Rio Grande River Basin End of Chapter Exhibits

Exhibit 10-1. in text

Exhibit 10-2. in text

Exhibit 10-3. Rio Grande River Basin and Major Tributaries

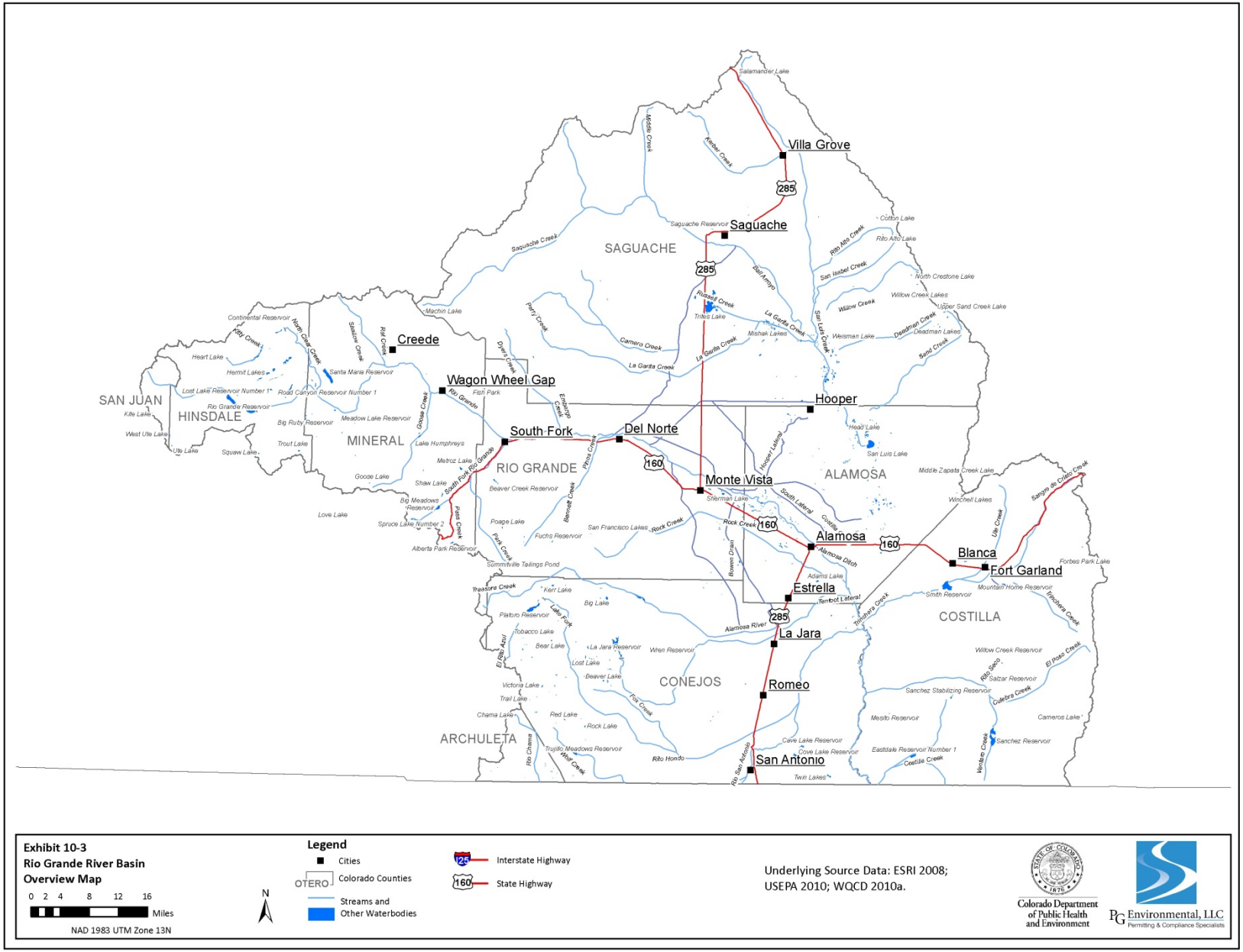


Exhibit 10-4. Rio Grande River Basin Level III Ecoregions

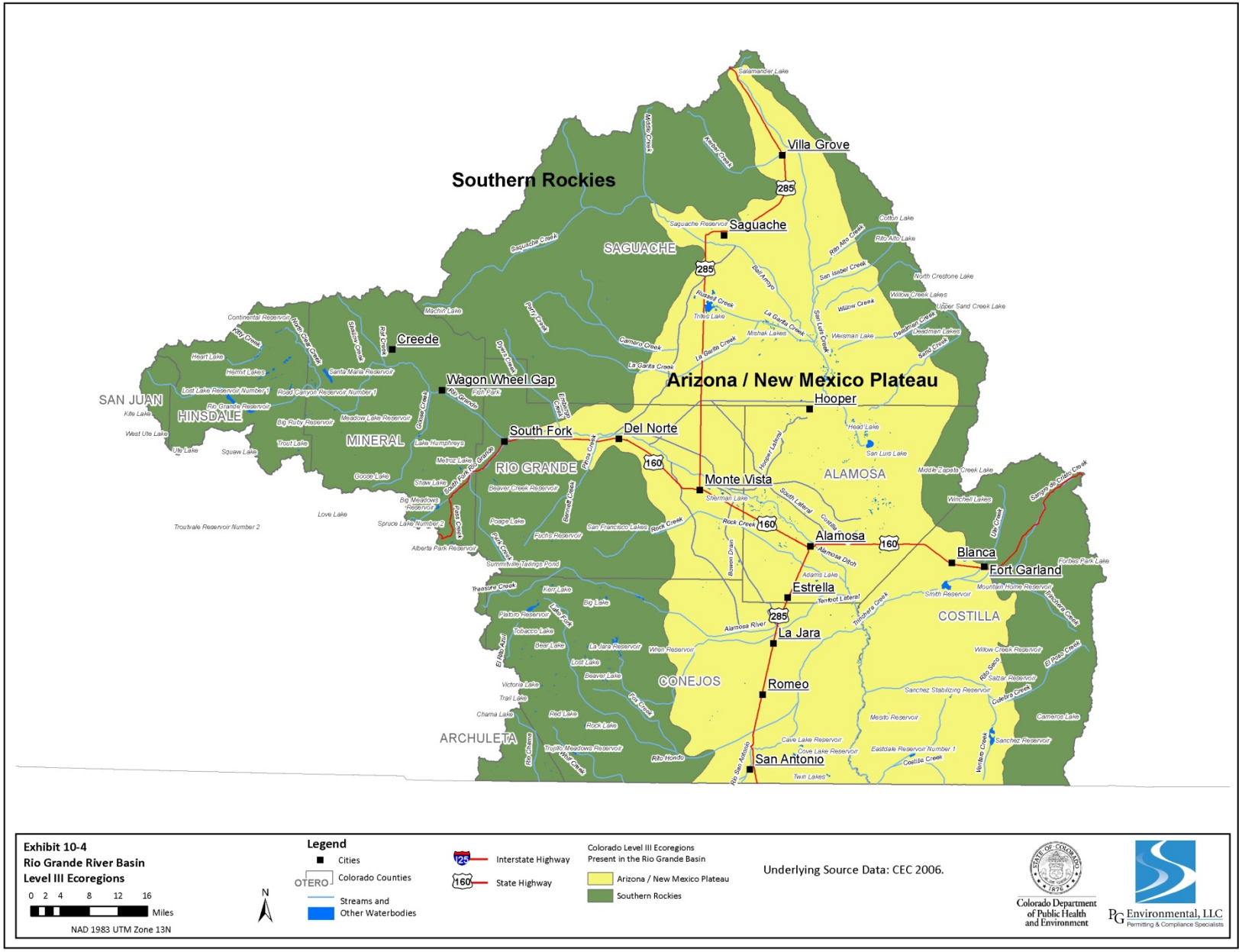
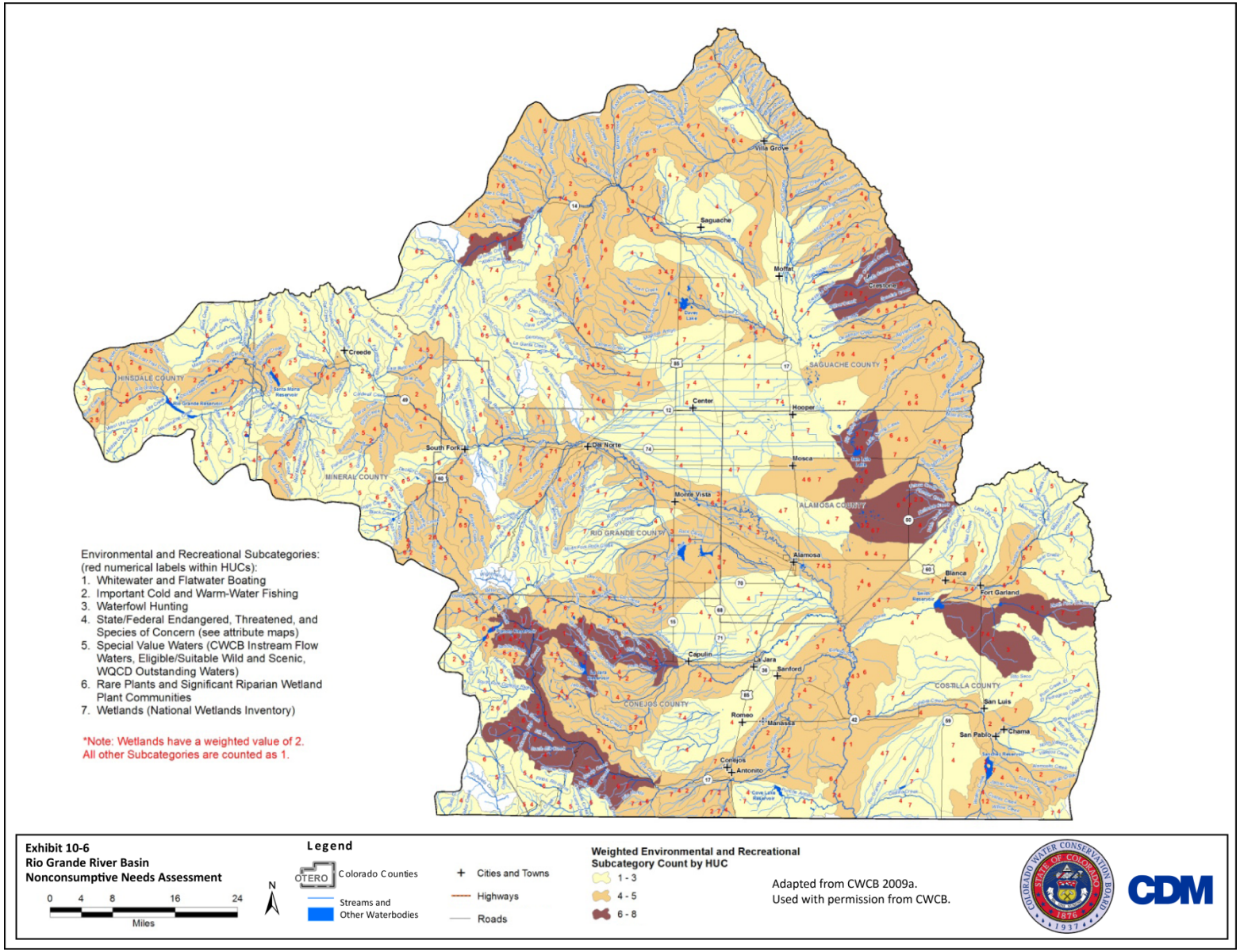


