed as a separate fenced segment or part of a larger system of multiple crossing structures and continuous fencing along this priority segment.</p>	

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1.6 State Highway 30 Priority Segments

1.6.1 State Highway 30, Mileposts 15.5-16.4, C-470 Interchange

1.6.1.1 Arapahoe County

This section of SH 30 runs on either side of the E-470 interchange. Nearly 2 miles of E-470 in this area were also identified in the 95th percentile for Region 1; however, this tollway is not operated by CDOT. In addition, this section of E-470 already has wildlife-exclusion fencing from Quincy Avenue to East 6th Parkway. This landscape is characterized by open space and the Murphy Creek riparian corridor, which parallels US 40 to the north. The Buckley Space Force Base lies to the southwest, and beyond these open space areas, much of the land has been subject to increasing residential development in the eastern periphery of the Denver metropolitan area. The landscape is generally flat, with barbed-wire right-of-way fence on either side of the highway. The Murphy Creek drainage is identified as a mule deer concentration area by CPW.

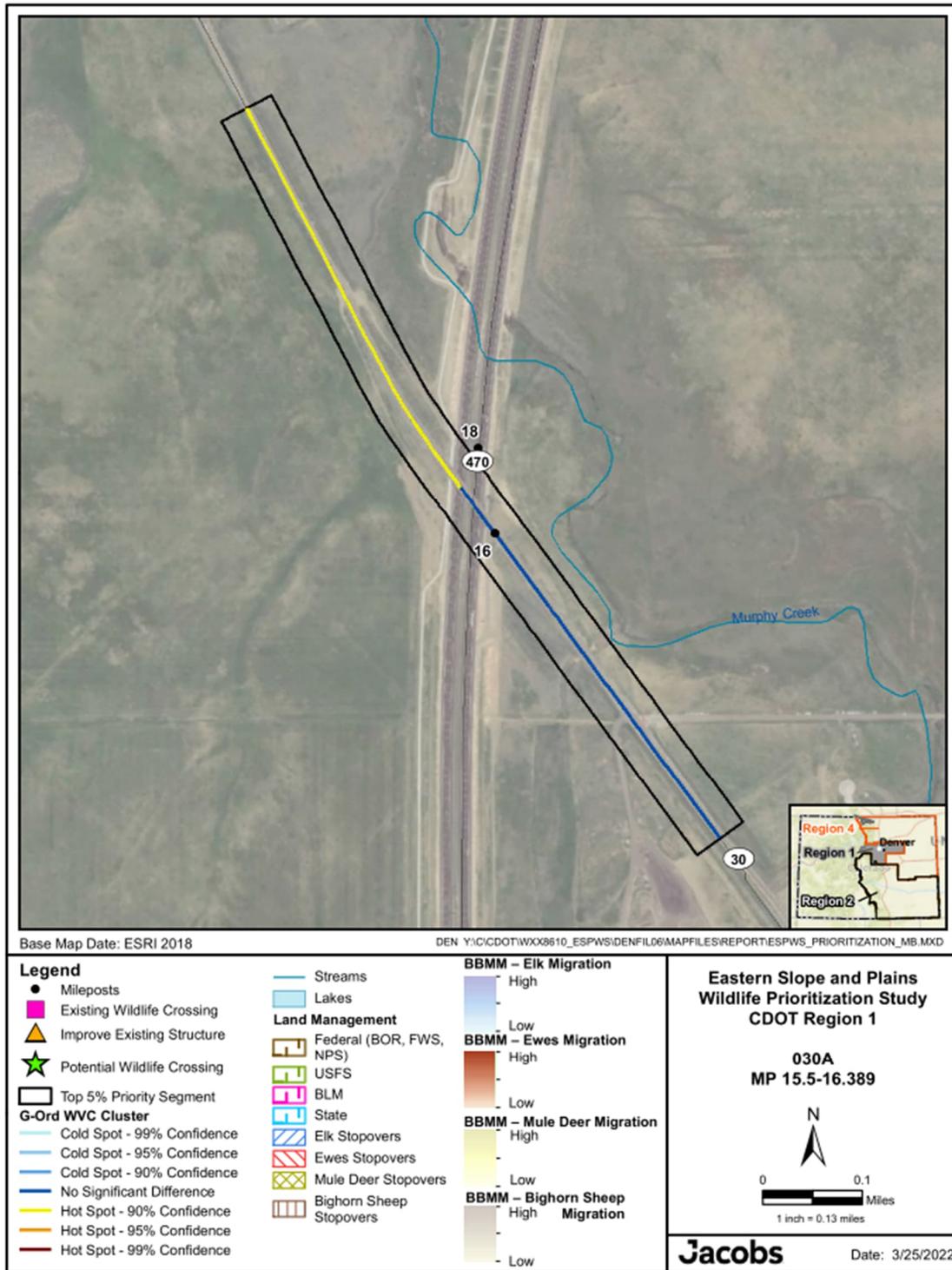
1.6.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	18,000	32,931	Mule Deer	Winter, year-round	Low

1.6.1.1.2 Preliminary Mitigation Recommendations

Wildlife crossings are not recommended in this segment and are largely unfeasible because of the flat terrain. Variable message signs may be used to warn drivers of seasonal peaks in wildlife activity in this segment.

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1.7 State Highway 121 Priority Segments

1.7.1 State Highway 121, Mileposts 0.4 to 0.8, Chatfield Reservoir

1.7.1.1 Douglas County

The segment of SH 121 (Wadsworth Boulevard) is a four-lane divided highway that provides access between C-470 and Lockheed Martin and the growing residential communities south of Waterton Canyon, with speed limits between 45 and 55 mph. The segment lies between Chatfield Reservoir and State Park to the east and Lockheed Martin to the west, which includes extensive open space.

1.7.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	22,000	26,851	Elk, Mule Deer	Migration and winter range	Elk—High Deer—Low

1.7.1.1.2 Preliminary Mitigation Recommendations

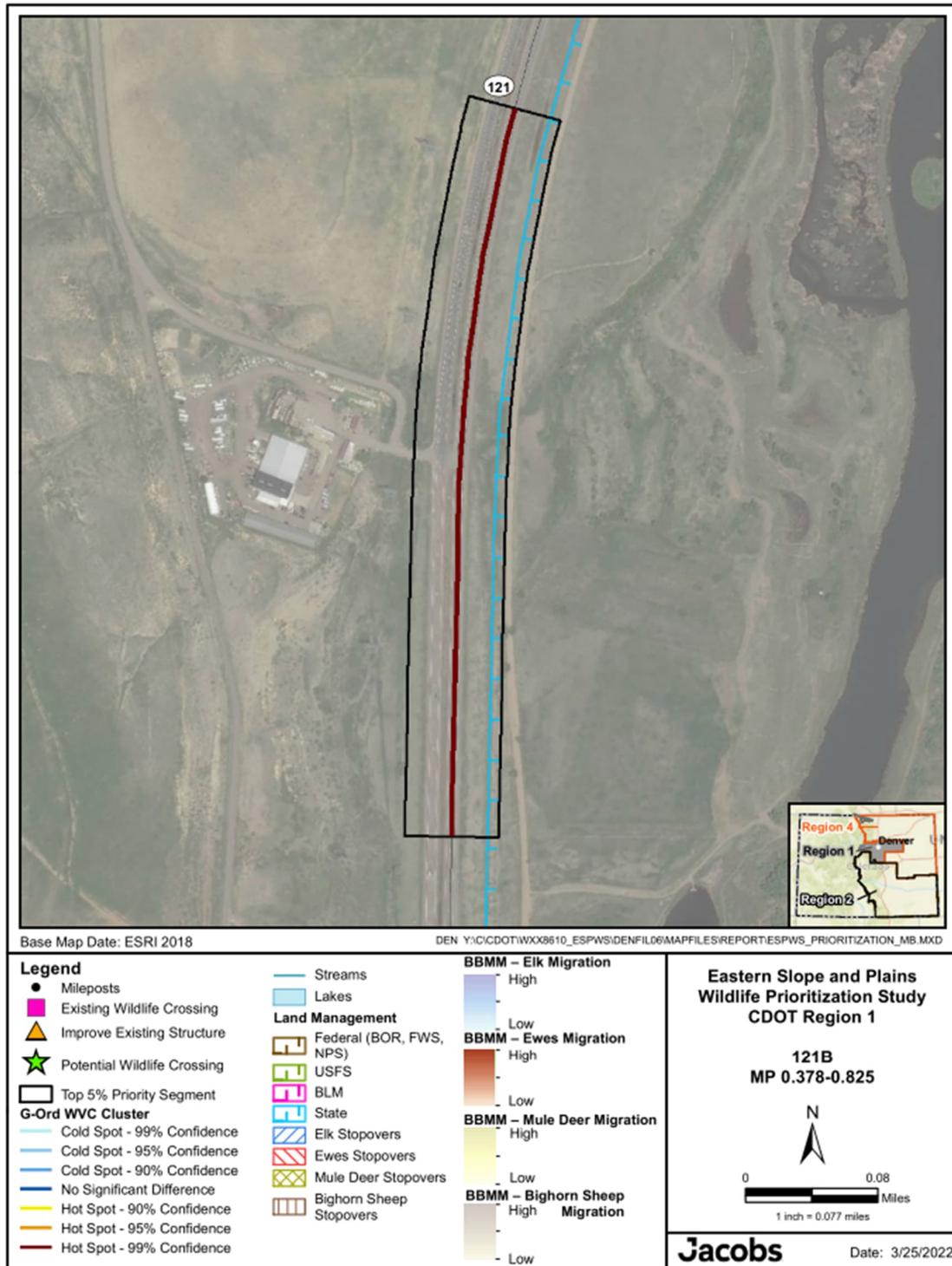
Although only 0.5 mile of roadway scored in the 95th percentile for CDOT Region 1 and this 0.5-mile segment has the highest concentration of WVCs, much of SH 121 south of C-470 is in the 93rd percentile and mitigation efforts along this roadway should also consider this longer segment, from MP 0 to at least MP 3.1 at Trailmark Parkway, the entrance to a neighborhood subdivision. A bridge underpass suitable for elk passage is recommended at MP 0.4. Because of terrain constraints, it may be difficult to install a second wildlife underpass around MPs 2 to 3; however, this area should be reviewed to investigate other potential opportunities with engineering staff. Another opportunity presents itself at MP 3.8, where there is currently a three-cell box culvert at Deer Creek—extending the fencing this far north is complicated by two large interchanges at Trailmark Parkway (MP 3.1) and at the entrance to Chatfield State Park (MP 3.3)

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
0.4	Long fill slope between Colorado Golf and Turf and Waterton Canyon Road	Install a wide bridge underpass suitable for elk passage with guide fencing.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
3.8	Three-cell box culvert at Deer Creek. This location is outside the 95th percentile segment.	Consider replacing with a wide bridge underpass spanning the entire riparian corridor and extending wildlife-exclusion fence to MP 4.1, Deer Creek Canyon Road.	

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2. CDOT Region 2 (CPW Southeast Region)

2.1 Interstate 25 Priority Segments

2.1.1 Interstate 25, Mileposts 2.2 to 10.1, Raton Pass

2.1.1.1 Las Animas County

This section of interstate has long been recognized as a wildlife-highway conflict zone and was identified as one of the top priorities in the first statewide assessment of wildlife linkages across highways (SREP 2005). Interstate 25 (I-25) is the primary north-south transportation corridor through along Colorado’s Front Range and is considered a major barrier to wildlife because of its large footprint and high traffic volumes and speeds. This section of I-25 runs from above the Purgatoire River valley around Trinidad toward Raton Pass at the border with New Mexico. Despite high traffic volumes and speeds, wildlife continue to attempt crossing the roadway and the WVC rate is high. CPW has identified this segment as a highway crossing zone for mule deer and elk, and it is also recognized as an area with a high rate of collisions with black bear. Mule deer concentration areas and elk production areas are located on either side of the interstate, around Fishers Peak to the east and Long Canyon and the Ute Hills to the west. In addition, this area provides winter range for both deer and elk, with specified winter concentration areas and severe winter range. The Burlington Northern Santa Fe Railway line parallels the interstate through this segment to the west.

2.1.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	12,000	15,276	Mule Deer, Elk, Black Bear	Migration, winter range	Deer—Low Elk—Low

2.1.1.1.2 Preliminary Mitigation Recommendations

Existing structures in this segment offer limited passage opportunities for deer; existing culverts are more functional for bear, coyote, and other meso-carnivores. Crossing structures with continuous fencing are recommended to provide safe passage opportunities for wildlife and reduce WVCs. The research team documented multiple opportunities for replacing existing culverts with larger crossing structures or constructing new structures—specific locations are listed in the following table. Existing medium-sized box culverts that are not replaced with larger structures should be improved to facilitate wildlife passage (e.g., where outlet scour or fencing reduces culvert access) and tied into a system of wildlife crossings with 8-foot-high wildlife-exclusion fencing. Wildlife guards would be needed at all interchanges within the fenced

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segment. The best opportunities for wildlife crossings based on terrain and adjacent land use with sufficient spacing between wildlife crossings are between MPs 2.1 and 7.5. North of MP 7.5, frontage roads on either side of I-25 and higher levels of development make wildlife crossing mitigation in this section challenging; however, the rate of WVCs continues to be high throughout the segment.

Although this high-priority segment extends south to MP 2.2, mitigation planning may also consider extending fencing and tying into existing culverts higher up on the pass, provided there are sufficiently spaced passage opportunities. This portion of Raton Pass, while less significant for deer and elk movements, is particularly important for black bears, which are prone to WVCs in this area.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
2.15	Bridge over Wooten Road (paved road)	Tie south fence end into road bridge.	
3.1	Drainage, fill slope with 10-foot-wide by 10-foot-high concrete box culvert. Wire-mesh fence across west entrance but partially rolled back to allow some wildlife passage. Low-volume frontage road parallels I-70 to the west. Game trails present on adjacent slopes.	Replace box culvert with a span bridge to accommodate deer and elk passage.	
3.3	Drainage, fill slope with 10-foot-wide by 10-foot-high concrete box culvert.	Tie wildlife fence into existing structure and improve structure as needed for wildlife passages (primarily carnivores, limited deer use also likely).	N/A

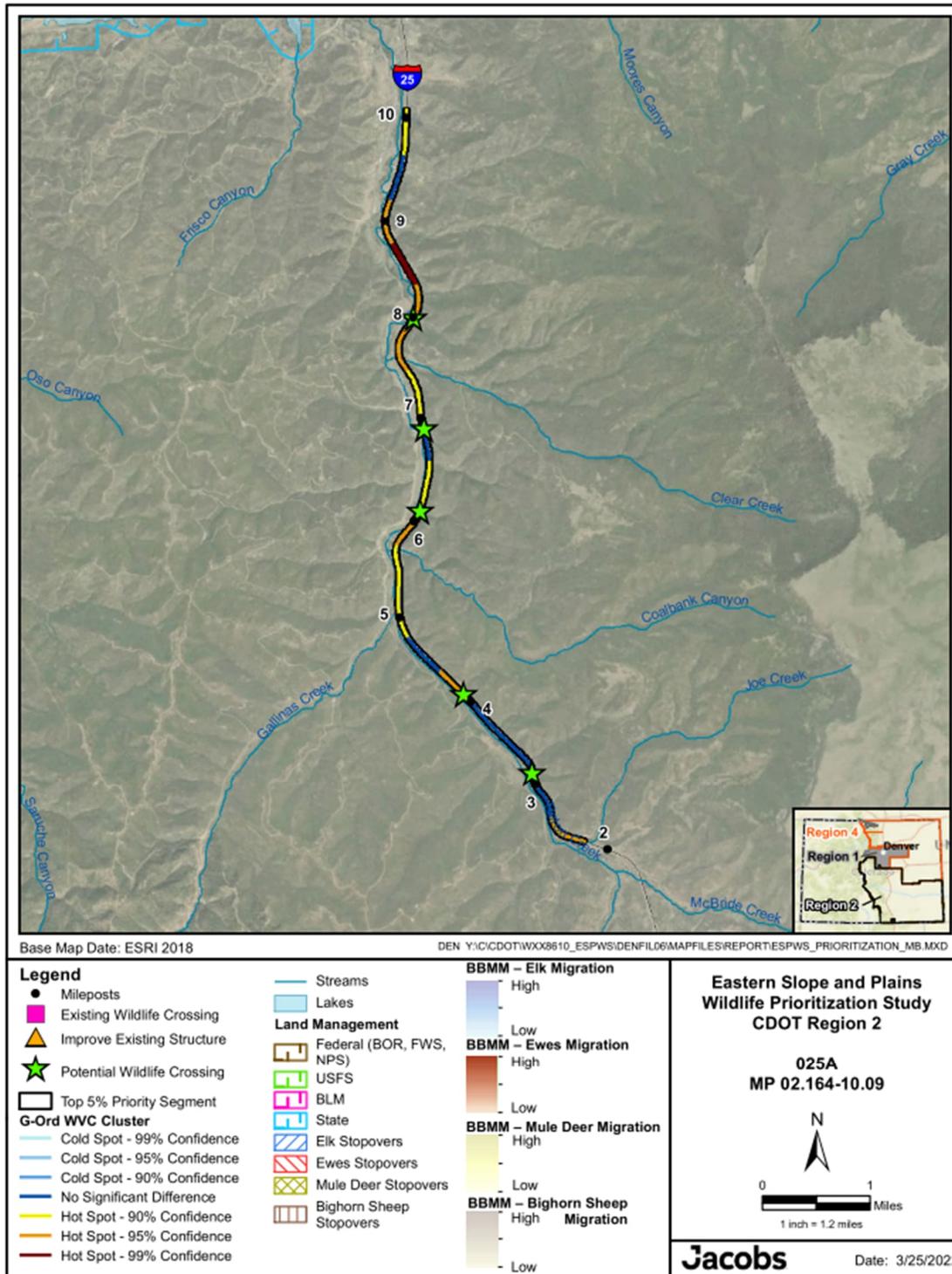
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
4.1	Small cross-drainage in low fill slope with metal pipe culvert. Northbound and southbound lanes are vertically offset; railroad tracks due west, on opposite side of Raton Creek.	Install bridge or arch underpass suitable for deer and elk passage.	N/A
4.5	Drainage, fill slope with 10-foot-wide by 10-foot-high concrete box culvert	Tie wildlife fence into existing structure and improve structure as needed for wildlife passages (primarily carnivores, limited deer use also likely).	N/A
5.6	Bridge over county road (paved) with steep, natural side slopes. Northbound and southbound lanes are vertically offset; railroad tracks due west, on opposite side of Raton Creek.	Tie wildlife fence into road bridge.	 <p data-bbox="971 1245 1101 1266">Credit: CDOT</p>
6.1	Long fill slope with 8-foot-wide by 8-foot-high concrete box culvert. Barbed-wire fence across east entrance. Severely eroded at west outlet, preventing ungulate access. Railroad and frontage road parallel I-70 to the west.	Install bridge underpass suitable for deer and elk passage.	
6.9	Low fill slope with small cross-drainage; concrete box culvert. Railroad bridge over Raton Creek to west (photo looking west from I-70 southbound toward railroad bridge)	Install arch underpass suitable for deer and elk passage.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
7.5	Divided bridge over county road, access to Fishers Peak State Park Visitor's Center	Tie wildlife fence into road bridge.	 <p data-bbox="971 695 1117 722">Credit: CDOT</p>
8	Low fill slope with small cross-drainage; metal pipe. Northbound and southbound lanes are vertically offset.	Investigate potential of this location for a medium-sized crossing for black bear and other meso-mammals.	N/A
8.8	Metal pipe in small fill slope. Dirt frontage roads on both sides of I-70. Northbound and southbound lanes are vertically offset.	Investigate the feasibility and potential effectiveness of nonstructural mitigation strategies, such as seasonal variable message signs (VMSs).	N/A
9.5	Cross-drainage with concrete box culvert runs under frontage road (east side) and I-70. Northbound and southbound lanes are vertically offset. Neighborhood on west side of I-70 and Raton Creek (Starkville).	Investigate the feasibility and potential effectiveness of nonstructural mitigation strategies, such as seasonal VMSs.	N/A
10	Incised cross-drainage with concrete box culvert runs under frontage roads (both sides) and I-70. Northbound and southbound lanes are vertically offset. Neighborhood on west side of I-70 and Raton Creek (Starkville).	Investigate the feasibility and potential effectiveness of nonstructural mitigation strategies, such as seasonal VMSs.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.1.2 Interstate 25, Mileposts 58.5 to 60.2, Huerfano River

2.1.2.1 Huerfano County

This section of I-25 north of Walsenburg is defined by the Huerfano River corridor, a broad, wooded riparian corridor with intermittent stream flows and hayfields in the adjoined uplands on either side. The interstate is set up on a pair of bridges that span the riparian corridor. The river corridor is identified as a concentration area for both deer and elk by CPW and is a known highway crossing area for these species.

2.1.2.1.1 Segment Characteristics

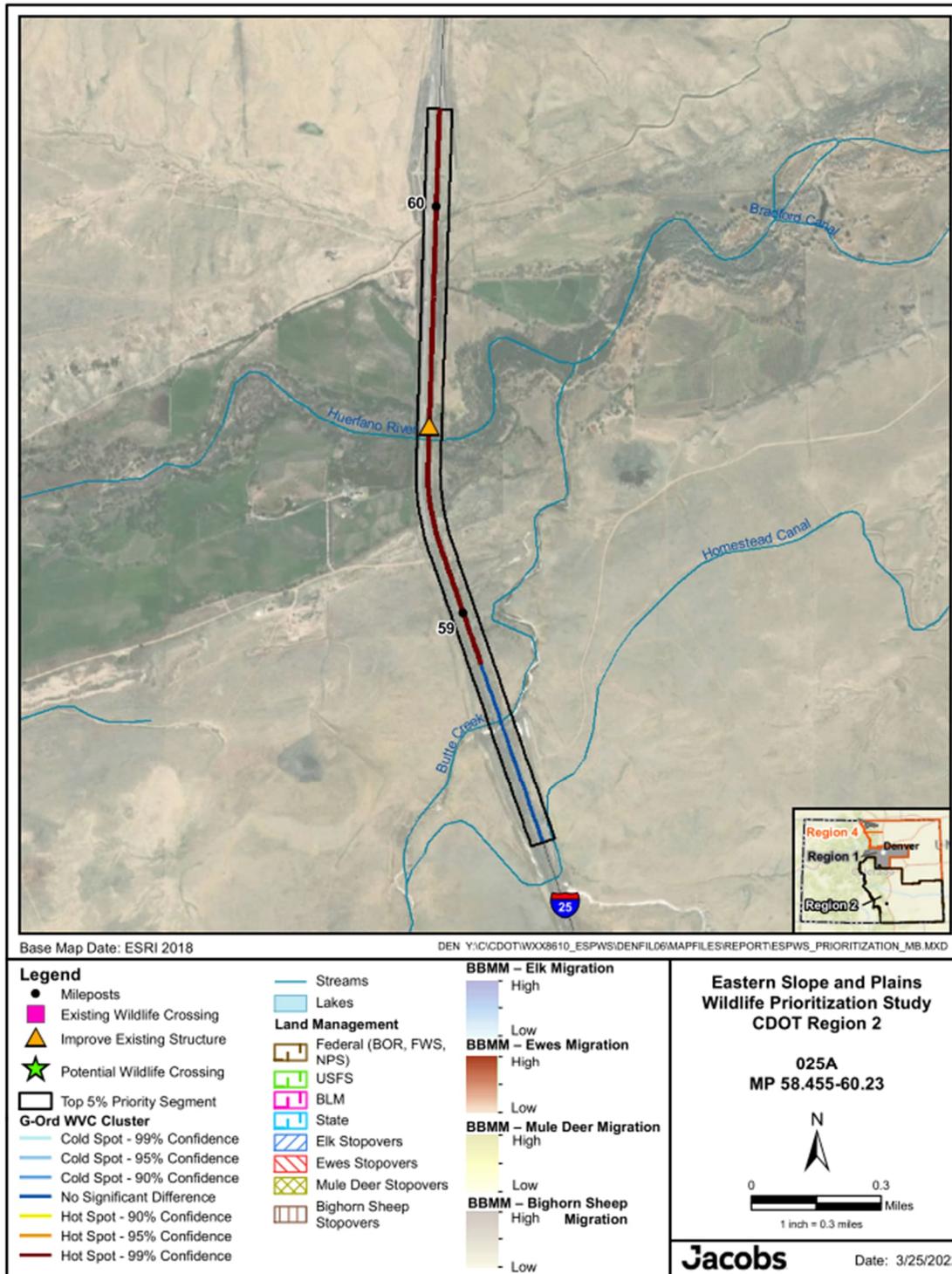
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	14,000	18,263	Deer, Elk	Winter range	Deer—Low Elk—Moderate

2.1.2.1.2 Preliminary Mitigation Recommendations

Wildlife mitigation recommendations are focused on optimizing wildlife use of the Huerfano River bridge at MP 59.4, which is optimally situated to accommodate wildlife movement under the interstate. The recommendation for this segment is to install 8-foot-high wildlife-exclusion fencing from the County Road 103 interchange to the south (MP 58.7) to the interchange at MP 60.1. In addition to the Huerfano River bridge, the fence would tie into existing stock passes along this segment. No wildlife guards would be required.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
59.4	Huerfano River bridge, a divided, long and low multispans bridge. The river does not maintain a perennial flows, and there are signs of frequent use by domestic cows.	Install wildlife-exclusion fencing to guide animals to this bridge underpass and to prevent them from crossing I-25 at-grade.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.1.3 Interstate 25, Mileposts 67.9 to 83.7, Colorado City

2.1.3.1 Huerfano and Pueblo Counties

This stretch of I-25 south of Pueblo is largely characterized by open piñon juniper habitat along the ridges and drainage channels that extend from the foothills farther west. The far southern portion of the segment is flat pasture lands. I-25 is a divided highway throughout the segment, and, from MPs 81 to 82, the median expands to more than 0.1 mile wide of natural habitat between the northbound and southbound lanes. Much of this segment is identified by CPW as deer and elk crossing zones by CPW. Although both species are common year-round, high densities of wintering and migrating deer make this segment particularly dangerous for WVCs during those seasons.

2.1.3.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	14,000 to 15,000	17,969 to 19,095	Deer, Elk	Winter, migration, and year-round habitat	Deer—Low Elk—High

2.1.3.1.2 Preliminary Mitigation Recommendations

There are four bridges spanning natural drainages in this segment, each of which is suitable for deer and elk passage. These bridges are dispersed throughout the segment, with approximately 3 miles separating each of them. In addition, there are several existing culverts or large fill slopes where new wildlife underpasses could be constructed. Further investigation is required to identify additional potential crossing structure locations at sufficient spacings between these locations to create a continuous system of wildlife crossings connected with fencing.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
70.4	Graneros Creek Bridge, a divided bridge over a perennial stream corridor with good riparian habitat and open space on either side of I-25.	Bridge is highly functional for deer, elk, and other wildlife passage. Tie into wildlife fence.	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
73.3	Greenhorn Creek Bridge. Perennial water flows with good native habitat on either side. Increasing development around Colorado City may further funnel wildlife into this drainage.	Bridge is highly functional for deer, elk, and other wildlife passage. Tie into wildlife fence.	
76.4	Double box culvert	Replace culvert with a low span bridge. Tie into wildlife fence.	 <p data-bbox="971 1052 1105 1077">Credit: CDOT</p>
76.9	Bridge over Scroggs Arroyo	Bridge is highly functional for deer, elk, and other wildlife passage. Tie into wildlife fence.	 <p data-bbox="971 1451 1105 1476">Credit: CDOT</p>
78.5	One-lane frontage road underpass	N/A	

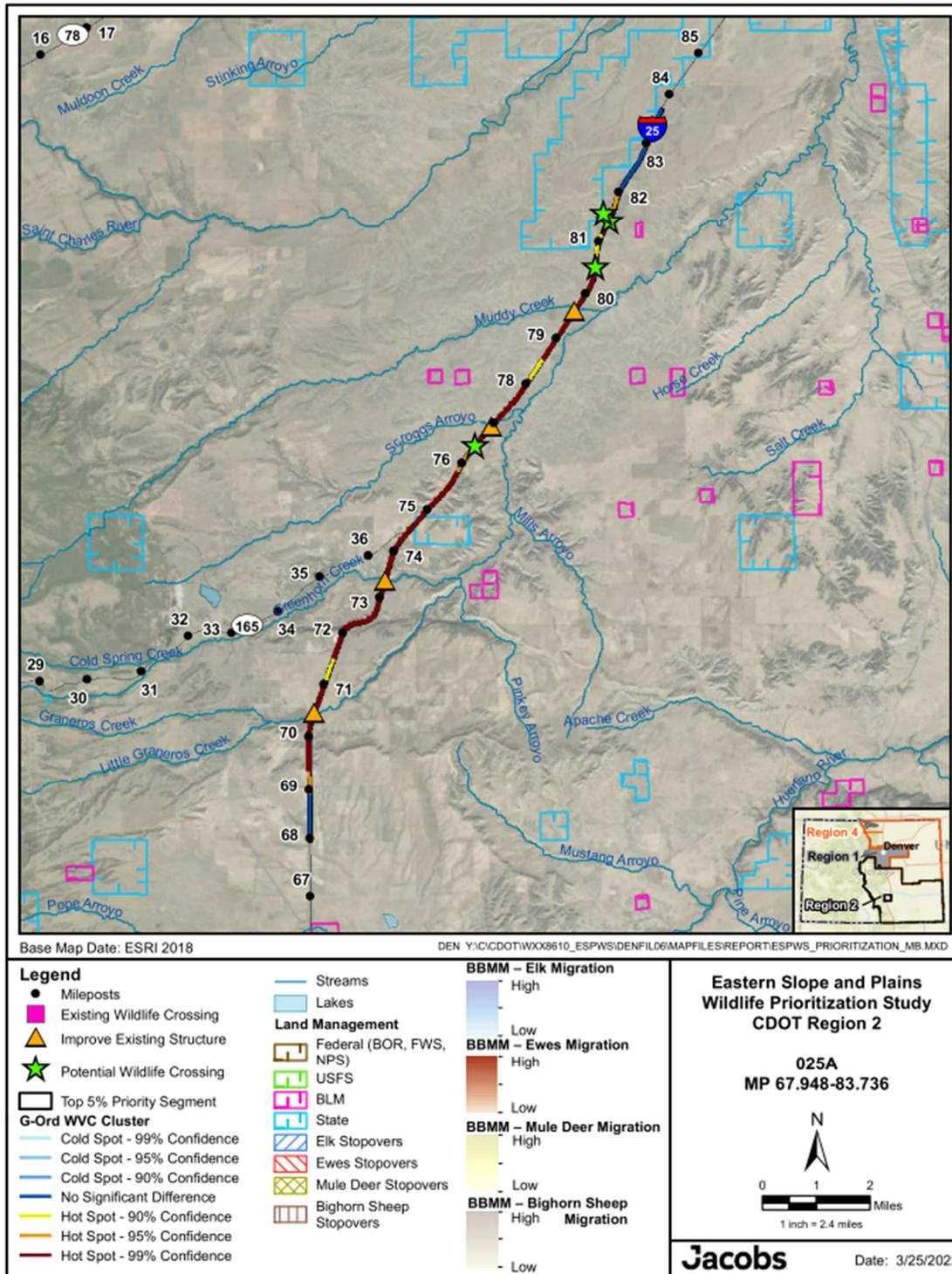
Eastern Slope and Plains Wildlife Prioritization Study
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
79.6	Muddy Creek Bridge. Culvert under adjacent east side frontage road.	Tie into wildlife fence.	 <p data-bbox="971 695 1105 720">Credit: CDOT</p>
80.5	Long fill slope with large drainage pipe into heavily eroded channel	Replace box culvert with a wide span bridge to accommodate deer and elk passage and flashy water flows. Tie structure into wildlife fencing.	
81.4 North-bound	Incised drainage channel with 10-foot-wide by 12-foot-high box culvert under the northbound lanes to open median; fill slope. Culvert jogs midway through.	Replace box culvert with a wide span bridge to accommodate deer and elk passage and flashy water flows. This structure should be replaced in conjunction with a new wildlife crossing under the northbound lanes at MP 81.5. Wildlife fencing will be required on both side of the northbound and southbound lanes.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
81.5 South-bound	Incised drainage channel with 10-foot-wide by 12-foot-high by 300-foot-long box culvert under the southbound lanes; large fill slope. Ridges to the north and south of this location naturally funnel wildlife into this area.	Replace box culvert with a wide span bridge to accommodate deer and elk passage and flashy water flows. This structure should be replaced in conjunction with a new wildlife crossing under the southbound lanes at MP 81.4. Wildlife fencing will be required on both sides of the northbound and southbound lanes.	
MP 83	Small drainage, fill slope with low box culvert. Frontage roads parallel I-25 on both sides; scattered residential development.	None.	

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2.1.4 Interstate 25, Mileposts 118.7 to 119.6, Wigwam

2.1.4.1 El Paso and Pueblo Counties

This segment of I-25 is characterized by the Fountain Creek riparian corridor, which parallels the interstate to the east, with irrigated fields in the uplands between the interstate and the riparian corridor. A railroad line parallels the interstate along the east side, with frontage roads on one or both sides of I-25 through the segment. There is a cable median barrier and barbed-wire right-of-way fence on the west side of I-25 and the east side of the railroad tracks.

The riparian corridor provides important migration and winter range habitat for deer and elk.

2.1.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	38,000	53,162	Deer, Elk	Migration and winter range	Deer—High Elk—Low

2.1.4.1.2 Preliminary Mitigation Recommendations

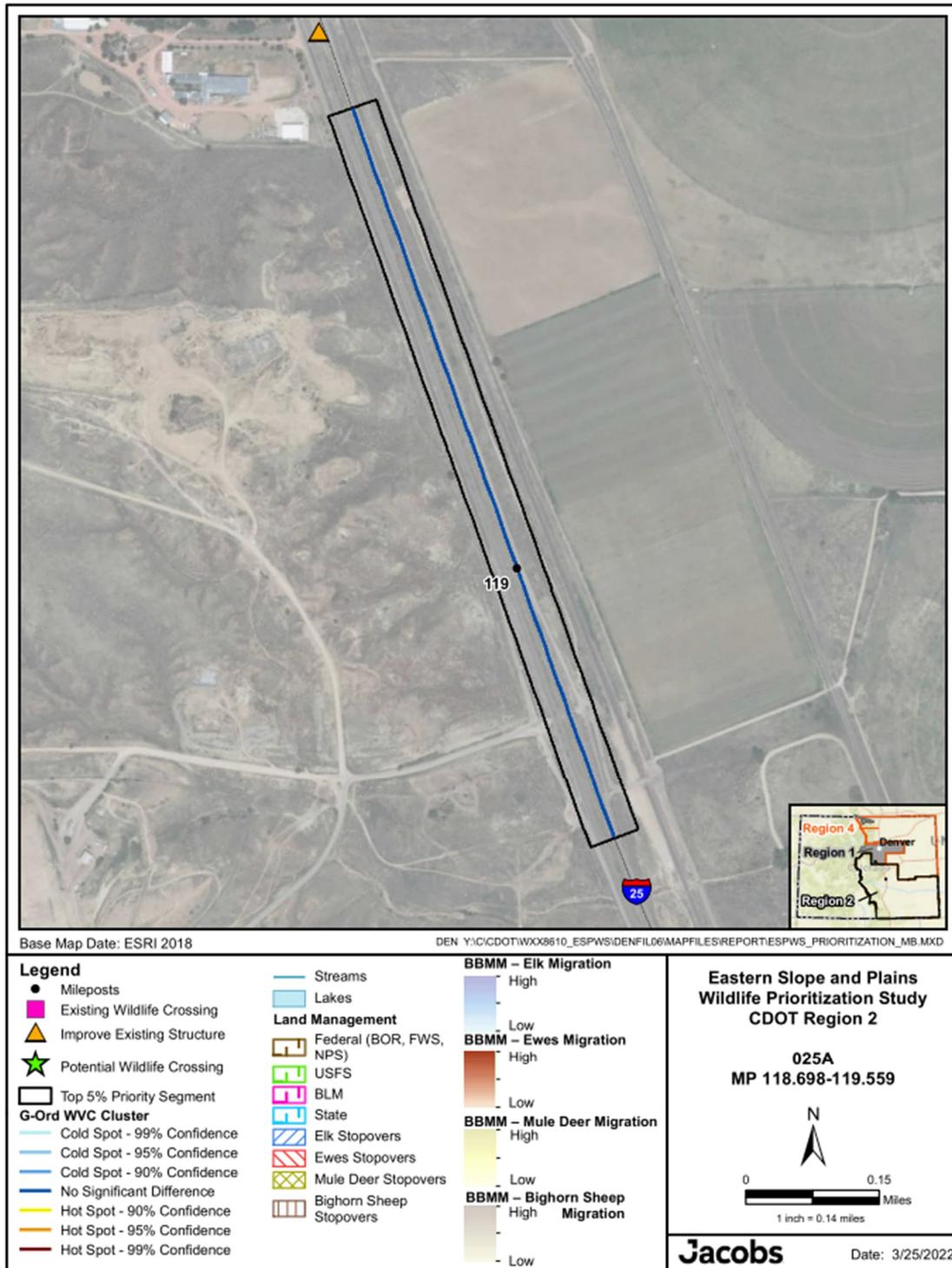
The landscape adjacent to I-25 is mostly flat, offering little opportunity for constructing wildlife underpasses. There is one structure suitable for wildlife passage over a natural draw at the north end of the segment (MP 119.7). North of this priority segment is a stretch of roadway that already has wildlife-exclusion fencing, beginning around MP 121.7, on the north side of the interchange for the Pikes Peak International Raceway.

Given that the majority of wildlife movement is north-south along the riparian corridor and adjacent uplands on the east side of I-25, CDOT and CPW should evaluate the implications of extending the existing wildlife fence farther south through this priority segment, with only the one opportunity for wildlife to cross safely under I-25.

Eastern Slope and Plains Wildlife Prioritization Study
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
119.7	Bridge over draw	Evaluate installing wildlife-exclusion fence to tie into bridge.	 <p data-bbox="971 693 1105 724">Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.1.5 Interstate 25, Mileposts 126.5 to 127, Fountain Creek

2.1.5.1 El Paso County

This section of I-25 south of Fountain runs alongside the Fountain Creek riparian corridor, which serves as an attractant for deer, elk, and other wildlife. Railroad tracks parallel the east side of the interstate, between I-25 and the creek. Existing wildlife-exclusion fencing and escape ramps are in partial disrepair and in need of maintenance.

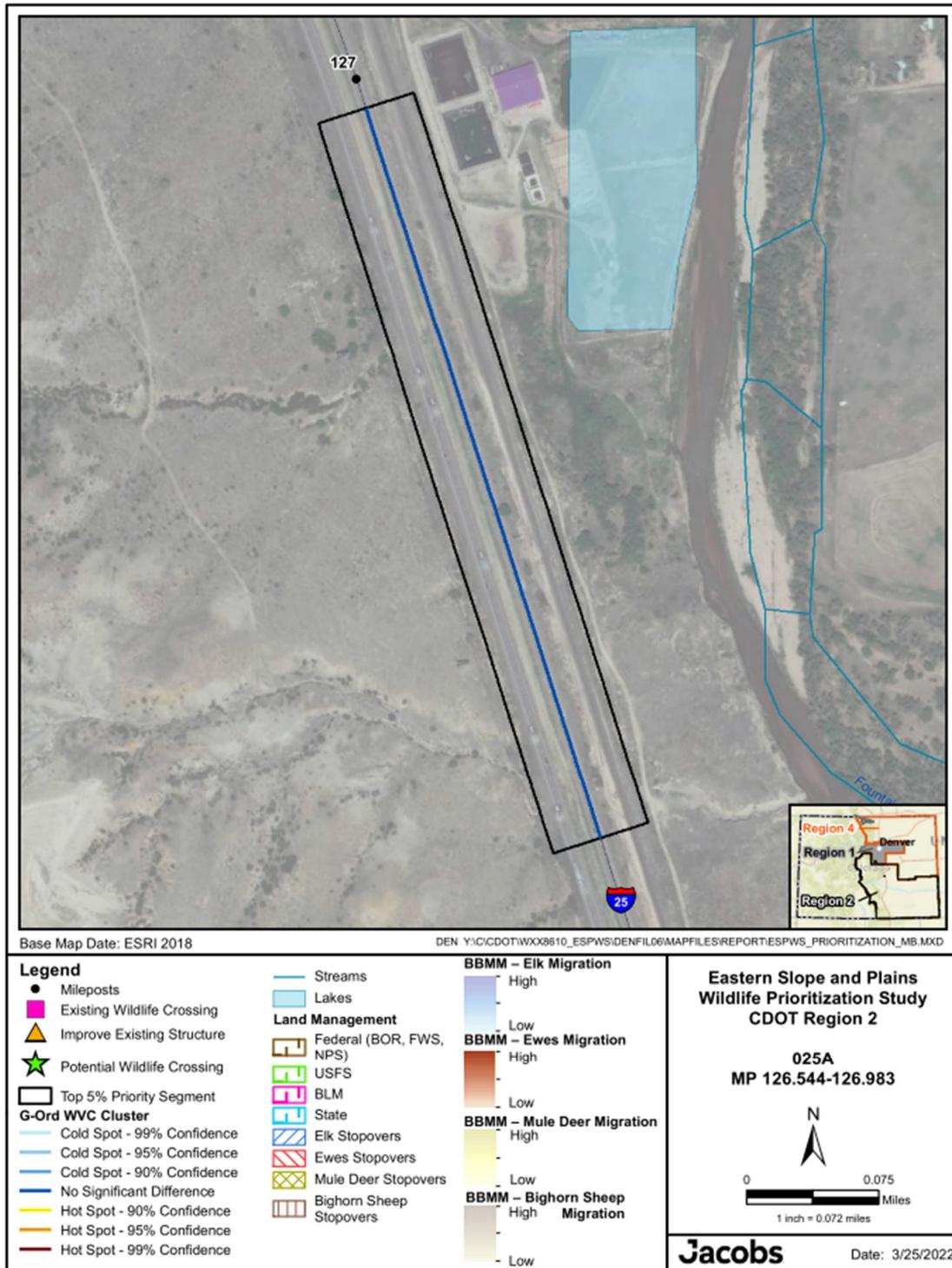
2.1.5.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	41,000	57,236	Mule Deer, Elk	Winter range, year-round	Deer—High Elk—Low

2.1.5.1.2 Preliminary Mitigation Recommendations

This segment is already mitigated with wildlife-exclusion fence that extends from MPs 121.7 to 128; however, there are no wildlife crossing structures. Flat terrain, the large roadway footprint, and adjacent railroad tracks render this an extremely challenging segment for wildlife crossing structures. To reduce ongoing WVC, the primary recommendation for this segment is to repair holes in the existing wildlife-exclusion fence and to stabilize and improve the escape ramps.

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 Wildlife-Highway Mitigation Recommendations



2.1.6 Interstate 25, Mileposts 152.8 to 159.3, Air Force Academy

2.1.6.1 El Paso County

Much of the landscape around this segment is owned and managed by the Air Force Academy, which is situated in the hills on the west side of I-25, providing important winter range and year-round wildlife habitat on the northwest side of Colorado Springs. The northern portion of the segment (MPs 157.1 to 159.3) is privately owned. The landscape is largely characterized by open ponderosa pine habitat through rolling terrain that extends from the foothills farther west.

2.1.6.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
6	84,000 to 104,000	123,690 to 154,232	Deer, Elk	Winter range	Deer—High Elk—Moderate

2.1.6.1.2 Preliminary Mitigation Recommendations

Install wildlife fence between the Interquest Parkway interchange (MP 152.8) and south of the Northgate Boulevard interchange (around MP 155.3), connecting fence to existing structures in this portion of the segment. The complexity of the interchange and associated on- and off-ramps at the entrance to the Air Force Academy and Northgate Boulevard may preclude fencing through this portion of the high-priority segment. Continue fencing north of this interchange from MP 156.2 to approximately MP 160.2 and replace select box culverts (minimum three locations at appropriately spaced intervals) with larger crossing structures suitable for passage by deer, elk, and other wildlife. Wildlife guards are required at the Baptist Road interchange.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
153.9	Bridge over Black Squirrel Creek	Connect bridge to wildlife fence.	

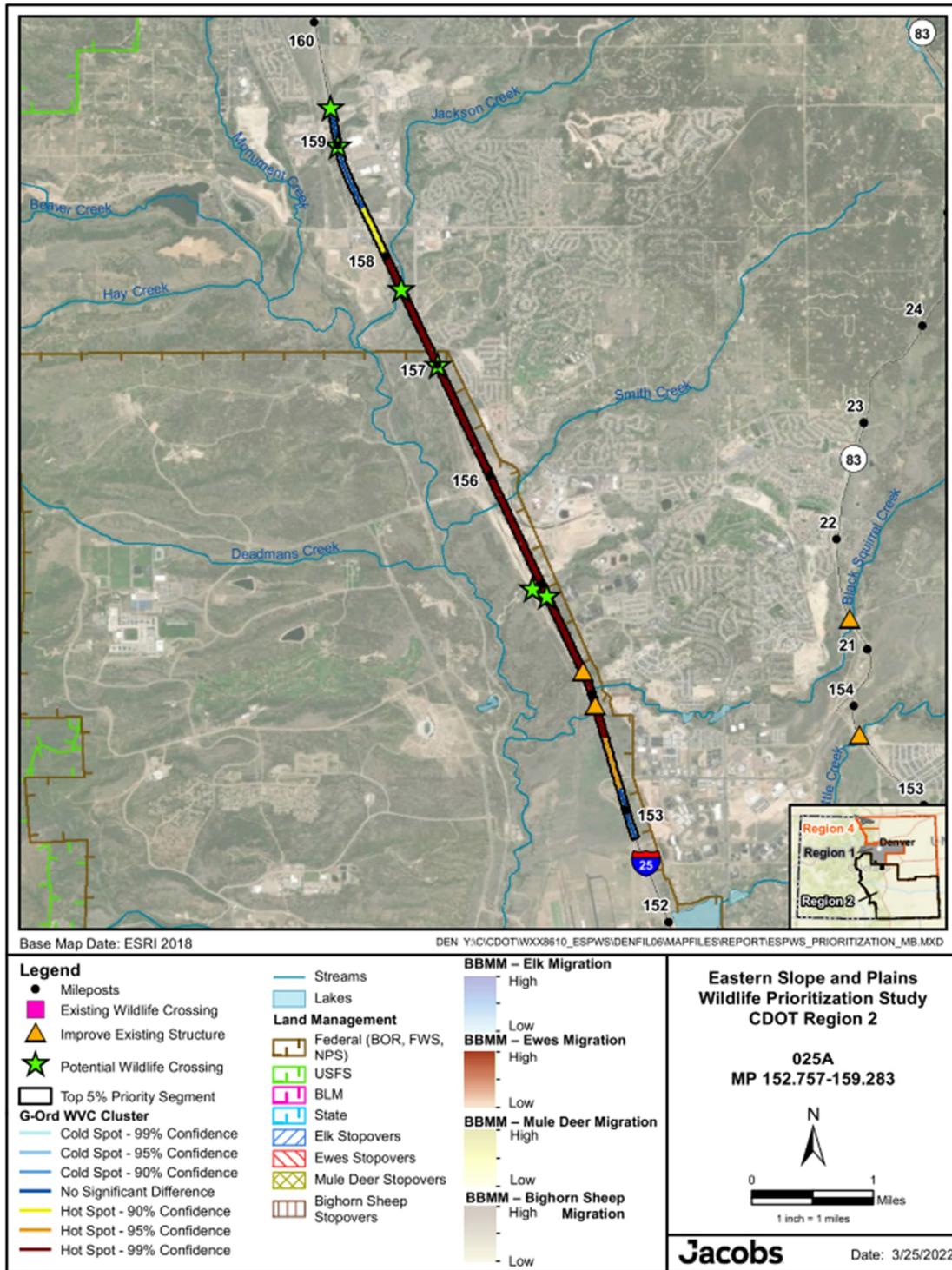
Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
154.2	Concrete box culvert (12 feet wide by 7 feet high) with concrete bottom. Trail through culvert; adjacent wetlands.	Culvert is highly functional as a carnivore crossing. Tie into wildlife fence.	
154.9 North-bound	Monument Creek double box culvert under the I-25 northbound lanes. Opposing lanes are separated by an approximately 300-foot-wide natural median at this location.	Replace culvert with a low span bridge.	 <p data-bbox="972 1050 1104 1075">Credit: CDOT</p>
155 South-bound	Monument Creek double box culvert under the I-25 southbound lanes. Opposing lanes are separated by an approximately 300-foot-wide natural median at this location.	Replace culvert with a low span bridge.	 <p data-bbox="972 1444 1104 1470">Credit: CDOT</p>
155.7	Two double box culverts under opposing lanes of I-25 (Smith Creek). I-25 is separated by an approximately 400-foot-wide natural median at this location. On- and off-ramps present on either side of the interstate also cross over the creek.	The Northgate interchange encircling this location is complex and may preclude wildlife fencing in this portion of the segment. Requires further investigation.	 <p data-bbox="972 1839 1104 1864">Credit: CDOT</p>

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
156.4	Small draw with two small concrete box culverts under the opposing lanes of I-25	Tie into wildlife-exclusion fence.	N/A
156.6	Small draw with two small concrete box culverts under the opposing lanes of I-25	Tie into wildlife-exclusion fence.	N/A
157	Double box culvert, each cell 10 feet wide by 10 feet high with soil substrate through culvert. Live stream through north chamber; deer tracks observed in south chamber. Wetland habitat on south side of culvert; drier uplands to east.	Replace culvert with a span bridge or large arch culvert.	
157.7	Jackson Creek box culvert (~24 feet wide by 20 feet high). Grouted riprap around east entrance and inside culvert may detract some deer, although deer, bobcat, and small mammal tracks have been observed in culvert. West entrance perched.	Replace culvert with a span bridge that better accommodates wildlife, water flows, and roadside drainage.	
159	Box culvert in fill slope	Potential location for a wildlife underpass in fill slope.	N/A
159.3	Teachout Creek double box culvert	Replace culvert with a span bridge.	 Credit: CDOT

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.1.7 Interstate 25, Mileposts 162.8 to 163.6, Monument Hill

2.1.7.1 El Paso County

This segment of I-25 was part of the I-25 South Gap Project, which included a wildlife underpass at MP 162.5 that was constructed in 2021 primarily for mule deer and black bear. The underpass is composed of three 60-foot-wide bridges under the southbound and northbound lanes of I-70 and east side frontage road.

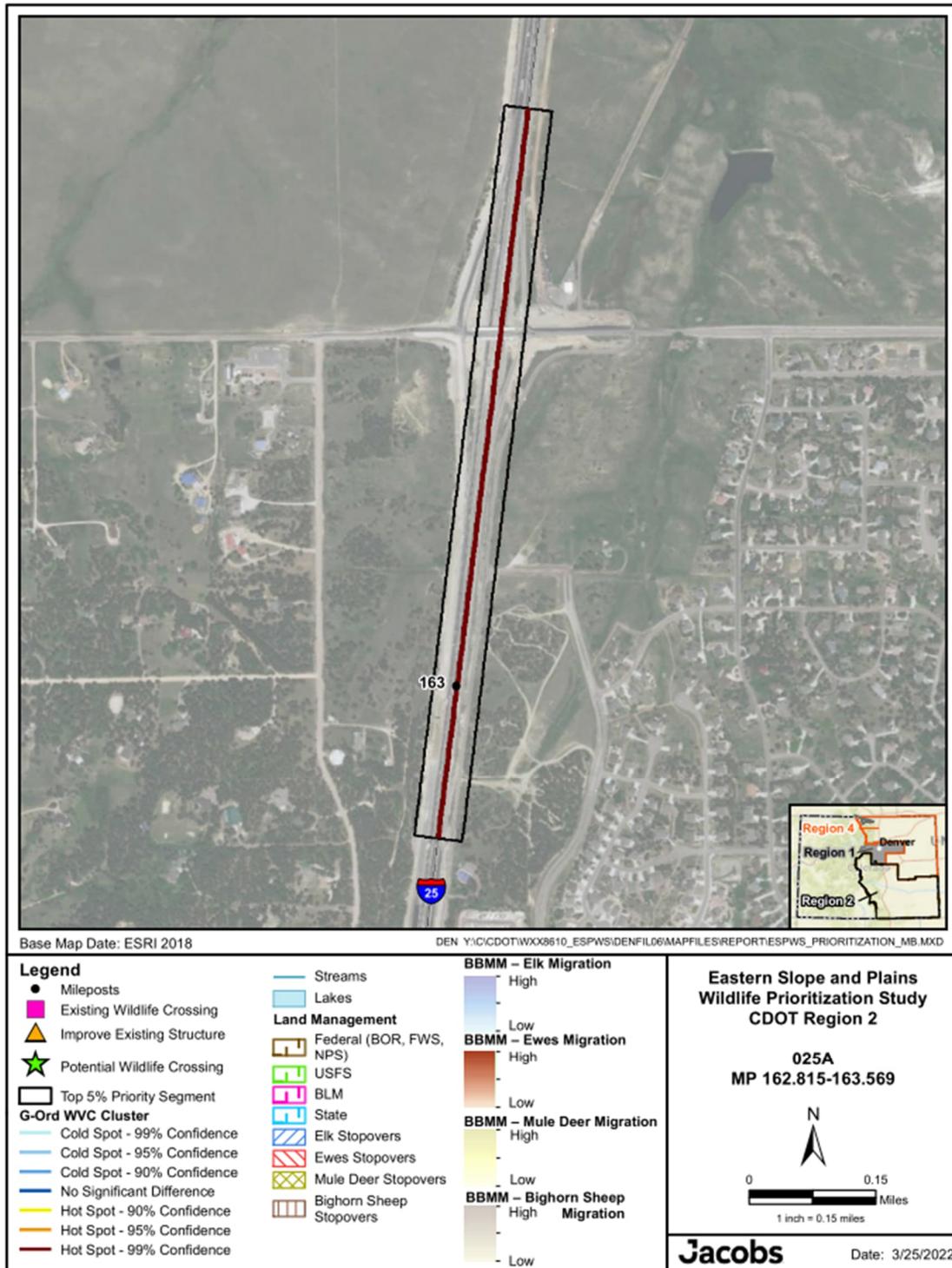
MP 162.5 Wildlife Underpass



2.1.7.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
7	66,000 to 67,000	97,185 to 100,065	Mule Deer, Black Bear	Winter, year-round	Deer—High

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.2 U.S. Highway 24 Priority Segments

2.2.1 U.S. Highway 24, Mileposts 274.8 to 276.7, Florissant to Divide

2.2.1.1 Teller County

US 24 is a narrow, two-lane highway that runs along the Twin Creek drainage through the rolling, high-elevation hills between the towns of Florissant and Divide. With moderate traffic volumes, wildlife continue moving across the highway, which can result in WVCs.