Exhibit 10-5. Endangered and Threatened Species in Rio Grande River Basin

Species		Status	
		Federal	State
Endangered Species		**Federal**	**State**
Fish	Rio Grande Sucker (*Catostomus plebeius*)		√
Birds	Whooping Crane (*Grus Americana*)	√	√
	Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	√	√
Mammals	Black-footed Ferret (*Mustela nigripes*)	√	√
	Lynx (*Lynx Canadensis*)	*On federal threatened list*	√
	Wolverine (*Gulo gulo*)		√
	Total Endangered Species	3	6
Threatened Species		**Federal**	**State**
Birds	Bald Eagle (*Haliaeetus leucoephalus*)	√	√
	Mexican Spotted Owl (*Strix occidentalis lucida*)	√	√
	Burrowing Owl (*Athene cunicularia*)		√
Mammals	Lynx (*Lynx Canadensis*)	√	*On state endangered list*
	Total Threatened Species	3	3
State Species of Special Concern (not a statutory category)		**Federal**	**State**
Fish	Rio Grande Chub (*Gila Pandora*)		√
	Rio Grande Cutthroat Trout (*Oncorhynchus clarki virginalis*)		√
Amph.	Northern Leopard Frog (*Rana pipiens*)		√
Reptiles	Midget Faded Rattlesnake (*Crotalus viridis concolor*)		√
Birds	Greater Sandhill Crane (*Crus Canadensis tabida*)		√
	Gunnison Sage grouse (Centrocercus minimus)		√
	American Peregrine Falcon (*Falco peregrinus anatum*)		√
	Mountain Plover (*Charadrius montanus*)		√
	Ferruginous Hawk (*Buteo regalis*)		√
	Greater Sage Grouse (*Centrocercus urophasianus*)		√
	Long-billed Curlew (*Numenius americanus*)		√
Mammals	Northern Pocket Gopher (*Thomomys talpoides macrotis*)		√
	Total State Species of Special Concern	NA	12

Sources: CDOW 2010; CWCB 2004.

Exhibit 10-6. Rio Grande River Basin Nonconsumptive Needs Assessment[1]



[1] The nonconsumptive needs assessment map focuses on environmental and recreational areas for the following purposes: (1) to serve as a guide for water supply planning to avoid future conflicts over environmental and recreational needs; (2) to assist in identifying environmental and recreational water needs status; (3) to help basins plan for the water needs of species of special concern; and (4) to provide opportunity for collaborative efforts for future multi-objective projects. The Rio Grande River Basin was developed using hydrologic unit codes (HUCs). The subcategories of environmental and recreational uses associated with the Rio Grande are shown in the exhibit Additional information on the environmental and recreational areas included Arkansas map can be found in Appendix D of CWCB 2009a.