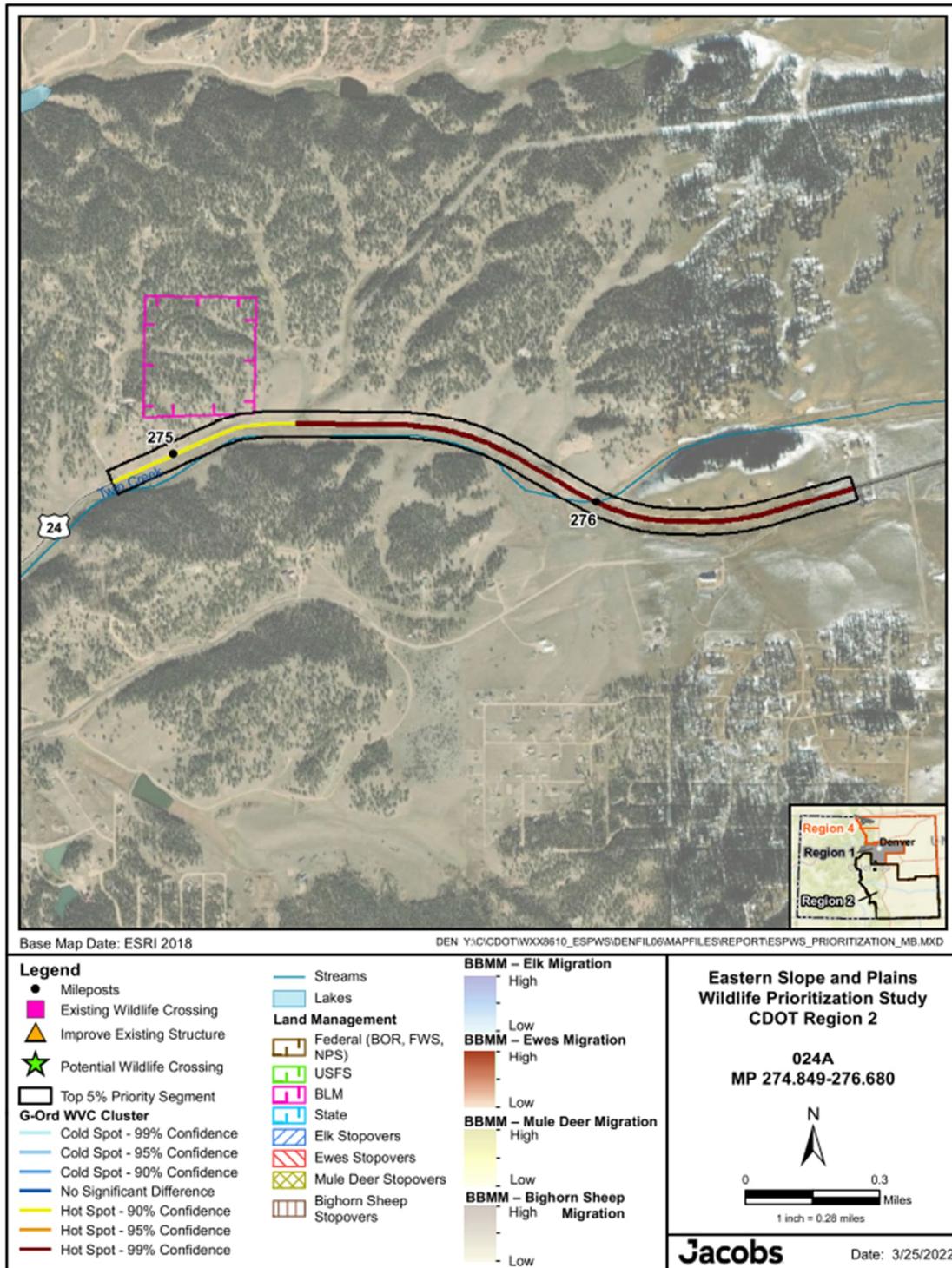
2.2.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	5,400	6,477	Elk, Mule Deer	Winter range, year-round	Elk—Low Deer—High

2.2.1.1.2 Preliminary Mitigation Recommendations

Wildlife crossings are not recommended in this segment given the position of the roadway along the creek drainage. Remove and, where needed, replace barbed-wire (and a short stretch of woven wire) right-of-way fencing with wildlife-permeable fencing throughout the segment.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.2.2 U.S. Highway 24, Mileposts 315.9 to 320, Colorado Springs to Falcon

2.2.2.1 El Paso County

This segment of US 24 runs parallel to the East Fork of Sand Creek to the northwest and the Jimmy Camp Creek drainage to the southeast between Colorado Springs and Falcon. The landscape adjacent to the highway is flat and characterized by native shortgrass prairie grasslands. Although currently undeveloped, this area lies within the city boundaries of Colorado Springs and the potential for development is high, except for the city-owned Jimmy Camp Creek Park to the southeast. Much of the area is identified as a mule deer concentration area, and the westernmost portion of the segment from MPs 315.9 to 316.6 is identified as a highway crossing zone by CPW.

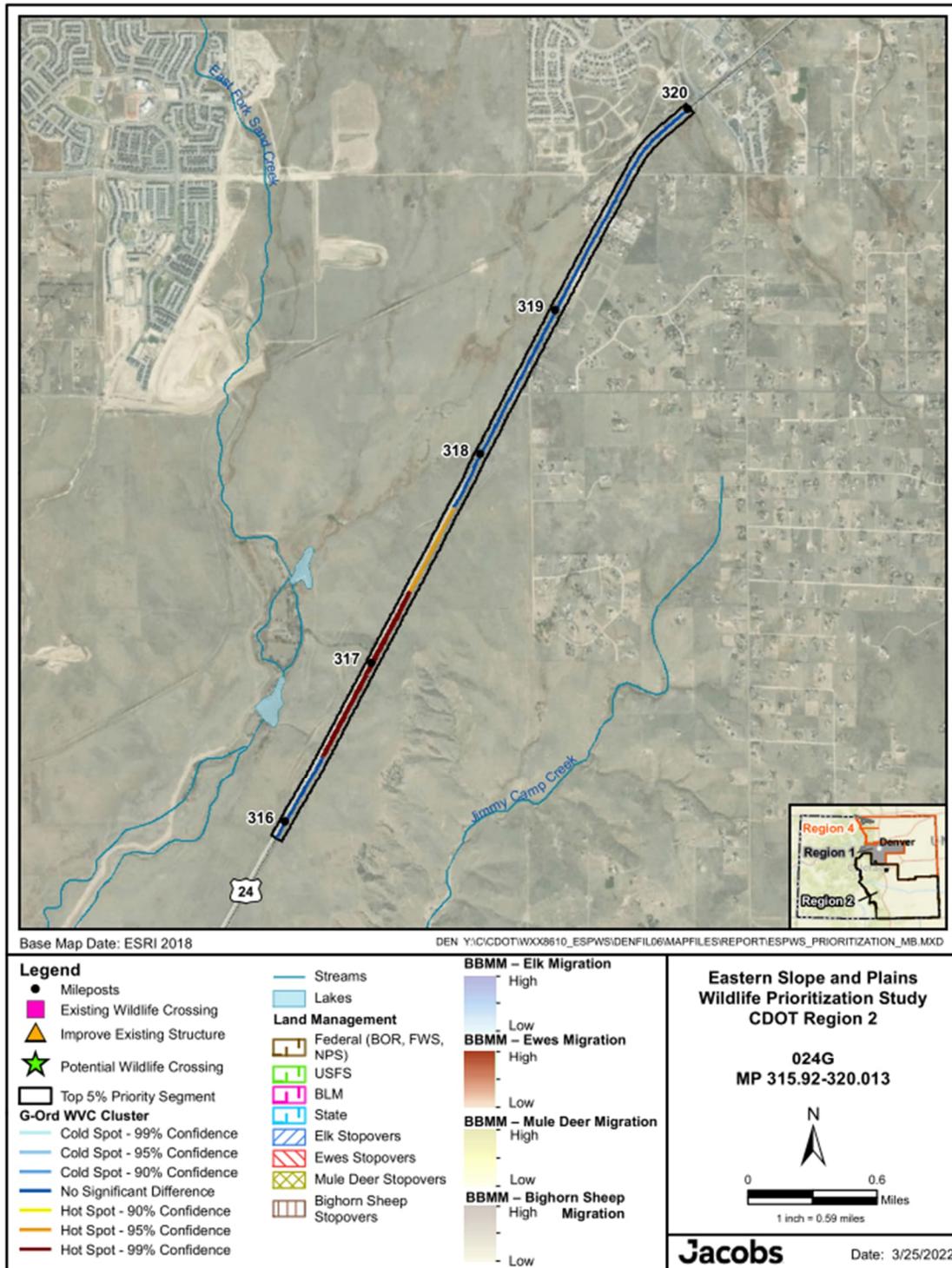
2.2.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	19,000	28,975	Mule Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

2.2.2.1.2 Preliminary Mitigation Recommendations

Given the flat landscape and high potential for development, wildlife crossing structures are not recommended in this segment. Barbed-wire right-of-way fence should be removed and, where necessary, may be replaced with wildlife-permeable right-of-way fencing. Coordination with the City of Colorado Springs to ensure habitat protections and wildlife connectivity, particularly around the creek corridors, and to minimize the potential for WVCs as development expands into this area.

Eastern Slope and Plains Wildlife Prioritization Study
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2.2.3 U.S. Highway 24, Mileposts 340.5 to 340.9, Calhan

2.2.3.1 El Paso County

This segment lies east of the town of Calhan and runs through agricultural and pasture lands with scattered residences/farms. The highway crosses over several small, ephemeral drainage channels. These terrain features in an otherwise flat landscape, combined with the land cover, attract both deer and pronghorn in this landscape. Barbed-wire right-of-way fence lines both sides of the highway, creating a partial barrier to wildlife movement that may lead to animals becoming trapped in the right-of-way, where they are more exposed to potential WVCs.

Grassy Draw Bisected by US 24



2.2.3.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	4,200	5,214	Deer, Pronghorn	Winter, year-round	Deer—High Pronghorn—Low

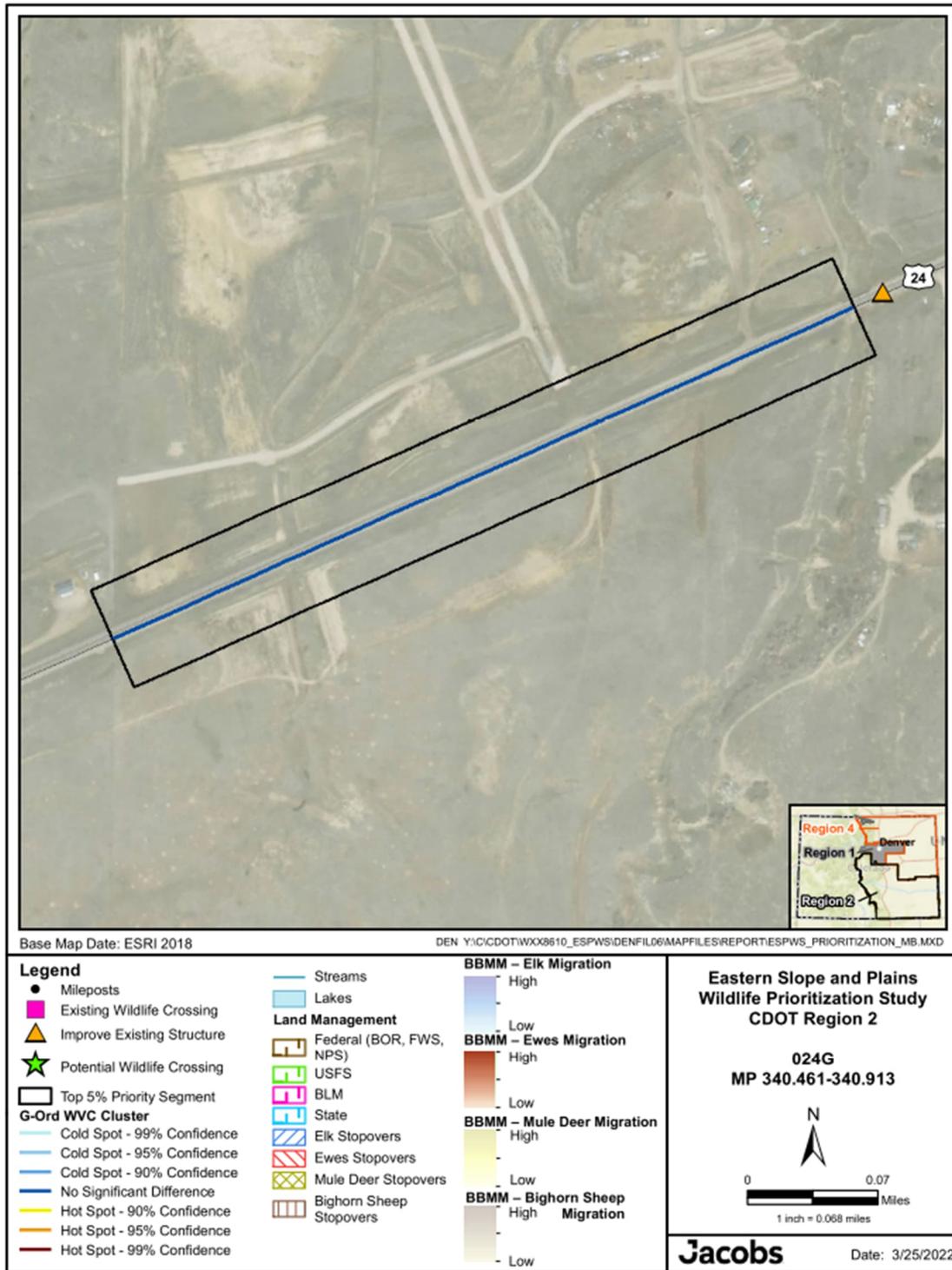
2.2.3.1.2 Preliminary Mitigation Recommendations

An existing bridge in this 0.5-mile segment offers an excellent opportunity for installing wildlife-exclusion fence to reduce at-grade highway crossings and encourage wildlife passage under the bridge. Given that this high-priority segment lies between two 90th percentile segments, additional mitigation may be warranted through this longer segment, from MPs 340 to 343. In addition to extending the wildlife-exclusion fence to encompass a second existing bridge at MP 34.7, it is recommended that barbed-wire right-of-way fence beyond the extent of the wildlife-exclusion fence be replaced with a more wildlife-permeable alternative that facilitates pronghorn movement beneath the fence and lessens the likelihood of animals becoming trapped within the right-of-way.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
340.9	Timber bridge over draw. Barbed-wire fence across north side of bridge.	Install ~0.5 mile of 8-foot-high wildlife-exclusion fence. Remove barbed-wire fence on north side of bridge and, if needed by landowner, replace with a more wildlife-permeable alternative.	
341.7	Timber bridge over draw. Metal gates for livestock control across the south side entrance to the structure. This location is outside the 95th percentile segment and is ranked in the 90th percentile.	Coordinate with landowner to set back livestock gates and install wildlife-permeable fencing across the draw. Consider extending wildlife-exclusion fence to tie into this bridge and extend ~0.5 mile farther to the northeast.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3 U.S. Highway 50 Priority Segments

2.3.1 U.S. Highway 50, Mileposts 285.9 to 287.6, Cañon City to Penrose

2.3.1.1 Fremont County

US 50 is a major east-west highway through the state that generally follows the Arkansas River drainage through the eastern portions of the state. This segment of US 50 passes through open, rolling terrain bisected by stream channels as the highway descends from the Sangre de Cristo Mountains toward Pueblo. This landscape provides winter range and severe winter range for large herds of mule deer.

2.3.1.1.1 Segment Characteristics

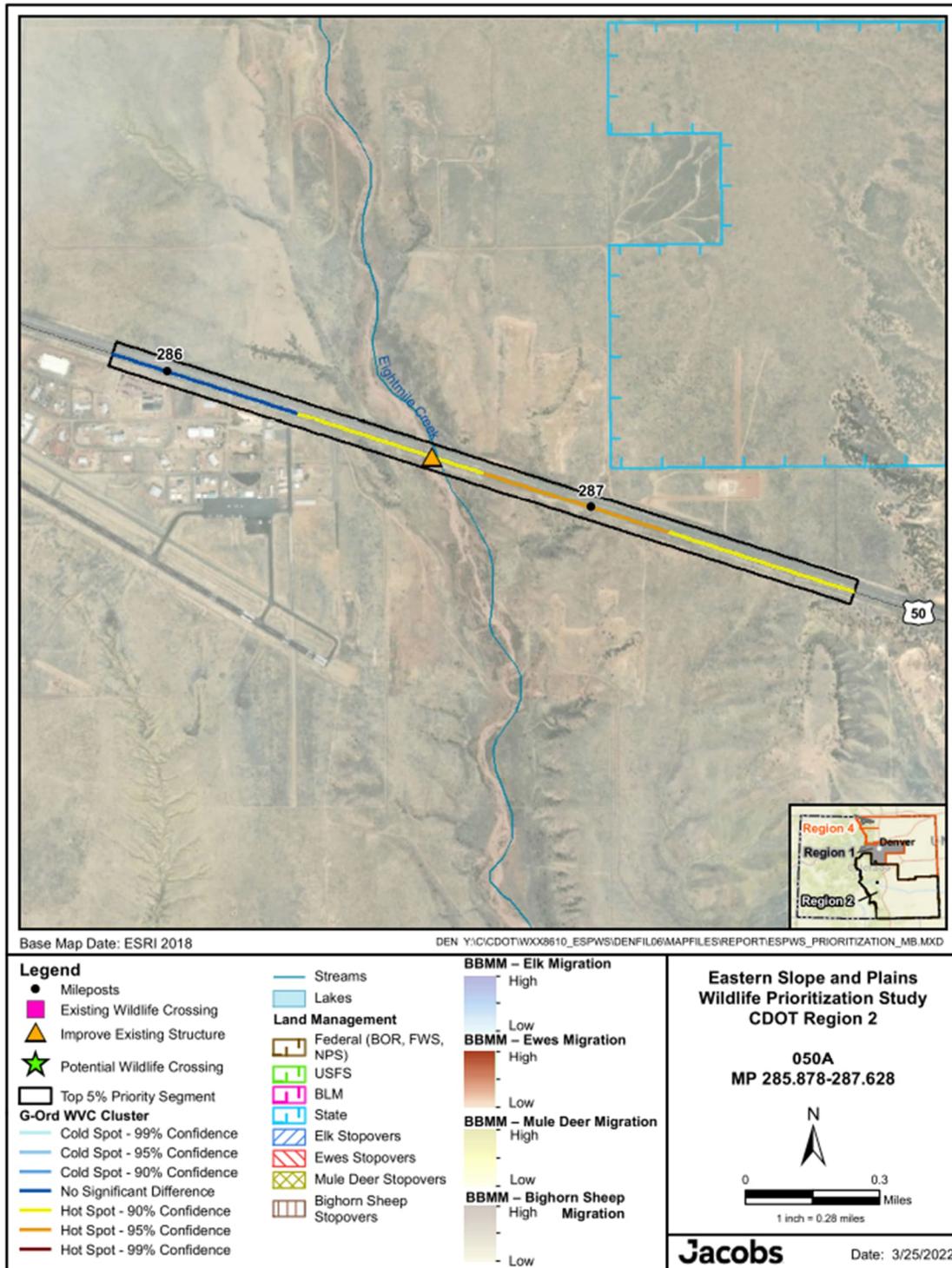
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	14,000	15,911	Mule Deer	Winter range	Deer—High

2.3.1.1.2 Preliminary Mitigation Recommendations

There is a large span bridge roughly in the middle of this 1.7-mile-long segment. Install wildlife-exclusion fencing for roughly 0.5 mile in either direction to guide deer and other wildlife to this bridge crossing. Remove and replace, as needed, the barbed-wire right-of-way fence through the remainder of the segment with wildlife-permeable fencing.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
286.6	Double bridge over the Eightmile Creek drainage. Barbed-wire fence runs across the structure opening.	Remove fence across the structure entrance and, if needed, set back fence and replace with a wildlife-permeable alternative. Install approximately 0.5 mile of wildlife-exclusion fencing in either direction from the bridge.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.2 U.S. Highway 50, Mileposts 290.7 to 296.8; State Highway 120, Mileposts 6.7 to 7.2, Penrose

2.3.2.1 Fremont County

This segment of US 50 runs east from the small community of Penrose. It is a four-lane divided highway that traverses the plateau lands west of Pueblo. Land use along much of this segment is characterized by small agricultural farms and residences. The highway crosses over several small to large drainages. The Arkansas River drainage parallels the highway through this segment 1 to 2 miles to the south. This landscape provides winter range and severe winter range for large herds of mule deer. At the eastern end of the segment, the Beaver Creek drainage provides winter range access to the Arkansas River for elk. Although less common, pronghorn is also present in this landscape.

This top 5 percent priority area also includes a short section of the adjacent SH 120 (MPs 6.7 to 7.2), which intersects US 50 at MP 296.6.

2.3.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	9,300 to 11,000	11,058 to 12,475	Mule Deer, Elk	Winter range	Deer—High Elk—Moderate

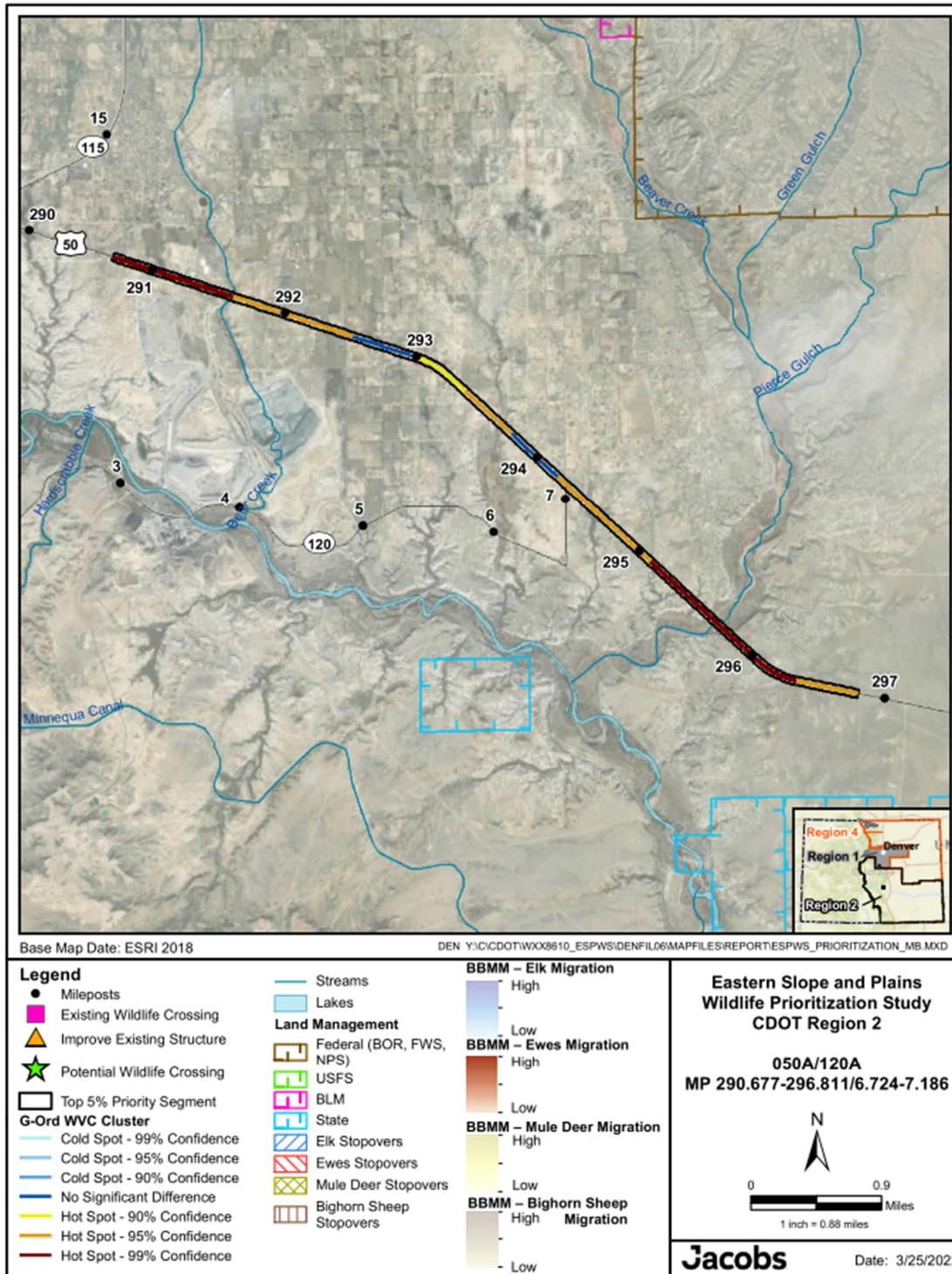
2.3.2.1.2 Preliminary Mitigation Recommendations

The primary recommendation for this segment is to remove the barbed-wire right-of-way fence and replace, as needed, with wildlife-permeable fencing. Although there is one large bridge at the eastern end of the segment, the terrain naturally funnels wildlife through this drainage and at this time it does not appear that the addition of 8-foot-high guide fencing tying into the bridge would have a major effect on increasing wildlife connectivity or reduce WVCs in this portion of the segment.

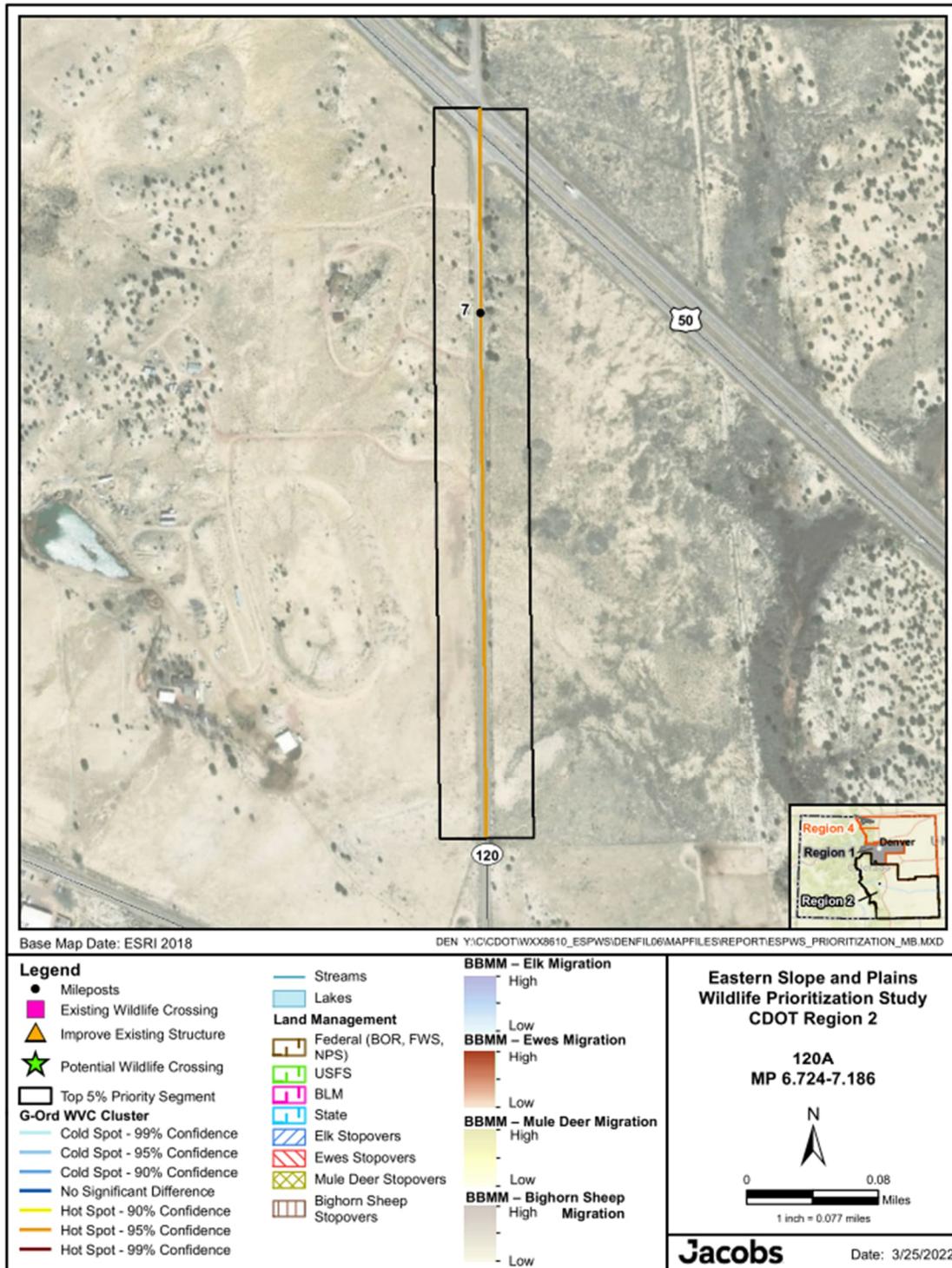
Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Existing Conditions		Mitigation Recommendation	Milepost Photo
291.6	Two-cell concrete box culvert at ephemeral draw	N/A	 <p>Credit: CDOT</p>
293.7	Urine Creek three-cell concrete box culvert	N/A	 <p>Credit: CDOT</p>
295.6	High span bridge over the Beaver Creek drainage. Terrain naturally funnels wildlife movements through this broad, riparian channel. Abundant vegetation cover and large cottonwoods.	N/A	

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 Wildlife-Highway Mitigation Recommendations



2.3.3 U.S. Highway 50, Mileposts 319 to 320.3, East Pueblo

2.3.3.1 Pueblo County

The Arkansas River corridor lies due south of this segment of US 50. The riparian corridor and adjacent agricultural fields provide important habitat for mule deer and white-tailed deer, as well as elk. Deer move across US 50 between the river corridor and native habitat north of the highway, despite having to navigate through substantial industrial activity along the south side of the highway. Railroad tracks parallel US 50 on the north side of the highway.

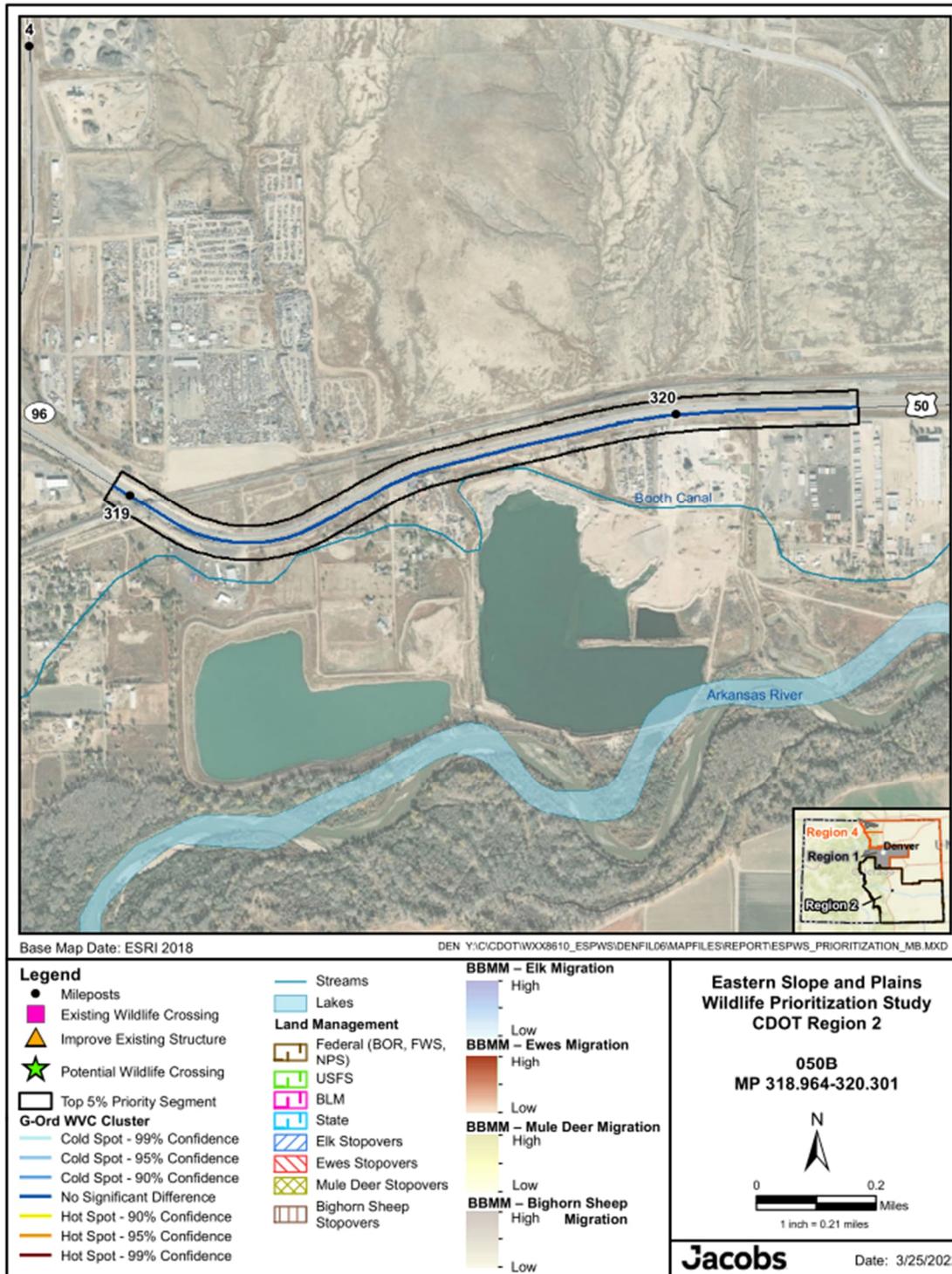
2.3.3.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	14,000	14,441	Deer	Year-round	High

2.3.3.1.2 Preliminary Mitigation Recommendations

Wildlife crossings are not recommended in this segment because of heavy industrial activity along this segment on the eastern edge of Pueblo and the potential for additional development. To reduce the risk of wildlife becoming trapped on the roadway, replace barbed-wire right-of-way fencing with wildlife-permeable fence.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.4 U.S. Highway 50, Mileposts 324.2 to 324.4; State Highway 231, Mileposts 1.2 to 1.6, Devine/Arkansas River

2.3.4.1 Pueblo County

This top 5 percent priority area includes SH 231 where it crosses over the Arkansas River south of US 50 and a short, 0.2-mile segment of US 50, where irrigated fields on the northwest side of the interchange attract deer from the riparian corridor, compelling them to cross US 50. The Arkansas River corridor and adjacent agricultural lands are identified by CPW as habitat for mule deer, white-tailed deer, and elk; and SH 231 is recognized by CPW as a highway crossing zone for deer. Railroad tracks parallel US 50 on the north side of the highway. Moderate traffic volumes render this stretch of highway dangerous for motorists and wildlife alike.

2.3.4.1.1 Segment Characteristics

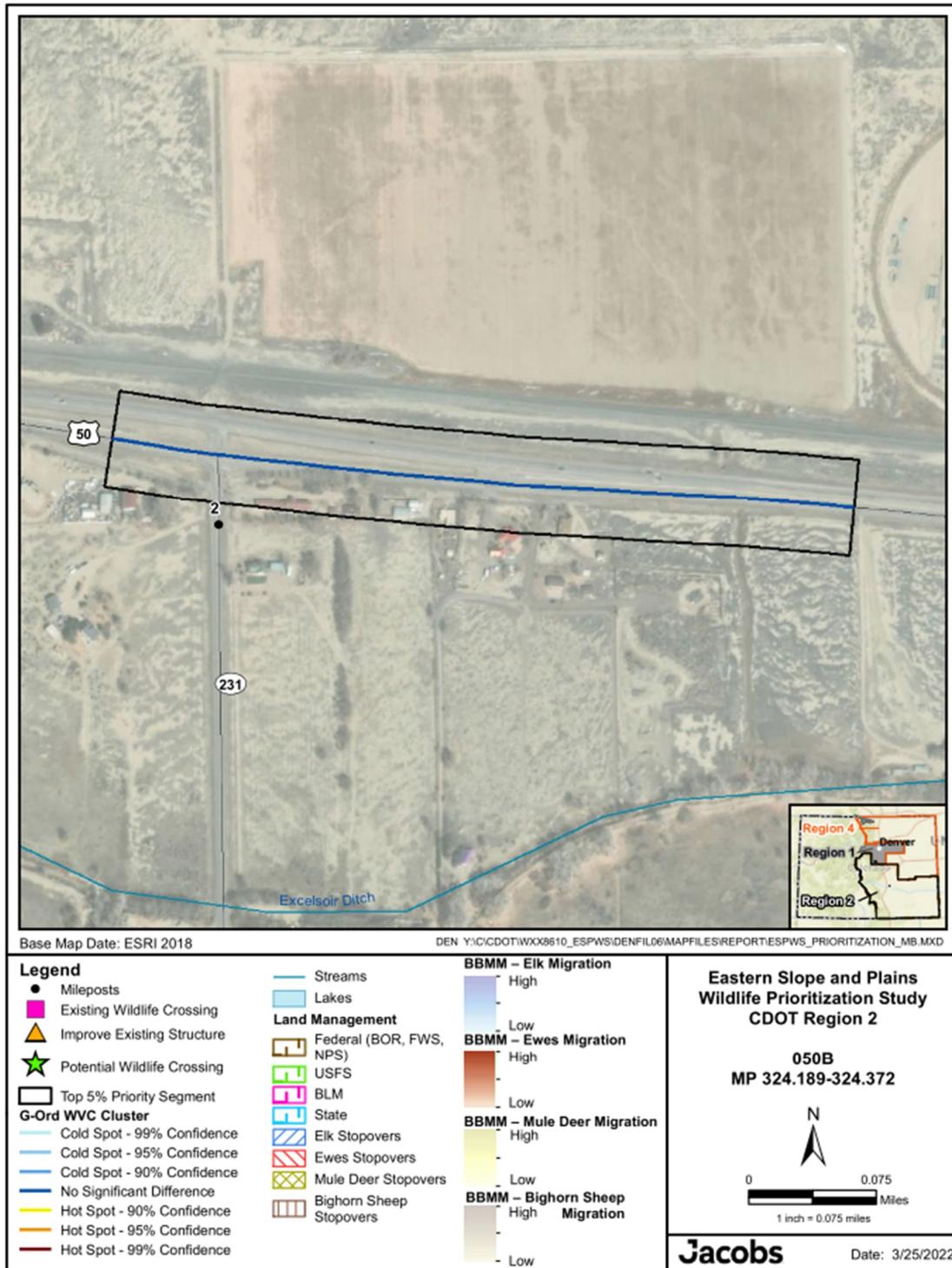
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	4,100	4,401	Deer	Winter, year-round	High

2.3.4.1.2 Preliminary Mitigation Recommendations

Install wildlife-exclusion fence along SH 231 from the US 50 interchange south to approximately MP 1. Coordinate with landowners remove double fence lines and other barriers to wildlife movement along the riparian corridor. On US 50, remove and replace, as needed, barbed-wire right-of-way fencing with wildlife-permeable fence. These right-of-way fence improvements should extend east to approximately MP 323 and west to the top 5 percent at the eastern edge of Pueblo (MPs 319 to 320.3), because this entire stretch ranked in the 90th percentile in this study.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
SH 231, MP 1.5	Bridge over the Arkansas River spanning much of the riparian corridor. The northernmost bridge span ties to adjacent pasture with barbed-wire fence and is used as a stock pass. At the south end of the bridge, a gap between the guard rail and a pasture with tall mesh fence funnels wildlife over the roadway at this location.	Tie wildlife fencing into bridge. Coordinate with landowners on either side to replace existing fences along SH 231 with wildlife-exclusion fence and to replace livestock fences with wildlife-permeable fences.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.5 U.S. Highway 50, Mileposts 330.3 to 331.2, Avondale/Arkansas River

2.3.5.1 Pueblo County

This segment is characterized by US 50 crossing over the Arkansas River and adjacent irrigated hayfields and native range. The river corridor and uplands are identified by CPW as habitat for mule deer, white-tailed deer, and elk.

2.3.5.1.1 Segment Characteristics

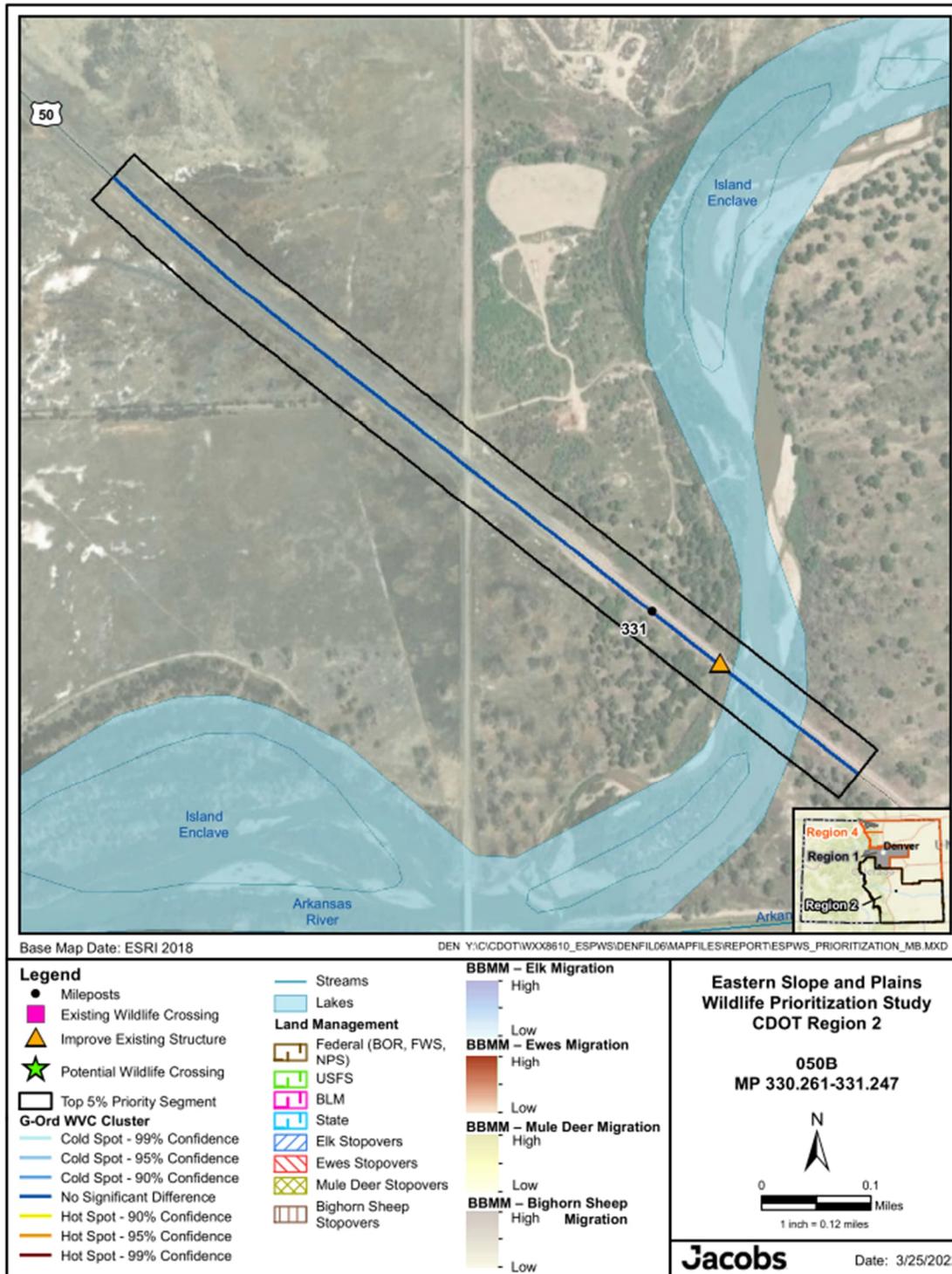
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	4,100	4,401	Deer	Winter, year-round	High

2.3.5.1.2 Preliminary Mitigation Recommendations

Install wildlife-exclusion fence to guide wildlife to cross US 50 under the Arkansas River bridge and help prevent at-grade crossings. Fence should extend from approximately MPs 329.8 to 331.5. Right-of-way fencing extending in either direction from the ends of the wildlife-exclusion fence should be wildlife permeable. Consider using geocell or another fence end treatment at the ends of the wildlife-exclusion fence to prevent wildlife from becoming trapped in the fenced right-of-way.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
331.1	Bridge over the Arkansas River spanning much of the riparian corridor	Tie wildlife fencing into bridge.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.6 U.S. Highway 50, Mileposts 370.4 to 371.3, Rocky Ford

2.3.6.1 Otero County

Irrigated croplands on either side of US 50 create a draw for mule deer and white-tailed deer along this segment. Commercial development along the highway at the eastern outskirts of the town of Rocky Ford and the adjacent railroad line precludes substantive wildlife mitigation in this segment.

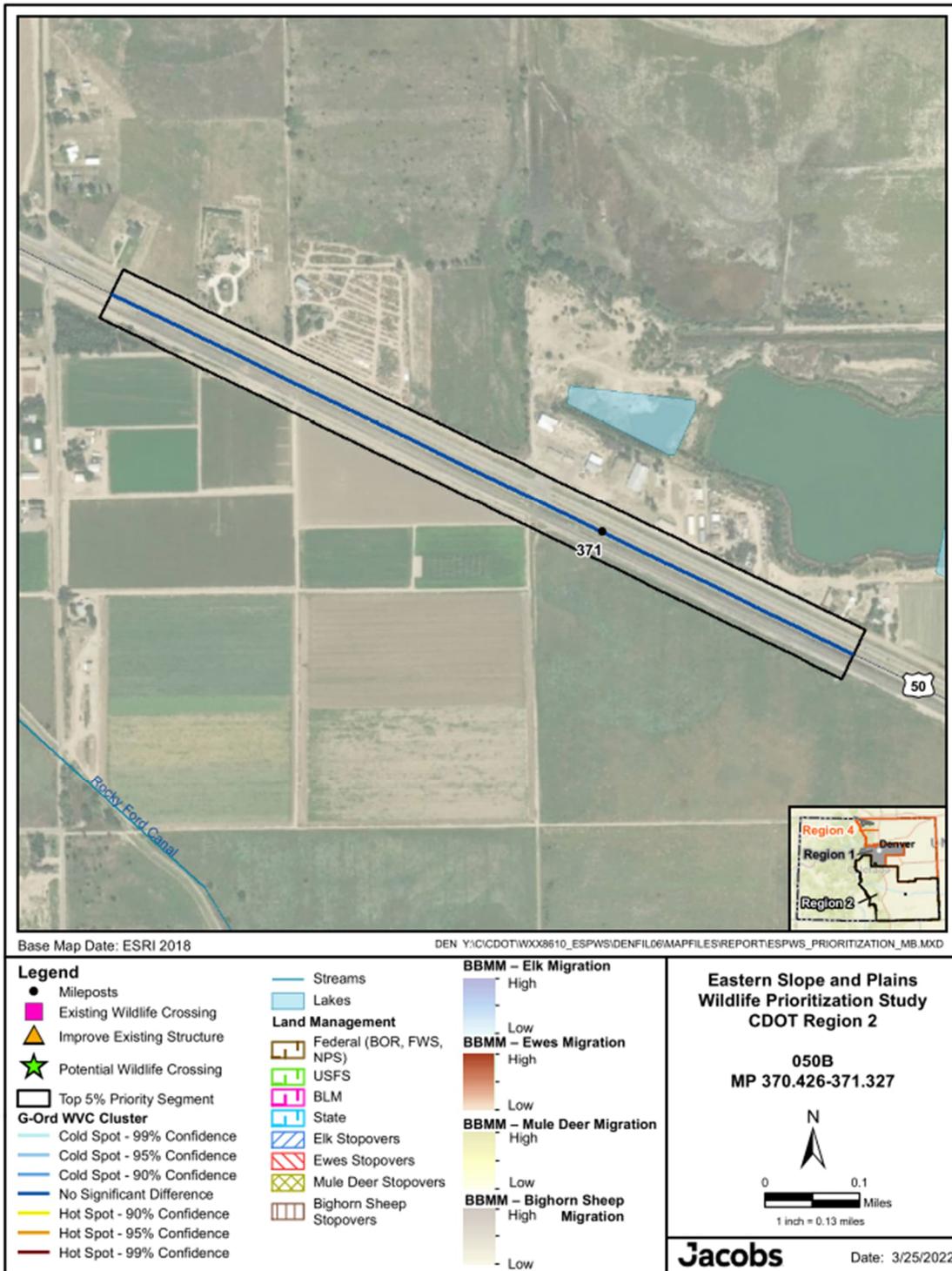
2.3.6.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	9,400	9,499	Deer	Year-round	Low

2.3.6.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider using variable-message signs during high wildlife activity seasons (May to June and October to November).

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.7 U.S. Highway 50, Mileposts 373 to 374.4, Timpas Creek

2.3.7.1 Otero County

Irrigated agricultural lands along the Aransas River and Timpas Creek create a draw for mule deer and white-tailed deer in this landscape, whereas pronghorn is common in the upland grasslands. Railroad tracks run adjacent to the south side of the highway.

2.3.7.1.1 Segment Characteristics

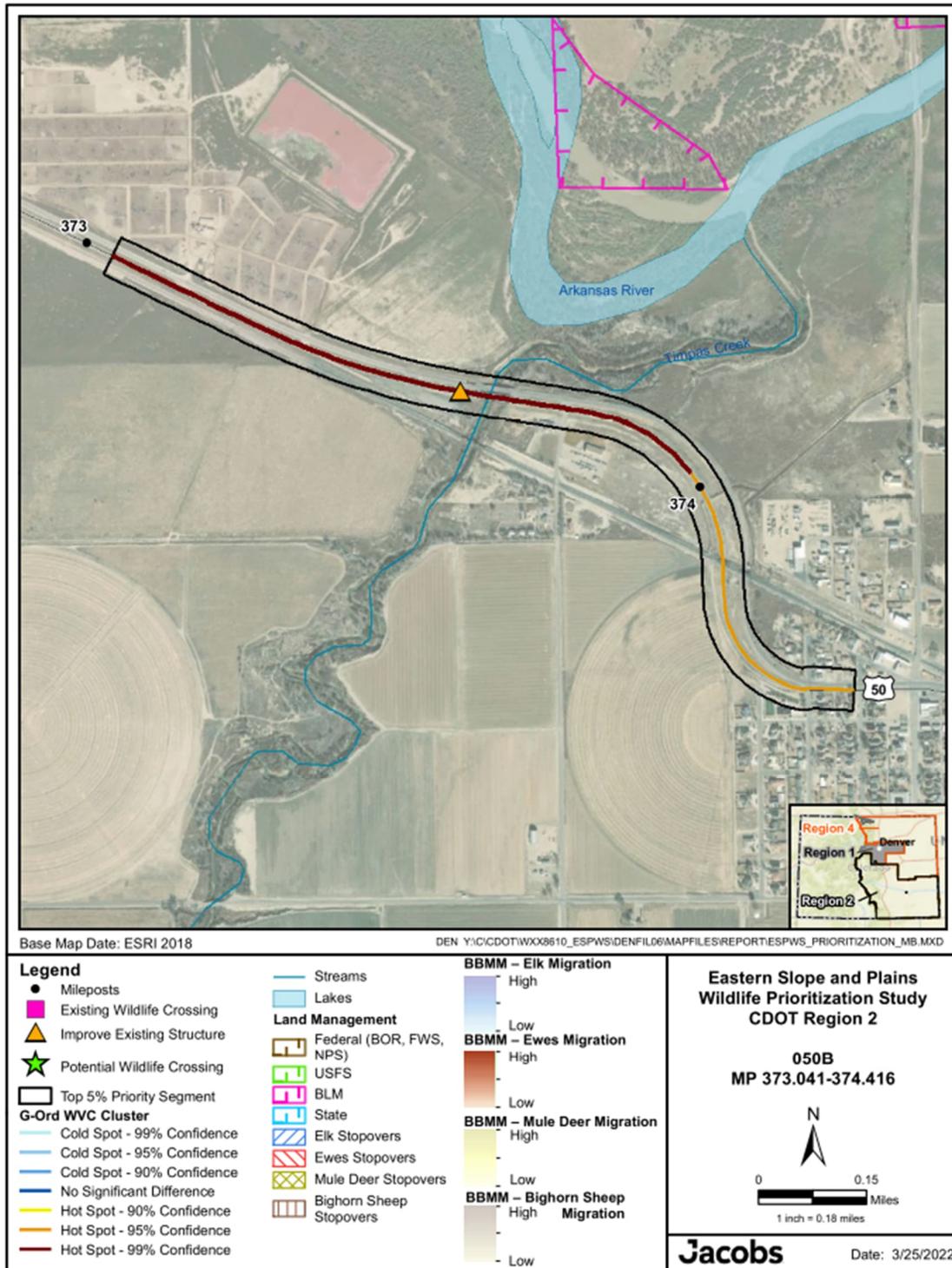
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	9,400	9,499	Deer	Year-round	Low

2.3.7.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider installing wildlife-exclusion guide fence to tie into the Timpas Creek bridge.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
373.6	Timpas Creek bridge, a low bridge spanning the creek channel	Consider extending wildlife-exclusion fence for approximately 0.5 mile in either direction.	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.8 U.S. Highway 50, Mileposts 400 to 402.7; State Highway 194, Mileposts 19.9 to 20.3, Las Animas/Arkansas River

2.3.8.1 Bent County

This segment of US 50 runs north out of Las Animas across the Arkansas River, where it ties into the interchange with SH 194; east of this location, SH 194 parallels the south side of US 50 to MP 401.5. East of this interchange, broad swaths of irrigated cornfields and hayfields line both sides of the highway. This landscape is identified by CPW as a concentration area for both mule deer and white-tailed deer.