Exhibit 10-7. Rio Grande River Basin Precipitation

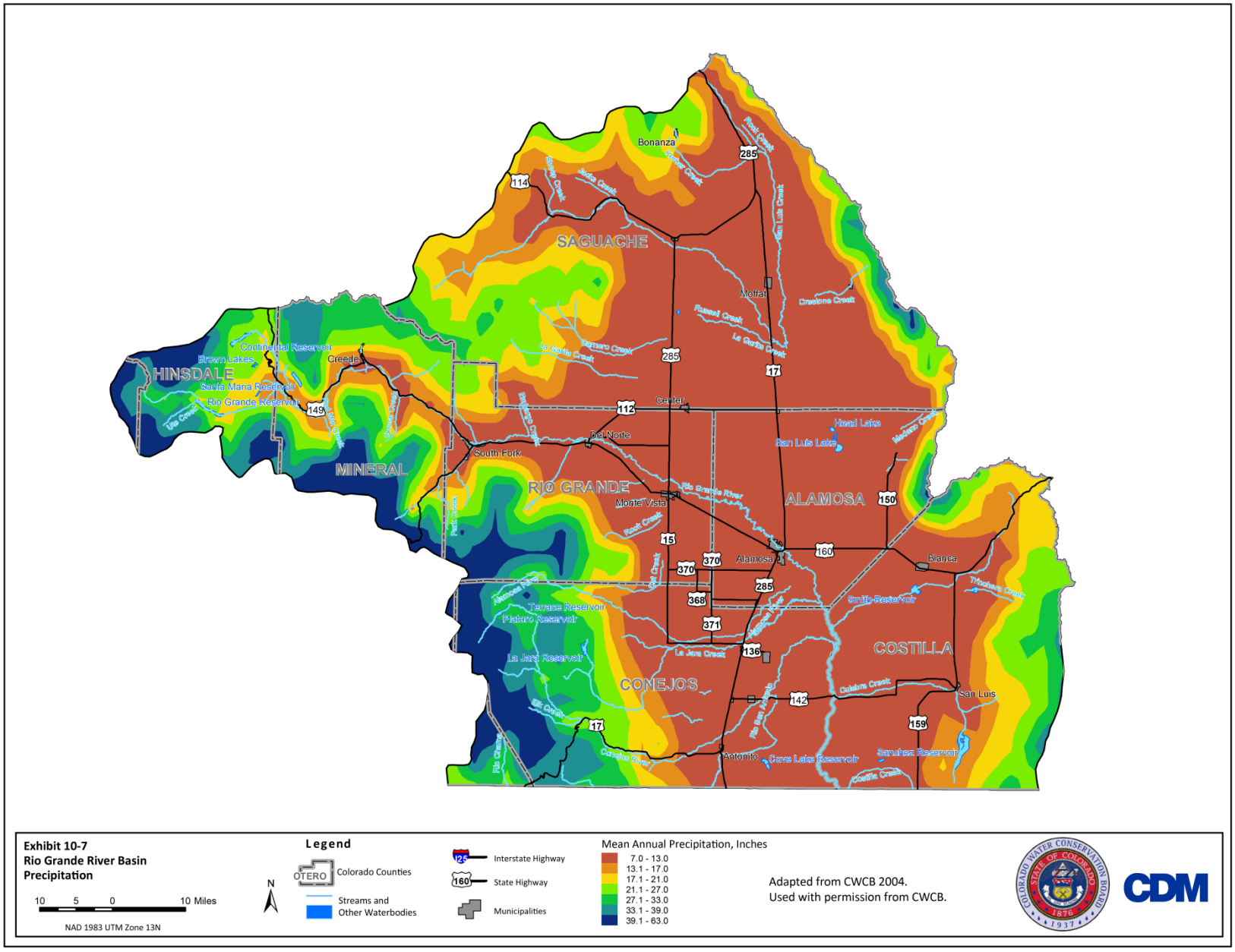