2.3.8.1.1 Segment Characteristics

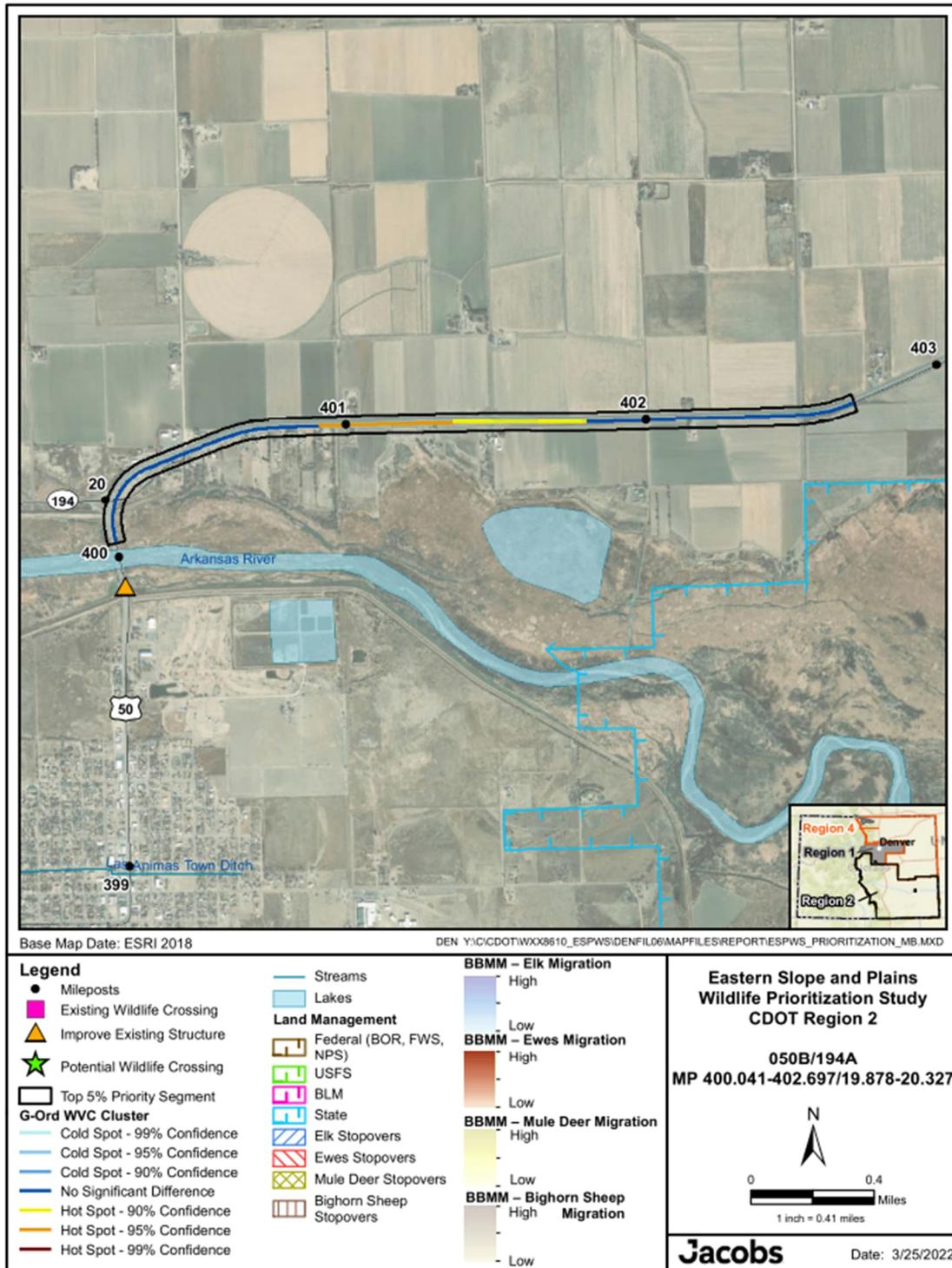
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	3,500	3,647	Deer	Year-round	Low

2.3.8.1.2 Preliminary Mitigation Recommendations

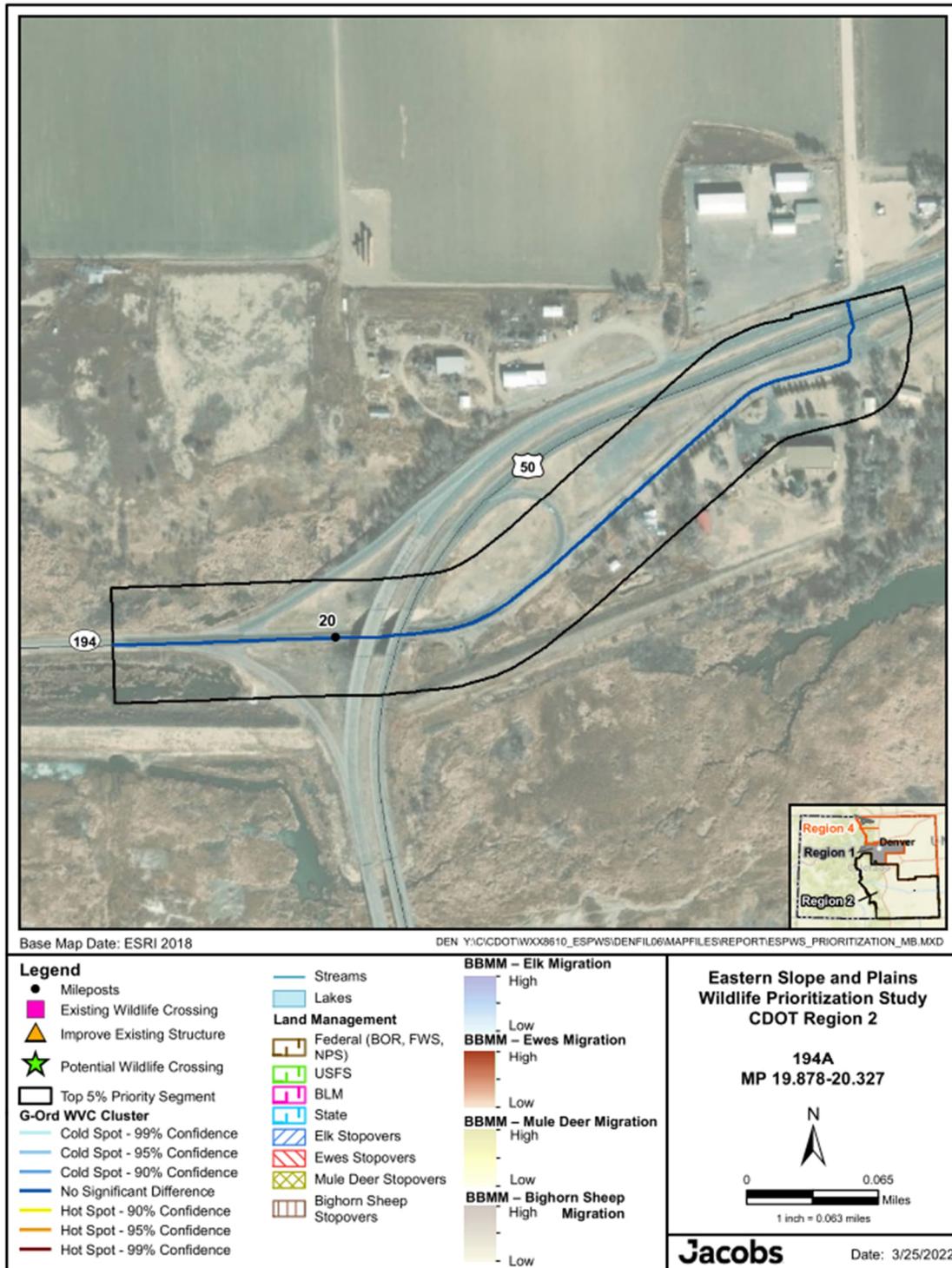
Consider installing a short section of wildlife fence to guide animals to the river bridge and help prevent at-grade crossings. Consider installing a wildlife detection and driver warning system from approximately MPs 400.5 to 402.7 as the reliability of these systems improves. Replace barbed-wire right-of-way fencing on SH 194 with wildlife-permeable fence.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
399.9	Arkansas River bridge	Tie into wildlife-exclusion fence.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.9 U.S. Highway 50, Mileposts 428.4 to 433.2, West of Lamar

2.3.9.1 Prowers County

This landscape is characterized by the Arkansas River corridor, which flows south of the highway, and multiple drainage ditches that feed vast expanses of irrigated cropland. This landscape is identified by CPW as a concentration area for both mule deer and white-tailed deer; the riparian corridor is also identified as winter range for mule deer. The landscape is flat and there is little road grade.

2.3.9.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	7,800	8,974	Deer	Year-round, winter range	Low

2.3.9.1.2 Preliminary Mitigation Recommendations

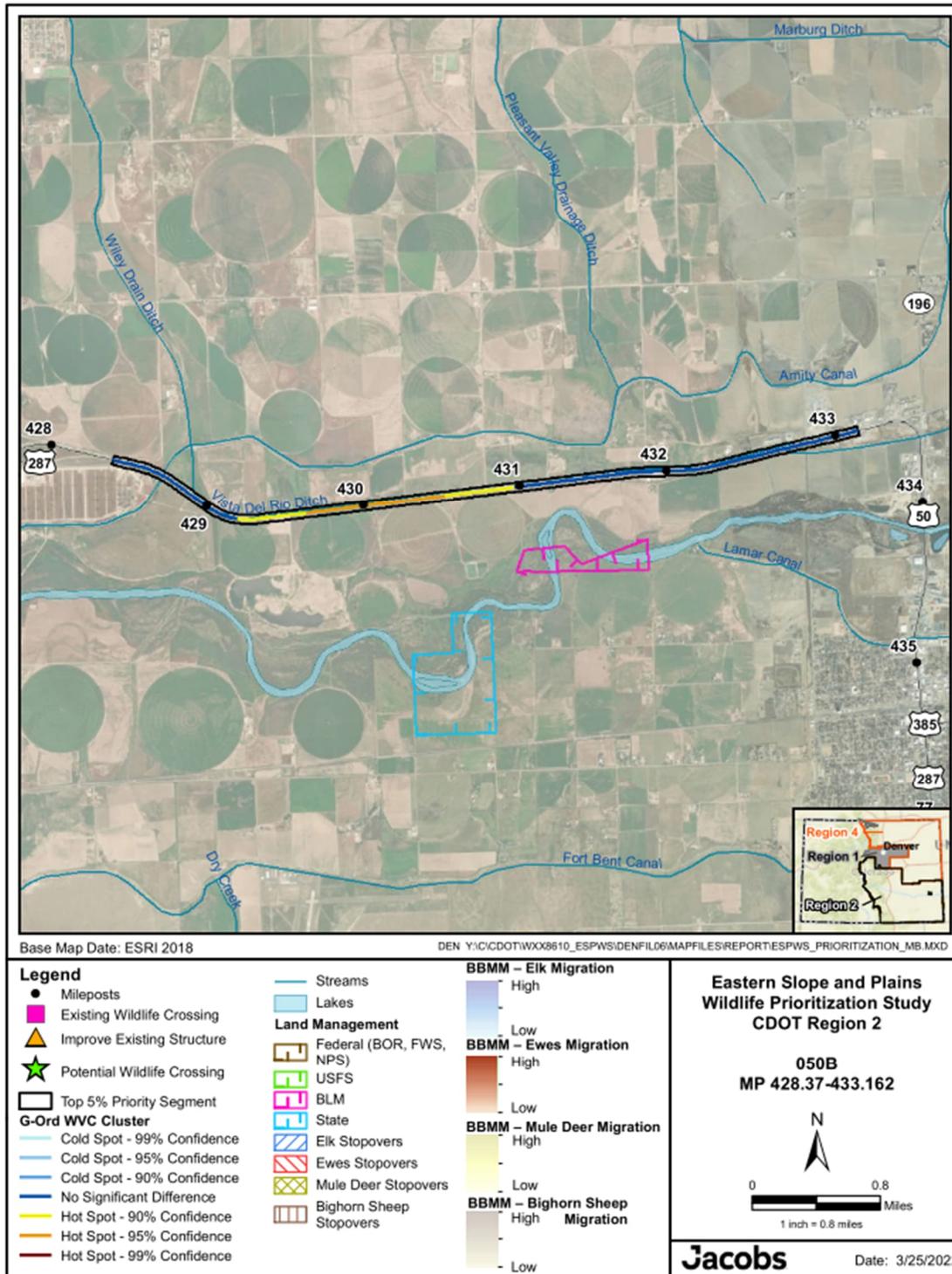
There are three existing large drainage structures in this segment; however, none of these structures offer much, if any, functionality for deer passage because of high water flows, the presence of thick riparian vegetation, and/or the length of the structure. Replace barbed-wire right-of-way fencing throughout the segment with wildlife-permeable fence. Consider installing a wildlife detection and driver warning system from approximately MPs 400.5 to 402.7 as the reliability of these systems improves.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
428.7	Bridge over the Amity Canal. This canal appears to be near bank-full much of the time and has little to no functionality for wildlife passage.	N/A	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
429	Six-cell concrete box culvert at the Wiley Drainage Ditch. Flows through this structure appear low to moderate, and the channel is dominated by wetland vegetation.	N/A	 <p data-bbox="972 695 1105 720">Credit: CDOT</p>
431.6	Two-cell concrete box culvert at the Vista del Rio Canal. Culvert is skewed relative to the roadway. Flows through this structure appear low to moderate and the channel is dominated by wetland vegetation.	N/A	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.10 U.S. Highway 50, Mileposts 443.6 to 446.7, Carlton

2.3.10.1 Prowers County

US 50 through this segment runs south of the Arkansas River corridor with the railroad tracks on the north side of the highway. This landscape is identified by CPW as a concentration area for both mule deer and white-tailed deer, and much of the highway segment is identified as a highway crossing zone for these species. The riparian corridor is also identified as winter range for mule deer. The landscape south of the river is identified as a limited-use area for pronghorn. The landscape is flat and there is little road grade. Low traffic volumes are projected to remain moderately low into the foreseeable future.

2.3.10.1.1 Segment Characteristics

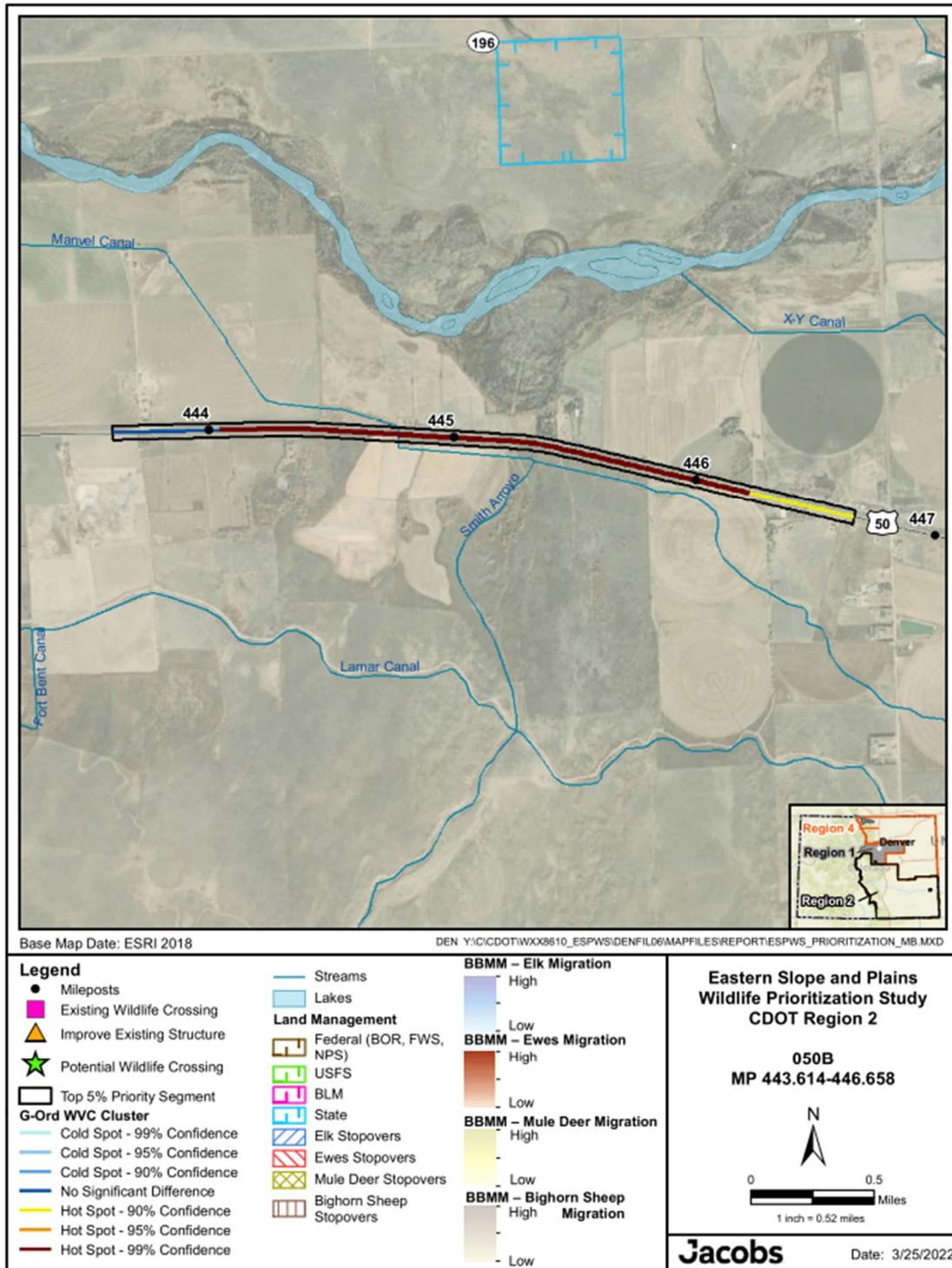
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	1,900	2,060	Deer	Year-round, winter range	Low

2.3.10.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing throughout the segment with wildlife-permeable fence.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
445.2	Smith Arroyo three-cell concrete box culvert	N/A	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.3.11 U.S. Highway 50, Mileposts 453.2 to 455.8, Granada

2.3.11.1 Prowers County

This section of US 50 at the east end of the town of Granada roughly marks the boundary between irrigated croplands between the highway and the river to the north and dryland pasture south of the highway. This landscape is identified by CPW as a concentration area for mule deer, and the riparian corridor is also identified as winter range for mule deer. The landscape south of the river is identified as a limited-use area for pronghorn. The landscape is flat and there is little road grade. The railroad tracks run adjacent to the north side of US 50. Low traffic volumes are projected to remain moderately low into the foreseeable future.

2.3.11.1.1 Segment Characteristics

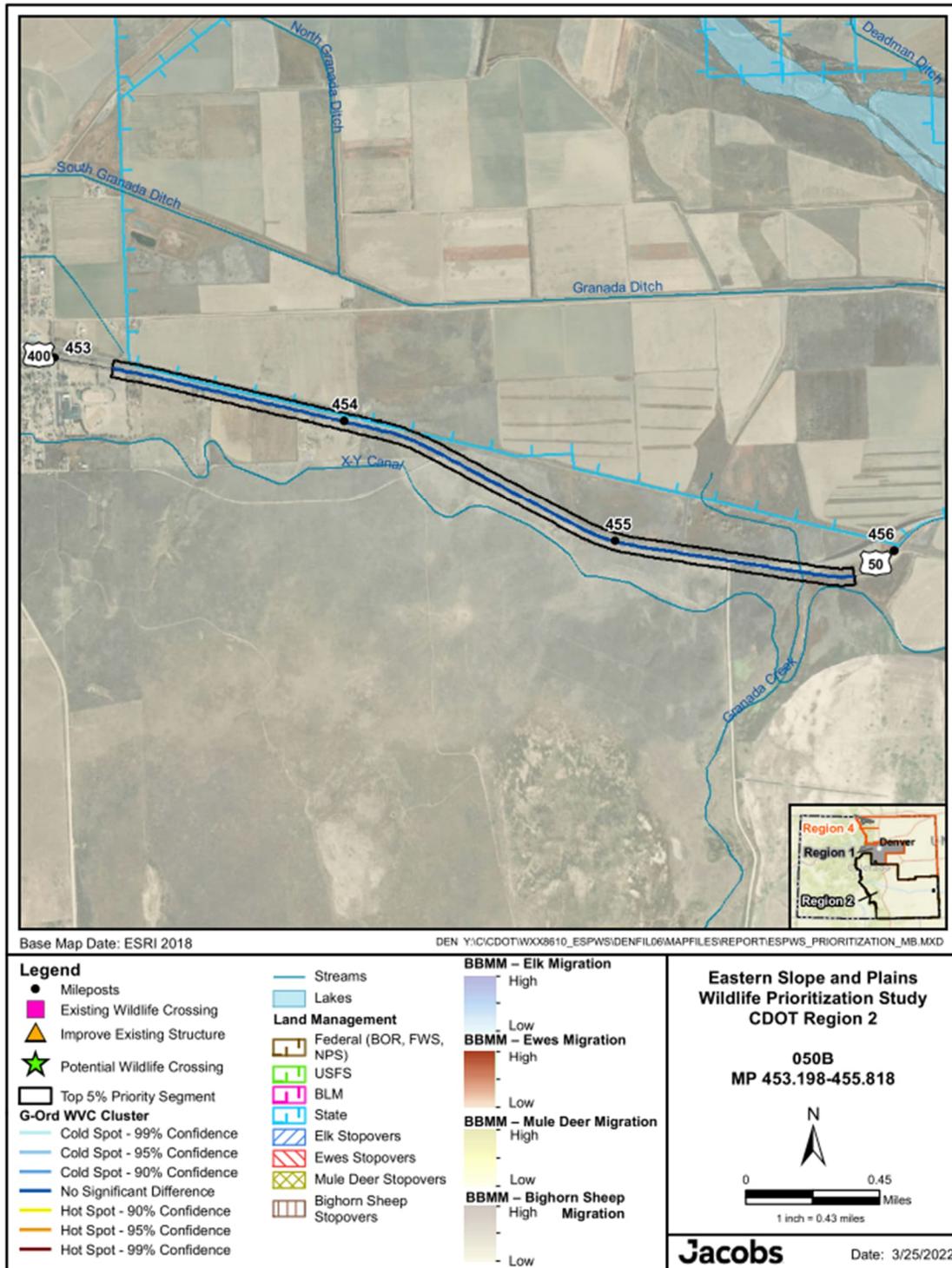
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	1,900	2,020	Deer	Year-round	Low

2.3.11.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing throughout the segment with wildlife-permeable fence.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
455.6	Granada Creek box culvert	N/A	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.4 U.S. Highway 285 Priority Segments

2.4.1 U.S. Highway 285, Mileposts 166.6 to 170.1, Antero Junction

2.4.1.1 Park County

This segment of US 285 travels through South Park, a high-elevation basin on the east side of the Sawatch Mountains. Large herds of elk regularly move across the highway during migration and winter. Pronghorn and deer are also common in this landscape. Much of the land along this segment is publicly owned or managed, including Denver Water’s Antero Reservoir Recreation Area, 63 Ranch State Wildlife Area, and land managed by the State Land Board and the Bureau of Land Management, with the lands west of the highway part of the Pike-San Isabel National Forests.

2.4.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	4,600	6,484	Elk, Pronghorn, Mule Deer	Elk—Migration and winter range Pronghorn and Deer—overall range	Elk—High Pronghorn—Low Deer—Low

2.4.1.1.2 Preliminary Mitigation Recommendations

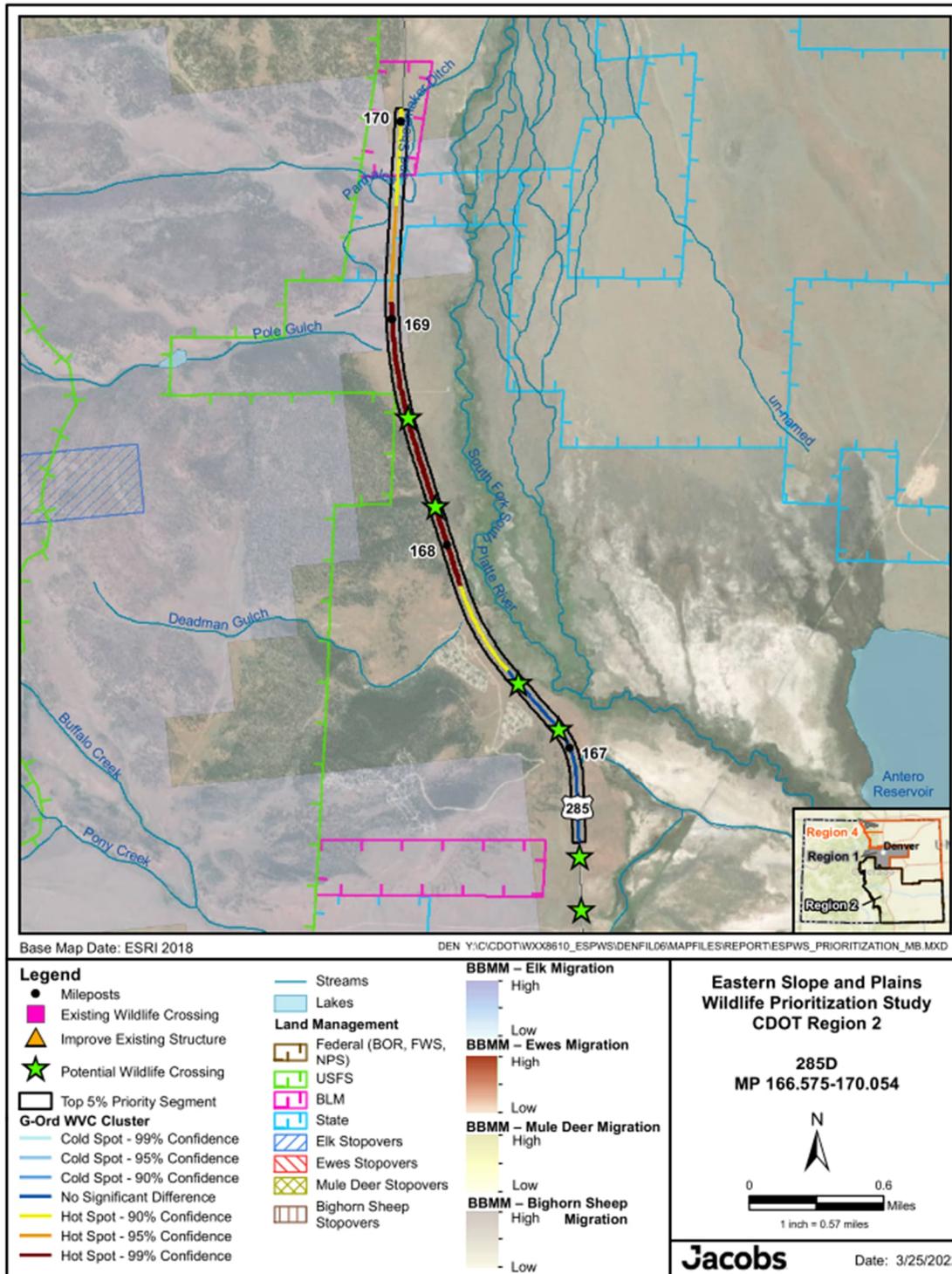
There are multiple opportunities for wildlife underpasses and overpasses in this segment. Further investigation with engineering staff is required to determine the best locations for wildlife crossing structures suitable with adequate spacing to provide sufficient opportunities for migrating and wintering elk and other wildlife to safely cross the highway. If wildlife crossings connected with wildlife-exclusion fencing are not feasible through the northern portions of the segment, replace barbed-wire right-of-way fencing with a wildlife-permeable fence that is passable by elk calves and pronghorn.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
166.3	Concrete box culvert at Buffalo Creek, which functions as a stock pass and for ephemeral flows	Low fill slope; investigate further as a potential underpass opportunity.	N/A

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Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
166.5	Cut slopes at the top of a low ridgeline	Potential opportunity for a wildlife overpass	
167.1	Cut slopes	Potential opportunity for a wildlife overpass	
167.4	Concrete box culvert at Deadman Gulch, which functions as a stock pass and for ephemeral flows	Potential opportunity for a low bridge underpass	N/A
~168.2	Low, forested ridge from west	Investigate opportunities for a wildlife overpass in this area.	N/A
168.6	Low fill slope with concrete box culvert at Pole Creek	Potential opportunity for a low bridge underpass	N/A
170.5	Fill and cut slopes	Potential opportunity for a wildlife underpass (foreground) or overpass (background)	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.4.2 U.S. Highway 285, Mileposts 208.9 to 209.3, Webster to Grant

2.4.2.1 Park County

This stretch of US 285 follows the North Fork of the South Platte River through a mountain valley as the highway descends from Kenosha Pass to the west toward Bailey to the east. Several steep drainages descend from the slopes on the north side of the highway to the river valley. Traffic volumes on this section of US 285 threaten to jump from moderate to high over the next 20 years, creating a substantial barrier to wildlife movement.

A second top 5 percent segment was identified just over a mile to the east around the small town of Grant, where the Geneva Creek drainage merges into the South Platte River.

Drainages on the North Side of US 285 Feed into the North Fork of the South Platte River



2.4.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	6,400	10,230	Mule Deer, Elk	Winter range	Deer—Low Elk—High

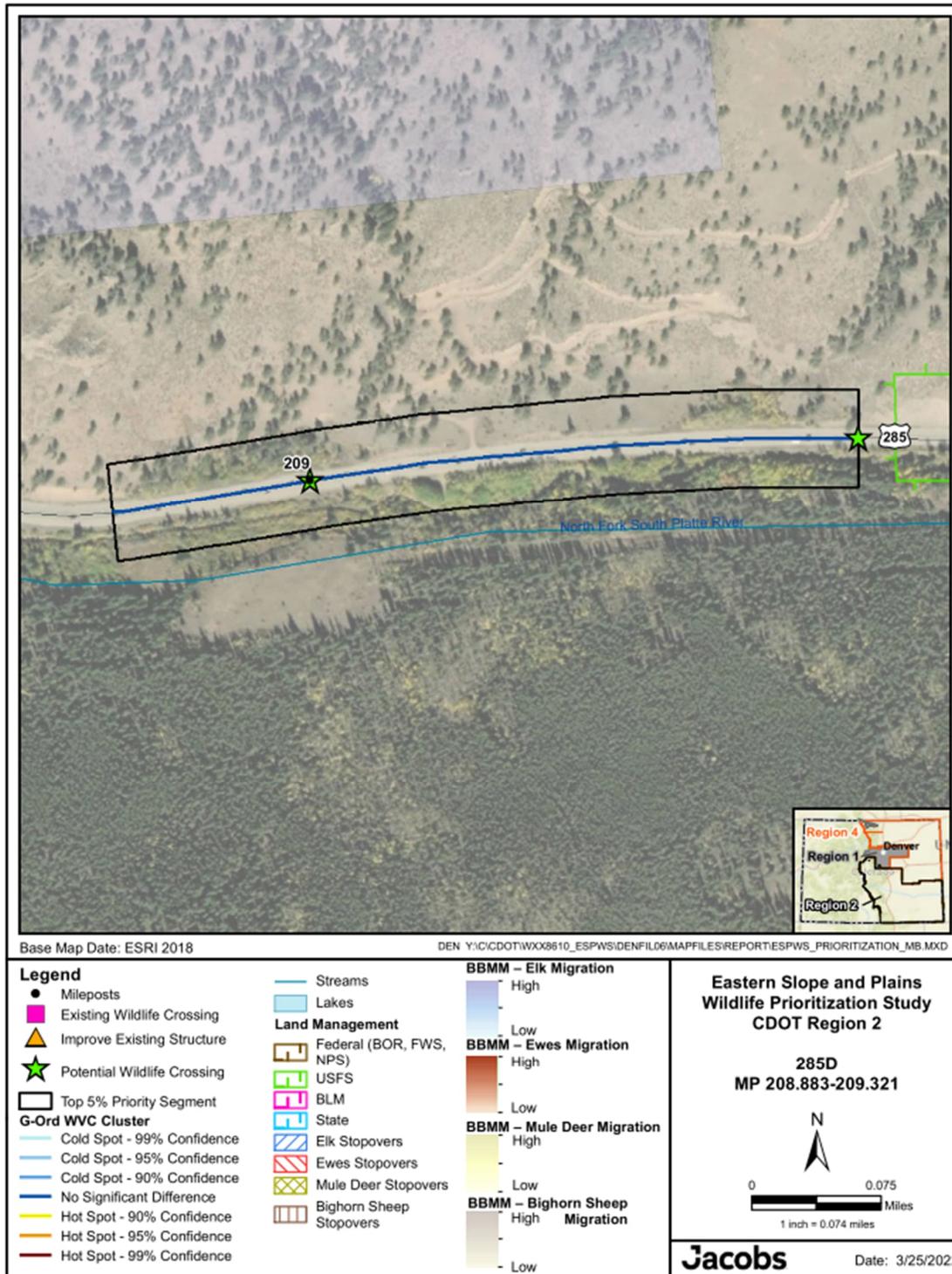
2.4.2.1.2 Preliminary Mitigation Recommendations

Given the projected increase in traffic volumes, wildlife crossings will be needed in this area to preserve connectivity for wildlife. The construction of wildlife crossings is challenged by the surrounding terrain and the highway's adjacency to the river; nevertheless, several crossing opportunities are listed as follows and warrant further investigation. Wildlife-exclusion fencing should run throughout the segment.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
209	Low fill slope	Possible location for a bridge underpass	
209.3	Low fill slope	Possible location for a bridge underpass	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.4.3 U.S. Highway 285, Mileposts 210.6 to 211.1, Grant

2.4.3.1 Park County

This stretch of US 285 follows the North Fork of the South Platte River through a mountain valley as the highway descends from Kenosha Pass to the west toward Bailey to the east. The Geneva Creek drainage flows into the North Fork of the South Platte River at the intersection of Guanella Pass Road and US 285. This segment lies within the town of Grant, and there is commercial and residential development along the highway through this segment. Traffic volumes on this section of US 285 threaten to jump from moderate to high over the next 20 years, creating a substantial barrier to wildlife movement.

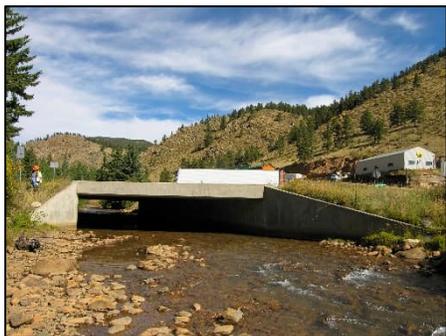
In addition to elk and mule deer, bighorn sheep are also present through this segment, particularly on the south-facing slopes east of Grant and north toward Guanella Pass.

2.4.3.1.1 Segment Characteristics

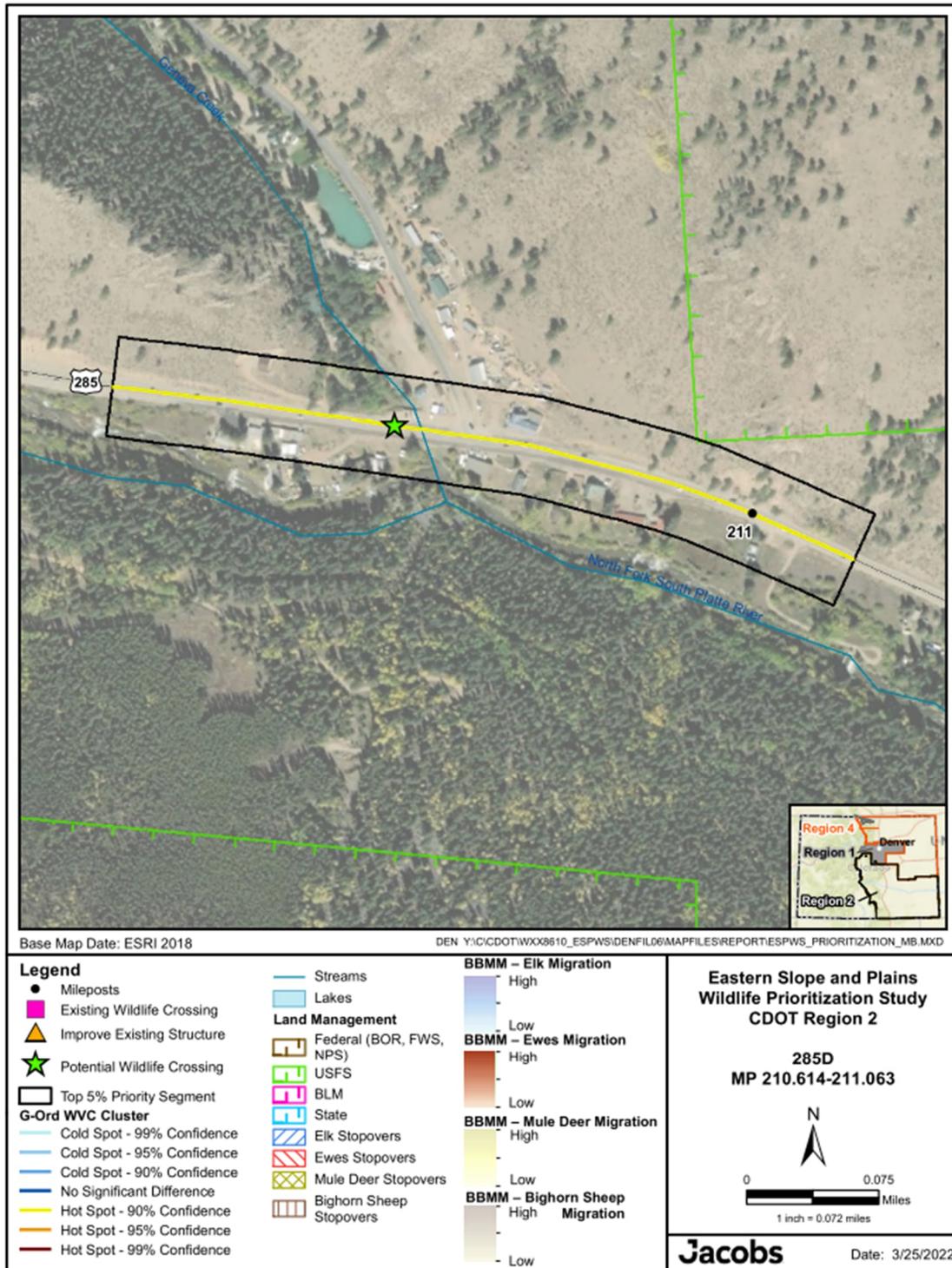
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	6,400	10,413	Bighorn Sheep, Elk, Mule Deer	Winter range	Bighorn Sheep—High Elk—High Deer—Low

2.4.3.1.2 Preliminary Mitigation Recommendations

The primary recommendation for this segment is to replace the bridge over Geneva Creek with a wider span to allow wildlife to pass under the bridge instead of crossing the roadway at-grade. Because of the development and human activity in this segment, wildlife-exclusion fence is not recommended. Variable-message signs during the winter months and enforcement of the lower speed limit through town may help to reduce wildlife conflict.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
210.8	Concrete slab bridge over Geneva Creek	Replace with a wider bridge spanning both banks and providing dry pathways for terrestrial wildlife passage.	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.4.4 U.S. Highway 285, Mileposts 214.9 to 215.8, Santa Maria

2.4.4.1 Park County

This stretch of US 285 follows the North Fork of the South Platte River through a broad mountain valley with irrigated hayfields. Traffic speeds can be high on this stretch of straight roadway, particularly as vehicles attempt to complete their passes as the westbound passing lane comes to an end. Increasing traffic volumes on this section of US 285 threaten to further increase the barrier to wildlife movement and likelihood of WVCs.

North Fork of the South Platte River and Hay Meadows along the North Side of US 285



2.4.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2 to 3	5,900	8,998	Mule Deer, Elk	Winter range	Deer—Moderate Elk—Low

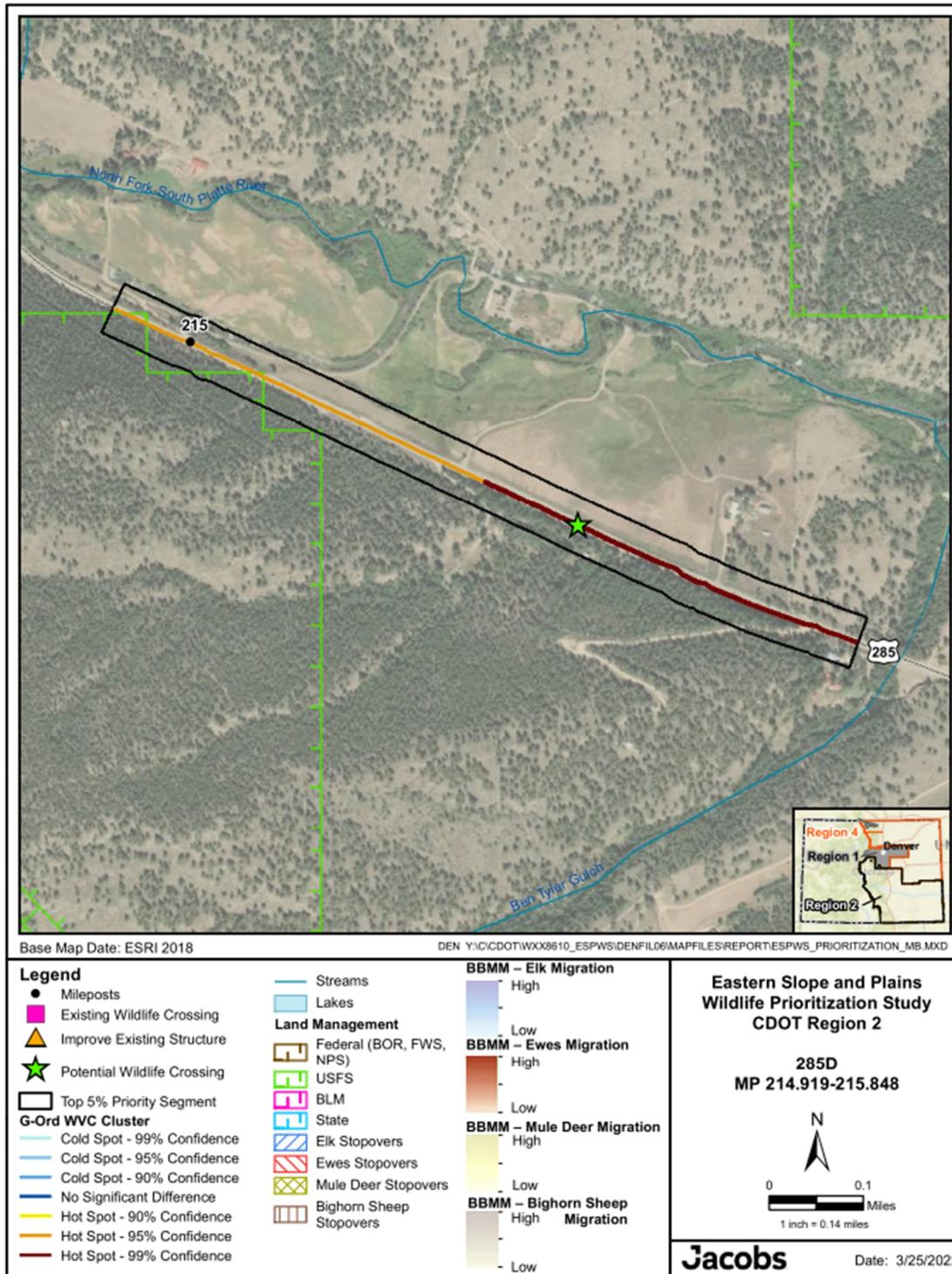
2.4.4.1.2 Preliminary Mitigation Recommendations

The construction of wildlife crossings in this segment is challenged by the roadway's position in the landscape relative to the surrounding terrain. Further investigation into the potential for wildlife crossings is warranted; any new highway widening projects through this segment should integrate wildlife crossing mitigation. Near-term mitigation strategies include replacing barbed-wire right-of-way fencing with wildlife-permeable fence; and seasonal variable-message signs to warn drivers of the potential for wildlife approaching the roadway, particularly during the winter months.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
215.5	Low fill slope	Possible location for a bridge underpass	

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 Wildlife-Highway Mitigation Recommendations



2.5 State Highway 9 Priority Segments

2.5.1 State Highway 9, Mileposts 2.2 to 5.2, Twelvemile Park

2.5.1.1 Fremont County

SH 9 northwest of Cañon City is a two-lane mountain highway with moderately low traffic volumes. This stretch of highway runs through a high-elevation basin, with mountainous terrain and forested slopes on either side. This area is mule deer winter range, although deer and other wildlife are present year-round. Traffic volumes are moderately low and are anticipated to remain in this range for the foreseeable future.

Looking west, on the north side of SH 9.



2.5.1.1.1 Segment Characteristics

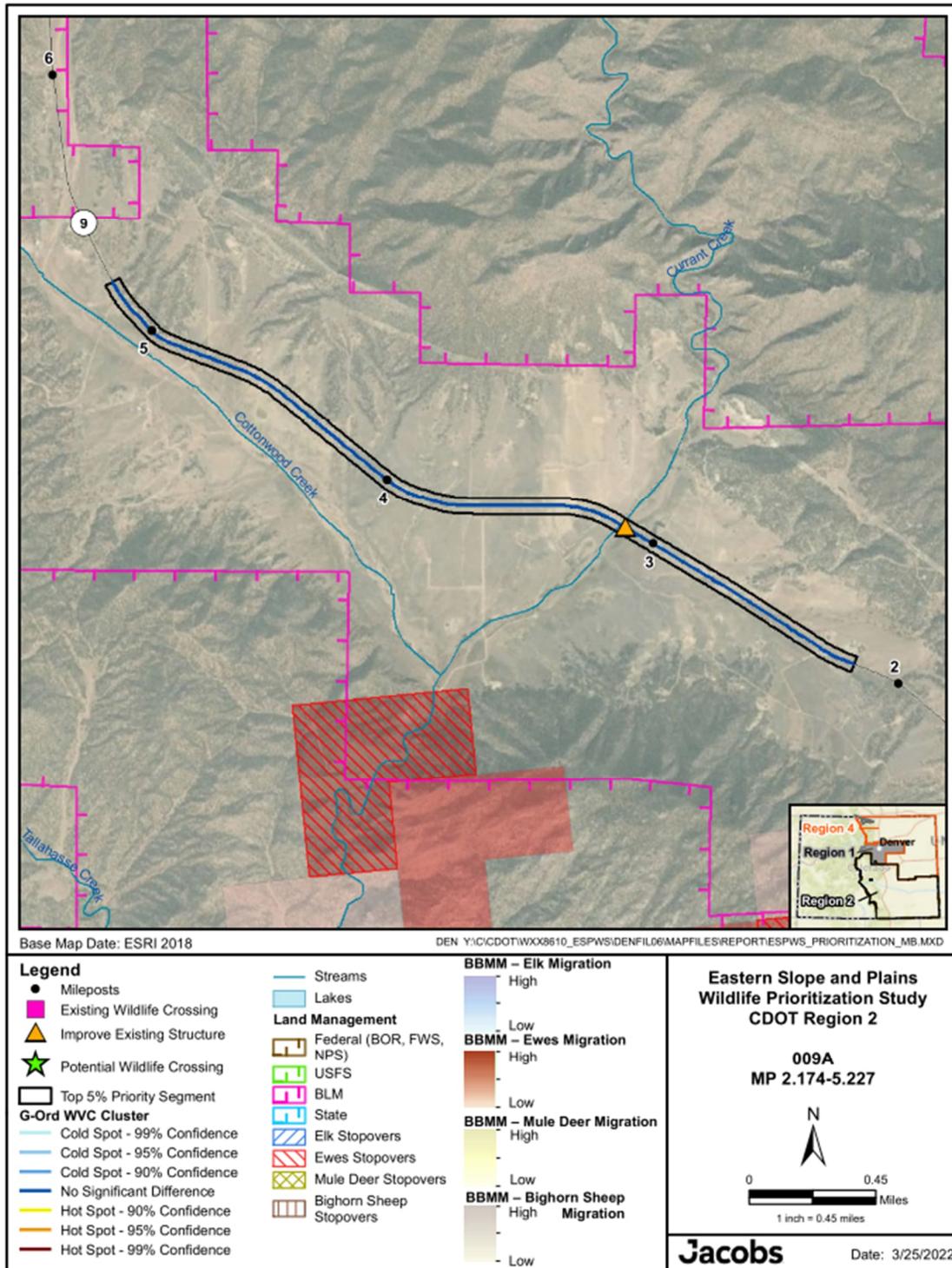
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	2,200	2,939	Mule Deer	Winter range	Moderate

2.5.1.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fencing throughout the segment to reduce the likelihood of animals becoming trapped on the roadway. There is an existing bridge at MP 3.1, which can be improved to encourage wildlife passage under the highway at this location. Seasonal variable-message signs may also be used to help warn drivers of increased wildlife activity during the winter months.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
3.1	Bridge over Currant Creek, an ephemeral drainage. Barbed-wire fence across structure entrance.	Remove fence from across structure entrance and set-back and replace with a wildlife-permeable alternative.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.6 State Highway 12 Priority Segments

2.6.1 State Highway 12, Mileposts 45.4 to 45.9, West of Weston

2.6.1.1 Las Animas County

This section of SH 12 west of Weston runs along the broad Purgatoire River valley. Although only a half-mile segment of this roadway ranked in the top 5 percent for Region 2, much of the highway along this river corridor ranks in the 88th percentile or higher. CPW has identified the river corridor as a highway crossing zone for elk, mule deer, and white-tailed deer. The landscape provides winter as well as year-round habitat.

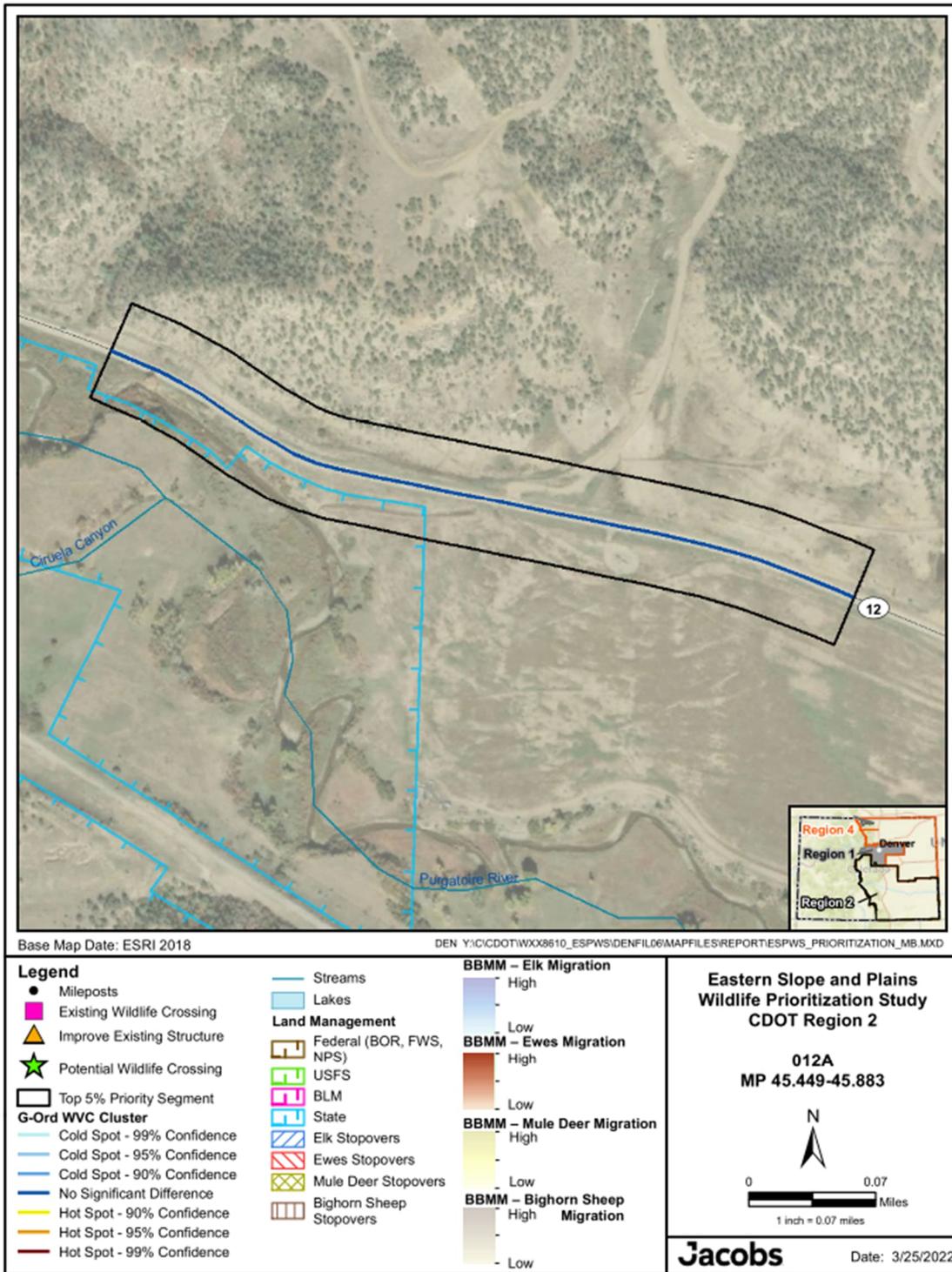
2.6.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	520	571	Elk, Deer	Winter range and year-round	Deer – Low Elk - Low

2.6.1.1.2 Preliminary Mitigation Recommendations

Wildlife crossing structures are not recommended for this segment due to very low traffic volumes and flat terrain. Remove and, where needed, replace barbed-wire right-of-way fencing with wildlife permeable fence. Seasonal variable message signs may also be used to warn drivers during periods of high wildlife activity.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.6.2 State Highway 12, Mileposts 62.9 to 66.9, Trinidad Lake

2.6.2.1 Las Animas County

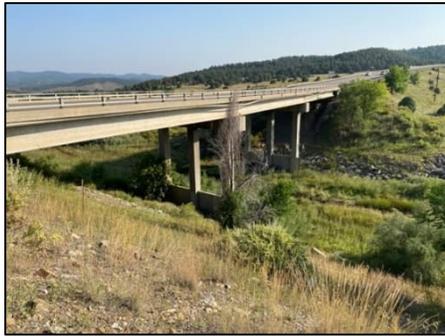
This section of SH 12 west of Trinidad is north of Trinidad Lake State Park and crosses over several drainages that feed into the lake. This area provides winter range for deer and elk and is a winter concentration area for elk. Cottonwood Canyon, which runs through Cokedale at the west end of this segment, is part of a migratory pathway for elk that summer in the Spanish Peaks to the northwest. The landscape is rolling terrain with open forests of ponderosa pine and juniper.

2.6.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,900	2,339	Elk, Mule Deer	Migration, winter range	Elk—Low Deer—Low

2.6.2.1.2 Preliminary Mitigation Recommendations

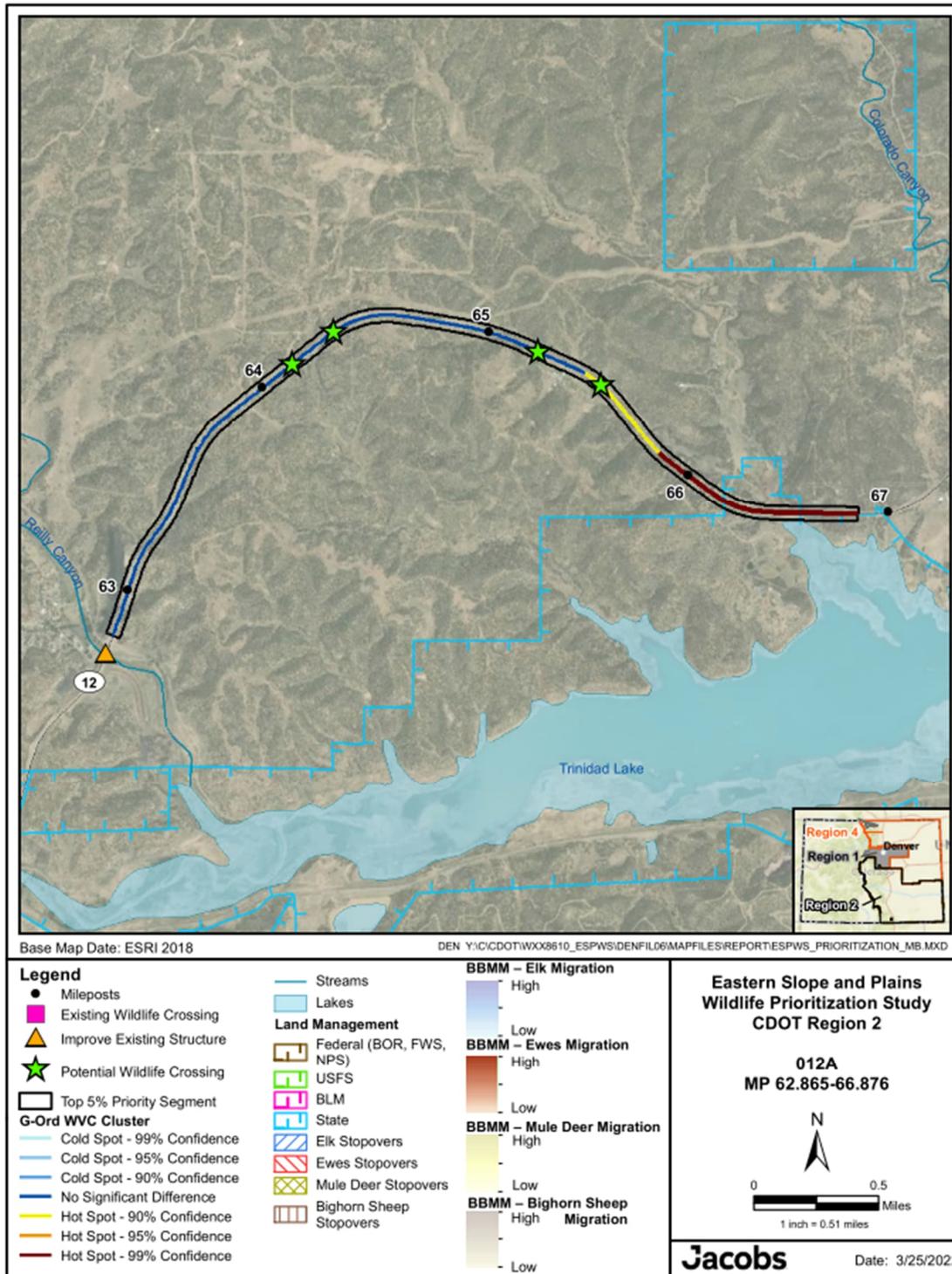
This segment is well suited to wildlife crossing mitigation, and multiple locations for new crossing structures are listed as follows. The final selection of crossing locations will depend on construction feasibility and the spacing between structures. The crossings—including existing medium-sized culvert—should be tied together with wildlife-exclusion fencing to create a continuous mitigation system through the segment. There are no road interchanges in this segment, but wildlife guards or gates may be needed at select locations to provide access to private properties.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
62.7	Reilly Canyon bridge, a large multispan bridge. This bridge is located just beyond the west end of the top 5 percent segment.	Tie west fence end into bridge. The fence could be extended 0.5 to 1 mile west to further encourage wildlife to move under the bridge rather than cross the highway at-grade; however, WVCs drop off west of this location.	
63.3	Large fill slope	Possible location for a wildlife underpass	N/A
63.8	Small-medium-sized box culvert	Tie existing culvert into fencing as an additional carnivore crossing.	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
64.2	Levs Canyon. Large fill slope with small drainage pipe; ephemeral drainage with erosion scour and riparian vegetation, including cottonwoods. Good forested habitat on either side of the roadway.	Possible location for a large bridge underpass for elk, deer, and other wildlife	
64.4	Cut slopes	Possible location for a wildlife overpass	
65.2	Fill slope with existing stock pass	Possible location for a wildlife underpass	N/A
65.4	Concrete box culvert—stock pass	Tie existing culvert into fencing as an additional carnivore crossing.	N/A
66.5	Carpis Canyon—small pipe culvert in a large fill slope. Pipe is undersized, resulting in severe erosion at outlet.	Excellent location for a large underpass in concentrated elk winter range	

Eastern Slope and Plains Wildlife Prioritization Study
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2.7 State Highway 21 Priority Segments

2.7.1 State Highway 21, Mileposts 133.5 to 136.1, Widefield

2.7.1.1 El Paso County

This stretch of SH 21 lies between the southeast side of Colorado Springs and Fountain. The landscape is characterized by native grasslands and the Big Johnson Reservoir, which is situated east of the highway, and associated wetlands. These undeveloped lands are surrounded on three sides by suburban neighborhoods. The area between the reservoir and the highway is the Bluestem Prairie Open Space. There is a smaller parcel of State Land Board lands adjoining the east side of the highway from Fontaine Boulevard to MP 133.9; north of this parcel, a new neighborhood development is under construction.

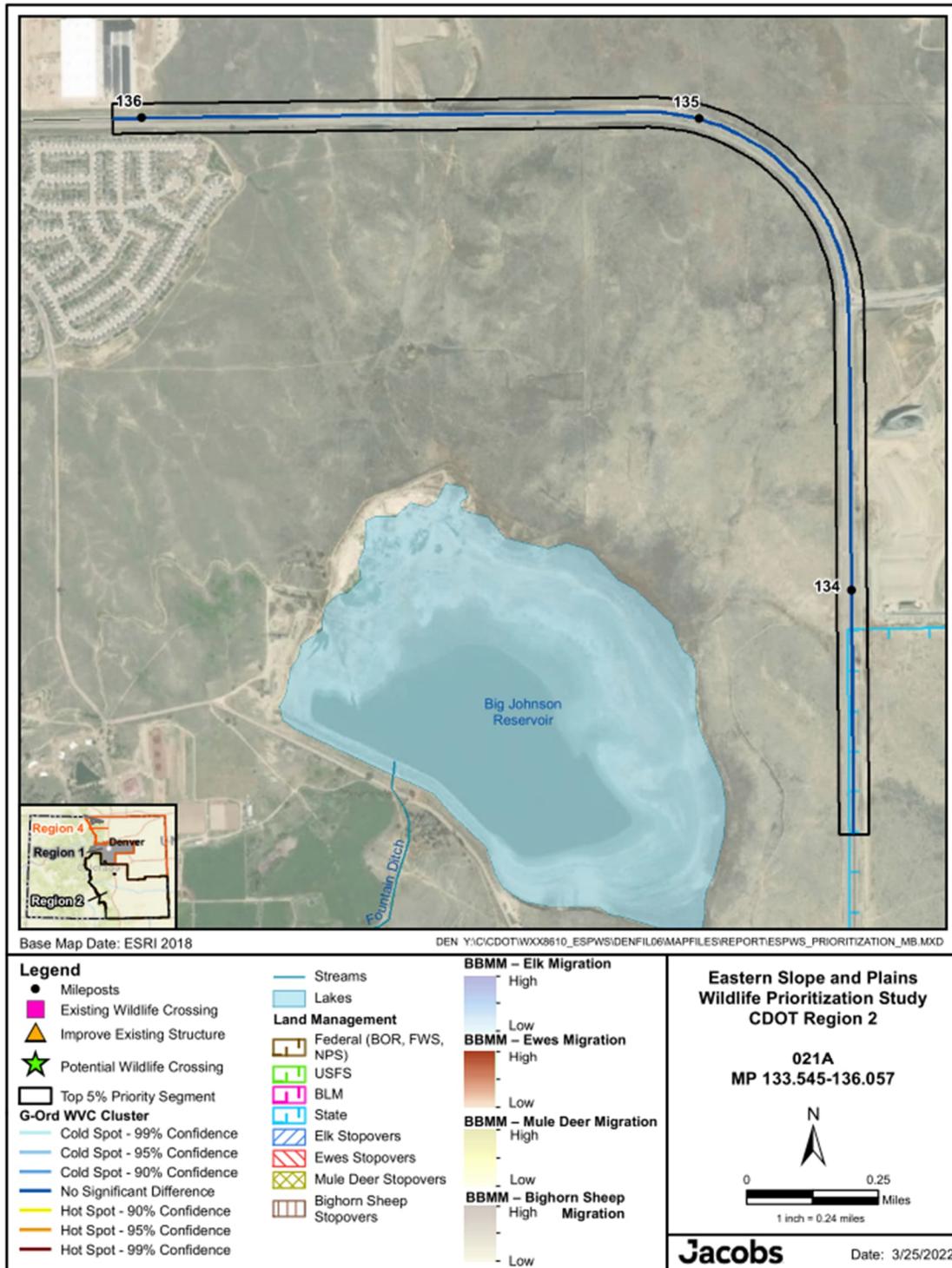
2.7.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	13,000	14,092	Mule Deer, Pronghorn	Winter range, year-round	Deer—High Pronghorn—Low

2.7.1.1.2 Preliminary Mitigation Recommendations

There are several opportunities for a wildlife underpass at the south end of the segment, approximately between MPs 133.2 and 133.9, connecting the open space to the west with the State Land Board lands to the east. Wildlife crossings are not recommended north of MP 133.9 because of the ongoing potential for development. Replace barbed-wire right-of-way fencing with wildlife-permeable fencing throughout the segment.

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2.8 State Highway 21, Mileposts 151.6 to 154.1, Kettle Creek

2.8.1.1 El Paso County

This segment of SH 21 is a continuation of the high-priority segment on SH 83 due north. Both highways bisect a movement corridor between larger habitat blocks that extends from the foothills west of the Air Force Academy to the Black Forest to the east. The segment extends from Union Boulevard to the south to Interquest Parkway (SH 83) to the north. Much of the corridor is developed, including residential development and a high school. However, there remains a natural riparian corridor around Pine Creek at the southeast end of the segment and around Kettle Creek at the northwest end of the segment. Traffic volumes on this highway are high and expected to increase over the next 20 years, creating a significant barrier to wildlife movement.

2.8.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	37,000	56,129	Deer	Year-round	High

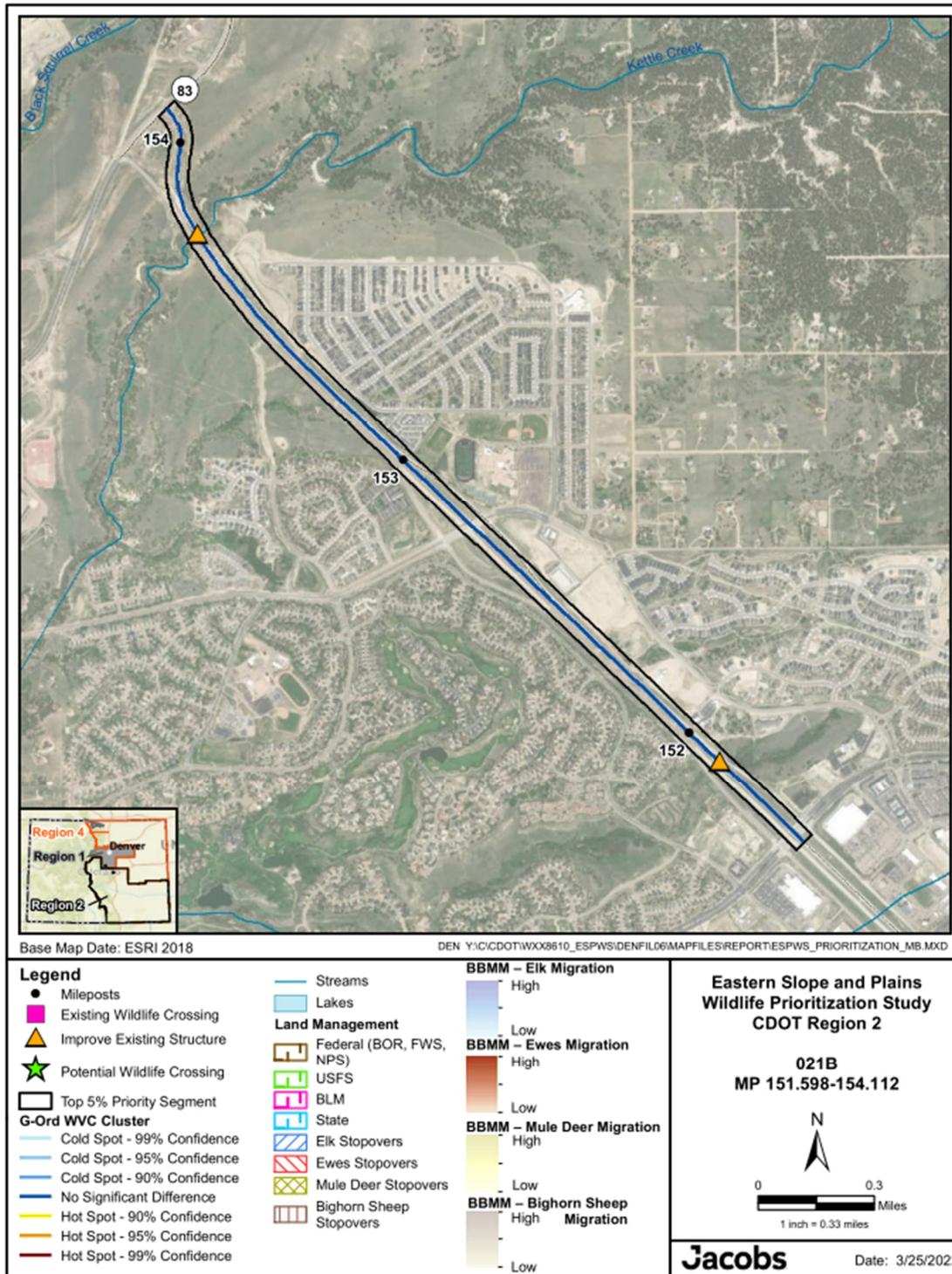
2.8.1.1.2 Preliminary Mitigation Recommendations

Although this is one priority segment, extensive development through the middle of the segment leads to a recommendation for two separate mitigation areas at either end of the segment, encompassing the two riparian corridors. At the north end of the segment, install wildlife fencing from the intersection with SH 83 (MP 154.1), another high-priority segment for wildlife mitigation, to tie into the Kettle Creek bridge and continue south to approximately MP 153.1. At the south end of the segment, install wildlife fencing to tie into the Pine Creek bridge (~0.2 mile). No wildlife guards are needed, but if the wildlife fence continues north along SH 83, then guards may be needed around the SH 83/SH 21 intersection.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
151.9	Pine Creek bridge spans riparian corridor through developed landscape.	Add short sections of guide fencing to this structure through the riparian and adjacent upland corridor.	 <p data-bbox="938 695 1076 722">Credit: CDOT</p>
153.8	Kettle Creek bridge—large bridge spanning riparian corridor	Connect to wildlife fencing.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.9 State Highway 69 Priority Segments

2.9.1 State Highway 69, Mileposts 17 to 17.4, Badito Cone (East of Walsenburg)

2.9.1.1 Huerfano County

This segment of SH 69, northwest of Walsenburg, runs through mule deer winter range and a deer concentration area along the Huerfano River. The eastern portion of this segment (east of MP 17.2) has also been identified as a mule deer highway crossing zone by CPW. Although the 95th percentile segment is just 0.5 mile long, the mile segments in either direction are both in the 90th percentile, beyond which to both the east and west segments ranked below the 80th percentile, which indicates that this longer segment is a

Right-of-Way Fence along the South Side of SH 69, looking East



discrete hotspot for wildlife activity along this nearly 3-mile-long section of SH 69. SH 69 is characterized by low traffic volumes that are expected to remain low over the next 20 years. The western portion of the segment (west of MP 172.2) lies within a Bureau of Land Management Resource Management Area, with a section of State Land Board land adjacent to the west.

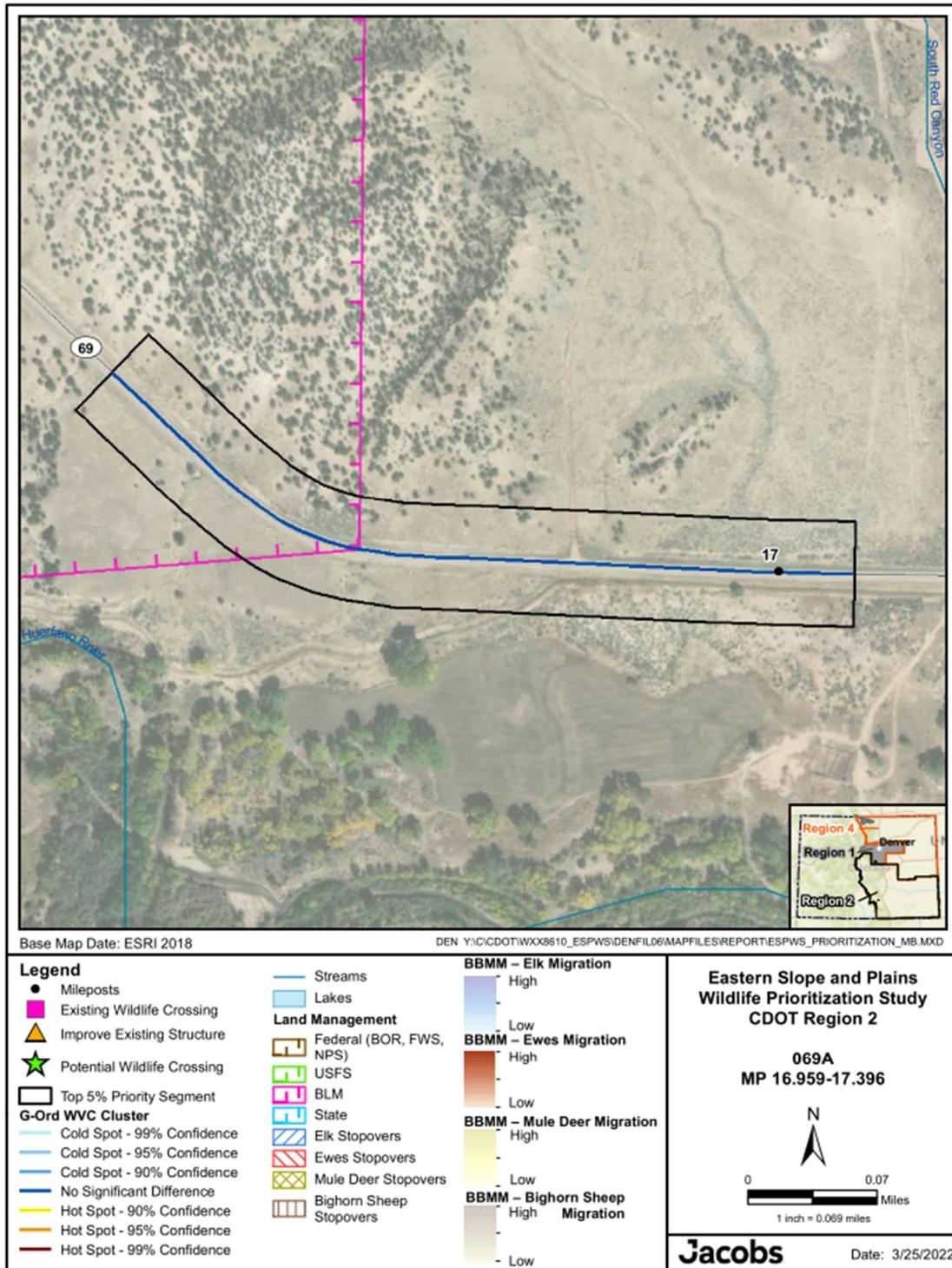
2.9.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	740	1,020	Deer, Elk	Winter range and migration	Deer—Low Elk—Moderate

2.9.1.1.2 Preliminary Mitigation Recommendations

Given low current and future predicted traffic volumes along this stretch of roadway, the focus of mitigation recommendations is to remove, as possible, or replace barbed-wire right-of-way fence with a more wildlife-permeable alternative. Fence removal and replacement is recommended along the entire 90th percentile segment, from MPs 15.8 to 18.7.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.9.2 State Highway 69, Mileposts 68.9 to 71, Hillside

2.9.2.1 Custer County

This stretch of SH 69 is in a high-elevation basin on the east side of the Sangre de Cristo range. The highway runs along the Texas Creek drainage and adjacent irrigated fields, which act as attractants for wintering and migrating wildlife. Traffic volumes are low on this section of roadway and are anticipated to remain low for the foreseeable future.

2.9.2.1.1 Segment Characteristics

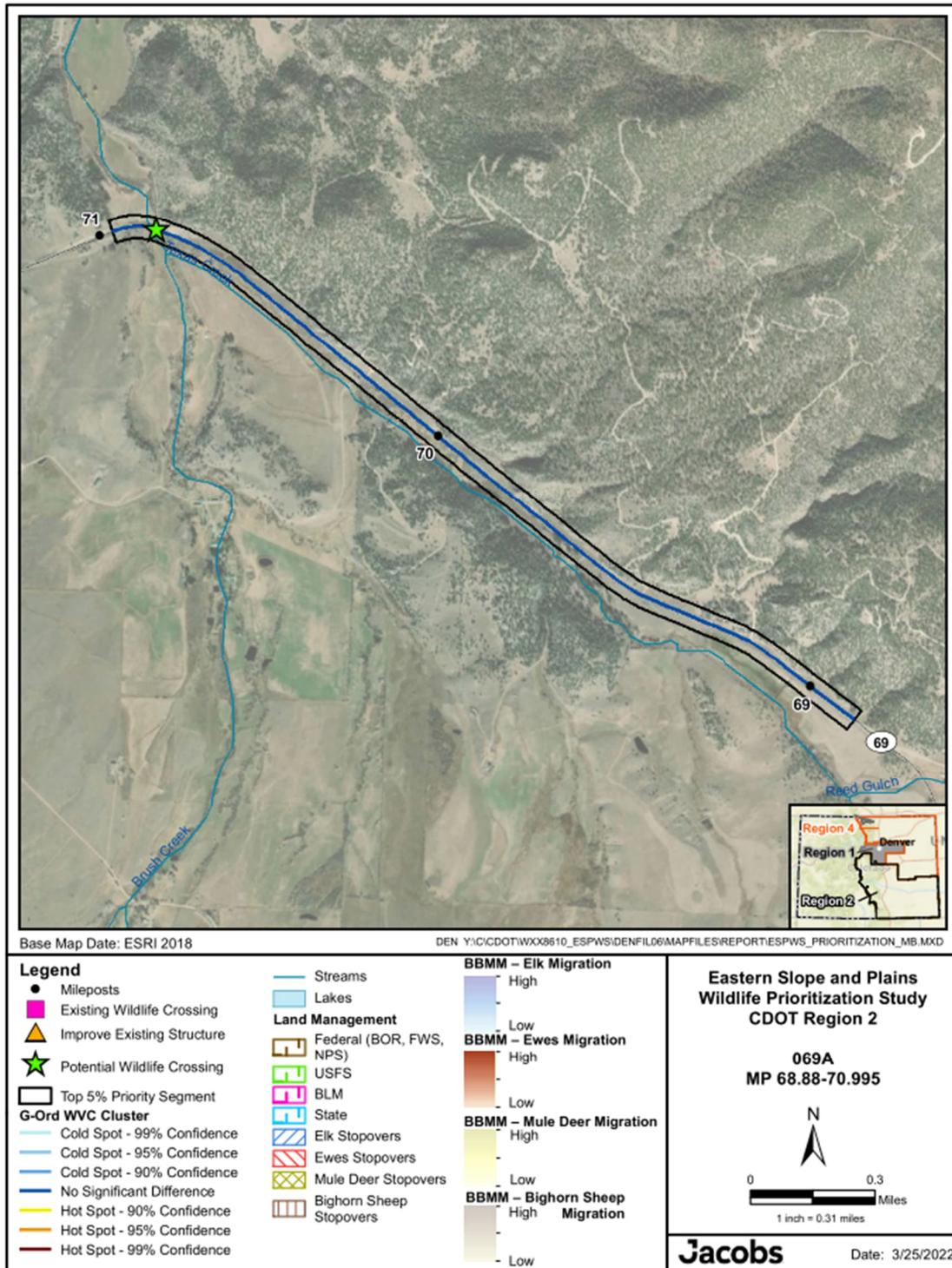
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,800	2,991	Elk, Mule Deer	Migration, winter range, year-round	Elk—Low Deer—Low

2.9.2.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fencing throughout the segment to reduce the likelihood of animals becoming trapped on the roadway. Seasonal variable-message signs may also be used to help warn drivers of increased wildlife activity during the winter months.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
70.9	Old bridge over Texas Creek. The bridge is narrow relative to the creek's perennial flows, and there are no stream banks under the bridge.	No improvements are recommended at this time; however, when the bridge is due to be replaced, it should be replaced with a larger span over the riparian corridors with terrestrial pathways on either side of the creek.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.10 State Highway 71 Priority Segments

2.10.1 State Highway 71, Mileposts 18.9 to 19.2, Arkansas River

2.10.1.1 Otero County

SH 71 is a north-south highway that runs north from Rocky Ford across the Arkansas River corridor. This corridor and the adjacent agricultural fields are a habitat concentration area for mule deer and white-tailed deer; pronghorn is also present in this landscape.

2.10.1.1.1 Segment Characteristics

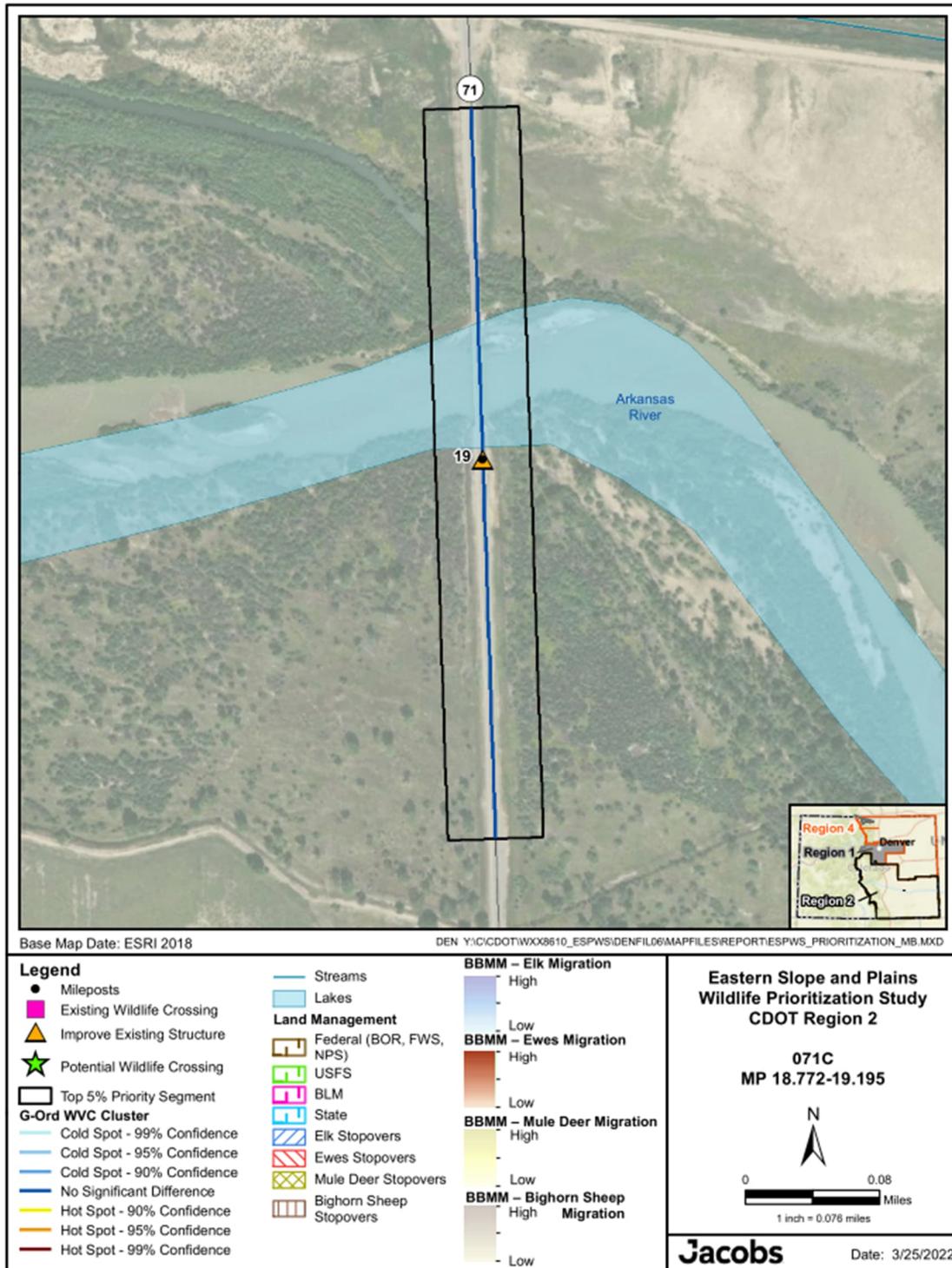
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,700	2,128	Deer	Year-round	High

2.10.1.1.2 Preliminary Mitigation Recommendations

Install wildlife-exclusion fencing to guide wildlife to pass under the river bridge and help reduce at-grade crossings over the highway. Fencing should extend south to approximately MP 18.7 and north to the County Road 805 interchange.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
19	Arkansas River bridge	Tie into wildlife-exclusion fence.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.11 State Highway 78 Priority Segments

2.11.1 State Highway 78, Mileposts 19.7 to 22.7, Southwest of Pueblo

2.11.1.1 Pueblo County

This section of SH 78 runs through rolling hills with piñon-juniper woodlands and high-quality rangelands. The primary target species is elk during the winter season, and CPW identifies MPs 19.4 to 22.5 as an elk highway crossing zone. Mule deer are also common in this landscape.

2.11.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,300	1,477	Elk, Mule Deer	Elk—Winter range Deer—Migration and summer range	Elk—High Deer—Low

2.11.1.1.2 Preliminary Mitigation Recommendations

An existing bridge near MP 20 and a large fill slope at MP 22 provide two excellent opportunities for wildlife crossings and fencing in this segment; an additional crossing structure is needed between these two locations to ensure sufficient safe passage opportunities.

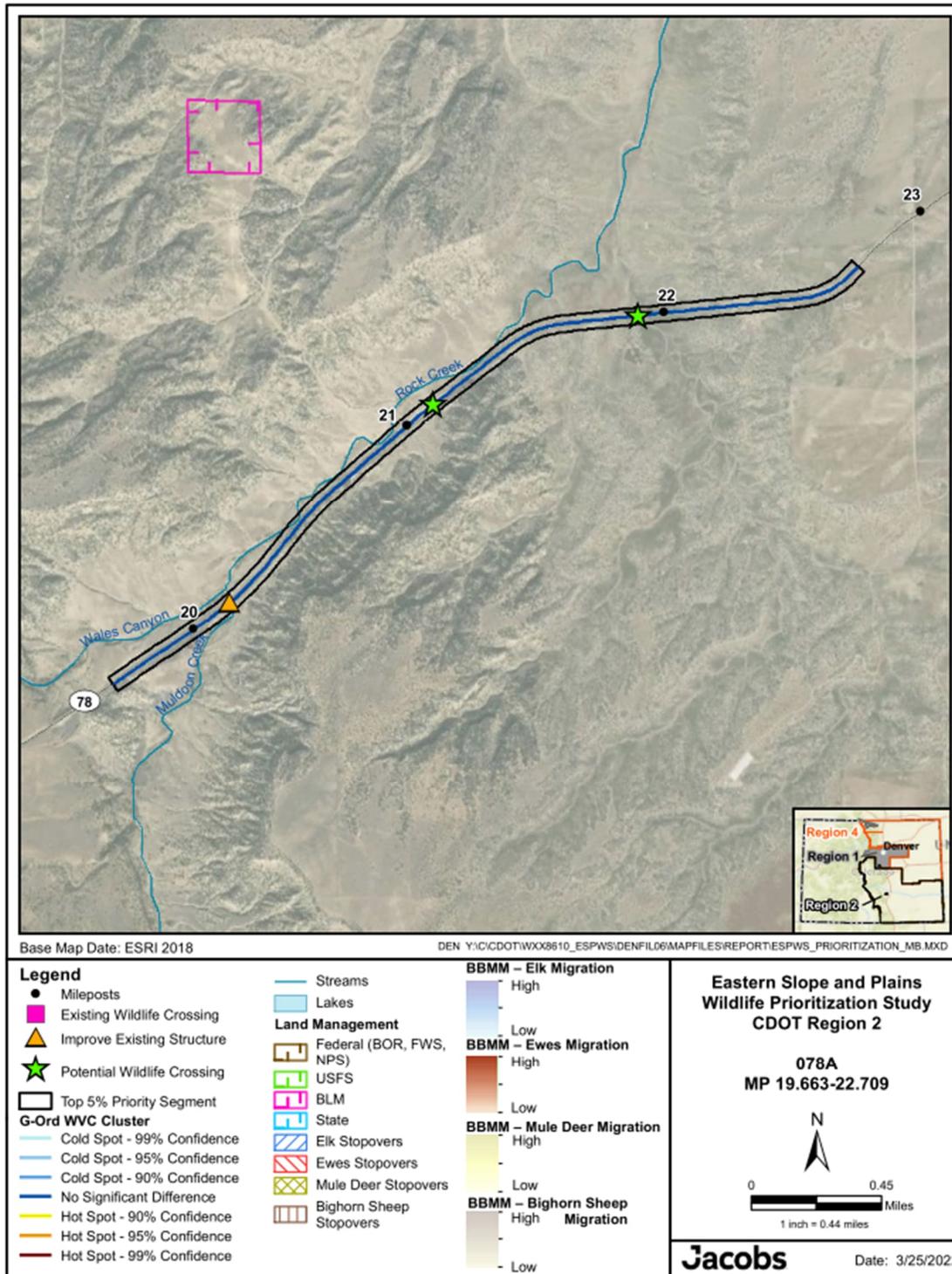
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
20.1	Wales Canyon bridge spanning an ephemeral drainage. Barbed-wire fence across structure entrance.	Remove barbed-wire fence and replace with wildlife-permeable fencing set back from the structure entrance. Install wildlife-exclusion fence as a part of a system of multiple crossing structures and fencing through this segment.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
~21.1	Cut slopes	Potential location for a wildlife overpass	
21.9	Medium-sized pipe culvert in long fill slope at ephemeral drainage channel. Wildlife-permeable fence across the west entrance.	Replace pipe with a bridge underpass suitable for elk passage. Install wildlife-exclusion fence from the ridge east of this location to tie into this culvert and continue west.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.12 State Highway 83 Priority Segments

2.12.1 State Highway 83, Mileposts 20.8 to 22.1, Black Squirrel Creek

2.12.1.1 El Paso County

This segment of SH 83 parallels I-25 to the east and aligns with another high-priority segment on the interstate (MPs 152.7 to 159.3; Air Force Academy) and is a continuation of the movement corridor along Black Squirrel Creek between the foothills west of the Air Force Academy and the Black Forest to the east. Traffic volumes on this highway are high and expected to increase over the next 20 years, creating a significant barrier to wildlife movement.

2.12.1.1.1 Segment Characteristics

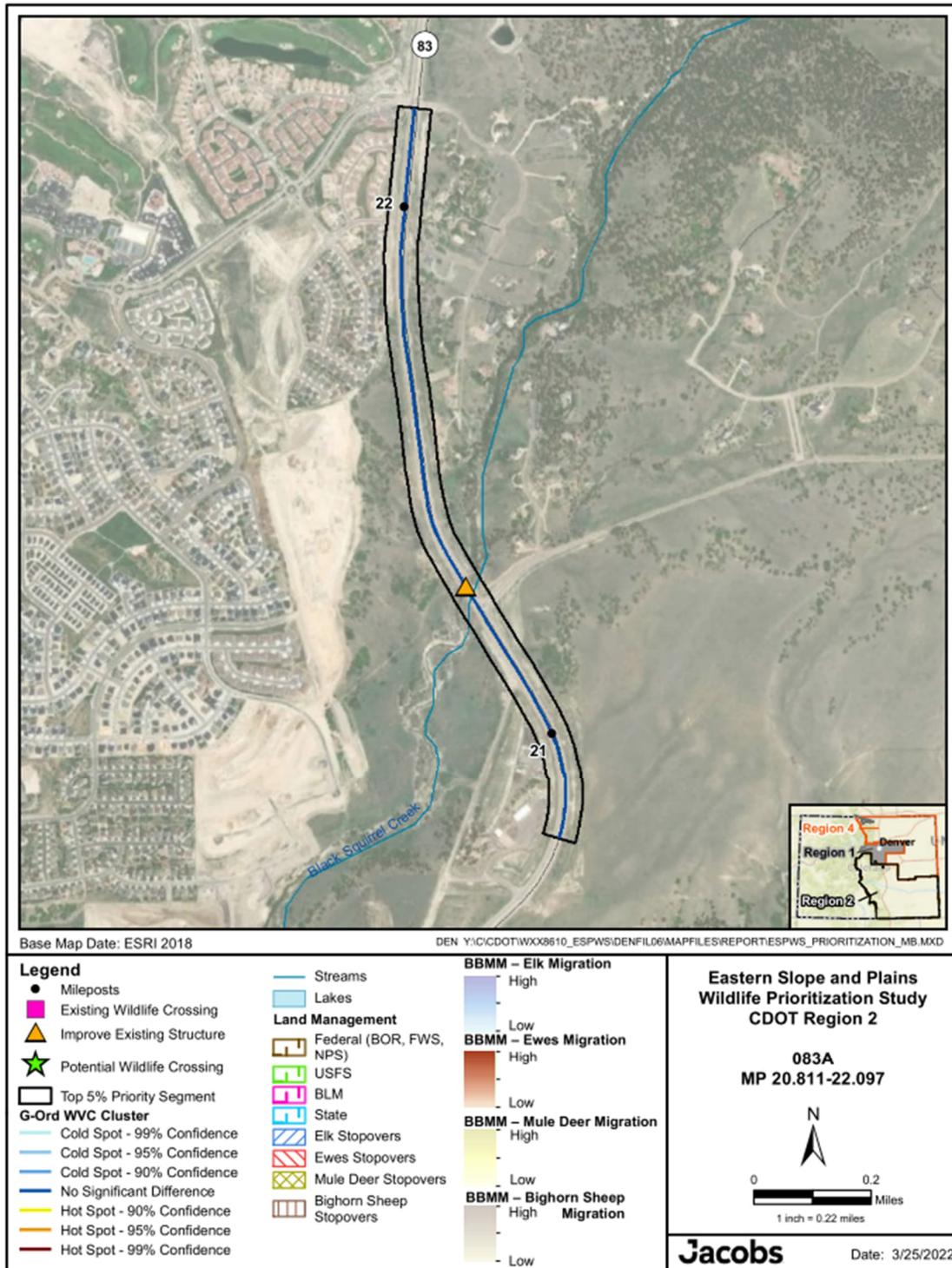
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	15,000 to 20,000	27,285 to 36,800	Deer	Year-round	High

2.12.1.1.2 Preliminary Mitigation Recommendations

Install wildlife fence north to the intersection at Flying Horse Club Drive/Albert Way (MP 22.1) and south to the intersection of SH 21, which is another high-priority segment for wildlife mitigation. Wildlife fence may tie into existing chain-link fence around the CDOT maintenance yard south of Shoup Road on the west side of SH 83. Install a wildlife guard across Shoup Road where it intersects with SH 83.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
21.3	Bridge over Black Squirrel Creek, a small perennial stream. Natural surface recreation trail through the bridge; pedestrian bridge over creek to the east. Bridge is highly functional for deer, elk, and other wildlife passage.	Tie wildlife fencing into bridge.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.13 State Highway 94 Priority Segments

2.13.1 State Highway 94, Mileposts 1.4 to 7, East of Colorado Springs

2.13.1.1 El Paso County

This segment lies east of Colorado Springs and extends east for over 5 miles from the intersection with US 24. This landscape is notable for the Corral Bluffs landform along the north side of this segment, which rises above the rolling plains and sends multiple drainage channels off the bluffs and over which the highway crosses. These bluffs and the larger drainages descending from there are recognized by CPW as a mule deer concentration area, resulting in a mule deer highway crossing zone from MPs 6.3 to 7. The segment is largely undeveloped, except around MPs 4.7 to 7.1, where there are various residences, a junkyard, and an off-road park and racetrack adjacent to the highway.

2.13.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	9,900	11,979	Deer, Pronghorn	Winter, year-round	Deer—High Pronghorn—Low

2.13.1.1.2 Preliminary Mitigation Recommendations

A low-cost near-term mitigation solution is to replace barbed-wire right-of-way fencing with wildlife-permeable fencing throughout the segment. A longer-term solution would involve installing four new wildlife crossings, as indicated in the following table, and installing wildlife-exclusion fence connecting an existing bridge and the new crossing structures. Wildlife-exclusion fence would extend from the intersection with Marksheffel Road (MP 1) to approximately MP 8.1. Wildlife guards at all intersections and driveways access points would be required, approximately 22. Mitigation planning could also consider a combined approach, with crossing structures and wildlife-exclusion fencing through the eastern portion of the segment and wildlife-permeable fencing through the western portion of the segment, which has more road access points.

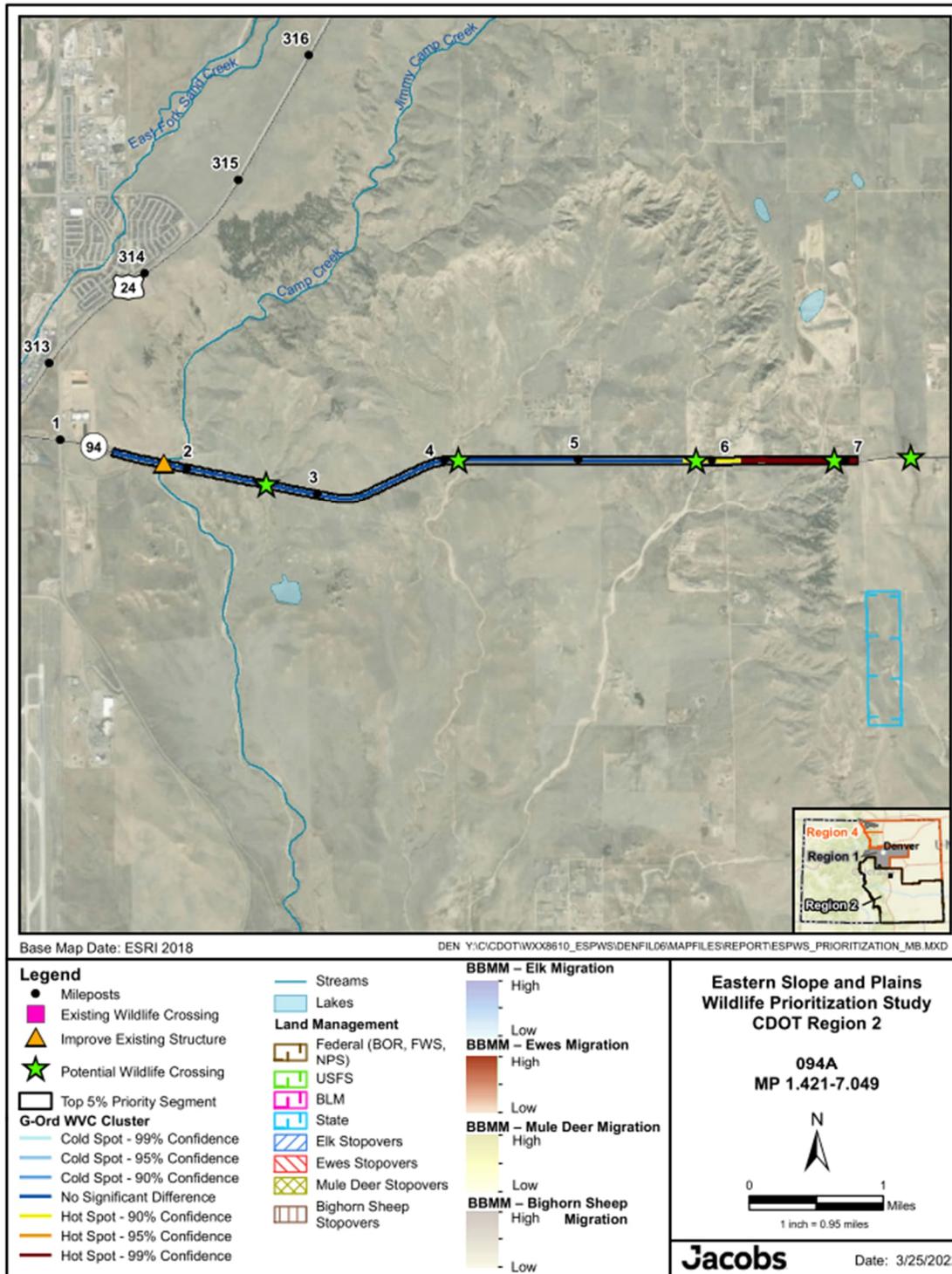
Eastern Slope and Plains Wildlife Prioritization Study
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
1.8	Jimmy Camp Creek— low, multispan bridge over ephemeral drainage. Barbed-wire fence across structure entrances.	Tie structure into wildlife-exclusion fence. Coordinate with landowner to remove or replace barbed-wire fence in front of bridge with a wildlife-permeable alternative.	
2.6	Large fill slope with a 5-foot-diameter drainage pipe	Install a bridge or large arch underpass suitable for deer and pronghorn passage and tie into wildlife-exclusion fence.	
4.1	Three-cell box culvert at ephemeral draw	Replace with a longer span bridge to accommodate deer and pronghorn passage and tie into wildlife-exclusion fence.	
5.9	Two-cell box culvert at ephemeral draw	Replace with a longer span bridge to accommodate deer and pronghorn passage and tie into wildlife-exclusion fence.	 <p data-bbox="972 1759 1105 1791">Credit: CDOT</p>

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
6.9	Large fill slope with small drainage pipe	Replace with a longer span bridge to accommodate deer and pronghorn passage and tie into wildlife-exclusion fence.	N/A
7.5	Double pipe culvert at ephemeral draw. Barbed-wire fence across structure entrance. This location is beyond the end of the 95th percentile segment and ranks in the 90th percentile.	Replace with a longer span bridge to accommodate deer and pronghorn passage and tie into wildlife-exclusion fence, which should end 0.5 to 1 mile east of this location.	 <p data-bbox="972 846 1105 873">Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.14 State Highway 96 Priority Segments

2.14.1 State Highway 96, Mileposts 70.3 to 73, North Avondale

2.14.1.1 Pueblo County

This segment of SH 96 bounds the north side of the Arkansas River corridor, with US 50 adjoining the south side. The riparian corridor and adjacent agricultural fields provide habitat for mule deer, white-tailed deer, as well as elk, whereas pronghorn is more commonly found in the upland native range habitat north of the highway. This landscape is generally flat, with low bluffs approaching the highway from the north in the eastern portions of the segment. Traffic volumes are low and anticipated to remain low in the foreseeable future. Railroad tracks run adjacent to the north side of SH 96.

Looking East from the North Side of SH 96 at MP 70.3



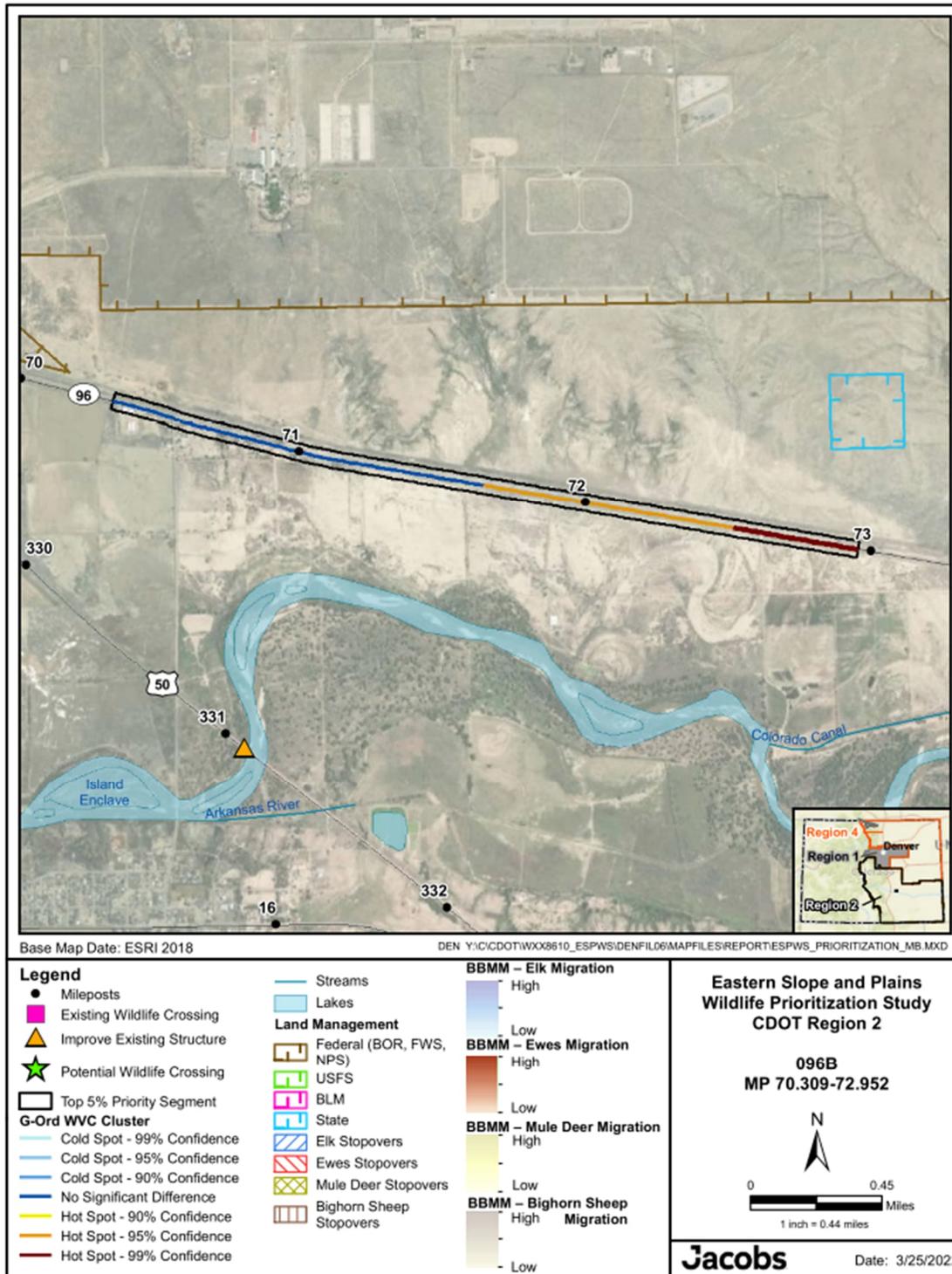
2.14.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,600	1,869	Deer	Winter, year-round	Deer—High

2.14.1.1.2 Preliminary Mitigation Recommendations

Remove barbed-wire right-of-way fence and, where needed, replace with wildlife-permeable fencing. Coordinate with the railroad to remove fencing along the north side of the railroad tracks.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



2.14.2 State Highway 96, Mileposts 79.2 to 89.7, Boone to Olney Springs

2.14.2.1 Crowley and Pueblo Counties

This segment of SH 96 bounds the north side of the Arkansas River corridor, with US 50 adjoining the south side. The riparian corridor and adjacent agricultural fields are a habitat concentration area for mule deer and white-tailed deer. The riparian corridor also provides elk habitat in this plains landscape, whereas pronghorn is more commonly found in the upland native range habitat north of the highway. This landscape adjacent to the highway is flat throughout the segment. Traffic volumes are low and anticipated to remain low in the foreseeable future. Railroad tracks run adjacent to the south side of SH 96 through the segment.

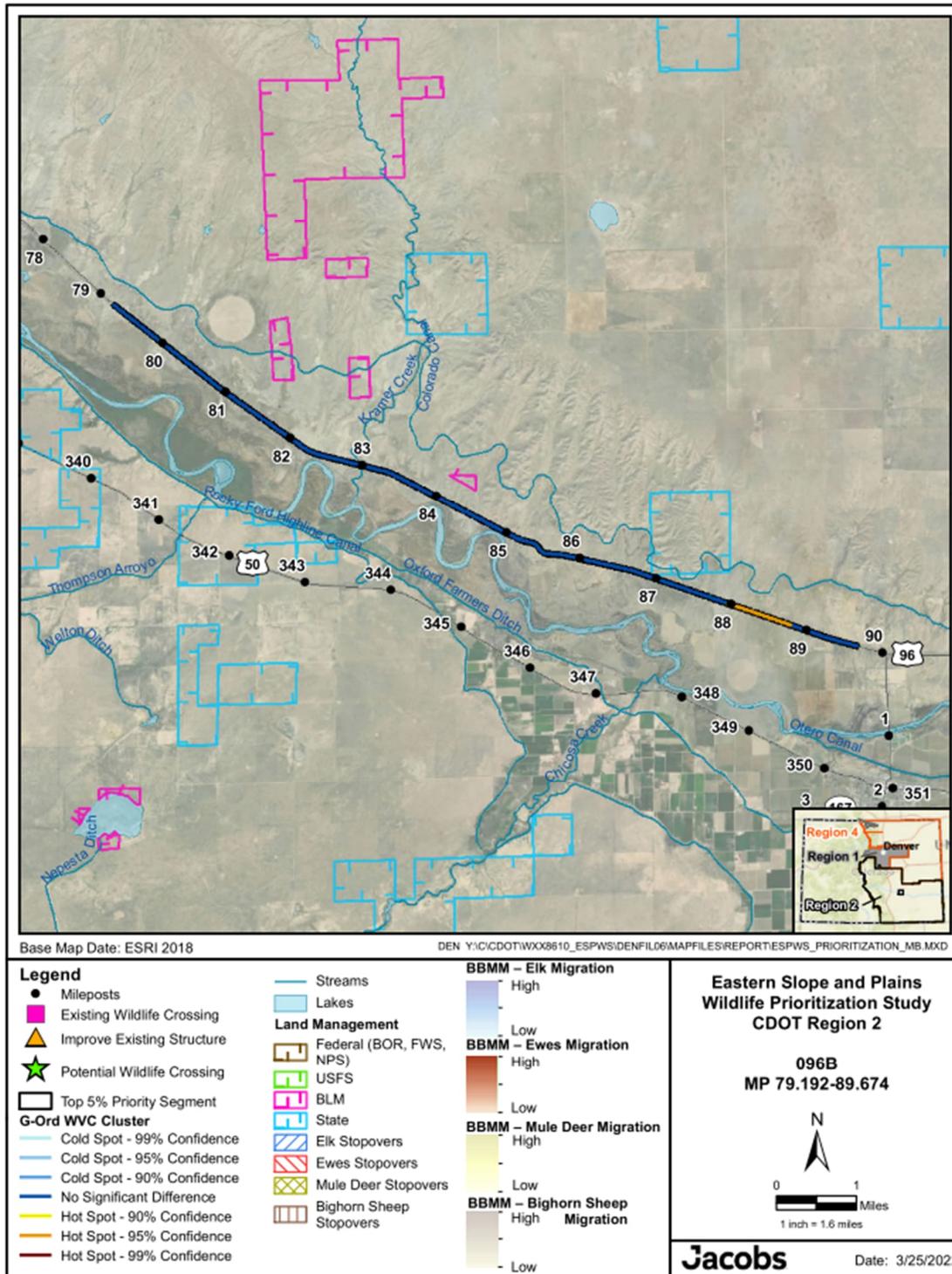
2.14.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,100	1,377	Deer	Winter, year-round	High

2.14.2.1.2 Preliminary Mitigation Recommendations

Remove barbed-wire right-of-way fence and, where needed, replace with wildlife-permeable fencing. Coordinate with the railroad to remove fencing along the south side of the railroad tracks.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3. CDOT Region 4 (CPW Northeast Region)

3.1 Interstate 25 Priority Segments

3.1.1 Interstate 25, Mileposts 265.3 to 267.5, Timnath/South of Fort Collins

3.1.1.1 Larimer County

This section of I-25 runs along the Cache la Poudre riparian corridor on the southeast outskirts of Fort Collins. Much of the habitat adjacent to the highway is protected open space (city and county). The riparian corridor provides winter range and migration habitat for mule deer as well as elk and other wildlife. At the time of the field survey in summer 2021, there was an ongoing highway reconstruction project through this segment.

3.1.1.1.1 Segment Characteristics

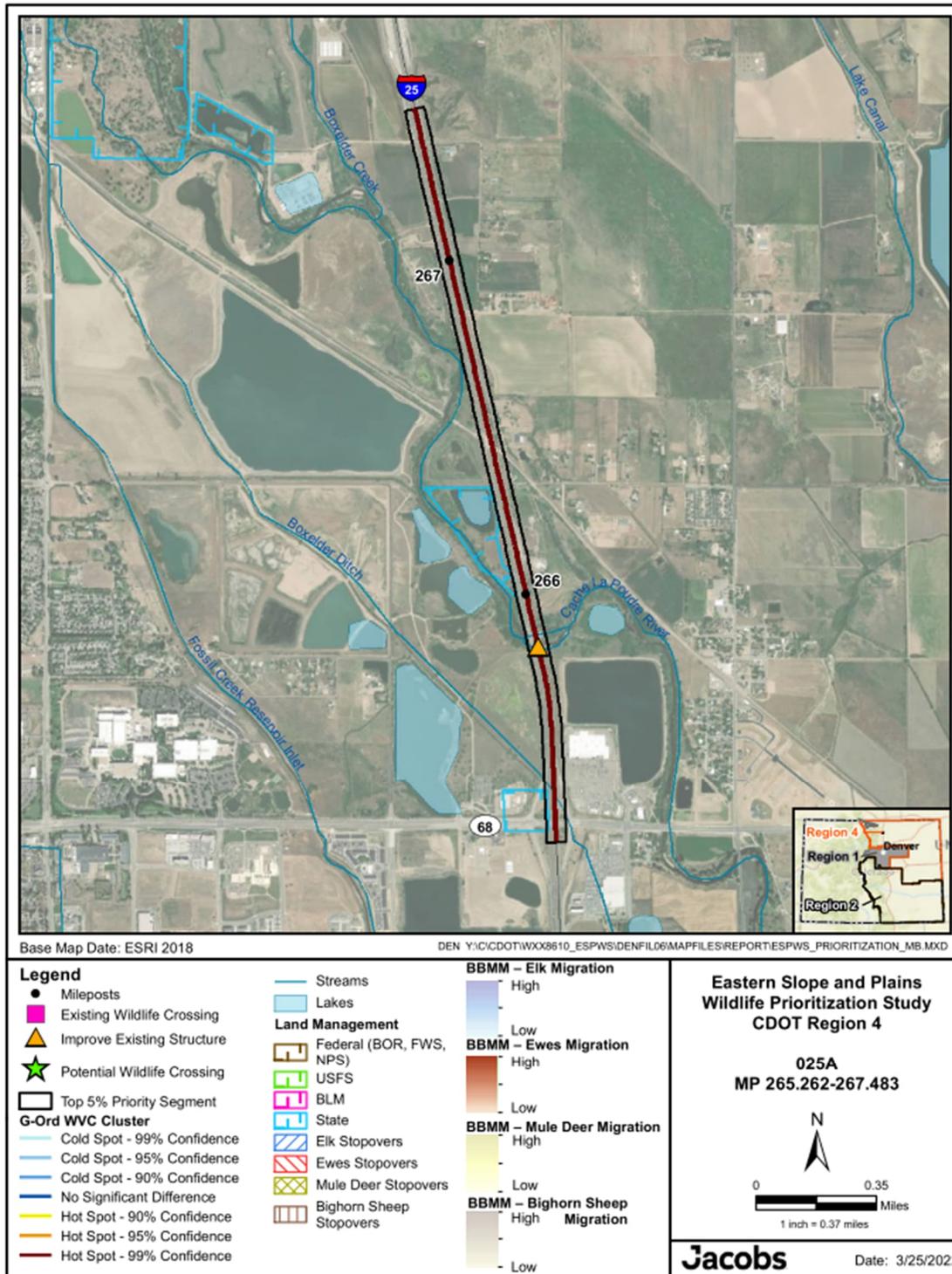
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	79,000	116,328	Deer	Winter range, migration	Moderate

3.1.1.1.2 Preliminary Mitigation Recommendations

Install wildlife fencing between the interchange at MPs 265.3 and 268.5 to encourage wildlife use of the bridge along the riparian corridor and to prevent at-grade crossing attempts of I-25. There is also a bridge over the railroad in this segment, which wildlife may also use. No wildlife guards are needed in this segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
265.8	Bridge over the Cache la Poudre River. Bridge was being reconstructed as part of a highway project in 2021.	Tie wildlife fence into bridge.	N/A
266.4	Bridge over railroad tracks	Tie wildlife fence into bridge.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.2 Interstate 70 Priority Segments

3.2.1 Interstate 70, Mileposts 333.6 to 336.2, Deer Trail to Agate

3.2.1.1 Elbert County

This stretch of I-70 runs adjacent to East Bijou Creek. The riparian corridor provides winter range and severe winter range habitat for mule deer. This landscape also supports high concentrations of pronghorn and, to a lesser degree, white-tailed deer. US 40 and the railroad parallel the highway to the southwest.