Exhibit 10-8. Rio Grande River Basin Land Ownership

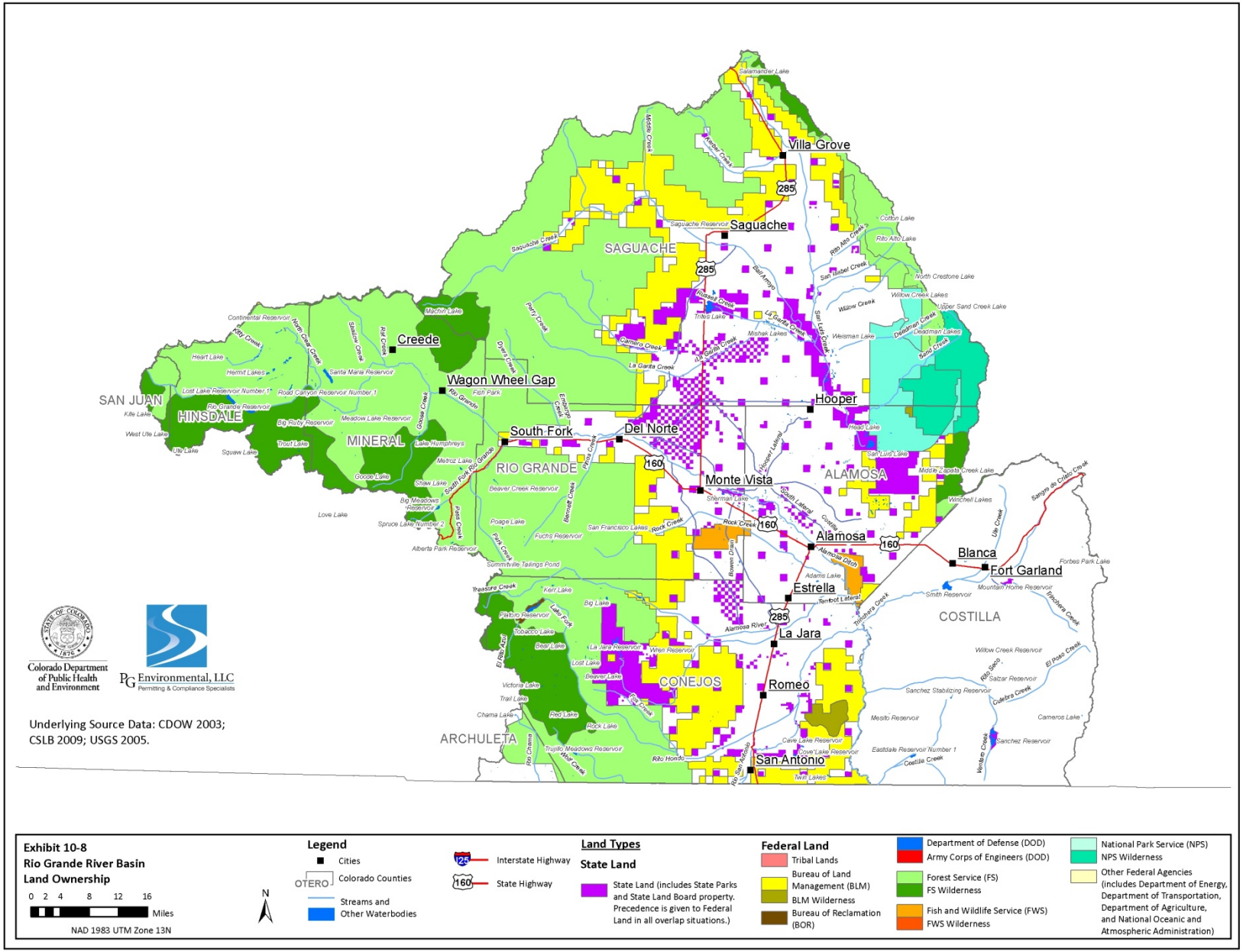


Exhibit 10-9. Rio Grande