3.2.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	11,000	14,234	Deer, Pronghorn	Winter, year-round	Deer—Low Pronghorn—Low

3.2.1.1.2 Preliminary Mitigation Recommendations

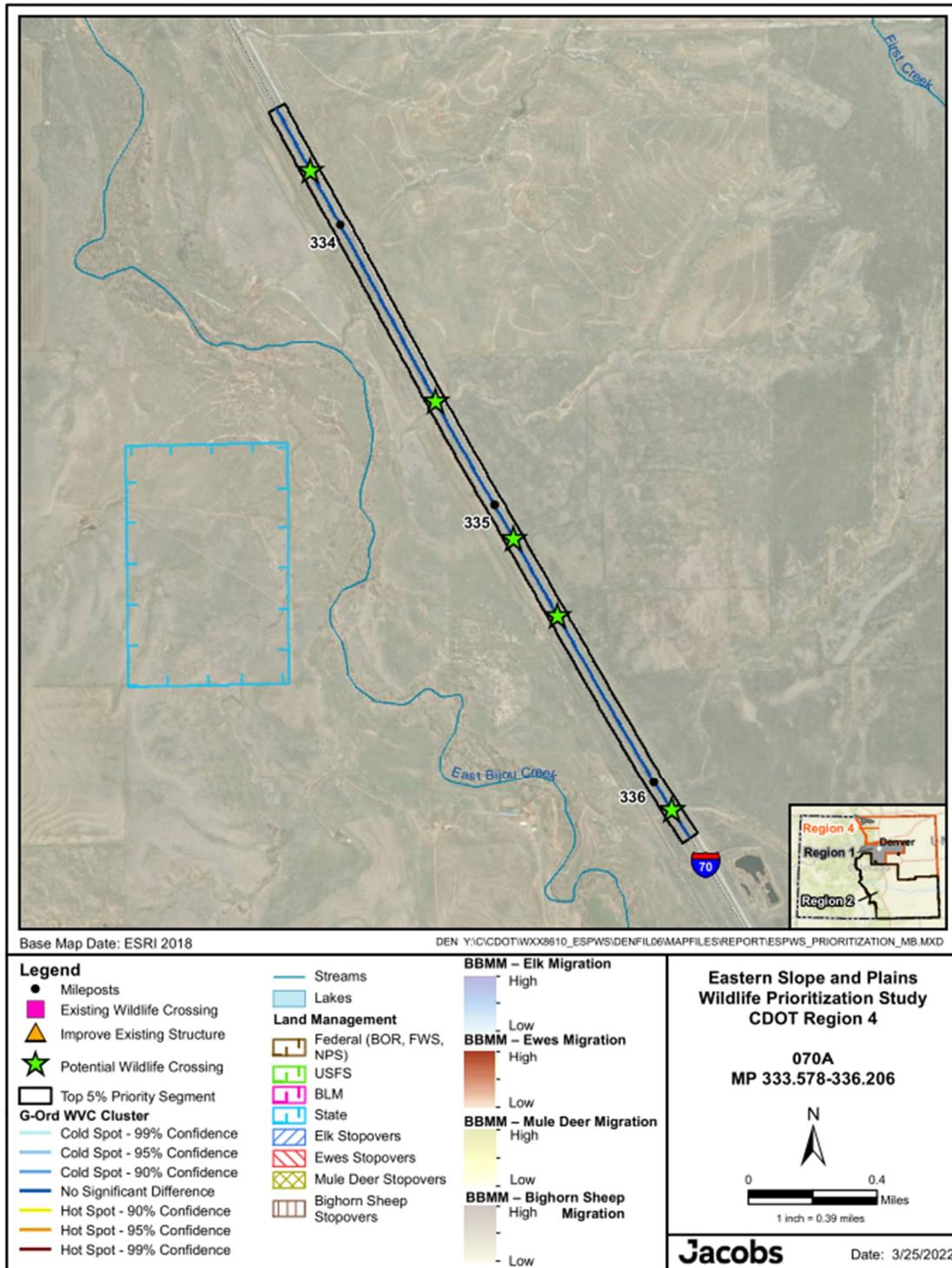
Given the high concentrations of wildlife and high WVC rate in this segment, wildlife crossings with continuous fencing are recommended. However, the low road grade and concentration of parallel transportation infrastructure (east- and westbound lanes of I-70; US 40; and the railroad) will make constructing effective wildlife crossing structures challenging. Nevertheless, there are multiple small draws with sufficient fill for installing low, wide wildlife crossings suitable for deer and pronghorn. Further investigation with engineering staff is needed to identify the best locations with adequate spacing between crossing structures.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
331.1	Bridge over County Road 190	Tie fence end into bridge.	N/A
333.8	Double box culvert	Possible location for a low, wide bridge. Tie into wildlife fence.	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
334.2	Drainage culvert in low fill slope. Culvert is skewed relative to the roadway.	N/A	N/A
334.6	Long box culvert in fill slope at unnamed draw under I-70 and frontage road.	Possible location for a low, wide bridge. Tie into wildlife fence.	N/A
335.1	Long box culvert in low fill slope at unnamed draw under I-70 and frontage road.	Possible location for a low, wide bridge. Tie into wildlife fence.	N/A
335.4	Long box culvert in low fill slope at unnamed draw under I-70 and frontage road. Culvert is skewed relative to the roadway.	Possible location for a low, wide bridge. Tie into wildlife fence.	N/A
336.1	Double box culvert under I-70; bridge under frontage road	Possible location for a low, wide bridge. Tie into wildlife fence.	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.2.2 Interstate 70, Mileposts 395.7 to 398.3, South Fork Republican River

3.2.2.1 Kit Carson County

This segment of I-70 is defined by the river corridor and adjacent uplands associated with the South Fork of the Republican River. CPW identifies this area as a concentration area for mule deer, white-tailed deer, and pronghorn. At the eastern end of the segment, State Land Board lands adjoin the interstate to the south, and the Flagler Reservoir State Wildlife Area is to the north. A frontage road parallels the south side of the interstate, and the railroad runs parallel along the north through much of this segment.

3.2.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	10,000	11,890	Deer, Pronghorn	Year-round	Deer—Low Pronghorn—Low

3.2.2.1.2 Preliminary Mitigation Recommendations

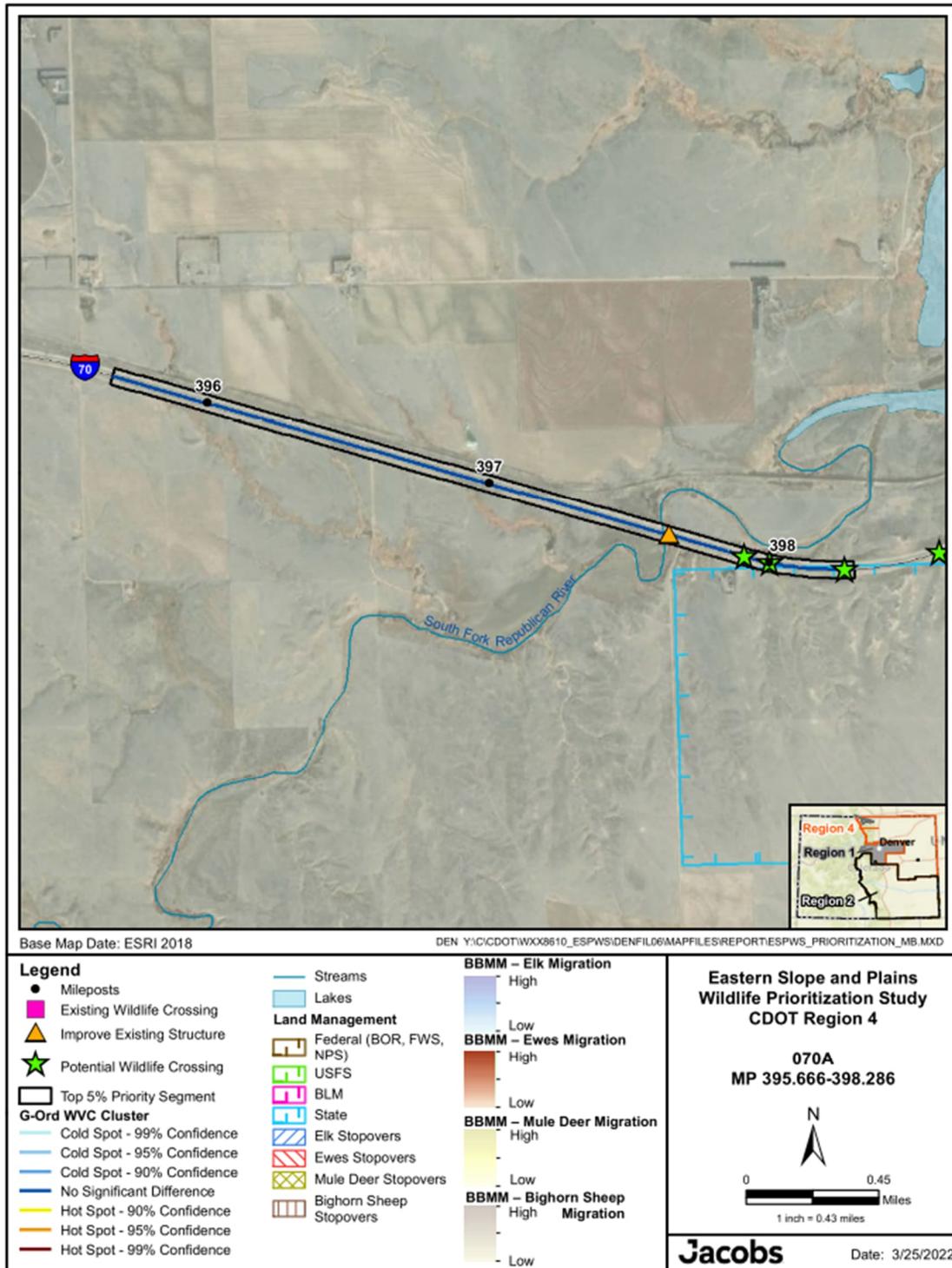
Given the high concentration of wildlife populations and high WVC rate, wildlife crossings with continuous fencing are recommended for this segment. The eastern end of the segment has a low road grade and limited opportunities for wildlife crossings, although further investigation should be conducted to determine whether a suitable location can be found between MPs 395.7 and 396.5. At a minimum, install wildlife-exclusion fence from approximately MP 397 to the intersection with County Road 10 at MP 399.7 and, in addition to the bridge over the South Fork of the Republican River, determine the best locations for additional crossing structures to provide passage for deer and pronghorn.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
397.6	Three double span bridges (east- and westbound lanes; frontage road)	Remove and, if needed, replace barbed-wire fence on the north side of the structure with wildlife-permeable fence.	

Eastern Slope and Plains Wildlife Prioritization Study
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
397.9	Long box culvert under I-70 and frontage road	Potential location for a low, wide bridge suitable for deer and pronghorn passage. Tie into wildlife-exclusion fence.	N/A
398	Long box culvert under I-70 and frontage road	Potential location for a low, wide bridge suitable for deer and pronghorn passage. Tie into wildlife-exclusion fence.	N/A
398.3	Fill slope with drainage pipe	Potential location for a low, wide bridge suitable for deer and pronghorn passage. Tie into wildlife-exclusion fence.	N/A
398.6	Fill slope with drainage pipe	Potential location for a low, wide bridge suitable for deer and pronghorn passage. Tie into wildlife-exclusion fence.	N/A
399.3	Long box culvert under I-70 and frontage road	Potential location for a low, wide bridge suitable for deer and pronghorn passage. Tie into wildlife-exclusion fence.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.2.3 Interstate 70, Mileposts 413.2 to 415.8, Vona

3.2.3.1 Kit Carson County

I-70 is a four-lane divided highway and, although the road is straight and flat with good visibility for motorists, traffic speeds are high with high volumes of truck traffic and WVCs are also high. This stretch of I-70 runs through ranchlands and croplands that provide habitat and serve as attractants for mule deer, white-tailed deer, and pronghorn. CPW identifies the western portion of this segment (from MPs 409.3 to 413.7) as a highway crossing zone for white-tailed deer. US 24 and the railroad parallel the interstate approximately 0.5 mile to the north.

3.2.3.1.1 Segment Characteristics

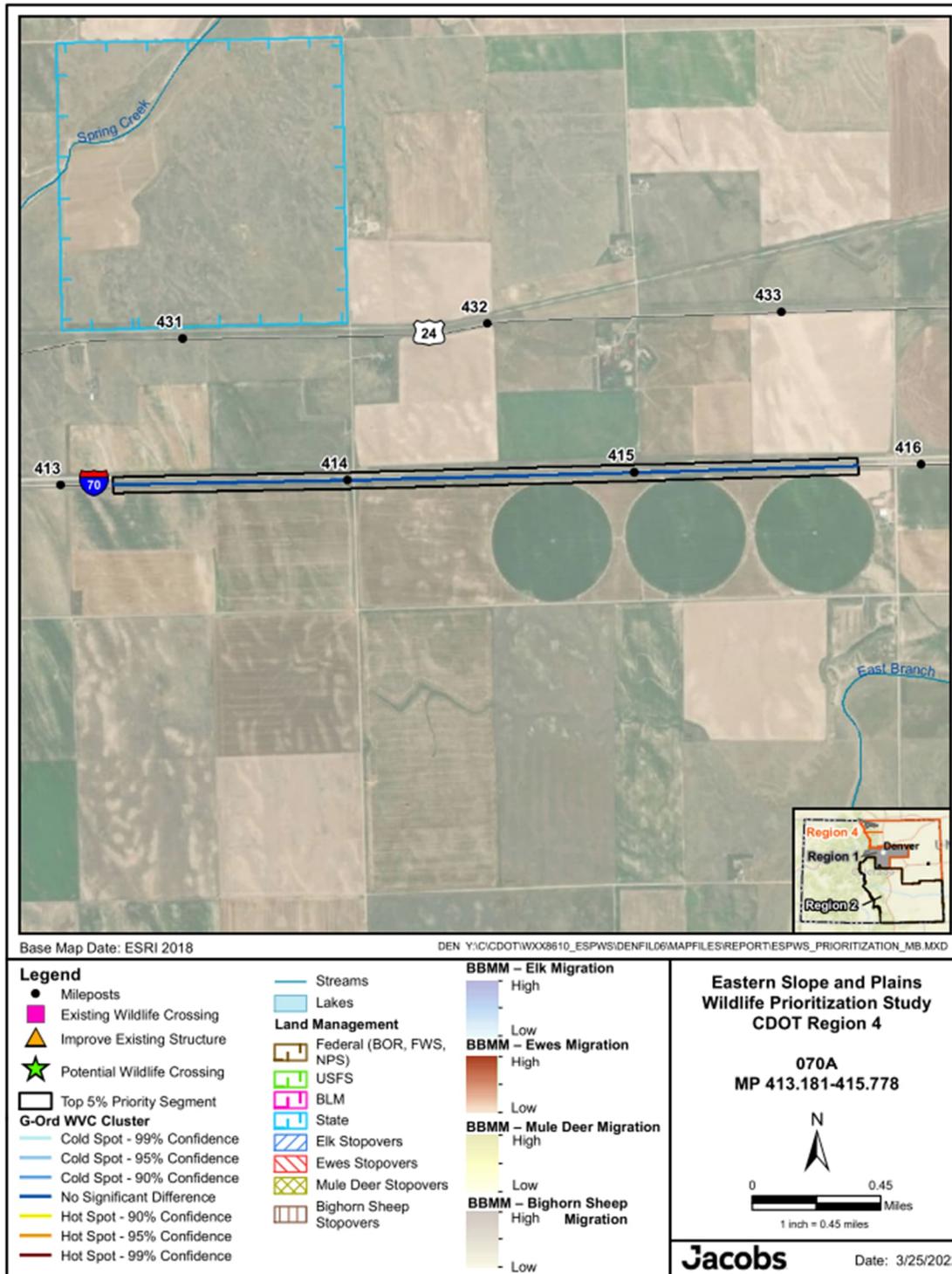
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	8,700	10,253	Deer, Pronghorn	Year-round	Deer—Low Pronghorn—Low

3.2.3.1.2 Preliminary Mitigation Recommendations

Although the road grade through this segment is generally low, further investigation is required to determine the potential for wildlife crossings with continuous fencing in this segment, or to fence wildlife to more suitable crossing locations, for example, at Spring Creek and the East Branch of Spring Creek.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
415	Stock pass—long box culvert under divided highway with median skylight	N/A	N/A

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3.3 Interstate 76 Priority Segments

3.3.1 Interstate 76, Mileposts 35.4 to 38.5, Hudson to Keenesburg

3.3.1.1 Weld County

This section of Interstate 76 (I-76) is a four-lane highway with an open median, a frontage road that runs along the north side of the highway, and railroad tracks to the south. Irrigated fields and several creek drainages—including Box Elder Creek to the west—provide habitat and forage for deer in this landscape.

3.3.1.1.1 Segment Characteristics

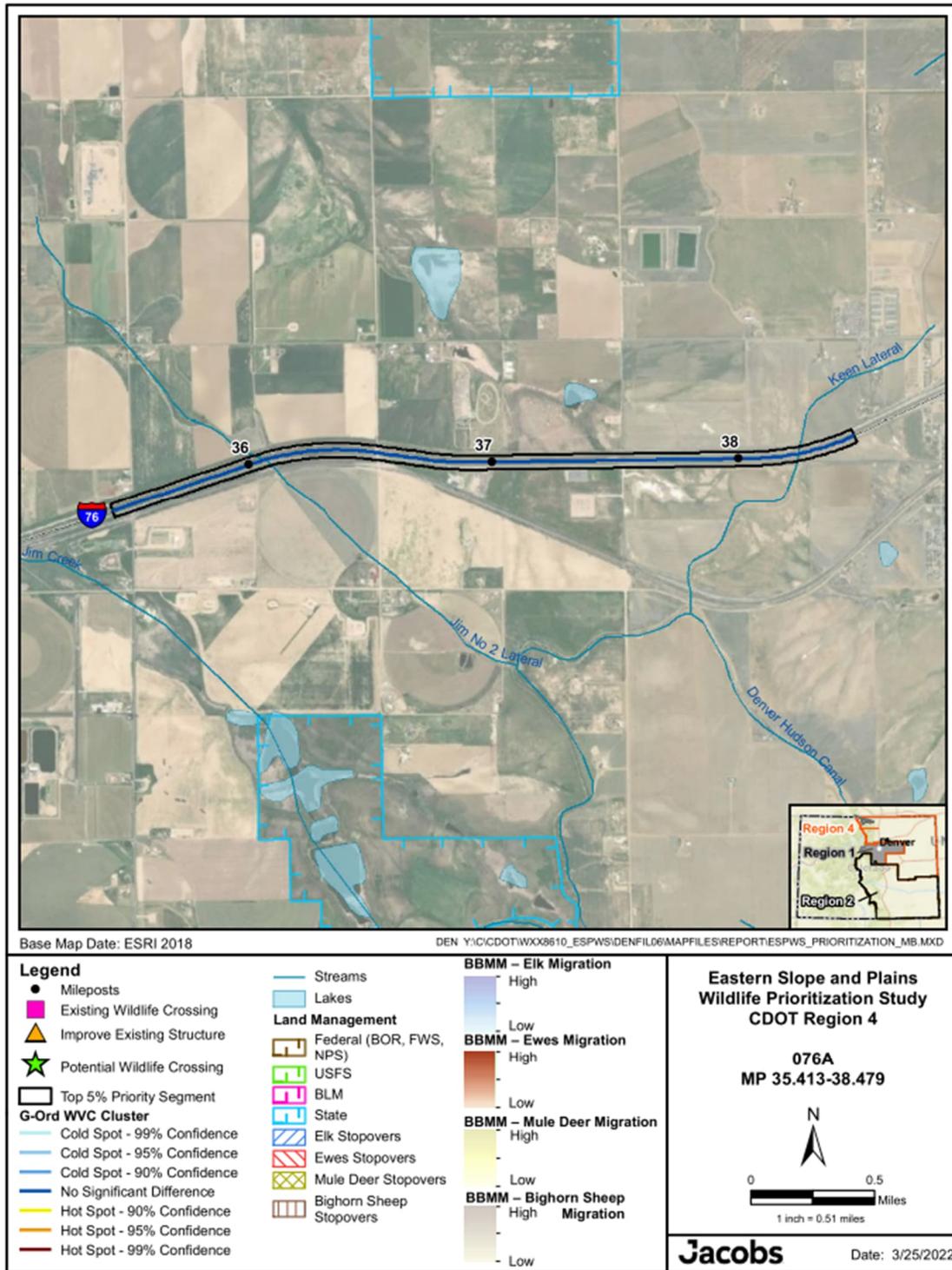
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	16,000	22,888	Deer	Winter and year-round	High

3.3.1.1.2 Preliminary Mitigation Recommendations

Due to the lack of road grade and extensive roadway infrastructure, wildlife crossings are not recommended for this segment. However, there is an opportunity to add wildlife-exclusion fence to existing bridges over Box Elder Creek, which is just to the west of this high-priority segment. Throughout the segment, replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider using variable-message signs during high wildlife activity months (November through April).

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
34.1	Three low, wide bridges over Box Elder Creek (eastbound and westbound lanes and I-76 frontage road). This location is outside the top 5 percent segment and ranks in the 90th percentile.	Install short segments of wildlife-exclusion guide fencing in either direction, from approximately MP 33.8 to the County Road 49 interchange (MP 34.4).	 <p>Credit: CDOT</p>

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3.3.2 Interstate 76, Mileposts 46.3 to 46.8, West Roggen; Mileposts 48.5 to 48.9, Roggen; and Mileposts 49.8 to 51.1, East of Roggen

3.3.2.1 Weld County

These three 0.5-mile segments are each characterized by a creek crossing (Lost Creek tributaries) in a landscape composed of irrigated fields and native range. The creek drainages provide winter habitat for mule deer. CPW identifies the native range lands south of I-76 as habitat for resident herds. A frontage road and railroad tracks parallel I-76 along the south side.

3.3.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	12,000 to 14,000	16,536 to 20,027	Deer	Winter and year-round	High

3.3.2.1.2 Preliminary Mitigation Recommendations

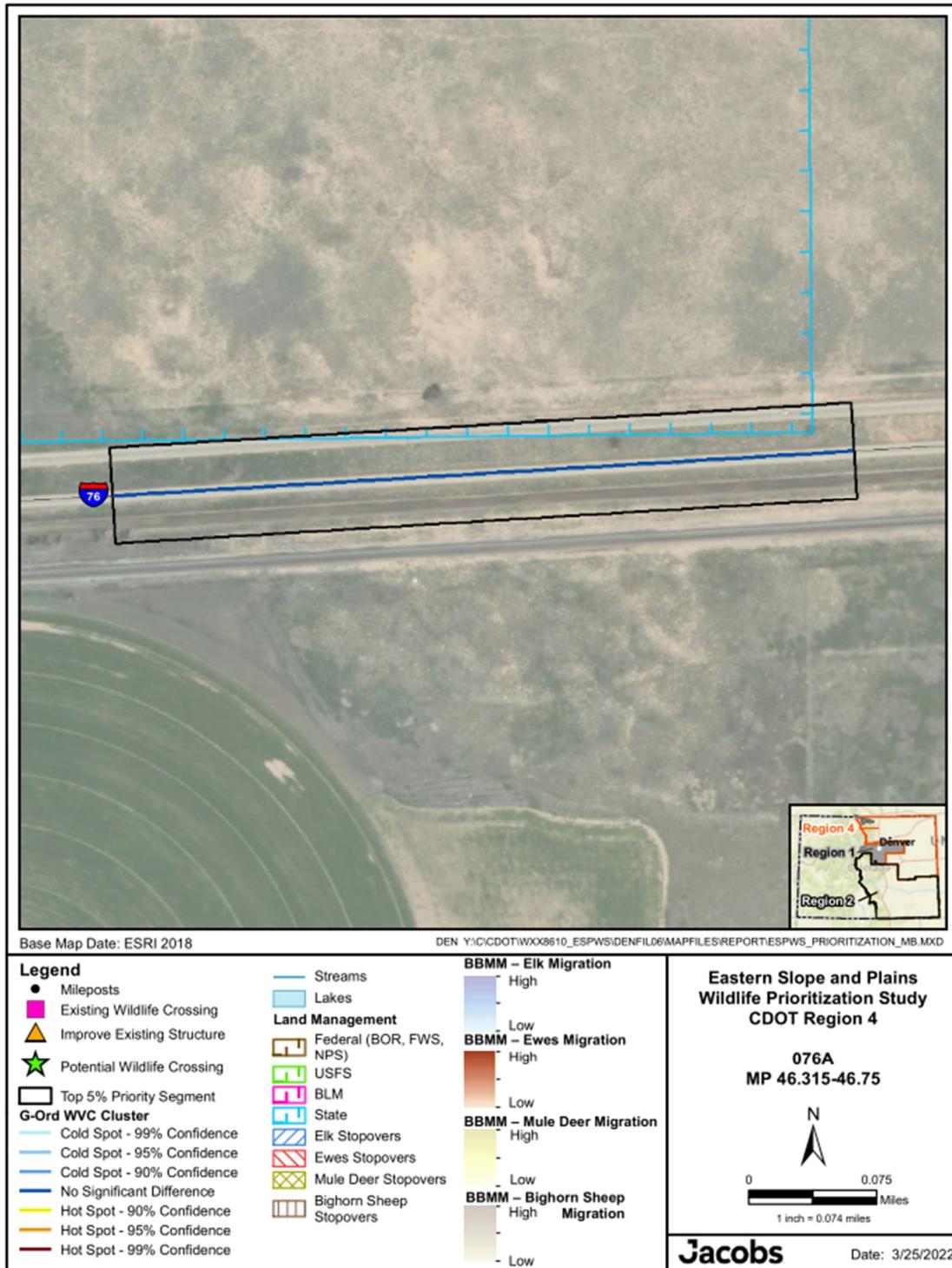
Replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider using variable-message signs during high wildlife activity months (November through April). As existing structures are replaced, incorporate wildlife passage considerations into the design of new structures and install short sections of wildlife-exclusion fencing to each structure.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
48.9	Low bridge over Lost Creek	N/A	 <p>Credit: CDOT</p>

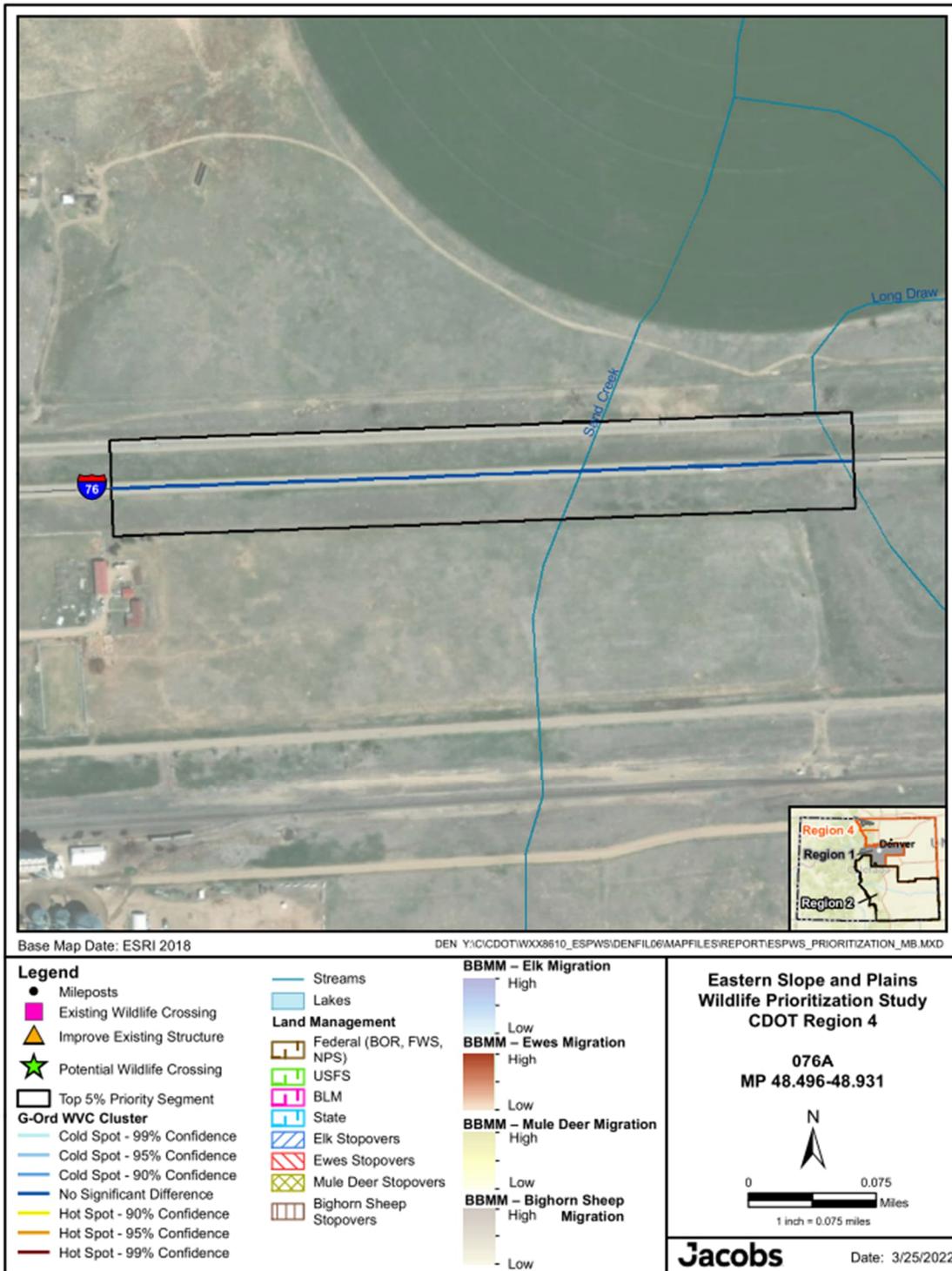
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
50.2	Double box culvert under I-76 feeds onto south side frontage road.	N/A	 <p data-bbox="971 693 1104 724">Credit: CDOT</p>

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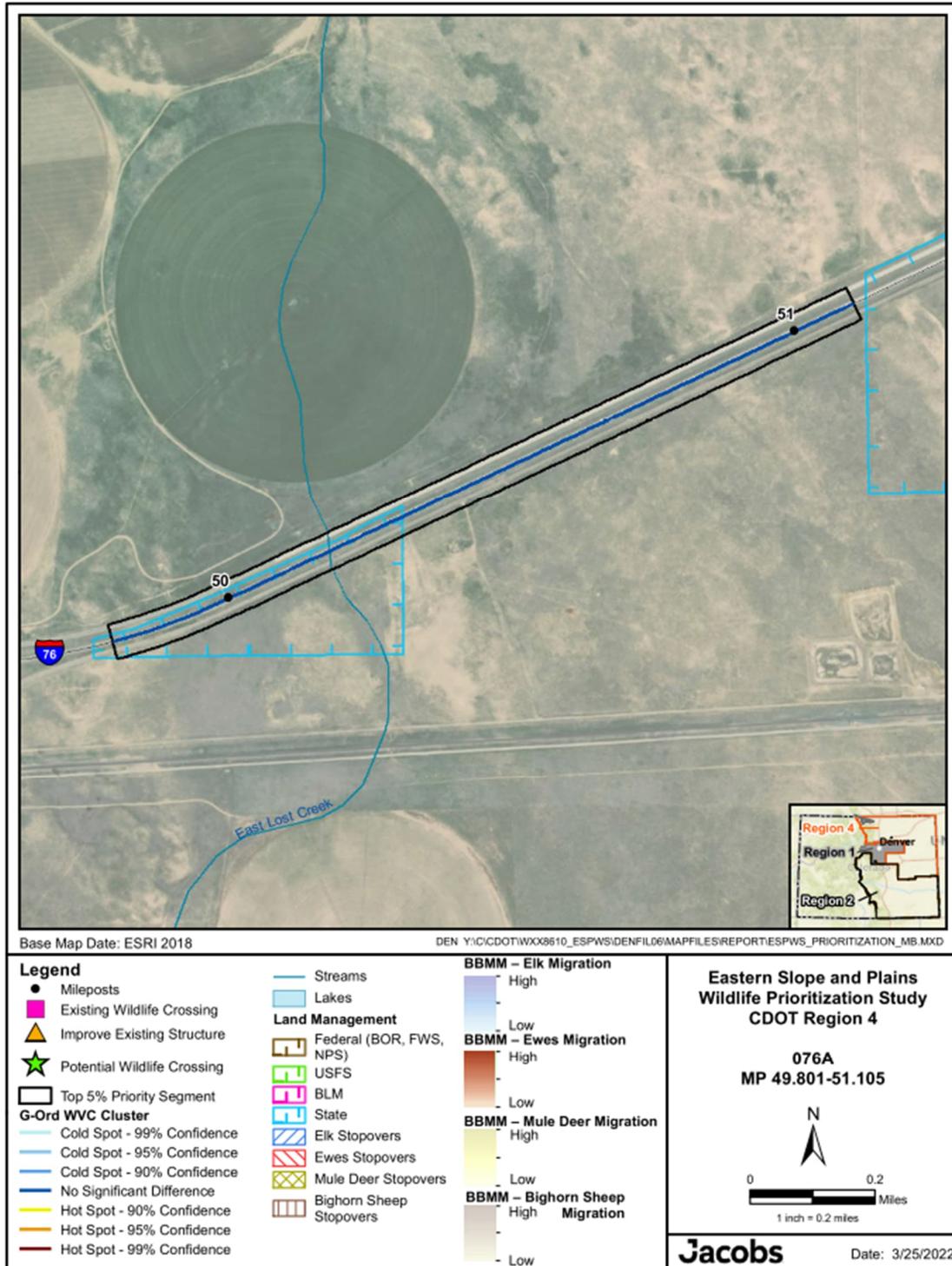


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3.3.3 Interstate 76, Mileposts 61.6 to 62.4, West of Wiggins

3.3.3.1 Morgan County

Irrigated fields and native range are the primary wildlife attractants along this stretch of I-76. In addition, Empire Reservoir, located northeast of this segment, provides an important water source for wintering deer.

3.3.3.1.1 Segment Characteristics

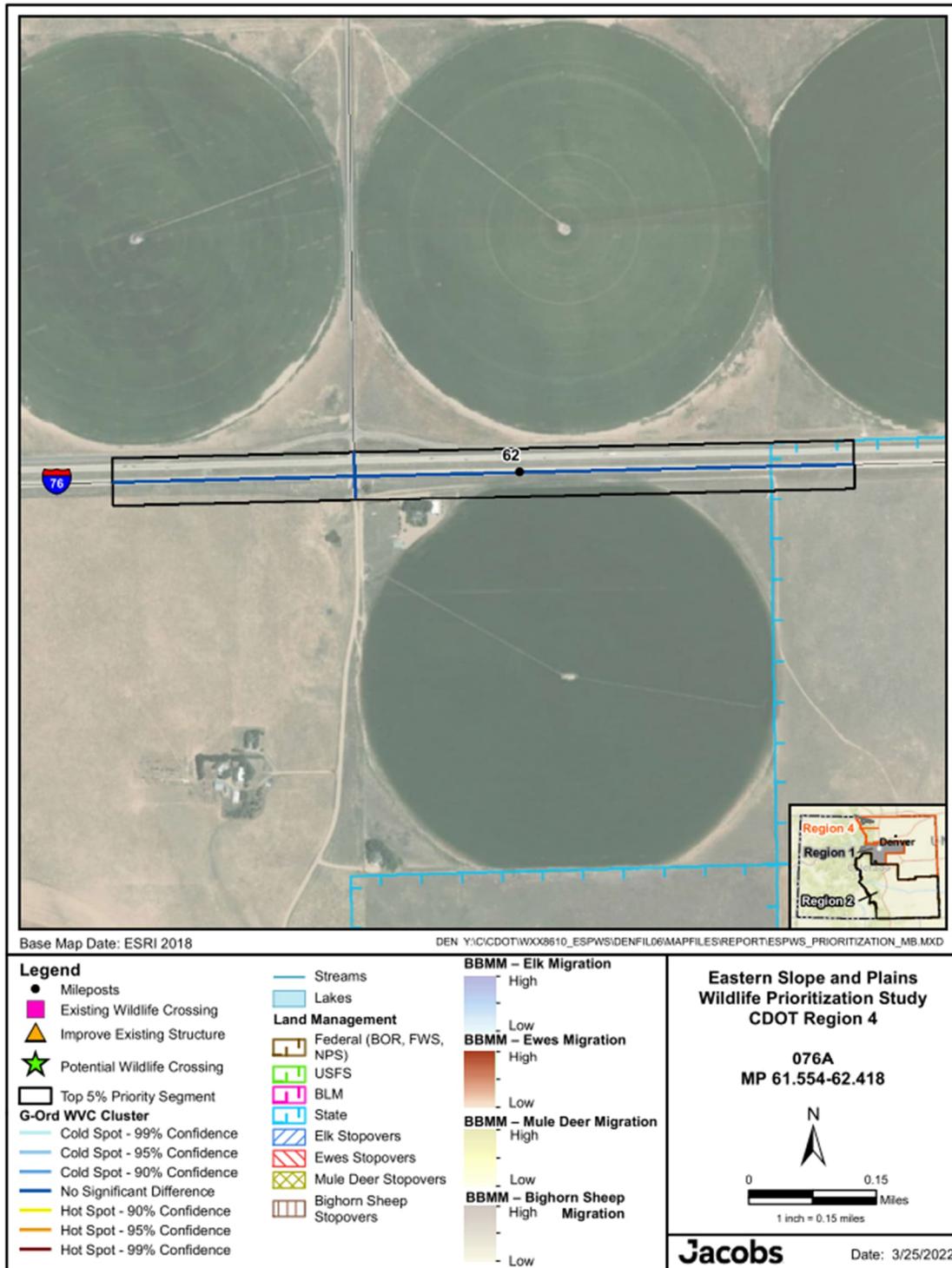
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	14,000	20,027	Deer	Winter and year-round	High

3.3.3.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider using variable-message signs during high wildlife activity months (November through April).

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
61.8	County road culvert (one-lane traffic)	N/A	N/A

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3.3.4 Interstate 76, Mileposts 66.8 to 72.5, Bijou Creek

3.3.4.1 Morgan County

This landscape is characterized by the South Platte River corridor, which lies north of I-76 through this segment, irrigated fields on either side of the interstate through the eastern half of the segment, and a mix of pastureland, dryland agriculture, and native range along Bijou Creek in the western half of the segment. A frontage road parallels the north side of the interstate through this segment, and railroad tracks run along the south side.

Land Use Map of the Eastern Half of the High-priority Segment depicting the South Platte River Corridor and Irrigated Fields



3.3.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	19,000	25,783	Deer	Year-round	High

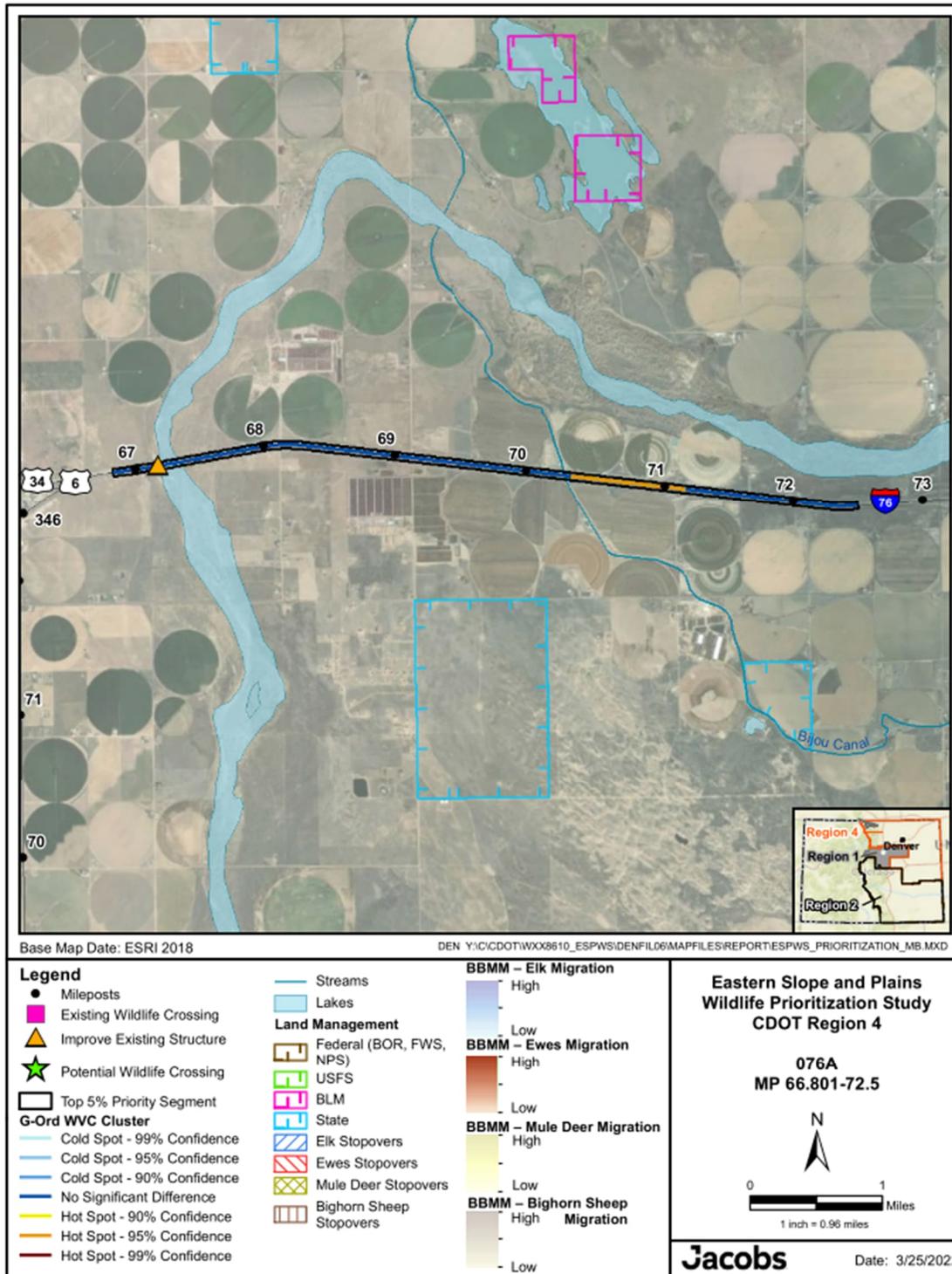
3.3.4.1.2 Preliminary Mitigation Recommendations

There is one existing large bridge at the west end of the segment over Bijou Creek. Install short sections of wildlife-exclusion fence to encourage wildlife use of this bridge and to help prevent at-grade crossings in this portion of the segment. The remainder of the segment has a low road grade through this flat landscape. Replace barbed-wire right-of-way fencing with wildlife-permeable fence to reduce the likelihood of animals becoming trapped on the roadway.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
67.2	<p>Four bridges span Bijou Creek at this location— eastbound and westbound I-76, a county road, and the railroad tracks. All four bridges are wide, spanning the entire drainage. Barbed-wire fence stretches across the north side of the county road bridge. Deer tracks observed under the bridge.</p>	<p>Install wildlife-exclusion fence to tie each of the bridges together and run the fence for approximately 0.5 mile in either direction.</p>	

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3.3.5 Interstate 76, Mileposts 82.6 to 86.1, East of Fort Morgan

3.3.5.1 Morgan County

This section of I-76 extends several miles east from Fort Morgan. The landscape is dominated by the South Platte River corridor and adjacent irrigated uplands—both of which serve as major draws for deer.

Irrigated Fields and the South Platte River Riparian Corridor on the North Side of I-76



3.3.5.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	16,000	21,880 to 22,048	Deer	Winter and year-round	High

3.3.5.1.2 Preliminary Mitigation Recommendations

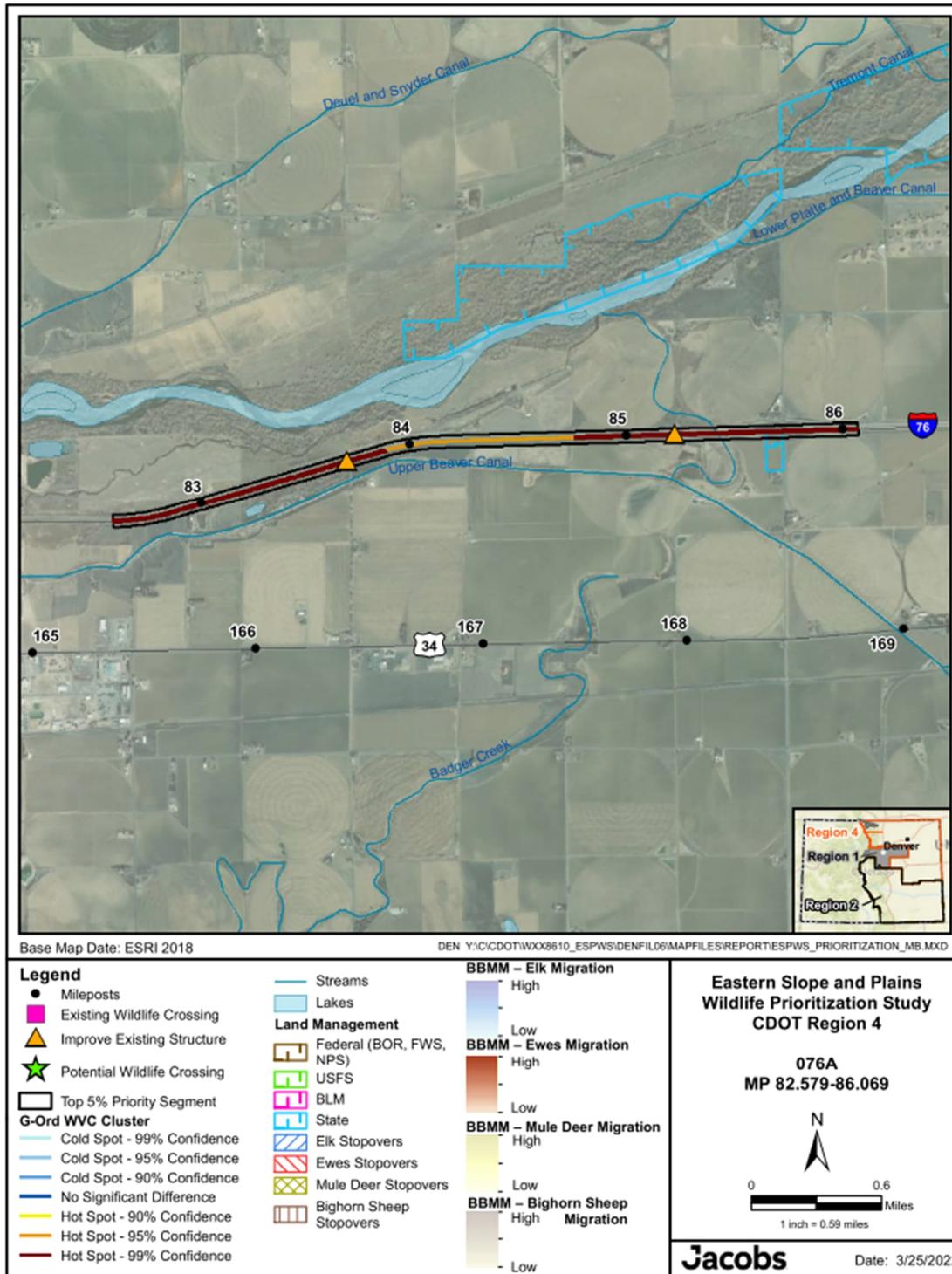
There are two existing bridges over a county road and over the Badger Creek drainage. Consider connecting these two bridges with wildlife-exclusion fence and extending the fence east to the bridge over County Road 85.7.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
83.6	Bridge over County Road 22	Tie into wildlife-exclusion fence.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
85.2	Bridge over Badger Creek/dirt access road	Tie into wildlife-exclusion fence.	
85.7	Bridge over County Road 24	Tie east fence end into bridge.	N/A

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3.3.6 Interstate 76, Mileposts 94.8 to 100, Camden to Hillrose

3.3.6.1 Morgan County

I-76 east of Brush runs along the south side of the broad South Platte River corridor and adjacent irrigated agriculture bottomlands. In contrast, the south side of the interstate is characterized by native range/conservation reserve program benchlands. Accordingly, the different portions of the landscape define wildlife habitat use, with mule deer and, in particular, white-tailed deer concentrated in the river corridor and adjoining fields, and pronghorn in the benchlands to the south. Deer movements between the river corridor and benchland areas necessarily cross over the interstate.

3.3.6.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	11,000	15,505	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.3.6.1.2 Preliminary Mitigation Recommendations

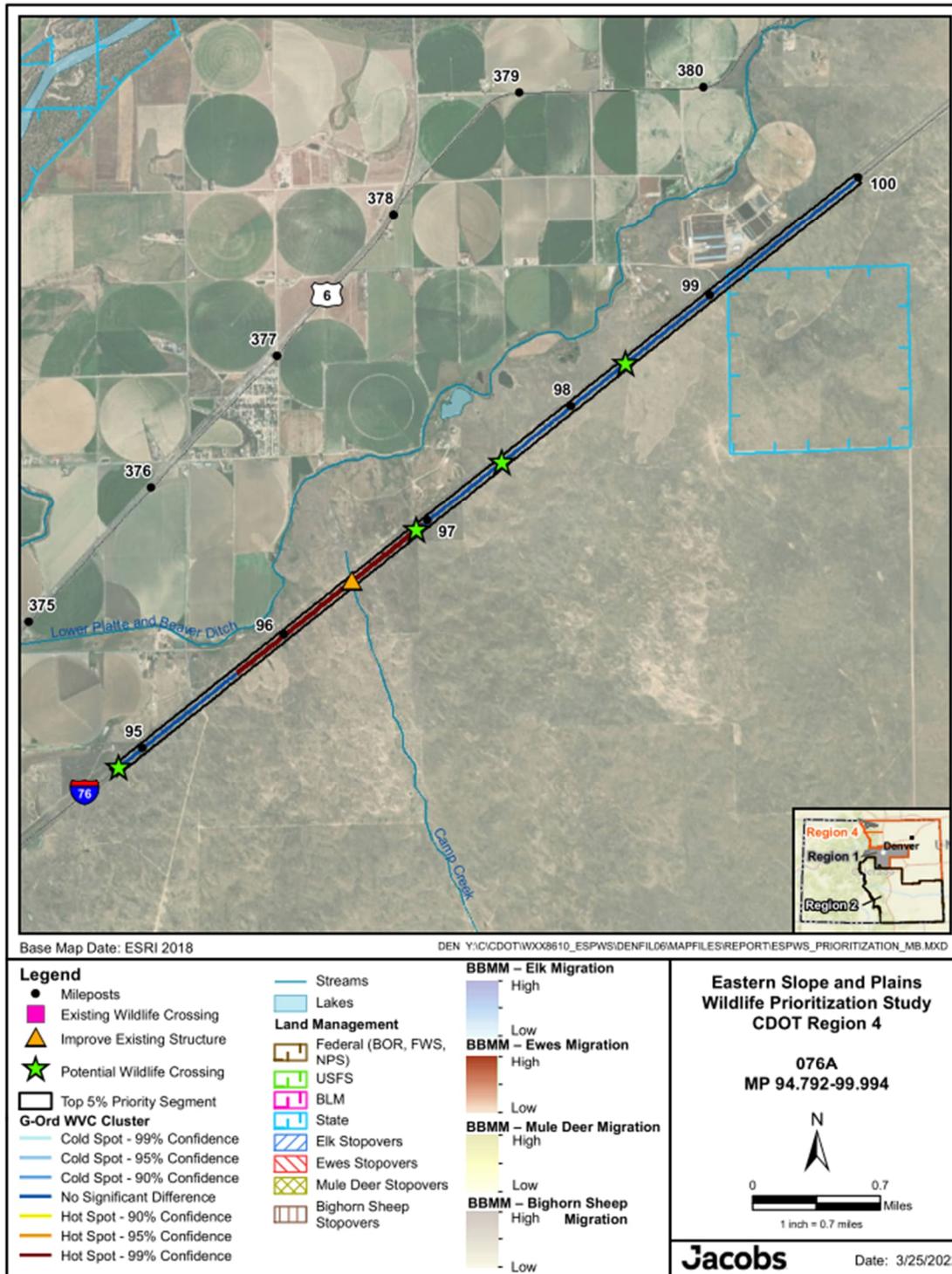
This segment of I-76 offers multiple opportunities for wildlife crossing structures, including existing box culverts, connected with wildlife-exclusion fence through the segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
94.8	Low fill slope	Possible location for a bridge or arch underpass. Tie into wildlife fence.	N/A
95.4	Bridge over County Road 33, a paved road with concrete side slopes	Tie into wildlife fence.	 <p>Credit: CDOT</p>

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
96.5	Camp Creek box culvert (14 feet wide by 12 feet height). Low concrete walls connect the two boxes under opposing lanes. Tumbleweeds accumulated in median opening. Gate across north structure entrance.	Tie into wildlife fence. Coordinate with landowners to replace existing gates and fences with wildlife-permeable alternatives and set back from structure entrances. Occasional maintenance may be required to keep the culvert clear of tumbleweeds and easily accessible for wildlife.	
96.9	Low fill slope	Possible location for a low bridge underpass. Tie into wildlife fence.	N/A
97.5	Small, sediment-filled pipe in large fill slope	Possible location for a low bridge or arch underpass. Tie into wildlife fence.	N/A
98.4	Low fill slope	Possible location for a low bridge underpass. Tie into wildlife fence.	N/A
99	Bridge over gravel county road	Tie into wildlife fence.	 <p data-bbox="972 1476 1105 1503">Credit: CDOT</p>

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3.3.7 Interstate 76, Mileposts 101.3 to 101.8, East of Hillrose

3.3.7.1 Morgan County

This 0.5-mile section of I-76 lies within native range immediately adjacent on either side of the interstate. To the north is the South Platte River corridor, to the south extensive sandhills and rangelands.

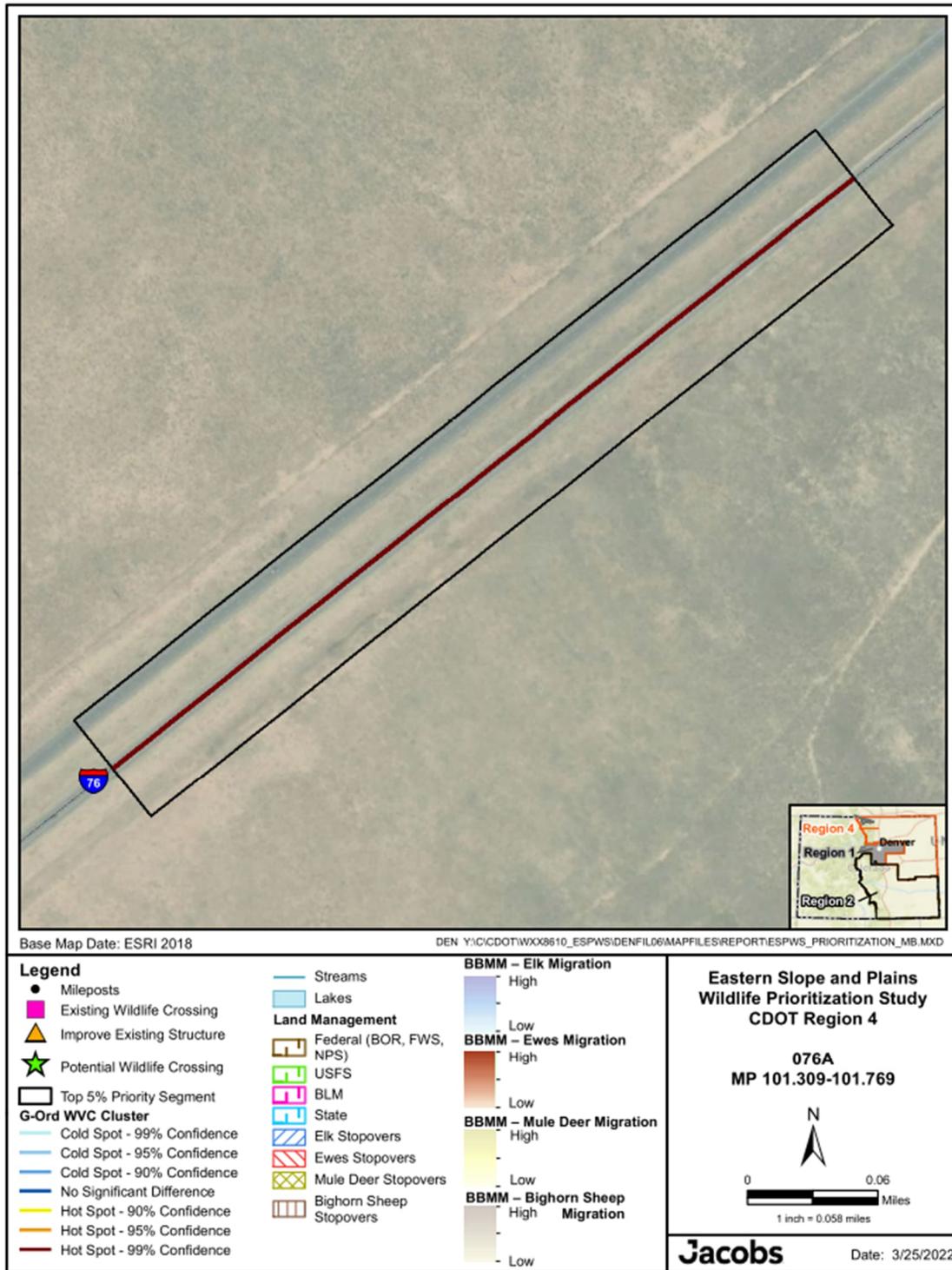
3.3.7.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	11,000	15,505	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.3.7.1.2 Preliminary Mitigation Recommendations

Remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fence through this segment and west through the adjoining 90th percentile segment to MP 103.5.

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3.3.8 Interstate 76, Mileposts 110 to 115.7, Merino to Atwood

3.3.8.1 Morgan County

This section of I-76 separates the native range uplands to the south from the South Platte River valley and associated irrigated fields to the north. The river corridor and adjacent fields provide concentrated winter range habitat for white-tailed deer and mule deer. The upland landscape south of the interstate provides dispersed habitat for mule deer and pronghorn, as well as some winter range habitat for pronghorn.

This high-priority segment also includes a short stretch of US 63 on the south side of I-76 from MPs 52.9 to 53.4.

3.3.8.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	11,000	15,505	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.3.8.1.2 Preliminary Mitigation Recommendations

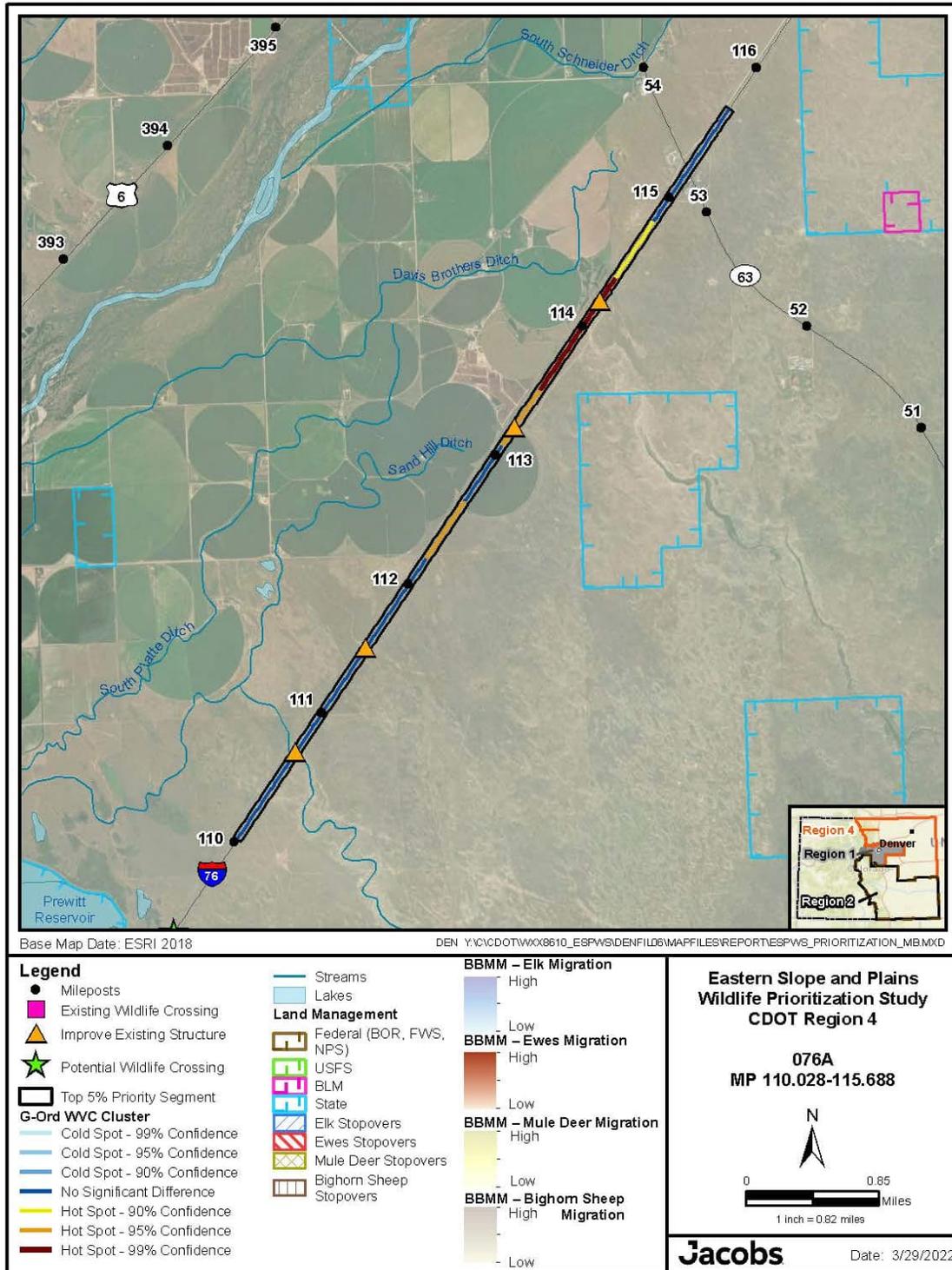
There are multiple stock passes in this segment. Install wildlife-exclusion fencing on I-76 to connect existing structures together and identify at least one location for a larger bridge underpass, particularly around MP 112. On US 63, remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fencing.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
109.3	Stock pass (box culvert) in low fill slope. This location is west of the high-priority segment and ranks in the 90th percentile.	Replace culvert with a larger underpass. Tie into wildlife fencing.	N/A
110.7	Twenty Two Slough ranch access bridge	Tie into wildlife fence.	

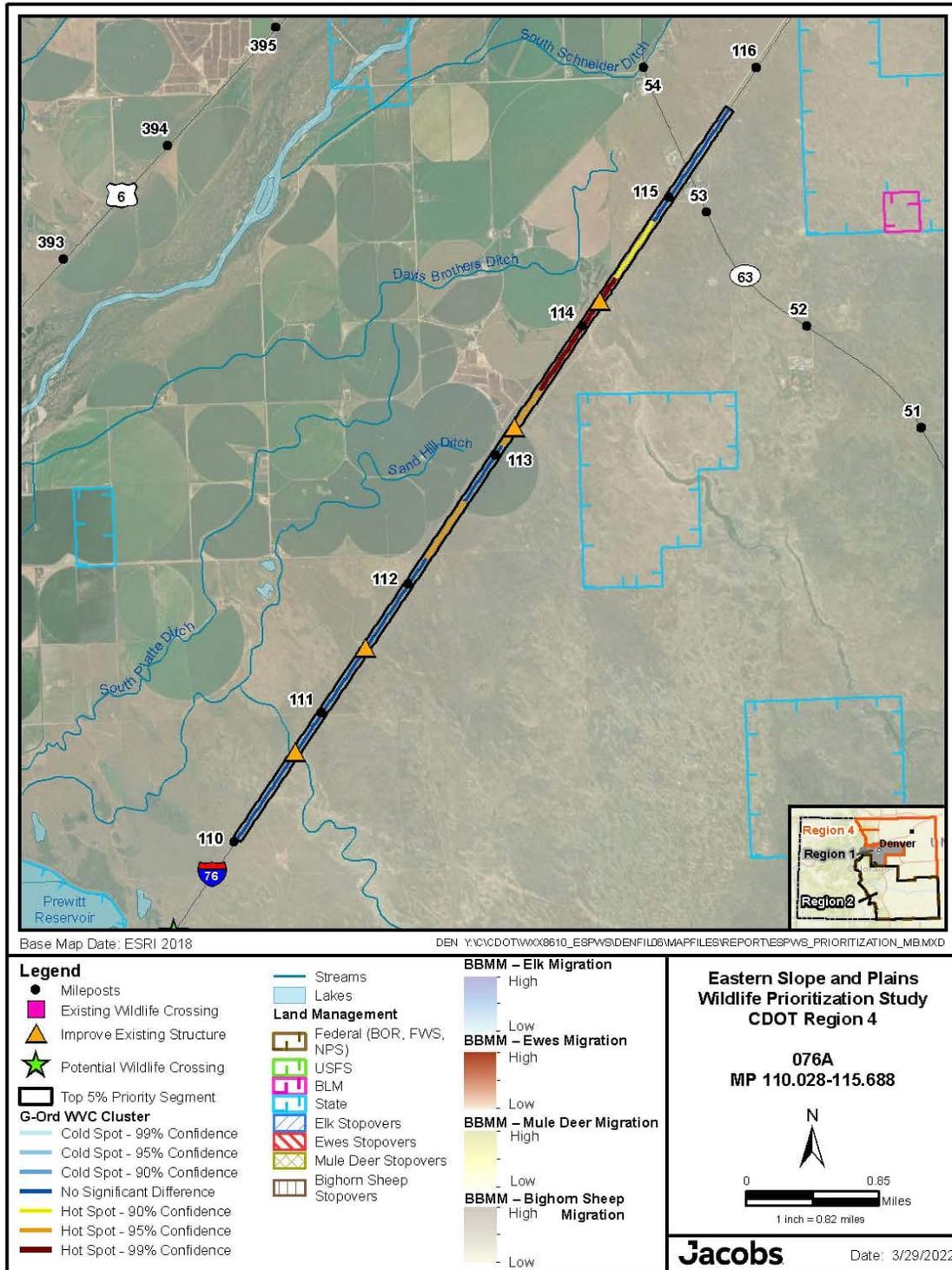
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
111.5	Stock pass (14-foot-wide by 12-foot-high box culvert)	Tie into wildlife fence.	N/A
113.2	Stock pass (box culvert). Location is adjacent to cattle feedlot on the northern side of I-76.	Tie into wildlife fence.	N/A
114.2	Stock pass (14-foot-wide by 12-foot-high box culvert)	Tie into wildlife fence.	N/A
115.2	Bridges over US 63 at interchange	N/A	N/A

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3.3.9 Interstate 76, Mileposts 119.6 to 124.8, Atwood to Sterling

3.3.9.1 Logan County

This section of I-76 separates the native range uplands to the south from the South Platte River valley and associated irrigated fields to the north. The river corridor and adjacent fields provide concentrated winter range habitat for white-tailed deer and mule deer. The upland landscape south of the interstate provides dispersed habitat for mule deer and pronghorn, as well as some winter range habitat for pronghorn. State Land Board lands are on either side of the interstate from approximately MPs 120 to 122.

3.3.9.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	8,500	10,910	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.3.9.1.2 Preliminary Mitigation Recommendations

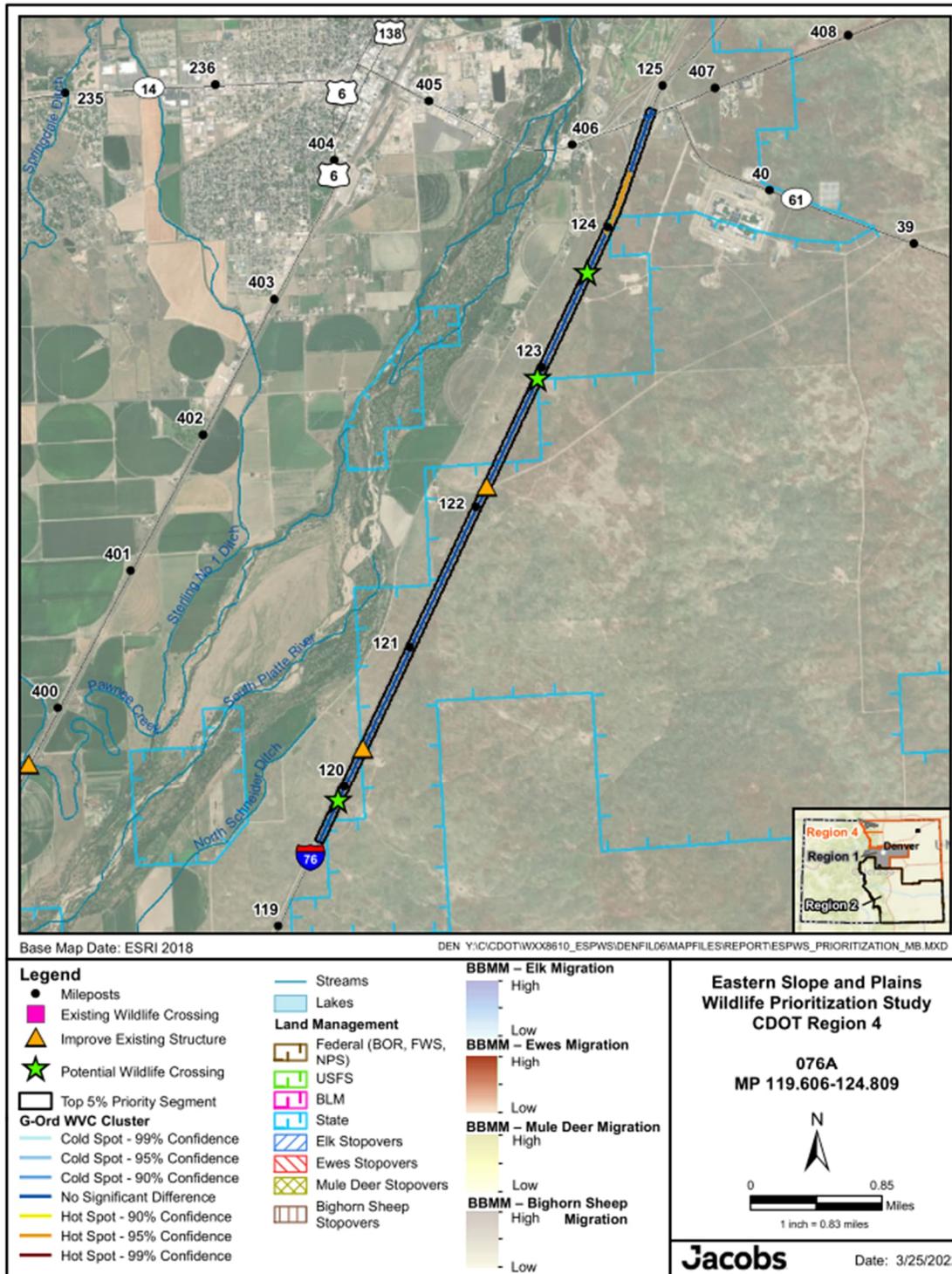
There are several farm access bridges in this segment, which offer potential functionality for wildlife passage and several fill slopes where wildlife crossings could be constructed to create a continuous system of wildlife crossings and fencing.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
118.5	Bridge over farm access road. This location is outside of the high-priority segment and ranks in the 90th percentile.	Tie into wildlife fence.	 <p>Credit: CDOT</p>
119.9	Low fill slope with small drainage pipe	Potential location for a wildlife underpass	N/A

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
120.3	Bridge over farm access road. State Land Board land on south side	Tie into wildlife fence and replace barbed-wire and other fencing in the vicinity of the structure with wildlife-permeable fence.	
122.1	Bridge over farm access road. Metal livestock fence through bridge. State Land Board land on both sides.	Tie into wildlife fence. Coordinate with landowner to open up metal fences to enhance wildlife access and replace barbed-wire and other fencing in the vicinity of the structure with wildlife-permeable fence.	
122.9	Fill slope	Potential location for a wildlife underpass	N/A
123.7	Concrete box culvert (12 feet high by 14 feet wide)	Replace culvert with a larger bridge or arch underpass suitable for deer and pronghorn.	N/A

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3.3.10 Interstate 76, Mileposts 126.1 to 132.7, Sterling to Iliff; and Mileposts 133.1 to 136.6, Iliff

3.3.10.1 Logan County

These two high-priority segments are separated by 0.5 mile. Both segments have similar landscape characteristics and wildlife habitat use and for these reasons should be considered together for mitigation planning purposes. This section of I-76 separates the native range uplands to the south from the South Platte River valley and associated irrigated fields to the north. The river corridor and adjacent fields provide concentrated winter range habitat for white-tailed deer and mule deer. The upland landscape south of the interstate provides dispersed habitat for mule deer and pronghorn, and winter range habitat for pronghorn. State Land Board lands are on either side of the interstate from approximately MPs 131 to 133.5.

3.3.10.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	8,300	11,002	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.3.10.1.2 Preliminary Mitigation Recommendations

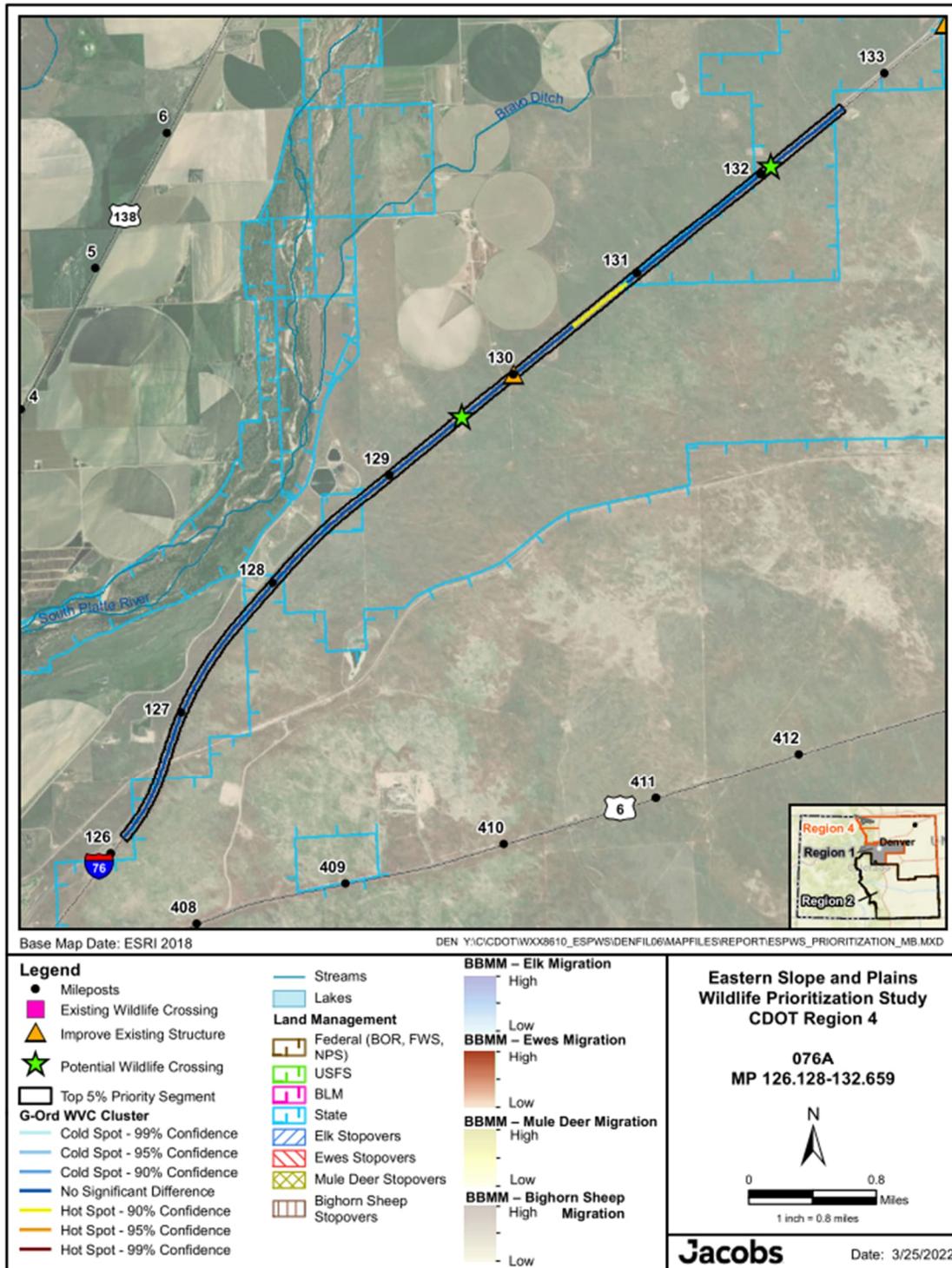
Crossing structures with continuous fencing are recommended to provide safe passage opportunities for wildlife and reduce WVCs. The research team documented multiple opportunities for crossing structures (listed as follows). These should be more fully investigated to determine the best opportunities and spacing between crossing structures and to identify additional options between MPs 130 and 133.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
126.6	Railroad bridge. Has limited functionality for wildlife passage.	Consider tying fence end into railroad bridge.	N/A
129.6	Fill slope	Possible location for a wildlife underpass	N/A
130	Stock pass (box culvert)	Tie into wildlife fence.	N/A

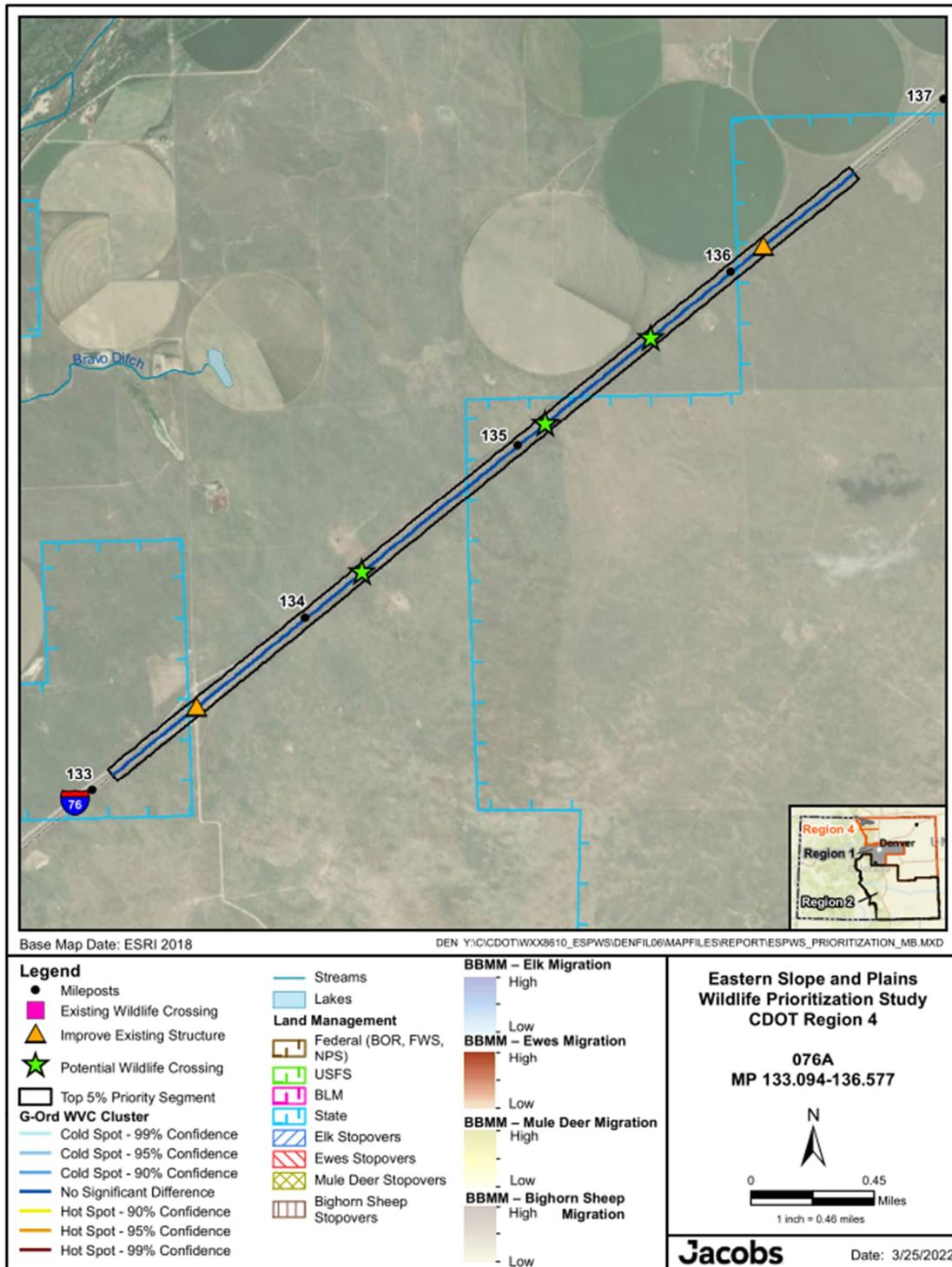
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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
132.1	Stock pass (box culvert) in large fill slope. State Land Board lands on both sides.	Replace with a larger wildlife underpass suitable for deer and pronghorn. Tie into wildlife fence.	
133.5	Bridge over County Road 55	Tie into wildlife fence.	 <p data-bbox="972 1050 1104 1075">Credit: CDOT</p>
134.3	Fill slope with drainage pipe	Good location for a wildlife underpass suitable for deer and pronghorn. Tie into wildlife fence.	N/A
135.1	Low fill slope	Potential location for a wildlife underpass	N/A
135.6	Low fill slope	Potential location for a wildlife underpass	N/A
136.1	Stock pass (box culvert) in low fill slope	Tie into wildlife fence.	N/A

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3.3.11 Interstate 76, Mileposts 140.5 to 143.6, East of Iliff

3.3.11.1 Logan County

This section of I-76 separates the native range uplands to the south from the South Platte River valley and associated irrigated fields to the north. The river corridor and adjacent fields provide concentrated winter range habitat for white-tailed deer and mule deer. The upland landscape south of the interstate provides dispersed, year-round habitat for mule deer and pronghorn.

3.3.11.1.1 Segment Characteristics

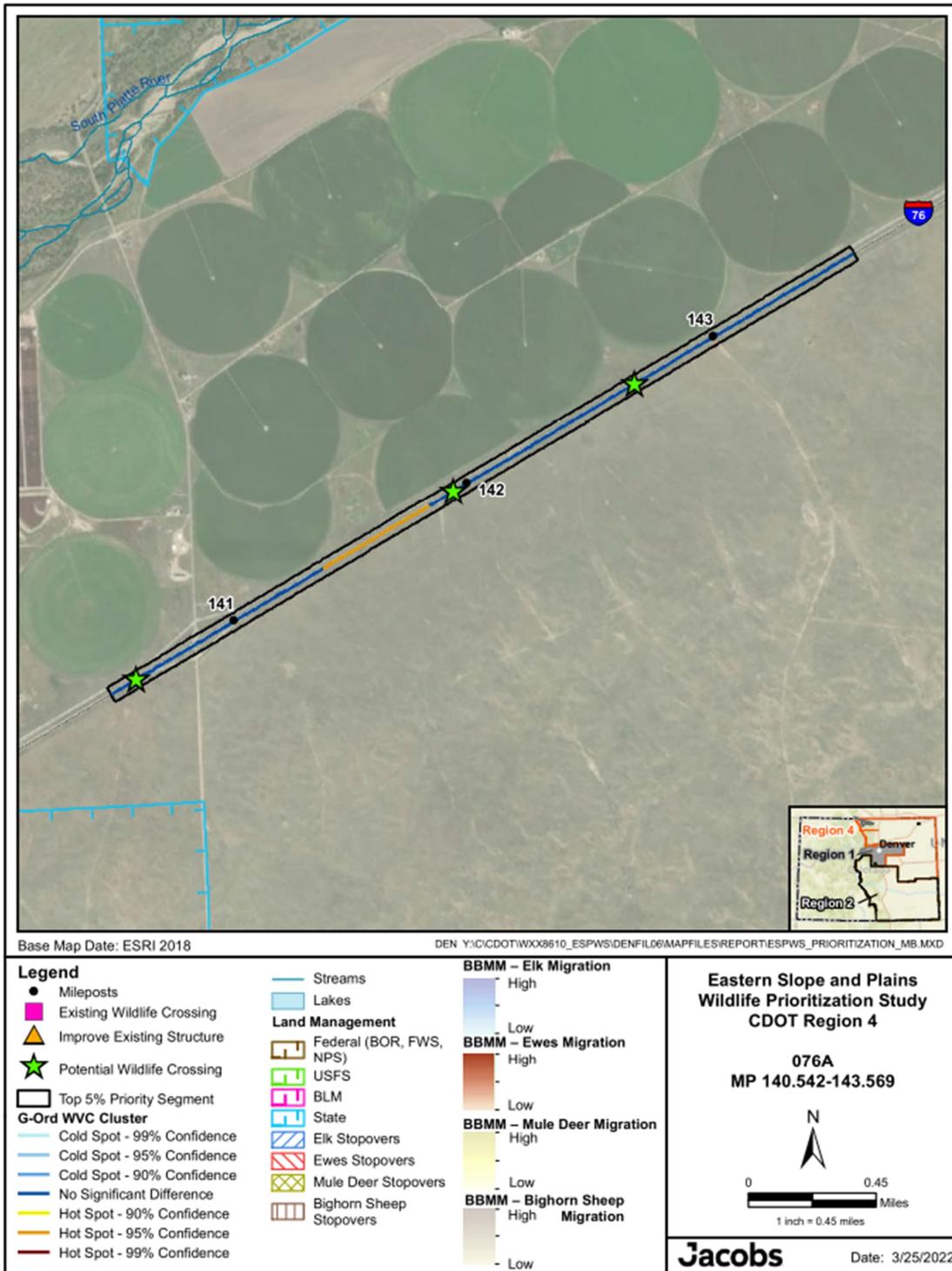
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	7,600	9,435	Deer	Winter and year-round	High

3.3.11.1.2 Preliminary Mitigation Recommendations

Crossing structures with continuous fencing are recommended to provide safe passage opportunities for wildlife and reduce WVCs. The research team documented multiple opportunities for crossing structures (listed as follows). These should be more fully investigated to determine the best opportunities and spacing between crossing structures.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
140.6	Fill slope	Potential location for wildlife underpass	N/A
140.8	Bridges over County Road 67 (paved)		 <p>Credit: CDOT</p>
141.9	Fill slope	Potential location for wildlife underpass	N/A
142.7	Fill slope	Potential location for wildlife underpass	N/A

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3.3.12 Interstate 76, Mileposts 149.2 to 155.8, Crook to West of Sedgwick

3.3.12.1 Logan County

This stretch of I-76 lies entirely within the Tamarack Ranch State Wildlife Area and provides important winter concentration and year-round habitat for mule deer and white-tailed deer, and the upland habitat for pronghorn in the areas south of the highway. CPW identifies MPs 150.7 to 153.3 as a highway crossing zone for mule deer and white-tailed deer.

3.3.12.1.1 Segment Characteristics

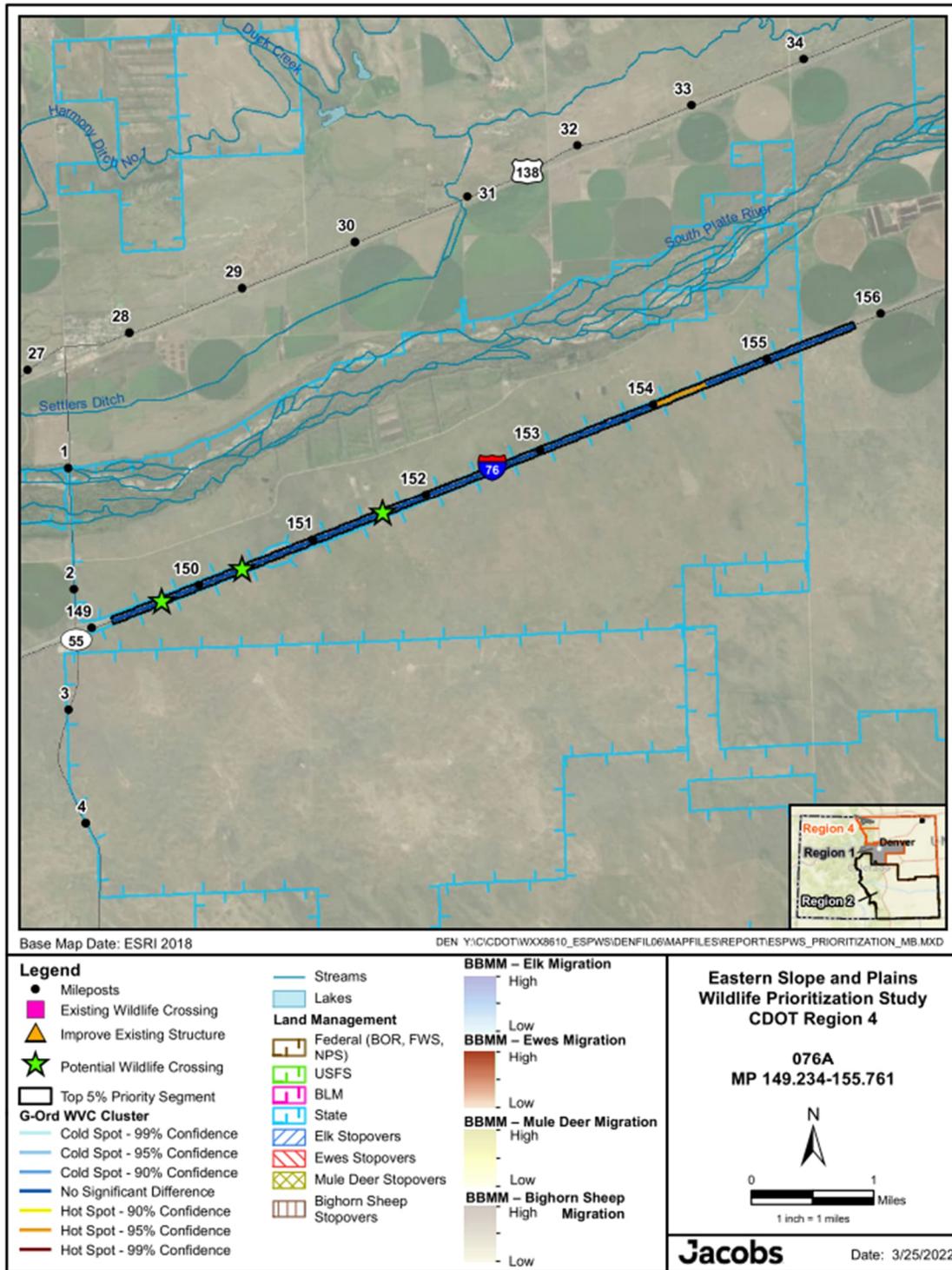
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	8,000	10,016	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Loa

3.3.12.1.2 Preliminary Mitigation Recommendations

Undulating terrain in the western portion of this segment offers multiple opportunities for wildlife crossing structures, which should be further investigated to determine the best locations and spacing between structures. East of MP 152, the terrain becomes flatter, with less road grade. Further investigations with engineering staff should be conducted to determine additional opportunities for crossing structures in the eastern portions of the segment. At a minimum, barbed-wire right-of-way fence should be removed through the eastern portion of the segment; however, wildlife crossings with continuous fencing are the preferred mitigation solution throughout the segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
149.6	Fill slope	Potential location for a wildlife underpass	
150.3	Fill slope	Potential location for a wildlife underpass	N/A
151.6	Fill slope	Potential location for a wildlife underpass	N/A

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3.3.13 Interstate 76, Mileposts 161.9 to 177.5, East of Sedgwick to West of Julesburg

3.3.13.1 Sedgwick County

This section of I-76 lies south of the South Platte River corridor adjacent to river-bottom irrigated agriculture, and north of dryland agriculture fields. The interstate itself runs through sandhills and native range. Land north of the interstate along the river bottom provides concentrated winter and year-round habitat for white-tailed deer and mule deer, and several road segments are identified as deer crossing zones by CPW: MPs 165.9 to 166.8, 168.11 to 169.2, 172.8 to 173.9, and 174.3 to 175.3. Pronghorn winter range runs along the south side of the interstate throughout this segment with several areas identified as winter concentration areas.

Between MPs 168.9 and 174.5, the median area separating the opposing lanes becomes wider. In this portion of the segment, existing box culverts and stock passes are paired, such that there is a separate culvert under each set of lanes with an open median in between. This segment is near another high-priority segment (MPs 178.8 to 184.1), and the two segments may be considered jointly for mitigation planning.

3.3.13.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	7,200 to 8,000	8,636 to 10,016	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.3.13.1.2 Preliminary Mitigation Recommendations

Undulating terrain through this segment offers multiple opportunities for wildlife crossing structures with continuous fencing. Multiple locations for crossing structures are identified as follows. These should be further reviewed with engineering staff to determine the best locations and designs for crossing structures for deer and pronghorn with suitable spacing between structures. Where there are existing box culverts that will not be replaced with larger structures, these should be optimized to allow wildlife access by coordinating with landowners to set back fencing and gates and replace with wildlife-permeable alternatives.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
161.7	Bridge over County Road 9 (gravel)	Tie fence end into bridge.	 <p>Credit: CDOT</p>
162.2	Stock pass—long box culvert, 8 feet wide by 8 feet high with median skylight. Gate across south culvert entrance.	Potential location for a wildlife underpass	
163.3	Long box culvert (10 feet wide by 12 feet high) with median skylight. Gates across both culvert entrances.	Potential location for a wildlife underpass	
164.4	Long box culvert, 8 feet wide by 8 feet high with median skylight	Potential location for a wildlife underpass	N/A
164.9	Bridge over SH 59	Tie into wildlife fence.	N/A
165.3	6-foot-wide by 8-foot-high box culvert	Potential location for a wildlife underpass	N/A
165.8	Stock pass in a larger fill slope	Due to the higher roadway grade, this is a good location to replace with a larger bridge underpass suitable for pronghorn.	N/A

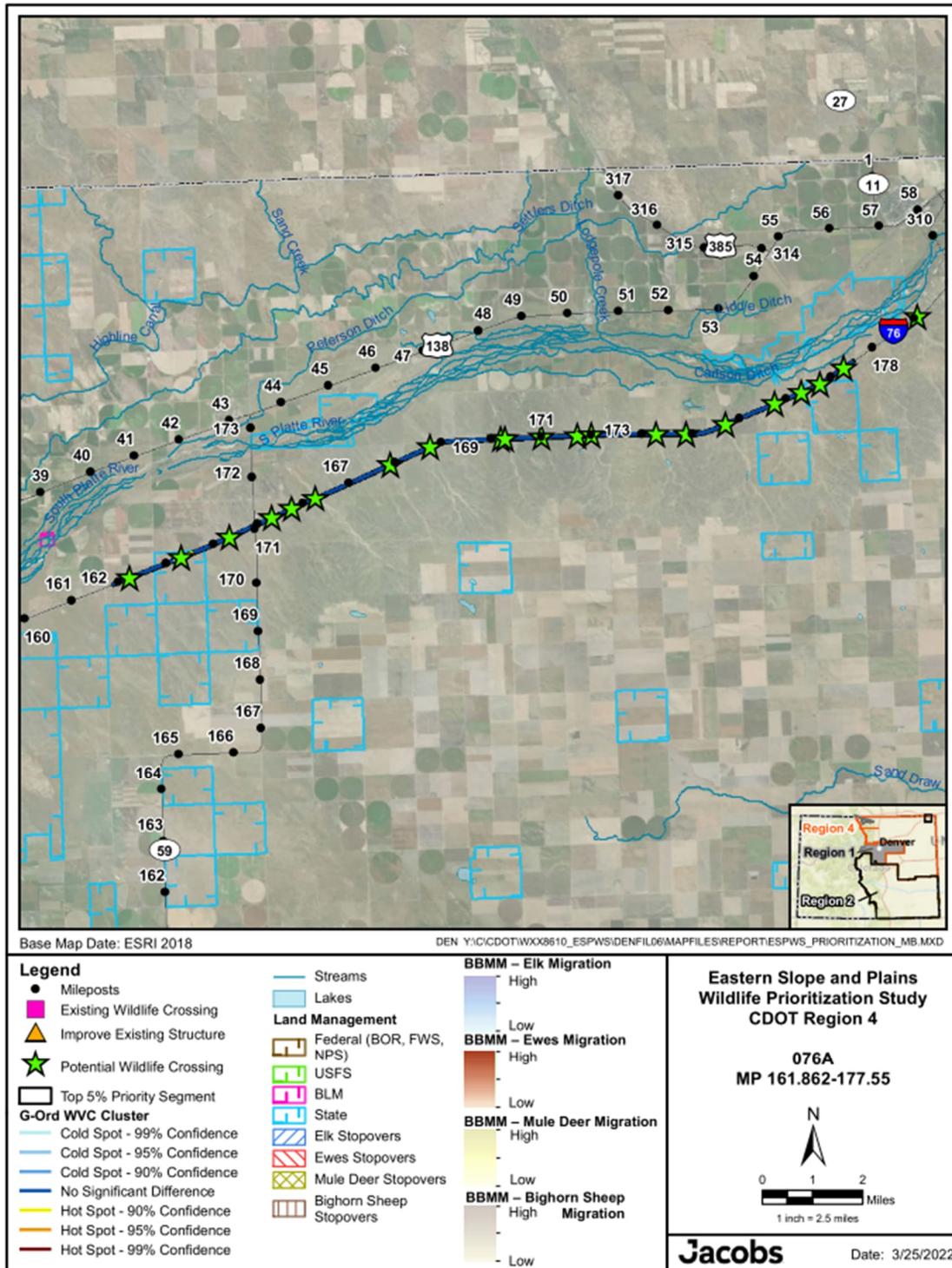
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Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
166.3	Long box culvert on unnamed draw in a larger fill slope	Due to the higher roadway grade, this is a good location to replace with a larger bridge underpass suitable for pronghorn.	N/A
167.9	Long box culvert on unnamed draw in a larger fill slope	Due to the higher roadway grade, this is a good location to replace with a larger bridge underpass suitable for pronghorn.	N/A
168.8	Box culvert—farm access road	Potential location for a wildlife underpass	N/A
170.2	Large fill slope. Large, open median between eastbound and westbound lanes.	Due to the higher roadway grade, this is a good location to replace with a larger bridge underpass suitable for pronghorn.	
170.3	Farm access box culverts (8 feet wide by 8 feet high). Culverts under opposing lanes are offset; barbed-wire fencing connects structures through median.	Potential location for a wildlife underpass	N/A
171	Low fill slope with drainage pipe	Potential location for a wildlife underpass	N/A
171.7	Fill slope with drainage pipe	Potential location for a wildlife underpass	N/A
172	Bridges over County Road 26 (paved)	Tie into fencing.	N/A
172.2	Box culverts (4 feet wide by 6 feet high) under opposing lanes at small draw	Potential location for a wildlife underpass	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
173.3	Box culverts (8 feet wide by 6 feet high) under opposing lanes at small draw	Potential location for a wildlife underpass	N/A
173.9	Fill slope with drainage pipe	Potential location for a wildlife underpass	N/A
174.7	Long box culvert with median skylight at small draw	Potential location for a wildlife underpass	N/A
175.8	Long box culvert/farm access road with fencing and gates on either side. Water tanks on north side.	Potential location for a wildlife underpass	N/A
176.3	Long box culvert/stock pass (10 to 12 feet wide and high). Small, fenced pasture on south side.	Potential location for a wildlife underpass	N/A
176.7	Low fill slope with drainage pipe	Potential location for a wildlife underpass	N/A
177.3	Low fill slope with drainage pipe	Potential location for a wildlife underpass	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.3.14 Interstate 76, Mileposts 178.8 to 184.1, Julesburg to Nebraska State Line

3.3.14.1 Sedgwick County

This section of I-76 runs along the southern side of the South Platte River corridor to the Nebraska state line. The landscape north of the interstate is riparian and irrigated river bottomlands, whereas the landscape south of the interstate is characterized by sandhills and native range sandwiched between a mix of dryland and irrigated farmland on the flatter benchland above. The river corridor provides concentrated winter and year-round habitat for white-tailed deer and mule deer, and many areas of this segment have been identified as deer crossing zones by CPW: MPs 176.6 to 179, 181.2 to 182.1, and 182.6 to 184.1. Pronghorn winter range runs along the south side of the interstate through much of the segment with several areas identified as winter concentration areas.

This segment is near another high-priority segment (MPs 161.9 to 177.6), and the two segments may be considered jointly for mitigation planning.

3.3.14.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	9,200	11,905	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.3.14.1.2 Preliminary Mitigation Recommendations

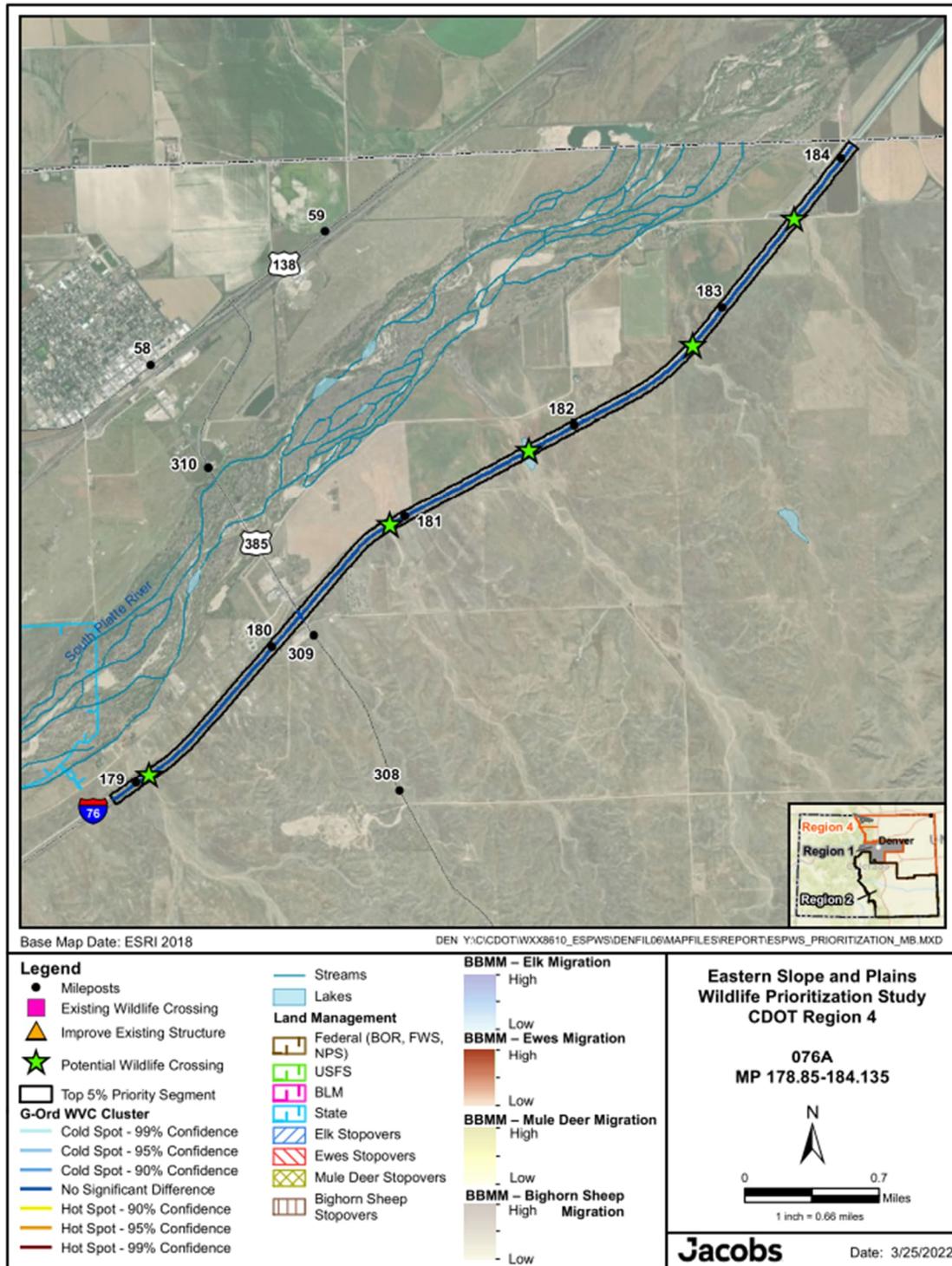
Flatter terrain and limited road grade make wildlife crossing structures with continuous fencing more difficult here than in the segment to the west. However, through much of the segment there is still sufficient road grade to install low, wide bridge structures under the opposing traffic lanes. Potential crossing locations identified as follows should be further reviewed with engineering staff to determine the best locations and designs for crossing structures for deer and pronghorn with suitable spacing between structures. Where there are existing box culverts that will not be replaced with larger structures, these should be optimized to allow wildlife access by coordinating with landowners to set back fencing and gates and replace with wildlife-permeable alternatives.

Mitigation planning should also be coordinated with the Nebraska Department of Transportation and the Game and Parks Commission.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
179.1	Box culvert/farm access road with median skylight	Possible location for a wildlife underpass	N/A
180.2	Bridges over US 385	N/A	N/A
180.9	Box culvert at small draw	Possible location for a low bridge underpass	N/A
181.7	Double box culvert at unnamed draw	Possible location for a low, wide bridge underpass	 <p>Credit: CDOT</p>
182.8	Box culvert at small draw. Culvert has a median skylight and is skewed relative to the roadway.	Possible location for a wildlife underpass	N/A
183.5	County Road 32.5 bridge over I-76	Tie into wildlife fence.	N/A
183.6	Box culvert at small draw. Culvert is skewed relative to the roadway.	Possible location for a low bridge underpass	 <p>Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.4 U.S. Highway 6 Priority Segments

3.4.1 U.S. Highway 6, Mileposts 397.7 to 399.5 and US 63 MPs 56 to 56.4, Atwood/South Platte River

3.4.1.1 Logan County

This high-priority segment includes US 63 as it crosses over the South Platte River and US 6, which runs parallel to the river corridor. This riparian corridor provides important winter and year-round habitat for white-tailed deer and mule deer.