River Basin Land Cover

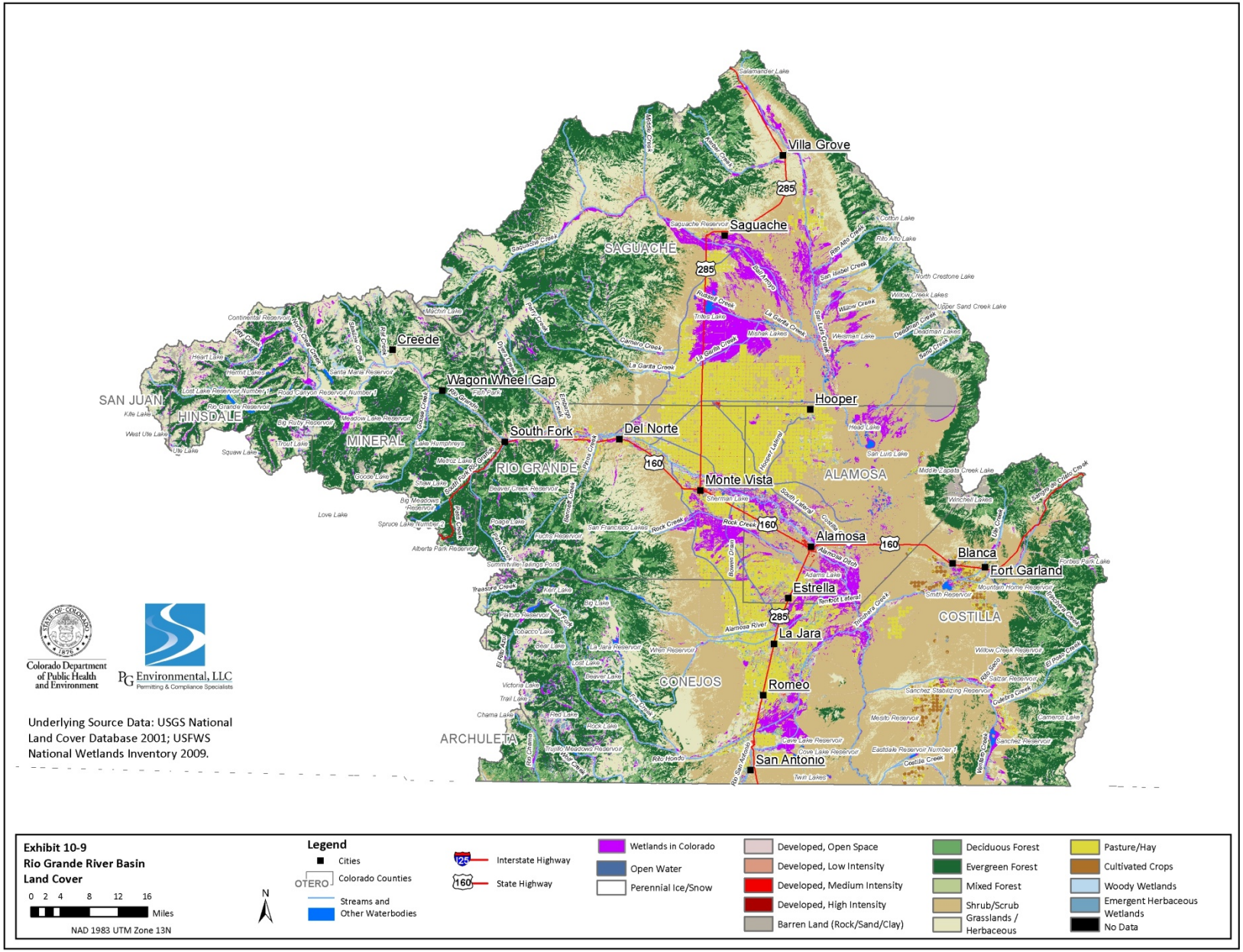
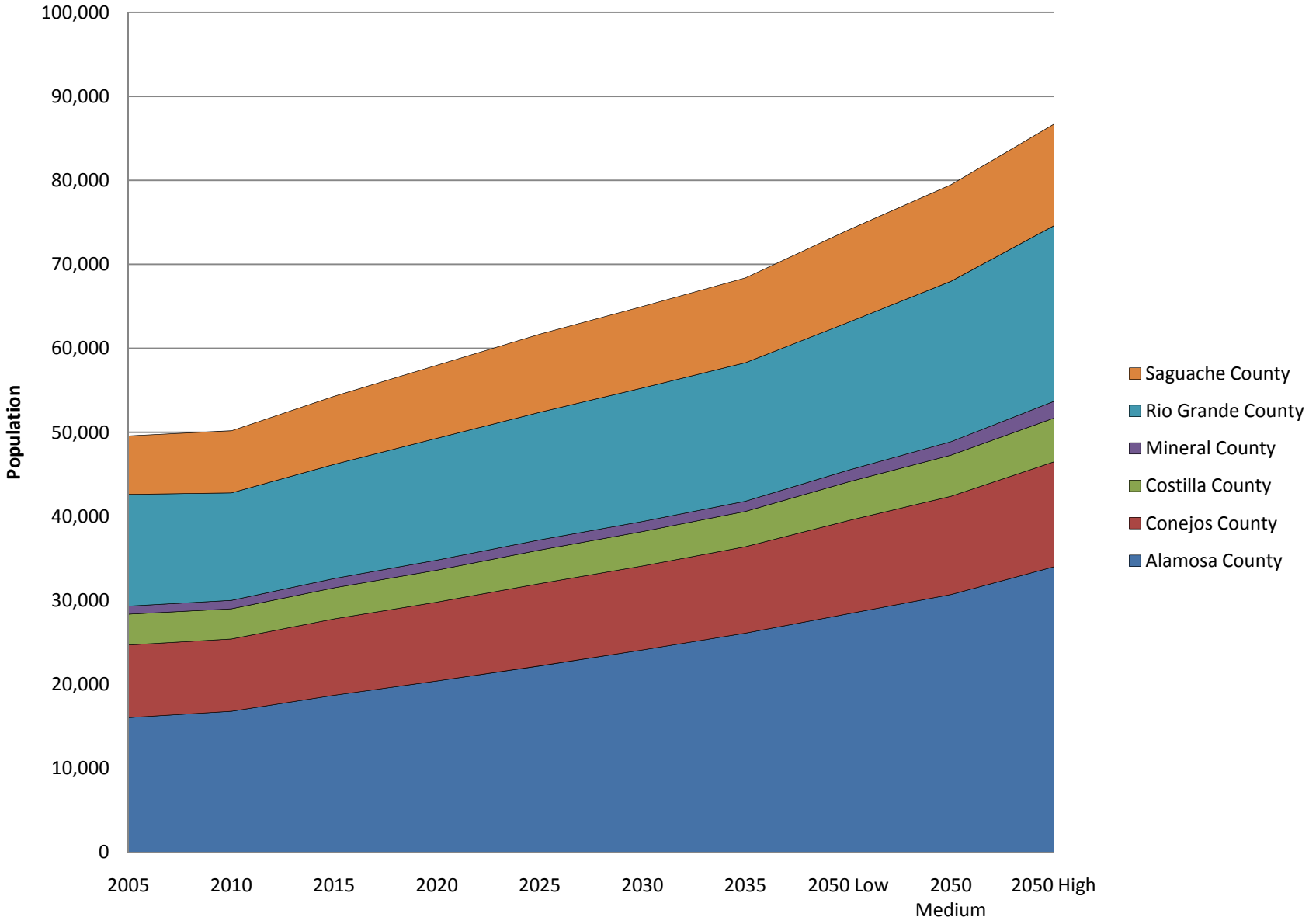