3.4.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	3,700	4,594	Deer	Winter and year-round	High

3.4.1.1.2 Preliminary Mitigation Recommendations

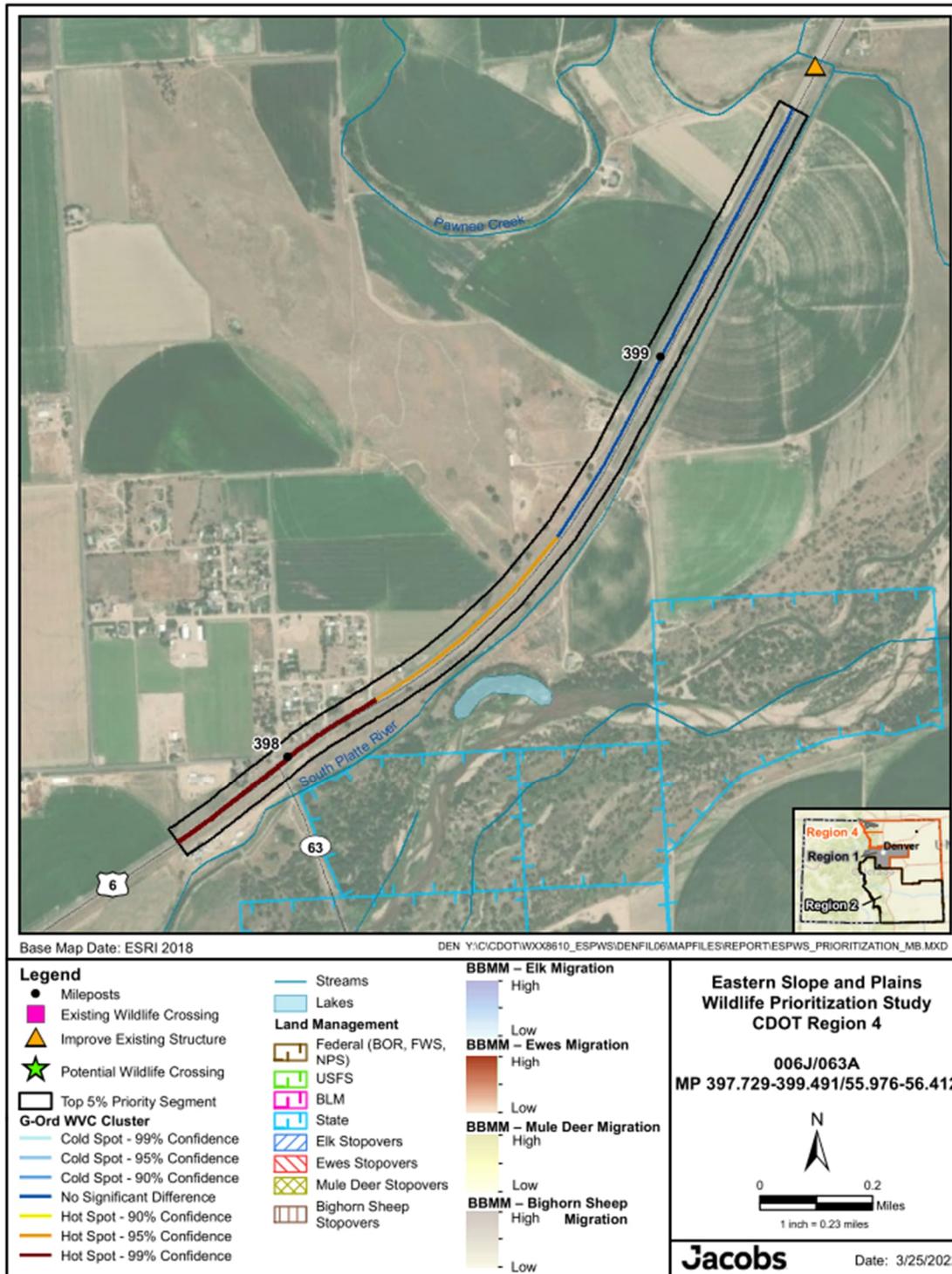
The focus of this segment is the existing US 63 multispans bridge over the South Platte River. Install wildlife fencing in either direction from approximately MPs 55.7 to 56.3, where the highway crosses the railroad tracks. On US 6 the focus of mitigation efforts is to remove and, where needed, replace barbed-wire right-of-way fencing with wildlife-permeable fence.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
US 63, MP 56	Multispans bridge over the South Platte River	Tie into wildlife fence.	 <p>Credit: CDOT</p>

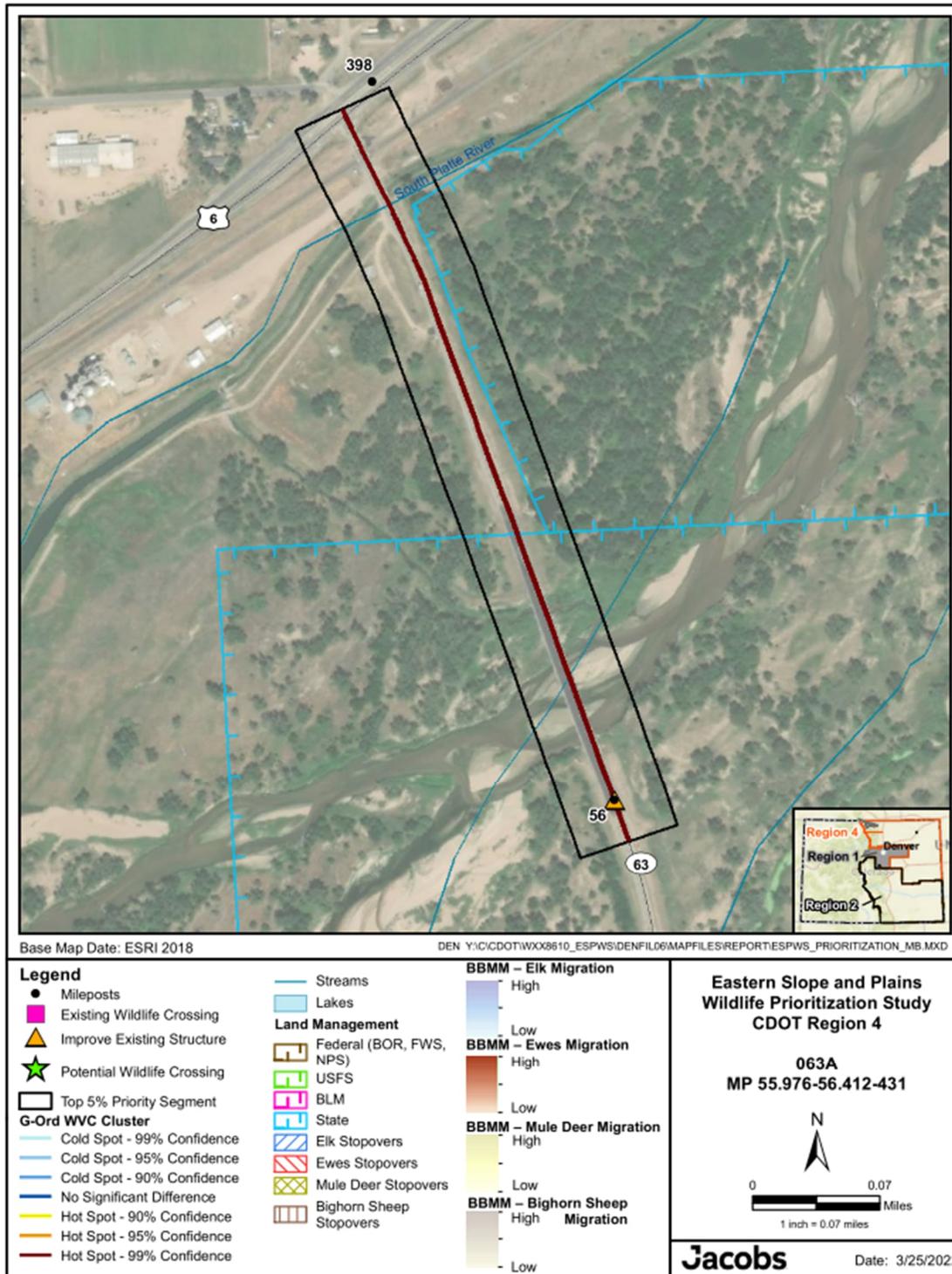
Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
US 6, MP 399.5	Pawnee River Bridge	Add wildlife-exclusion fencing to bridge to guide animals to this structure rather than crossing US 6 at-grade.	 <p data-bbox="971 688 1105 716">Credit: CDOT</p>

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.4.2 U.S. Highway 6, Mileposts 400.8 to 403, Sterling

3.4.2.1 Logan County

US 6 is a divided four-lane highway that runs through irrigated agriculture fields along the north side of the broad South Platte River corridor. This riparian corridor provides important winter and year-round habitat for white-tailed deer and mule deer. CPW identifies MPs 401.3 to 402.1 as a highway crossing zone for deer.

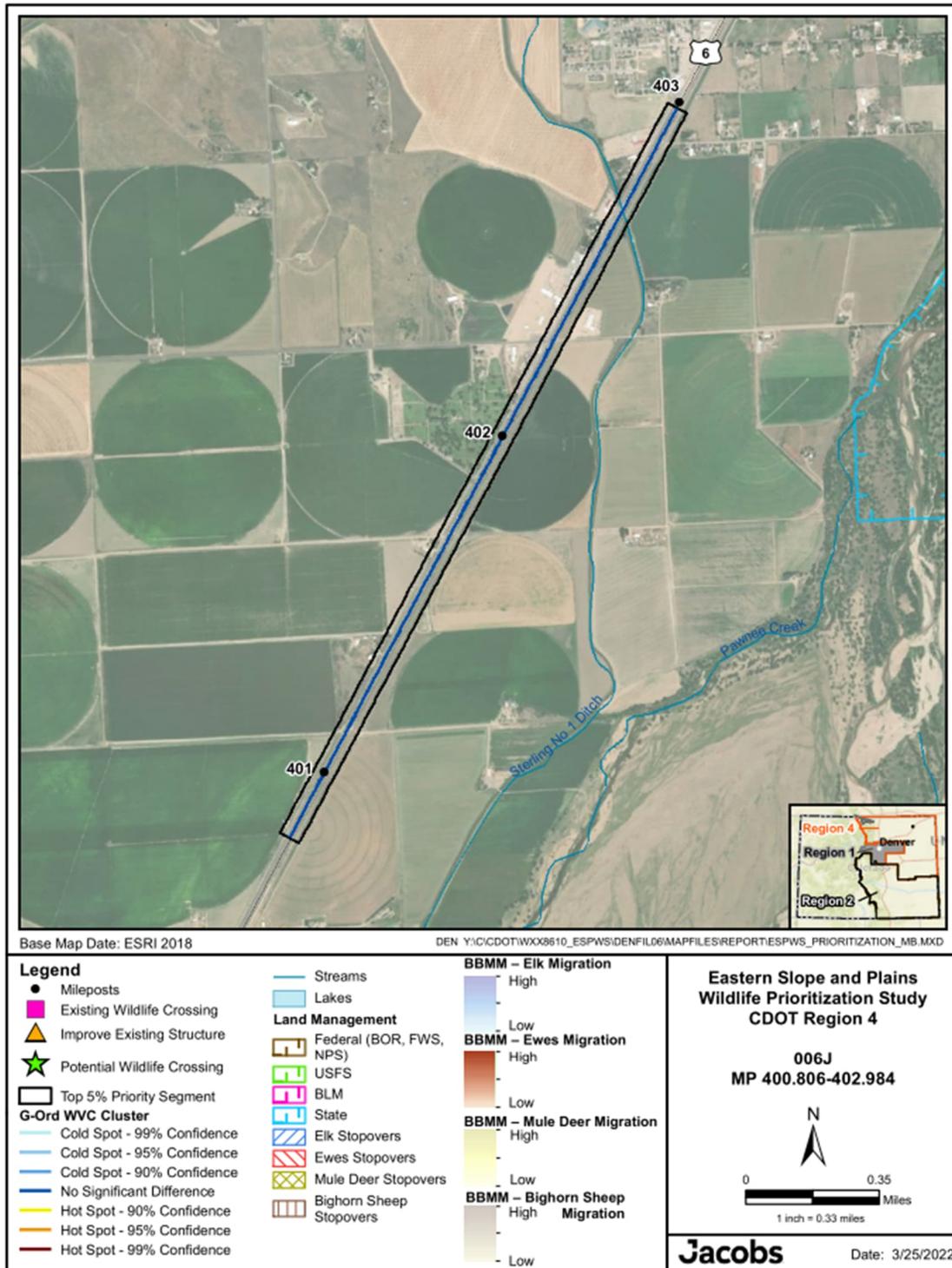
3.4.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	3,700 to 4,300	4,594 to 5,203	Deer	Winter and year-round	High

3.4.2.1.2 Preliminary Mitigation Recommendations

Due to the flat landscape and low road grade, wildlife crossings are not recommended in this segment. Throughout the segment, replace barbed-wire right-of-way fencing with wildlife-permeable fence. Consider using variable-message signs during high wildlife activity months (November through April).

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.4.3 U.S. Highway 6, Mileposts 425.5 to 426, Fleming

3.4.3.1 Logan County

This portion of US 6 southeast of the South Platte River is a two-lane highway. This area provides year-round habitat and forage for mule deer.



3.4.3.1.1 Segment Characteristics

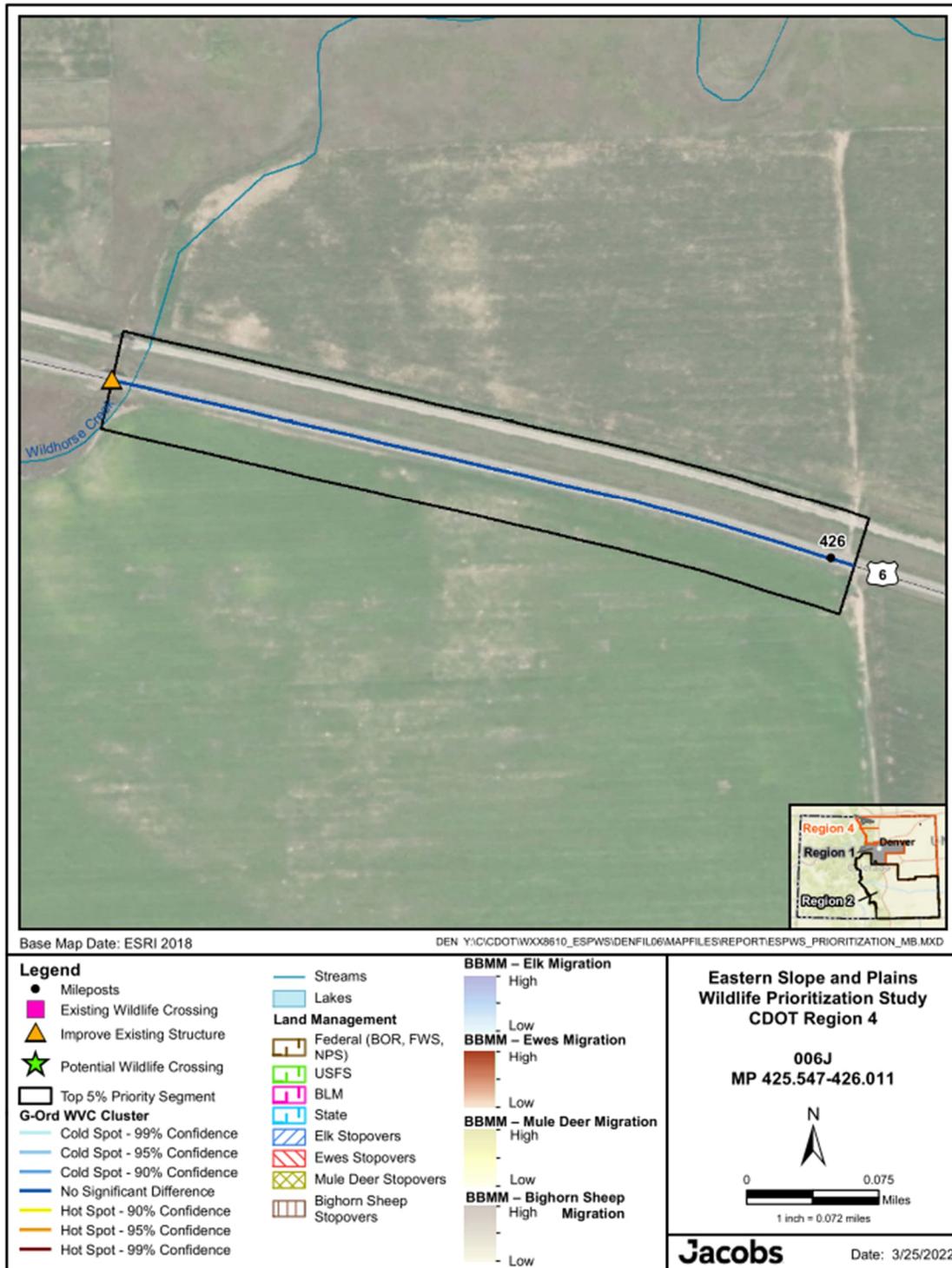
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,600	1,899	Deer	Year-round	High

3.4.3.1.2 Preliminary Mitigation Recommendations

Despite low traffic volumes and no right-of-way fencing, WVCs continue to occur in this segment. An existing bridge at Wild Horse Creek (MP 425.5) is suitable for wildlife passage, and the addition of wildlife fencing from approximately MP 425.1 at the eastern edge of the town of Fleming to MP 427 would prevent wildlife from making at-grade crossings while maintaining permeability across the highway.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
425.5	Bridge over ephemeral draw at Wild Horse Creek and adjacent railroad bridge	Tie into wildlife fence.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.5 U.S. Highway 24 Priority Segments

3.5.1 U.S. Highway 24, Mileposts 350.9 to 355.8, Ramah to Matheson

3.5.1.1 Elbert County

This section of US 24 travels through a high plains landscape, generally paralleling the Big Sandy Creek riparian corridor. Mule deer and pronghorn winter range and concentration areas are located along these drainages and surrounding uplands on either side of US 24. White-tailed deer concentration areas are mostly confined to the riparian drainages. Important wildlife habitat features along this segment include the river corridor and irrigated fields and upland habitat.

3.5.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	3,200 to 3,700	3,670 to 4,438	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.5.1.1.2 Preliminary Mitigation Recommendations

There are multiple medium- and small-sized culverts throughout this segment; however, these existing structures are too small to reliably support pronghorn passage. The recommended focus for near-term mitigation efforts is to replace barbed-wire right-of-way fencing throughout the segment with wildlife-permeable fencing and to coordinate with landowners to set livestock gates back away from the culvert entrances so that these structures remain accessible for wildlife. More intensive mitigation for this segment involves replacing existing culverts with larger structures to accommodate passage by deer and pronghorn and to connect structures together with wildlife-exclusion fencing.

Because another top 5 percent segment is located east of this segment and the intervening segments are all within the 90th percentile, we recommend considering mitigation for the entire stretch of roadway from MPs 350.9 to 364 jointly.

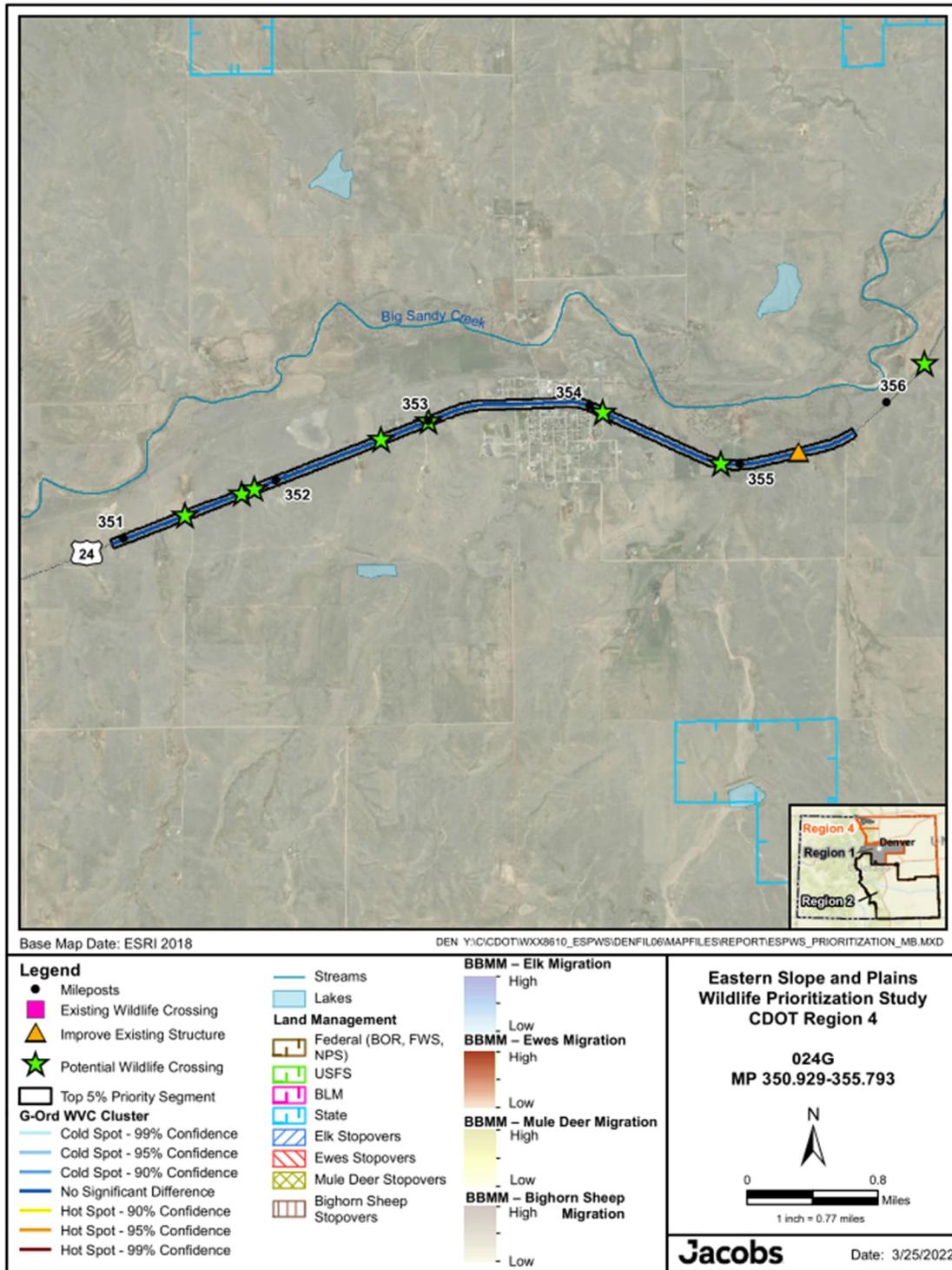
Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
351.3	14-foot-wide by 12-foot-high box culvert with wooded draw to south; cow pasture to north. Livestock gate across northern side structure entrance.	Potential location for wildlife underpass	
351.7	6-foot-wide by 6-foot-high box culvert. Livestock gate across entrance.	Potential location for wildlife underpass	N/A
351.8	6-foot-wide by 6-foot-high box culvert. Livestock gate across entrance.	Potential location for wildlife underpass	N/A
352.7	6-foot-wide by 6-foot-high box culvert. Livestock gate across entrance.	Potential location for wildlife underpass	N/A
353	8-foot-wide by 6-foot-high pipe culvert in a low fill slope. Pipe is skewed relative to the roadway. Mesh fence draped across north entrance. Structure is not suitable for wildlife passage.	Potential location for wildlife underpass	
354.1	Box culvert	Potential location for wildlife underpass	
354.9	Double corrugated arch culvert (12 feet wide by 8 feet high by 112 feet long). Structure may accommodate occasional deer passage but is not suitable for pronghorn.	Replace culverts with a wider bridge. Tie into wildlife-exclusion fence.	

Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
355.4	12-foot-wide by 12-foot-high box culvert	Tie into wildlife-exclusion fence.	
356.3	Double box culvert (each 12 feet wide by 12 feet high). This location is outside of the high-priority segment and ranks in the 90th percentile.	Replace culverts with a wider bridge. Tie into wildlife-exclusion fence.	 <p data-bbox="972 1050 1104 1075">Credit: CDOT</p>
356.6	Double corrugated arch culvert (6 feet wide by 8 feet high by 112 feet long). This location is outside of the high-priority segment and ranks in the 90th percentile.	Tie into wildlife-exclusion fence.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.5.2 U.S. Highway 24, Mileposts 357.9 to 363.6, Matheson

3.5.2.1 Elbert County

This section of US 24 travels through a high plains landscape, generally paralleling the Big Sandy Creek riparian corridor. Mule deer and pronghorn winter range and concentration areas are located along the riparian drainages and surrounding uplands on either side of US 24. White-tailed deer concentration areas are mostly confined to the riparian drainages. Important wildlife habitat features along this segment include the river corridor and irrigated fields and upland habitat.

3.5.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	3,000 to 3,400	3,693 to 3,936	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.5.2.1.2 Preliminary Mitigation Recommendations

There are multiple medium- and small-sized culverts throughout this segment; however, the road grade is low relative to the surrounding landscape, limiting opportunities to replace culverts with larger culverts suitable for pronghorn passage. Therefore, the primary mitigation recommendation for this segment is to remove and, where needed, replace existing right-of-way fencing with wildlife-permeable fence. In addition, short sections of wildlife-exclusion fence may be installed to encourage deer use of existing structures (e.g., 0.2 mile in either direction) at MPs 361.8, 362, and 363.5. Warning signs should be erected to warn motorists of potential at-grade wildlife crossings between these fenced segments.

Because another top 5 percent segment is located west of this segment and the intervening segments are all within the 90th percentile, we recommend considering mitigation for the entire stretch of roadway from MPs 350.9 to 364 jointly.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
358.1	~5-foot-diameter pipe in low fill slope	N/A	N/A

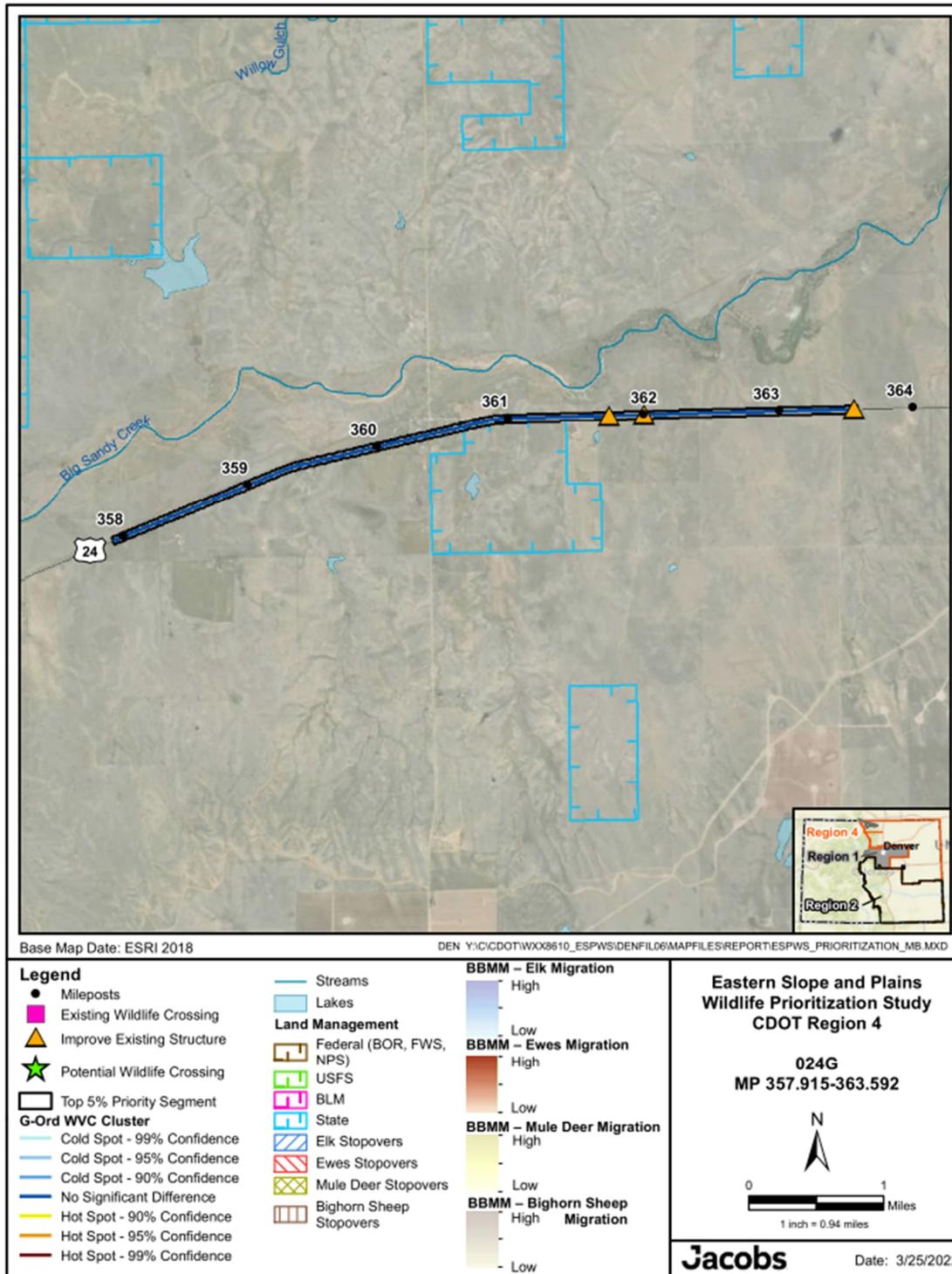
Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
358.9	Five 4-foot-diameter pipes in low fill slope. Barbed-wire fence across north side. Wooden railroad bridge to north.	Install wildlife-permeable fence through this stretch of roadway.	
361	Three 4- to 5-foot-diameter pipes in low fill slope	Install wildlife-permeable fence through this stretch of roadway.	 <p data-bbox="972 1050 1105 1077">Credit: CDOT</p>
361.8	Double box culvert (each cell 10 feet wide by 8 feet high). Barbed-wire fence across both entrances.	Install short stretch of wildlife-exclusion fence.	
362	Double box culvert (each cell 10 feet wide by 10 feet high)	Install short stretch of wildlife-exclusion fence.	

Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
363.5	Three-cell box culvert (each cell 6 feet high by 12 feet wide) in low fill slope	Install short stretch of wildlife-exclusion fence.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.5.3 U.S. Highway 24, Mileposts 364.9 to 365.3, Matheson Hill; and Mileposts 366.2 to 368.4, East of Matheson

3.5.3.1 Elbert County

These two segments of US 24 are near one another and were combined here due to their similar landscape characteristics and wildlife activity. These segments are characterized by native shortgrass prairie rangeland, and large wind farms on either side of the highway. In addition, there are short stretches of living snow fence on the north side of the highway. Mule deer and pronghorn winter range and concentration areas are located along the riparian Big Sandy Creek and drainage and surrounding uplands on either side of US 24.



White-tailed deer concentration areas are mostly confined to the riparian corridor.

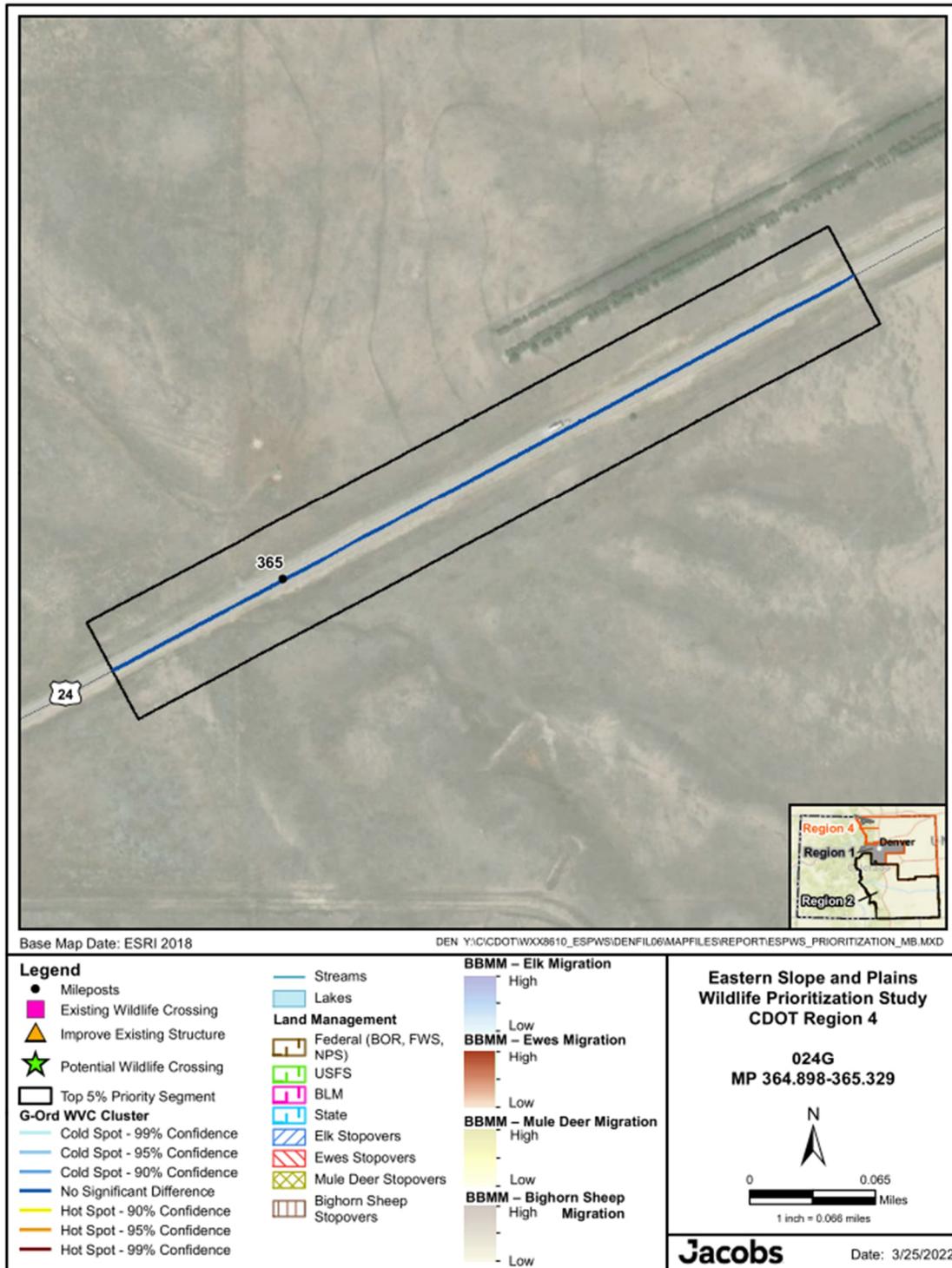
3.5.3.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2-3	3,000	3,693	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

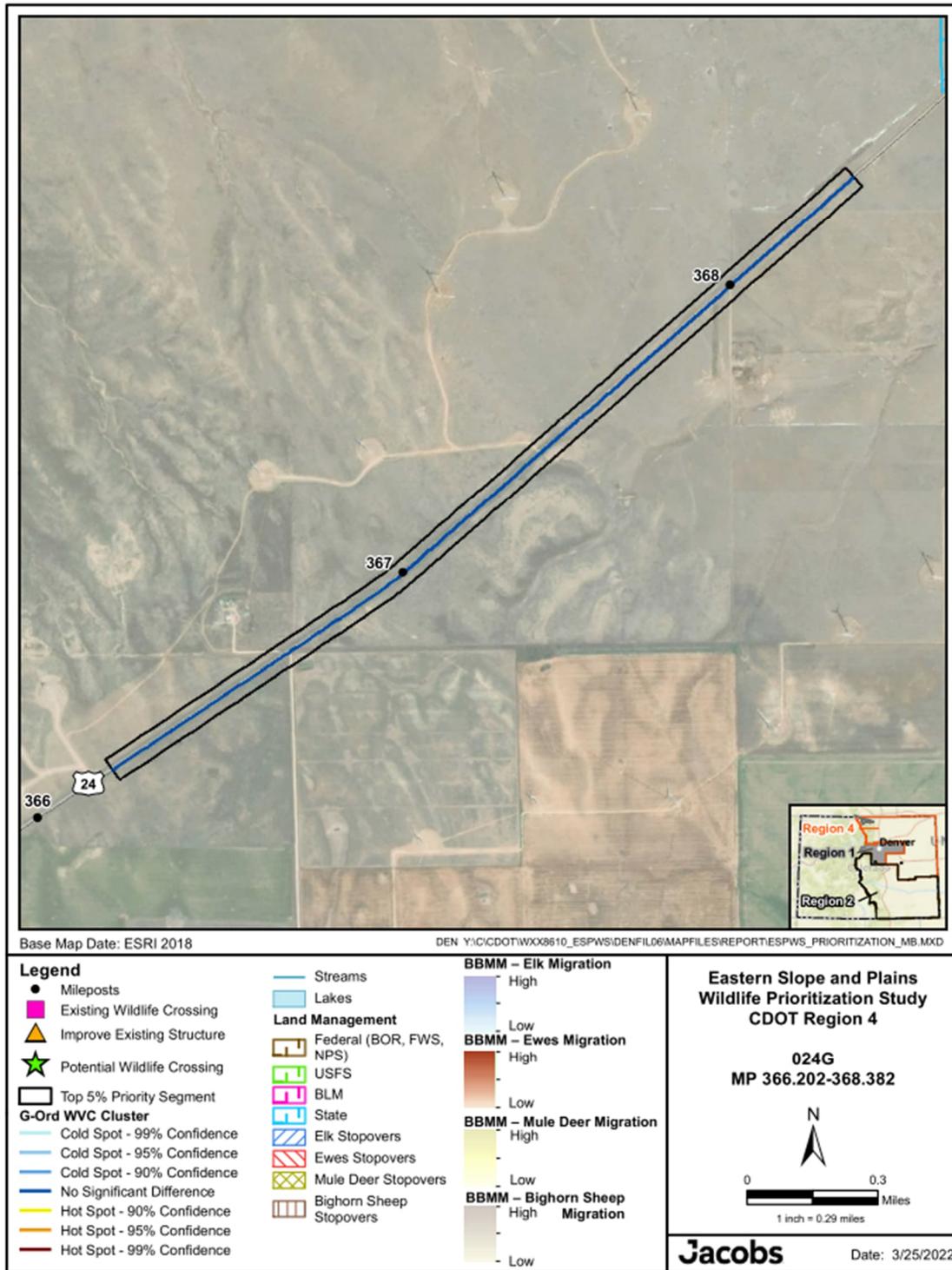
3.5.3.1.2 Preliminary Mitigation Recommendations

Due to the low road grade and lack of existing structures in this segment, mitigation efforts should focus on removing and, where needed, replacing existing right-of-way fencing with wildlife-permeable fence. Seasonal variable-message signs may also be used to warn motorists of increased wildlife activity during the winter months.

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.5.4 U.S. Highway 24, Mileposts 371.4 to 374.1, West of Limon

3.5.4.1 Elbert County

This segment is characterized by native shortgrass prairie rangeland. Mule deer and pronghorn winter range is located along the riparian Big Sandy Creek and drainage and surrounding uplands on the northern side of US 24.

3.5.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	3,000	3,693	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.5.4.1.2 Preliminary Mitigation Recommendations

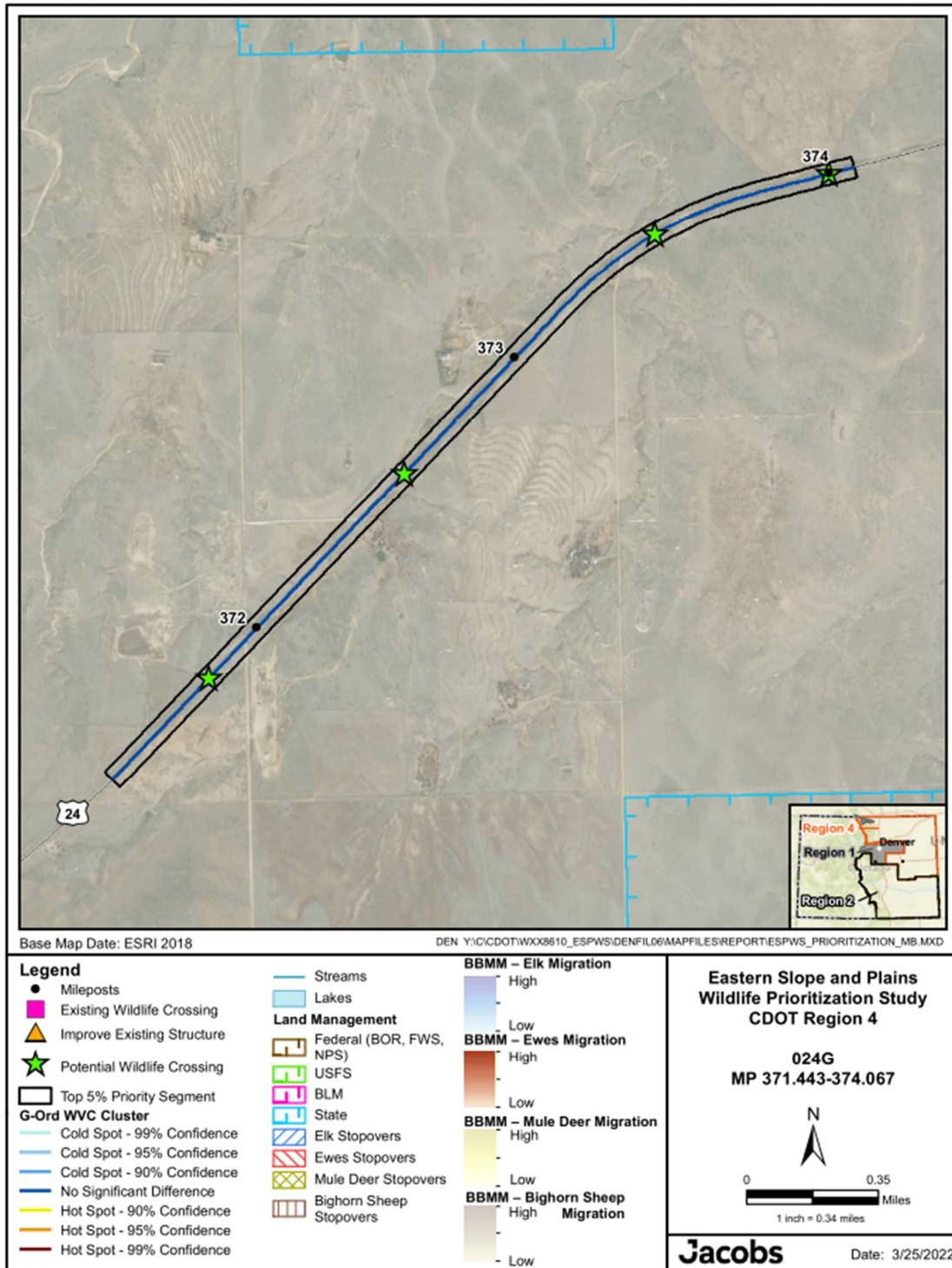
There are multiple small-sized culverts throughout this segment; however, none are suitable for deer or pronghorn passage. The road grade is low relative to the surrounding landscape and limits opportunities to construct wildlife crossings suitable for pronghorn passage. Therefore, the primary mitigation recommendation for this segment is to remove and, where needed, replace existing right-of-way fencing with wildlife-permeable fence. Where possible, consider replacing existing culverts with wide, low bridges suitable for pronghorn passage and installing short sections of wildlife-exclusion fence (e.g., 0.2 mile in either direction). Warning signs should be erected to warn motorists of potential at-grade wildlife crossings between these fenced segments.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
371.8	Box culvert	Potential location for wildlife underpass	N/A
372.5	Three 5- to 6-foot-diameter pipe culverts in low fill slope	Consider replacing with a low, wide bridge suitable for deer and pronghorn passage and tying into a short stretch of wildlife-exclusion fence.	
373.5	Box culvert	Potential location for wildlife underpass	N/A

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Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
374	Box culvert	Potential location for wildlife underpass	

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 Wildlife-Highway Mitigation Recommendations



3.5.5 U.S. Highway 24, Mileposts 375.8 to 376.7, Limon/Big Sandy Creek

3.5.5.1 Elbert County

This segment of US 24 is defined over the large bridge crossing the Big Sandy Creek riparian corridor. Mule deer winter range and concentration areas are located along the riparian drainages and surrounding uplands on either. A white-tailed deer concentration area is restricted to the riparian corridor.

3.5.5.1.1 Segment Characteristics

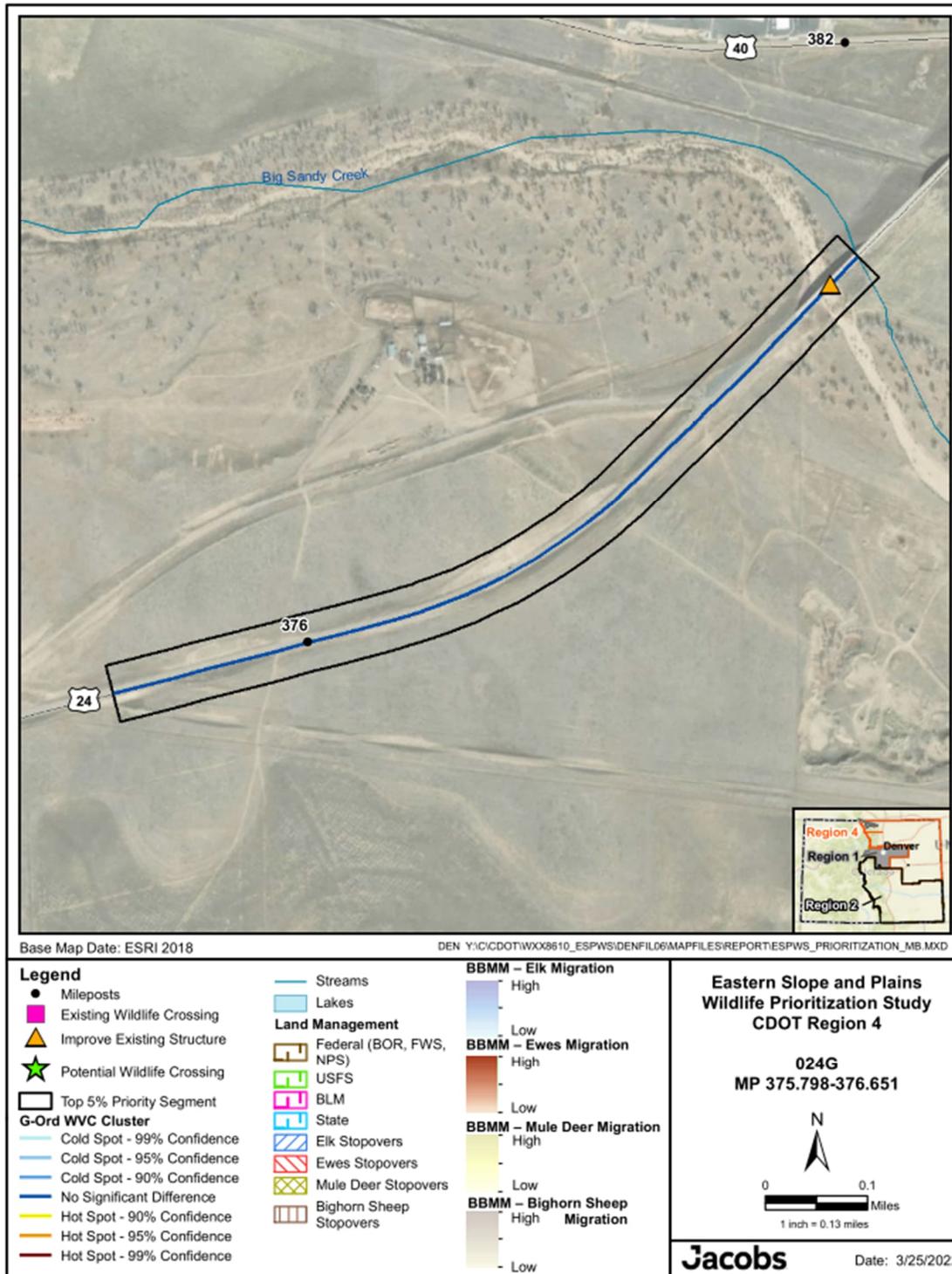
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	3,000	3,693	Deer	Winter and year-round	Deer—High

3.5.5.1.2 Preliminary Mitigation Recommendations

Install wildlife-exclusion fence through the segment to encourage wildlife use of the Big Sandy Creek bridge and to prevent at-grade crossings of US 24. Fence should extend from MP 375.8 to tie into the railroad bridge at MP 376.7.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
376.6	Large multispan bridge over Big Sandy Creek	Tie into wildlife-exclusion fence.	
376.7	High bridge over railroad tracks	Tie north end of fencing into railroad bridge.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.6 U.S. Highway 34 Priority Segments

3.6.1 U.S. Highway 34, Mileposts 180.5 to 182, East of Brush

3.6.1.1 Washington County

The landscape around this section of US 34 is mostly native range with some irrigated agriculture. The landscape is mostly flat with some gentle swales.

3.6.1.1.1 Segment Characteristics

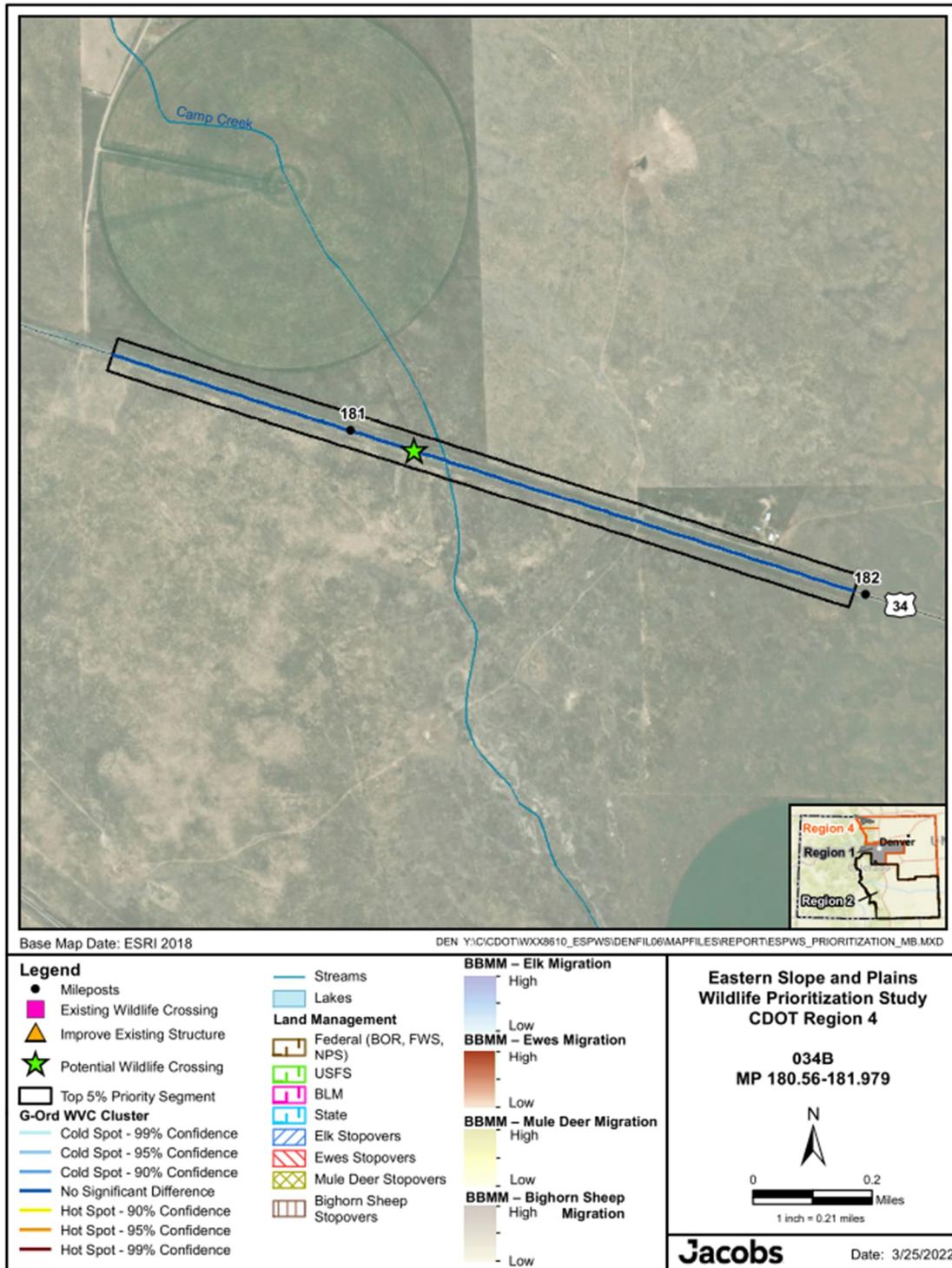
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	2,500	2,841	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.6.1.1.2 Preliminary Mitigation Recommendations

Remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fence. If traffic volumes or the WVC rate increase, replace the existing culvert with a single span bridge and install wildlife-exclusion fencing through the high-priority segment in either direction.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
181.2	Camp Creek three-cell box culvert in a low fill slope. Barbed-wire right-of-way fence is present on both sides of the culvert.	Replace with a low bridge suitable for deer and pronghorn passage. Tie into wildlife fence.	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.6.2 U.S. Highway 34, Mileposts 240 to 240.8, Eckley (West of Wray)

3.6.2.1 Yuma County

This short stretch of US 34 runs south of the Chief Creek drainage, a tributary to the North Fork of the Republican River. This landscape provides habitat for deer and, to a lesser extent, pronghorn, with the Chief Creek drainage and associated wetlands providing more concentrated habitat for white-tailed deer.

3.6.2.1.1 Segment Characteristics

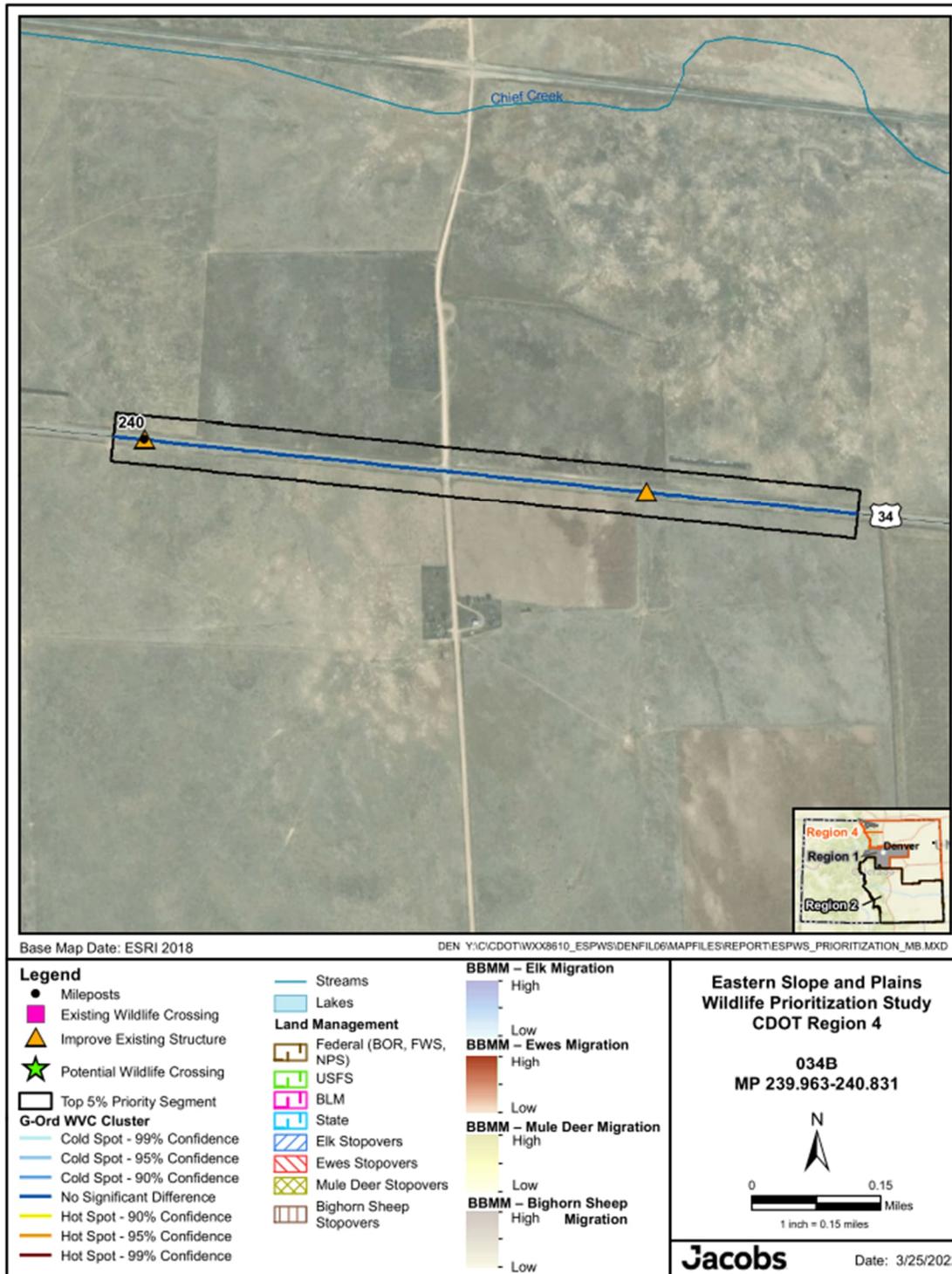
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	2,500	2,858	Deer	Winter and year-round	High

3.6.2.1.2 Preliminary Mitigation Recommendations

Remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fence through this segment and the adjacent 90th percentile segments (east to MP 242.7). If traffic volumes or the WVC rate increase, consider installing wildlife-exclusion fencing to the existing culvert and possibly replacing culverts with larger structures.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
240	Stock pass (pipe culvert)	Remove obstacles to wildlife passage through culvert.	N/A
240.6	Box culvert at unnamed draw	Remove obstacles to wildlife passage through culvert.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.6.3 U.S. Highway 34, Mileposts 244.8 to 249.6, West of Wray

3.6.3.1 Yuma County

West of the town of Wray, US 34 runs between the North Fork of the Republican River, to the south, and Chief Creek, to the north. With this positioning, the highway lies squarely in the middle of mule deer and white-tailed deer winter range. This segment is identified by CPW as a highway crossing zone for white-tailed deer, with the eastern portion of the segment also identified for mule deer.

3.6.3.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	2,900 to 3,400	3,357 to 3,936	Deer	Winter and year-round	High

3.6.3.1.2 Preliminary Mitigation Recommendations

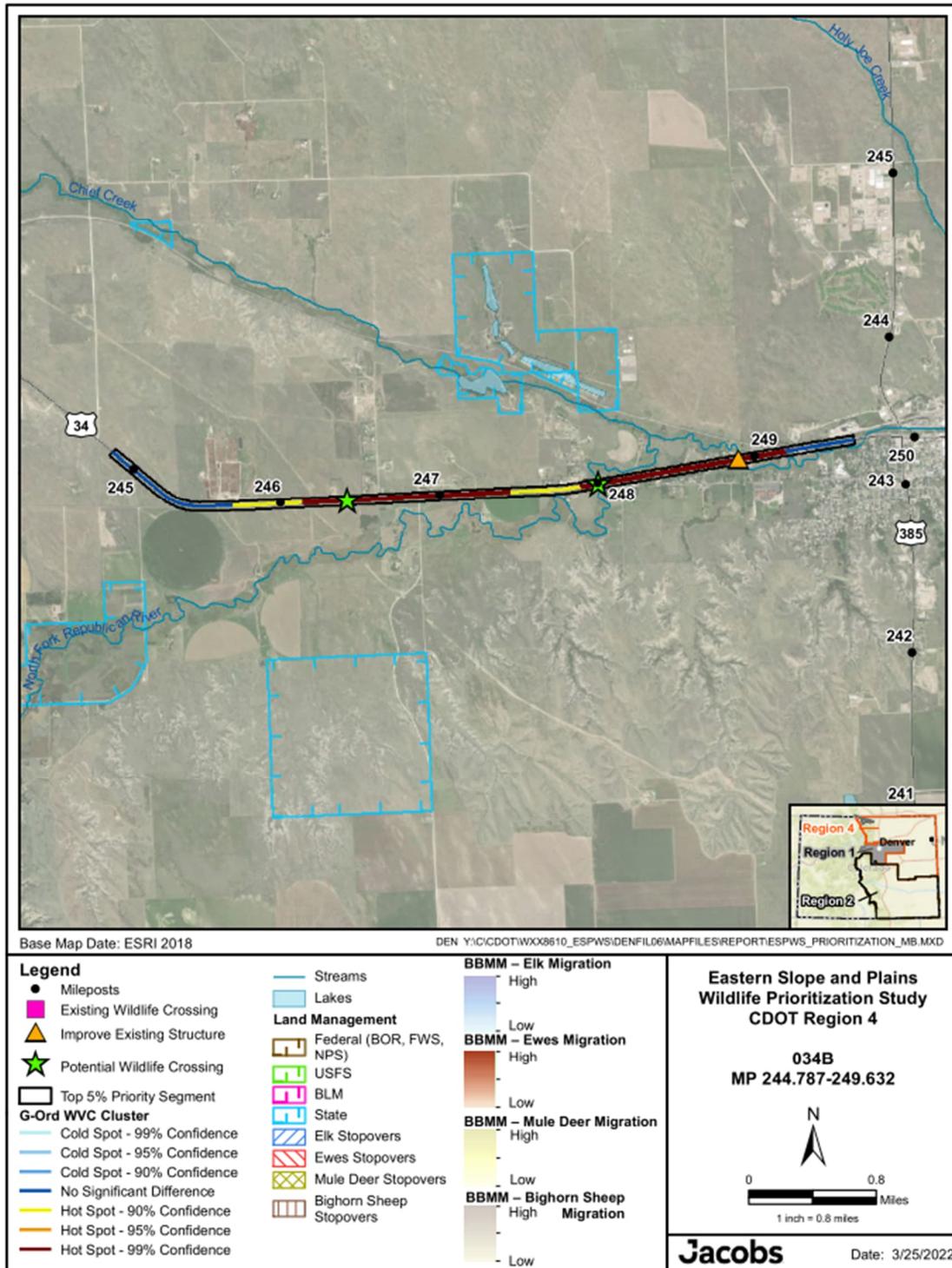
Wildlife crossings are recommended in this segment to address regular deer movements across the highway and moderately high WVC rates, particularly during the winter months. Optimize existing bridges for wildlife passage and identify suitable locations for new wildlife crossing structures with sufficient spacing between crossing opportunities. There are multiple driveways and access roads along the highway; wildlife guards will be needed where wildlife-exclusion fence crosses roads and driveways. In the easternmost portion of the segment, where residential and commercial development renders crossing structures with fencing difficult to implement, seasonal variable message signs may be used to warn motorists of potential conflict during the winter months, when herd densities are greatest.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
246.4	Fill slope	Potential location for a wildlife underpass	N/A
248	Bridge over the North Fork of the Republican River	Improve pathways for wildlife under the bridge and tie structure into wildlife fencing.	

Eastern Slope and Plains Wildlife Prioritization Study
Wildlife-Highway Mitigation Recommendations

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
248.9	Bridge over the North Fork of the Republican River. This location is in a light residential and commercial area on the outskirts of Wray.	Improve pathways for wildlife under the bridge.	N/A

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



3.6.4 U.S. Highway 34, Mileposts 250.5 to 259.5, Wray to Nebraska State Line

3.6.4.1 Yuma County

This stretch of US 34 runs from the eastern edge of the town of Wray to the Nebraska state line. The highway parallels the North Fork of the Republican River, which provides winter range habitat for mule deer and white-tailed deer, and concentrated habitat for white-tailed deer. CPW identifies the entire segment as a highway crossing zone for white-tailed deer and the western portion of the segment for mule deer. Railroad tracks parallel the highway to the north.

Landscape along US 34 with Railroad Tracks to the North



3.6.4.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,100 to 2,300	1,239 to 2,421	Deer	Winter and year-round	High

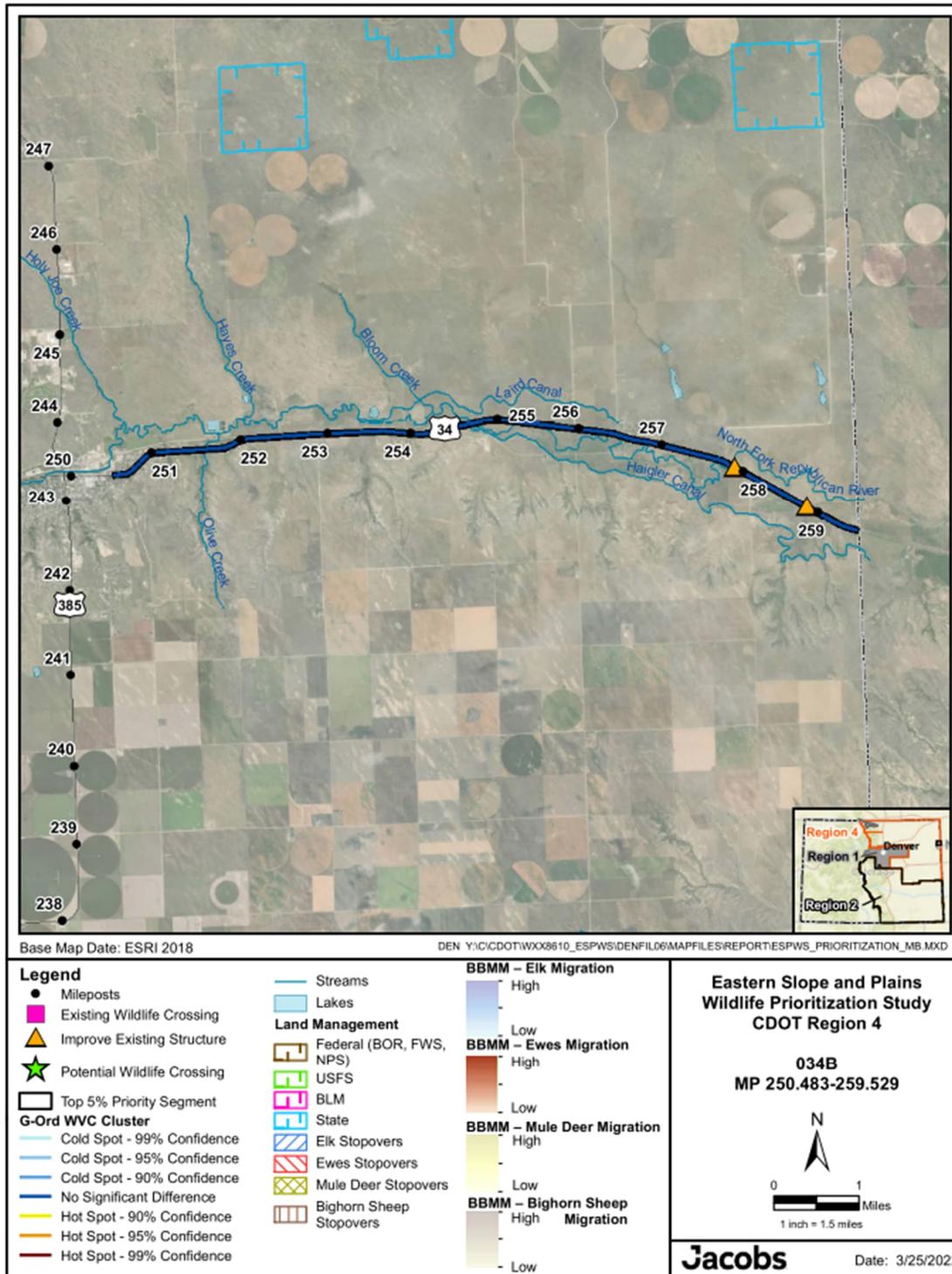
3.6.4.1.2 Preliminary Mitigation Recommendations

Tree cover along this curvy stretch of road with poor visibility for motorists is a likely contributor to WVCs in the western end of this segment (approximately MPs 250.5 to 251.2). In this area, traffic calming measures are warranted to lower traffic speeds. Through the rest of the segment, the roadway is straight and flat with little road grade. Given moderately low traffic volumes, the primary objective for this segment is to maintain the current levels of permeability for wildlife across the roadway. Remove and, where needed, replace barbed-wire right-of-way fencing with wildlife-permeable fence throughout the segment. Consider improving wildlife access to the two bridges at MPs 257.9 and 258.8 and installing wildlife-exclusion fencing to tie these structures together and prevent at-grade deer crossings in this portion of the segment.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
254.7	Bridge over the North Fork of the Republican River. A headgate on the south side of the bridge may block wildlife access. The adjacent railroad bridge to the north is suitable for deer passage.	N/A	N/A
257.9	Timber bridge over the North Fork of the Republican River. A small pedestrian bridge and wire-mesh fencing on the south side of the bridge creates obstacles to wildlife movement. The adjacent railroad bridge to the north is suitable for deer passage.	Remove barbed-wire and mesh fencing on the south side of the bridge and replace with wildlife-permeable fence if needed. Consider installing wildlife-exclusion fence in either direction from the bridge and connecting to the bridge at MP 258.8.	
258.8	Bridge over unnamed tributary	Consider installing wildlife-exclusion fence in either direction from the bridge and connecting to the bridge at MP 257.9.	N/A

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3.7 U.S. Highway 36 Priority Segments

3.7.1 U.S. Highway 36, Mileposts 24.3 to 26.9, St. Vrain Road to Nelson Road

3.7.1.1 Boulder County

This portion of US 36 runs along the base of the foothills, through rolling terrain and crossing numerous drainages. Although most of the lands on the west side of the highway are county-owned open space or conservation easements, lands east of the highway are primarily privately owned. Elk and mule deer migrate from the forested mountains to the west down through the foothills and, during the winter months, concentrate in large herds on either side of the highway. In addition, a portion of the herd has become increasingly residential in recent years, remaining in the area year-round. This area is in Boulder County's Red Hill elk management area, and to address the issue of the increasing elk herd size in recent decades, the county has instituted limited public hunting on the county's lands as a management tool to help control the population size and reduce conflict with agriculture and livestock producers as well as WVCs on US 36.

3.7.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	8,200	9,664	Elk, Deer	Migration and winter range	Elk—High Deer—Low

3.7.1.1.2 Preliminary Mitigation Recommendations

Wildlife crossings connected with wildlife-exclusion fencing are recommended in conjunction with ongoing elk population management strategies to reduce WVCs and conflict with landowners while supporting the long-term population health. Although elk conflict with agricultural production is a known issue, creating a barrier to elk movement along the highway by installing wildlife-exclusion fencing without suitable structures for elk passage is highly discouraged. The long-term effects of a permanent highway barrier would have substantial implications for wildlife populations and threaten to create new wildlife management challenges, particularly in the context of shifting temperature and moisture gradients as is projected in the coming decades. There are multiple locations listed as follows where wildlife crossings could be constructed. Coordinate with the county and other stakeholders to determine the most appropriate locations between MPs 27.5 and 24.3 for wildlife crossings and to identify supplementary mitigation needs (e.g., install wildlife-exclusion fence around hay piles). Throughout the segment from the northern outskirts of Boulder to Lyons, remove, and where

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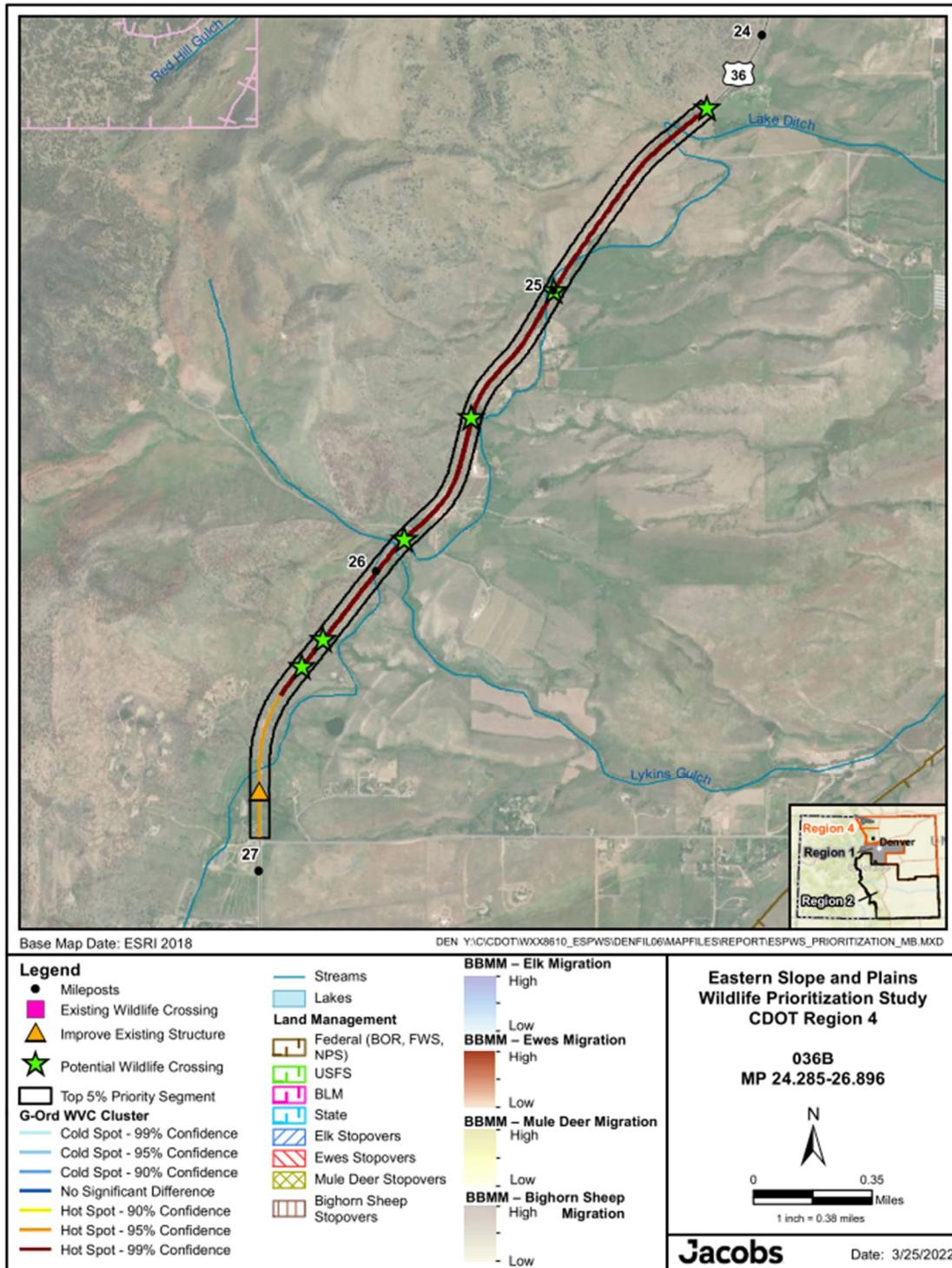
necessary, replace barbed-wire right-of-way fence and buck and rail fence with wildlife-permeable fencing.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
24.4	Fill slope with drainage pipe	Potential location for a bridge or arch underpass suitable for elk and other wildlife. Tie into wildlife-exclusion fence.	
25	Fill slope at unnamed drainage	Potential location for a bridge or arch underpass suitable for elk and other wildlife. Tie into wildlife-exclusion fence.	
25.5	Large fill slope, stock pass (6 feet wide by 8 feet high). Protected conservation easement on both sides of the highway at this location.	Potential location for a bridge or arch underpass suitable for elk and other wildlife. Tie into wildlife-exclusion fence.	
25.9	Large fill slope with box culvert (8 feet wide by 8 feet high) at Lykins Gulch. Irrigation ditch runs parallel to the east side of US 36 along the base of the fill slope.	Potential location for a bridge or arch underpass suitable for elk and other wildlife. Tie into wildlife-exclusion fence.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
26.3	Fill slope at natural draw	Potential location for a bridge underpass suitable for elk and other wildlife. Tie into wildlife-exclusion fence.	
26.4	Cut slope at top of small rise	Potential location for a wildlife overpass. Tie into wildlife-exclusion fence.	N/A
26.7	Pipe for irrigation ditch in low fill slope	N/A	N/A
26.8	Stock pass in low fill slope. Buck and rail fence in front of west entrance.	Replace buck and rail fence between hayfield and highway with wildlife-permeable fence to reduce the likelihood of animals becoming trapped either in the hay field or on the highway. The low road grade at this location precludes the construction of a larger wildlife crossing; however, the existing structure may be functional for other wildlife. Tie into wildlife-exclusion fencing.	N/A

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3.8 U.S. Highway 85 Priority Segments

3.8.1 U.S. Highway 85, Mileposts 243.4 to 246, Fort Lupton

3.8.1.1 Weld County

This stretch of US 85 north of Fort Lupton parallels the South Platte River corridor through a flat, agricultural landscape. The river corridor serves as a migration corridor and winter range for mule deer and white-tailed deer. In addition to the riparian corridor, corn, alfalfa, and other crops act as wildlife attractants.

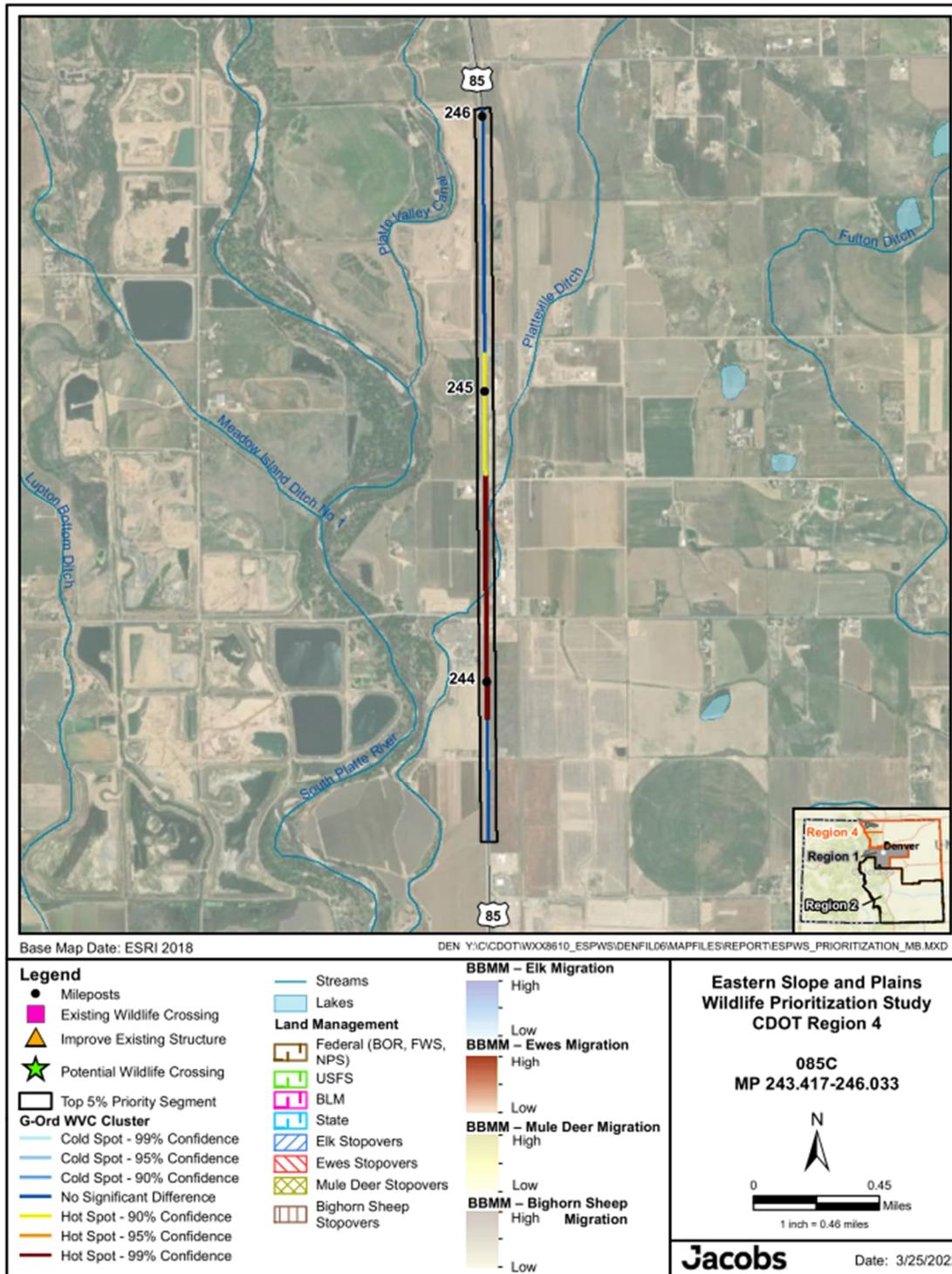
3.8.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
4	18,000 to 20,000	26,694 to 28,820	Deer	Winter, migration, and year-round	Moderate

3.8.1.1.2 Preliminary Mitigation Recommendations

Due to the lack of road grade, multiple road interchanges, and industrial development along a portion of the segment, wildlife crossing mitigation is not recommended in this segment. Replace barbed-wire right-of-way fence with wildlife-permeable fence throughout the segment. Seasonal variable message signs may also be used to warn motorists of potential conflict during the winter months, when herd densities are greatest.

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3.9 U.S. Highway 385 Priority Segments

3.9.1 U.S. Highway 385, Mileposts 243.6 to 245.7, Holy Joe Creek (North of Wray)

3.9.1.1 Yuma County

This stretch of US 385 runs north of the town of Wray and crosses over Holy Joe Creek, a tributary to the North Fork of the Republican River. The river drainage provides winter range habitat for mule deer and white-tailed deer, with the area along both drainages providing more concentrated habitat for white-tailed deer. The section of roadway from MPs 243.6 to 245.8 is identified by CPW as a deer highway crossing zone.

3.9.1.1.1 Segment Characteristics

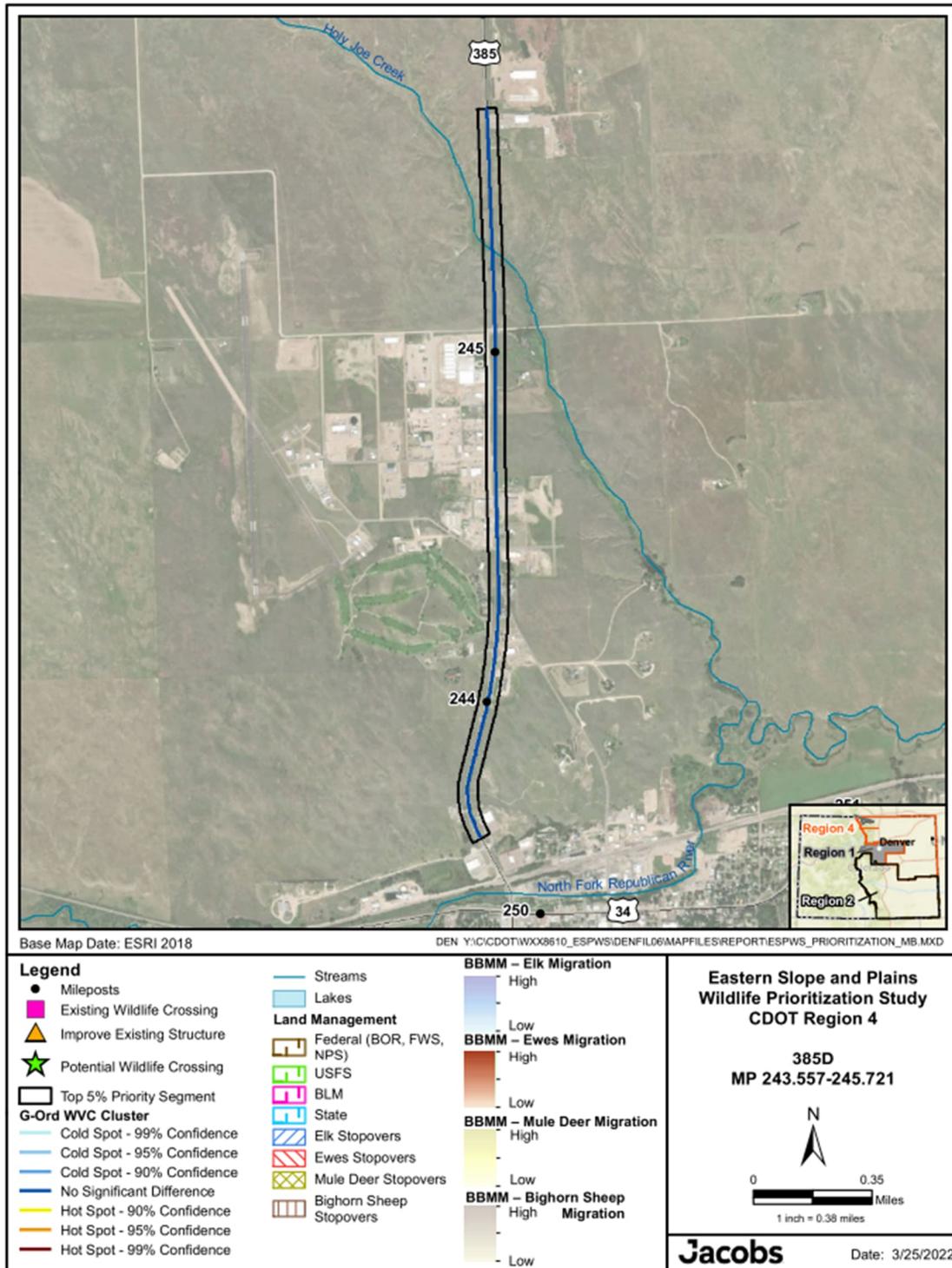
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	2,800 to 3,300	4,443 to 4,740	Deer	Winter and year-round	High

3.9.1.1.2 Preliminary Mitigation Recommendations

Given the low traffic volumes and low WVC rate, the primary objective for this segment is to maintain the current levels of permeability for wildlife across the roadway. Remove and, where needed, replace barbed-wire right-of-way fencing with wildlife-permeable fence throughout the segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
245.3	Holy Joe Creek pipe culvert	N/A	

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3.9.2 U.S. Highway 385, Mileposts 307.1 to 308.8, South of Julesburg

3.9.2.1 Sedgewick County

This stretch of US 385 is a two-lane highway that runs through the sandhills between the South Platte River corridor and the upland agricultural lands to the south. This landscape provides year-round habitat for mule deer and pronghorn, and the entire segment from the I-76 interchange (MP 309.1) to MP 305.2 is recognized as a deer highway crossing zone by CPW.

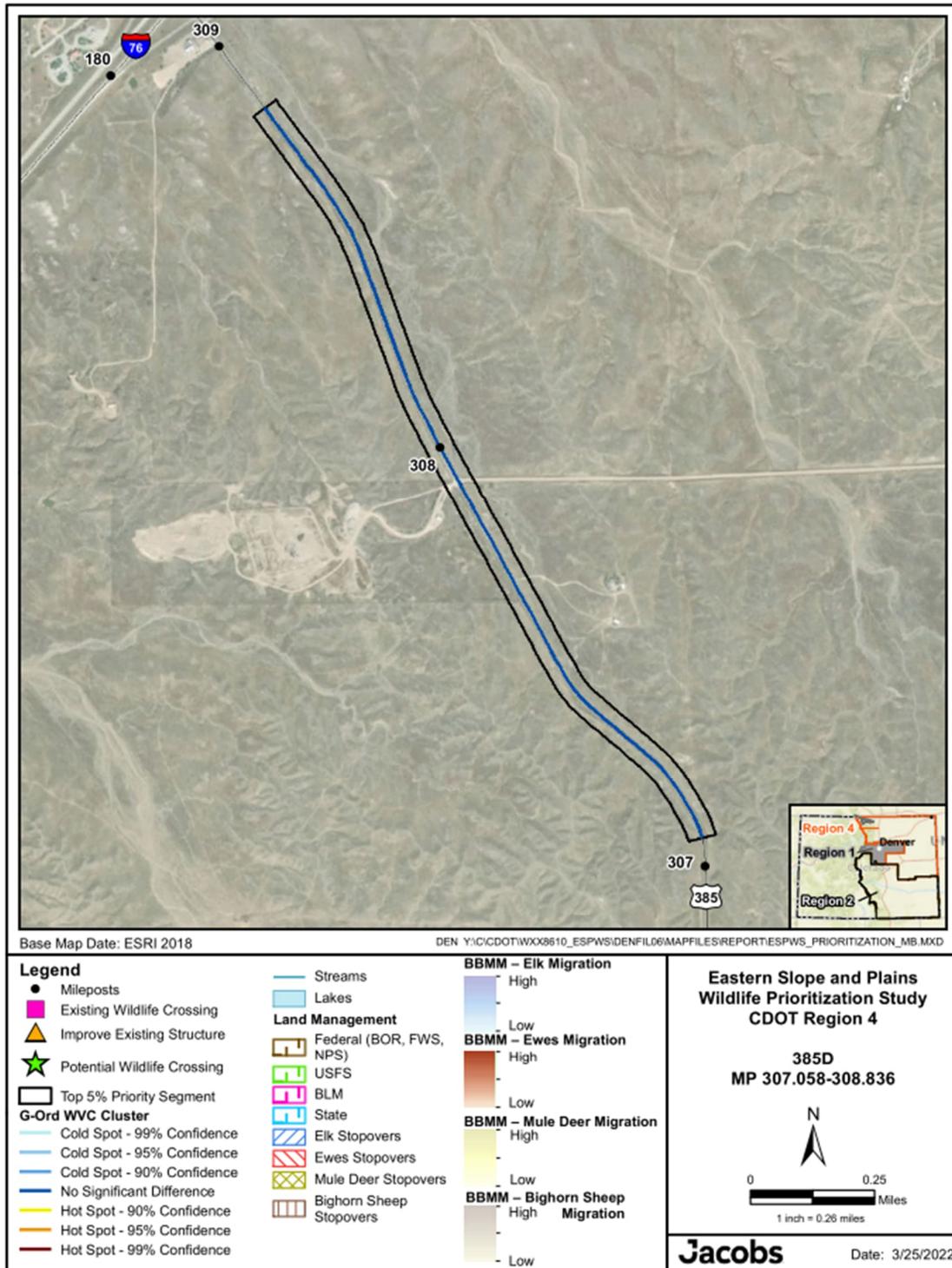
3.9.2.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	670	804	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.9.2.1.2 Preliminary Mitigation Recommendations

There are no existing structures with potential suitability for wildlife in this segment. Given the very low traffic volumes and low WVC rate, the primary objective for this segment is to maintain the current levels of permeability for wildlife across the roadway. Remove and, where needed, replace barbed-wire right-of-way fencing with wildlife-permeable fence throughout the segment.

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3.10 State Highway 71 Priority Segments

3.10.1 State Highway 71, Mileposts 65.4 to 67.1, South of State Highway 94

3.10.1.1 Crowley County

This high plains landscape is punctuated by several ephemeral drainages that are spanned by the highway. This area provides year-round habitat for mule deer and pronghorn. Larger riparian corridors to the west also provide winter range habitat for more concentrated populations.

3.10.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	730	1,006	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.10.1.1.2 Preliminary Mitigation Recommendations

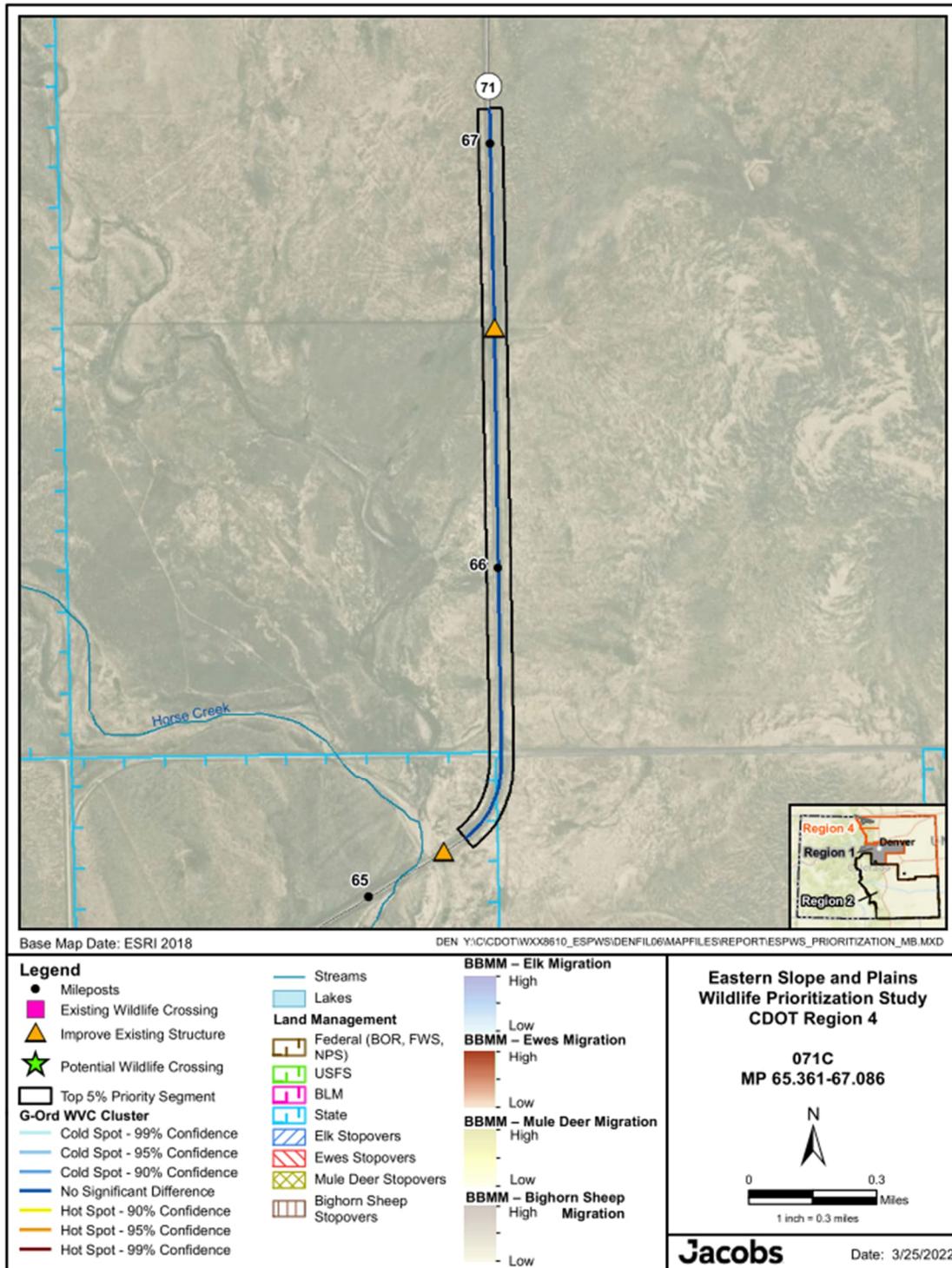
The primary recommendation for this segment is to remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fencing. In addition, consider installing short segments of wildlife-exclusion fence (~0.2 mile) to the existing bridges at MPs 65.2 and 66.6 to encourage wildlife use of those existing structures.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
65.2	Horse Creek bridge	Tie into wildlife-exclusion fence.	

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
66.6	Concrete slab bridge over ephemeral drainage	Tie into wildlife-exclusion fence.	 A photograph showing a concrete bridge structure over a drainage area. The bridge has a metal guardrail on top. The surrounding area is filled with tall, dry grasses and some shrubs. The sky is clear and blue.

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3.10.2 State Highway 71, Mileposts 75 to 75.3, South of Limon

3.10.2.1 Lincoln County

This high plains landscape is punctuated by the South Rush Creek drainage. This area provides winter and year-round habitat for mule deer, pronghorn, and white-tailed deer.

3.10.2.1.1 Segment Characteristics

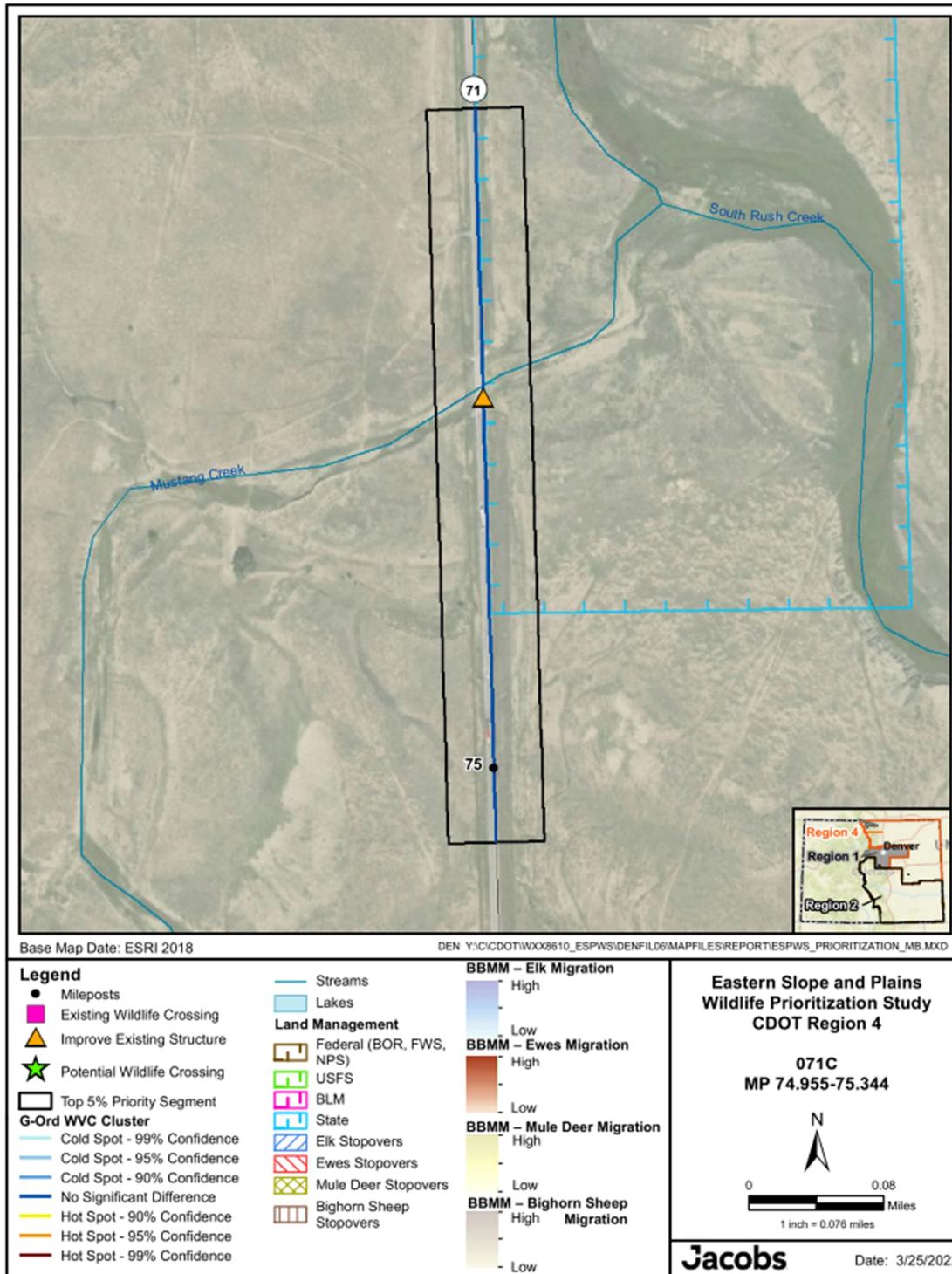
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	700	994	Deer, Pronghorn	Winter and year-round	Deer—High Pronghorn—Low

3.10.2.1.2 Preliminary Mitigation Recommendations

Install wildlife-exclusion fence connecting the two large bridges at MPs 65.2 and 66.6. The fence should extend from approximately MPs 74.5 to 75.3, at the top of the hill. Replace barbed-wire right-of-way fencing with wildlife-permeable fence for approximately 1 mile from MP 73.5 to the south end of the wildlife-exclusion fence to facilitate wildlife movement in this 90th percentile segment at the south end of the high-priority segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
75.2	Large multispans bridge over Mustang Creek	Tie into wildlife-exclusion fence.	
75.4	Large, multispans bridge over South Rush Creek. Heavy livestock use.	Tie into wildlife-exclusion fence.	

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3.10.3 State Highway 71, Mileposts 169.6 to 173, South of Brush

3.10.3.1 Morgan County

This segment of SH 71 runs between the Beaver Creek drainage and irrigated croplands to the west and native range on the east side of the highway.

3.10.3.1.1 Segment Characteristics

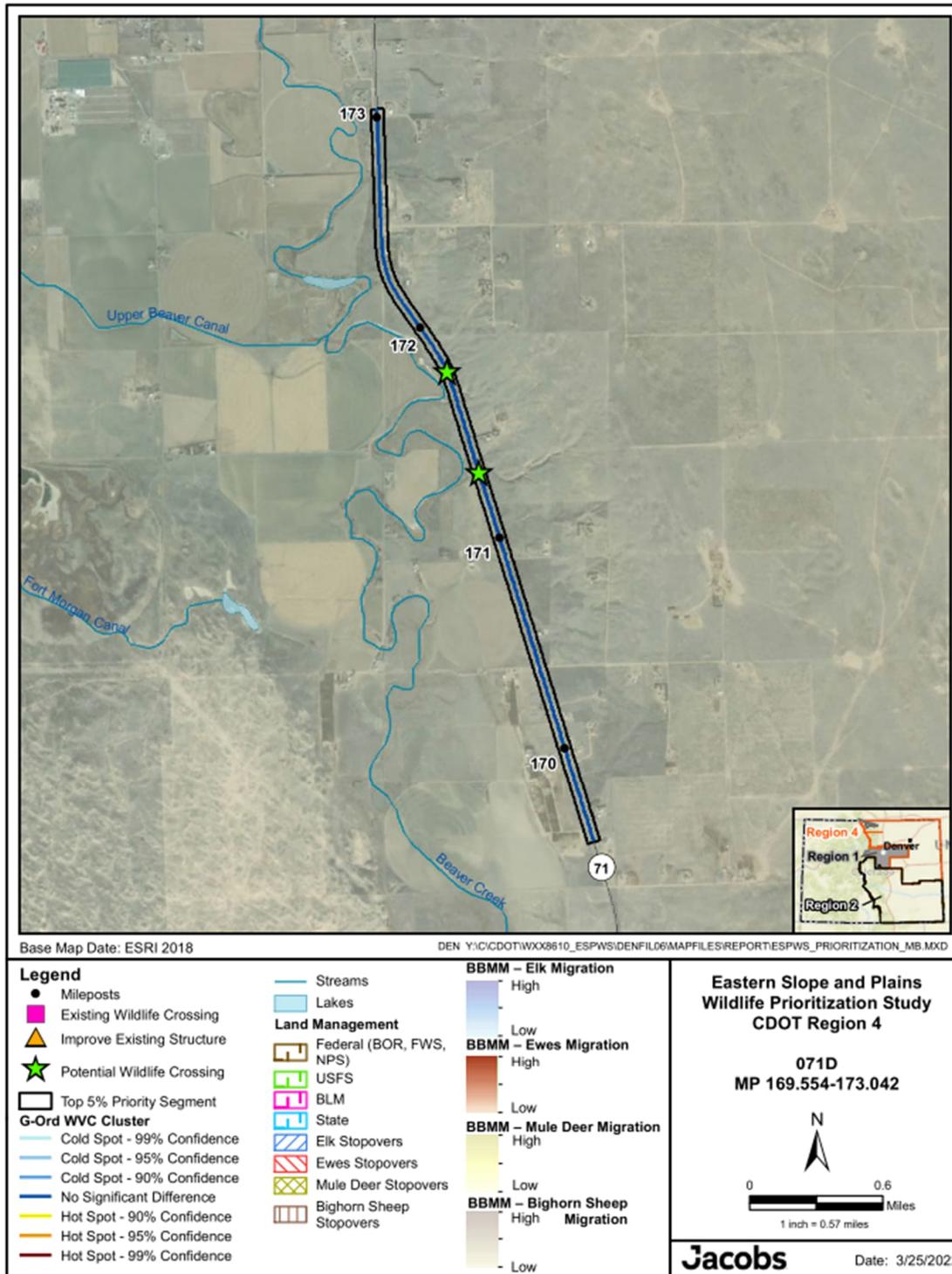
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,800	2,102	Deer, Pronghorn	Year-round	Deer—High Pronghorn—Low

3.10.3.1.2 Preliminary Mitigation Recommendations

Replace barbed-wire right-of-way fencing with wildlife-permeable fence throughout the segment. There may be sufficient road grade between MPs 171.4 and 171.8 to install a wildlife crossing structure should a future increase in traffic volumes increase WVCs and the barrier effect of the roadway.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
171.4	Stock pass (8-foot-wide by 6-foot-high box culvert)	Consider installing a larger underpass suitable for deer and pronghorn passage with wildlife-exclusion guide fencing extending in either direction.	
171.8	Drainage pipe in low fill slope	Consider installing a larger underpass suitable for deer and pronghorn passage with wildlife-exclusion guide fencing extending in either direction.	N/A
172.7	Irrigation ditch pipe in low fill slope	N/A	N/A

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3.11 State Highway 113 Priority Segments

3.11.1 State Highway 113, Mileposts 1.4 to 1.8, West of Iliff

3.11.1.1 Logan County

This section of SH 113 runs north from the South Platte River corridor through grasslands and irrigated farmlands, including corn and alfalfa fields. Although the high-priority segment is only 0.5 mile long, it lies within a longer 90th percentile segment from MPs 0 to 3. This area provides year-round habitat and forage for mule deer. The southern end of the 90th percentile segment also provides more concentrated winter habitat along the South Platte River for mule deer and white-tailed deer. Barbed-wire right-of-way fencing is present through much of the longer segment, except from approximately MPs 1.5 to 3, where there is no right-of-way fence on the east side of the highway.



3.11.1.1.1 Segment Characteristics

Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	1,200	1,540	Deer	Year-round	Moderate

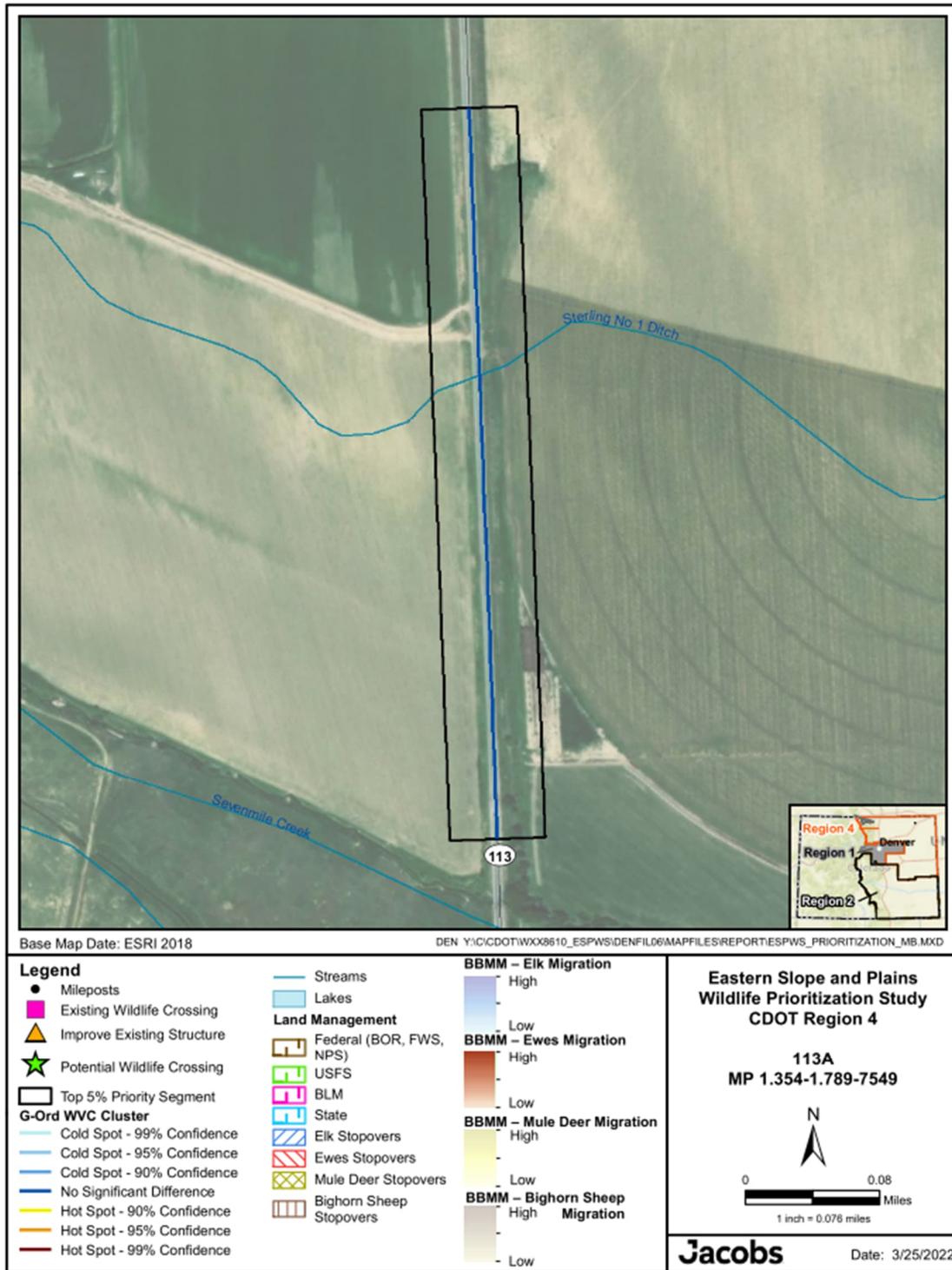
3.11.1.1.2 Preliminary Mitigation Recommendations

There is an existing bridge over Sevenmile Creek (MP 1.3) spanning the creek bed, but this structure is not suitable for wildlife passage. Given the low traffic volumes and moderate incidence of WVCs, wildlife crossing mitigation is not recommended for this segment. Instead, remove and, where needed, replace barbed-wire right-of-way fencing with wildlife-permeable fence to reduce the likelihood of animals becoming trapped on the roadway and subject to potential WVCs.

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Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
1.3	Timber bridge over Sevenmile Creek	N/A	 A photograph showing a worker in a high-visibility vest standing on a road next to a timber bridge over a creek. The worker is wearing a yellow safety vest, a blue shirt, and a white hard hat. The bridge is made of wooden planks and is supported by concrete pillars. The creek is visible below the bridge, and the surrounding area is a flat, open landscape with some vegetation.

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3.12 State Highway 138 Priority Segments

3.12.1 U.S. Highway 138, Mileposts 16.1 to 18.8, East of Iliff

3.12.1.1 Logan County

SH 138 parallels the South Platte River corridor to the north. The landscape is characterized by irrigated farmlands on either side of the highway. The river corridor and adjacent fields provide concentrated winter range habitat for white-tailed deer and mule deer. Railroad tracks run parallel to the highway on the south side throughout the segment.

3.12.1.1.1 Segment Characteristics

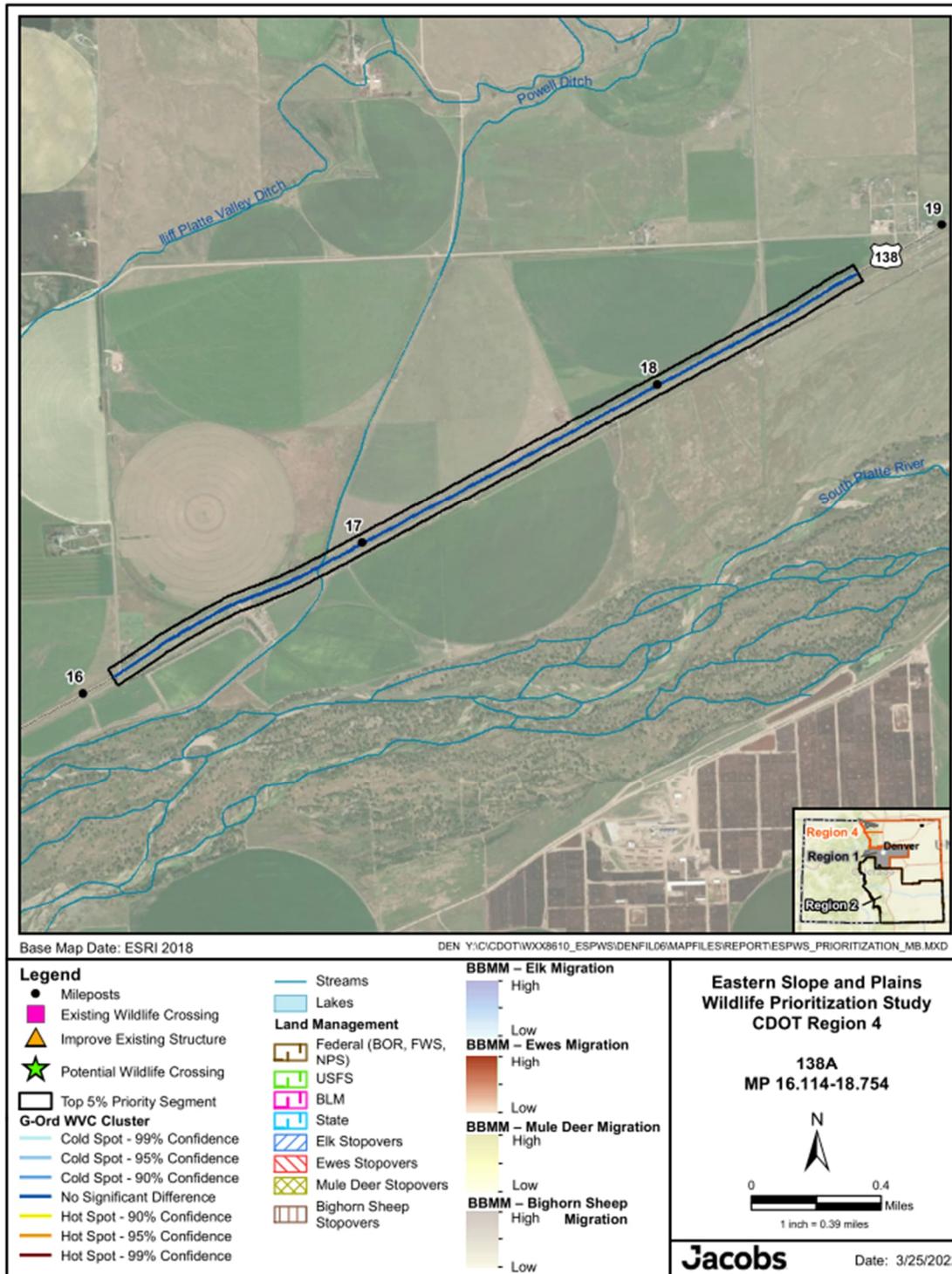
Lanes	AADT (2020)	Future AADT (2041)	Target Species	Primary Movement Type	WVC Population Impacts
2	690	806	Deer	Winter and year-round	Moderate

3.12.1.1.2 Preliminary Mitigation Recommendations

Due to low traffic volumes and the lack of road grade, wildlife crossings mitigation is not currently recommended in this segment. Remove and, where needed, replace barbed-wire right-of-way fence with wildlife-permeable fence throughout the segment. Variable message signs may be used to warn drivers of seasonal peaks in wildlife activity in this segment.

Milepost	Existing Conditions	Mitigation Recommendation	Milepost Photo
15.2	Low bridge at Lewis Creek with terrestrial pathway. This location is outside the high-priority segment and ranks in the 90th percentile	N/A	
16.9	Low bridge (~4 feet high) over Powell Ditch. Insufficient for deer passage even when dry.	N/A	

Eastern Slope and Plains Wildlife Prioritization Study
 Wildlife-Highway Mitigation Recommendations



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