Exhibit 10-10. in text

Exhibit 10-11. Rio Grande River Basin Population Projections



Source: CWCB 2010, DOLA 2010.

Exhibit 10-12. in text

Exhibit 10-13. in text

Exhibit 10-14. in text

Exhibit 10-15. Rio Grande River Basin Key Diversions and Streamflow Gauges

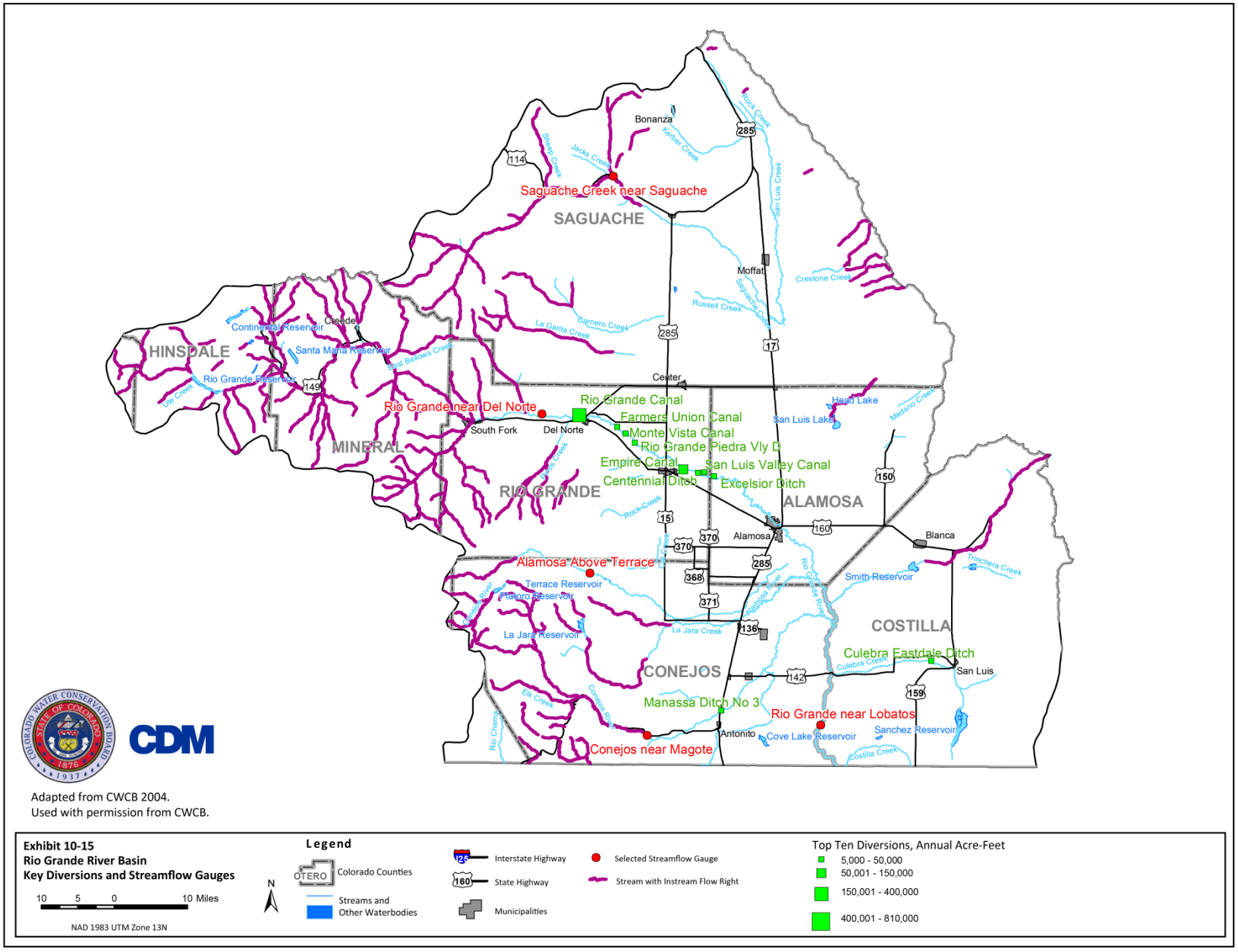


Exhibit 10-16. Rio Grande River Basin Wells and Aquifers

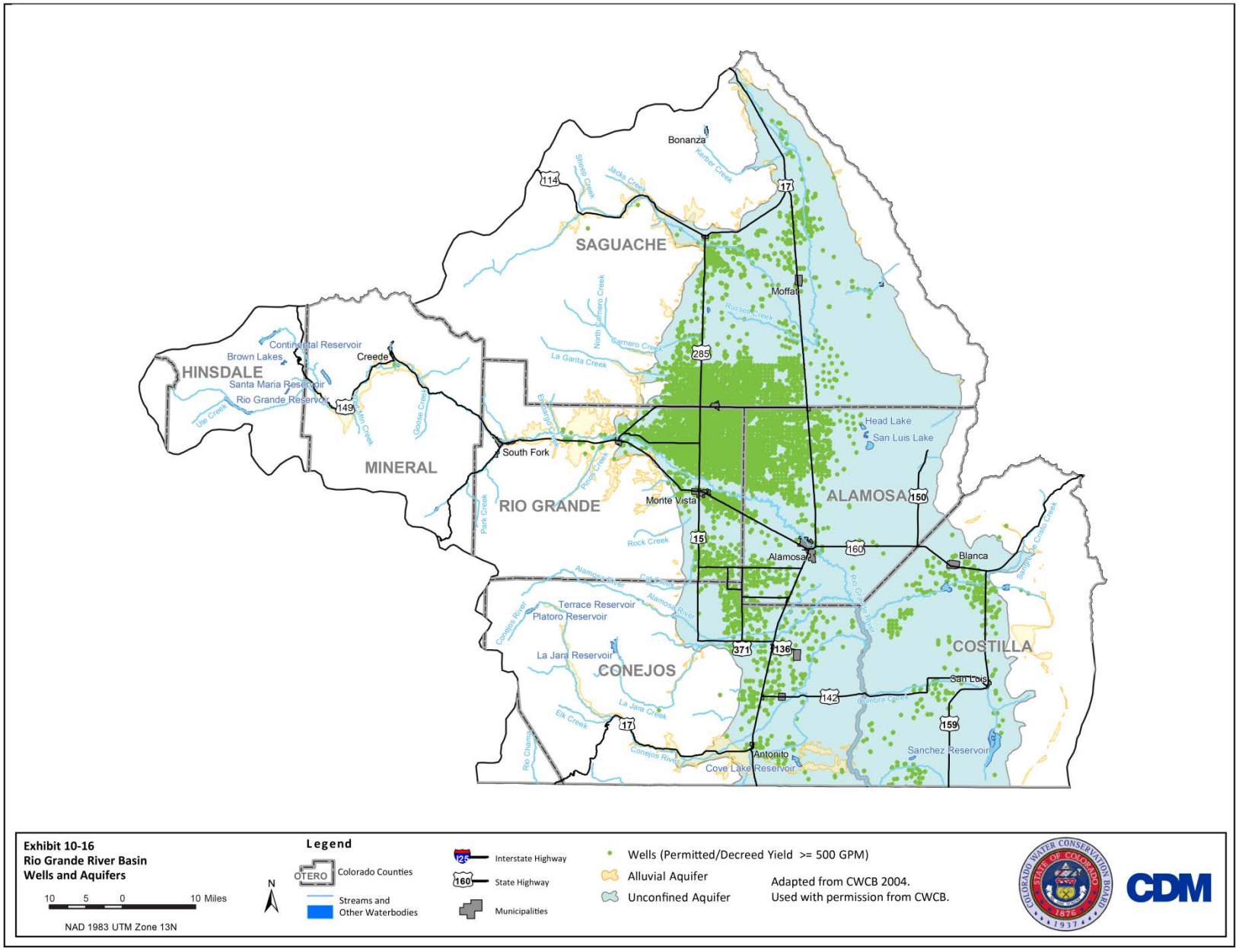


Exhibit 10-17. Rio Grande River Basin Classified Waterbody Segments

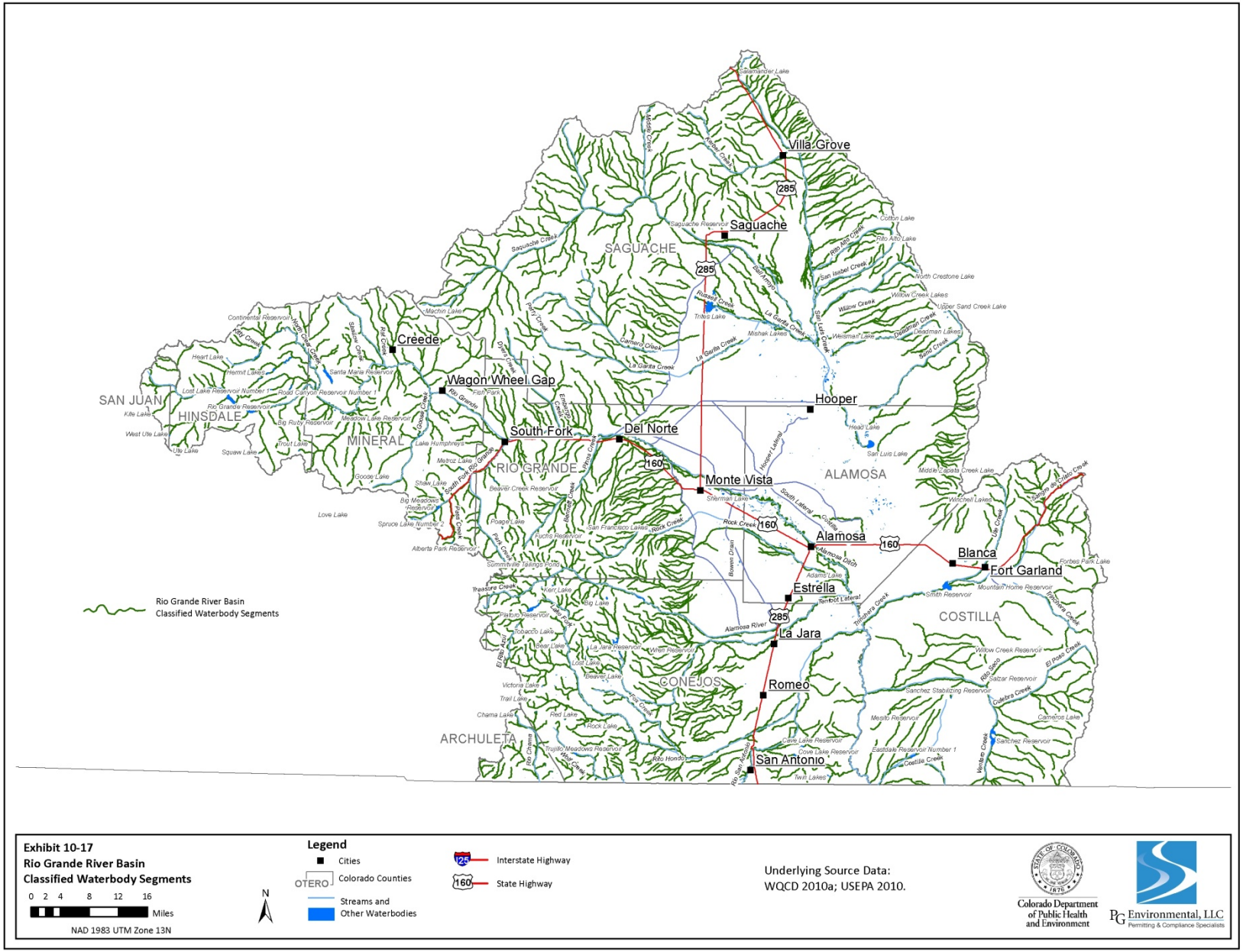


Exhibit 10-18. Rio Grande River Basin Use Classifications for Waterbody Segments

Sub-Basin	Aquatic Life				Recreation				Water Supply	Agriculture	Designations	
	Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			Outstanding Waters	Use Protected
Totals Basin-Wide												
Segments (n = 72)	42	11	1	11	70	0	2	0	36	71	4	23
Segments as Percent of Total	*58%*	*15%*	*1%*	*15%*	*97%*	*0%*	*3%*	*0%*	*50%*	*99%*	*6%*	*32%*
Miles (n = 5,642.55)[1]	3,629.75	146.98	65.40	867.06	4,797.75	0	844.80	0	4,130.14	5,641.00	410.62	1,816.93
Miles as Percent of Total [1]	*64%*	*3%*	*1%*	*15%*	*85%*	*0%*	*15%*	*0%*	*73%*	*99.9%*	*7%*	*32%*

[1] Lake acres are not shown.

Sources: WQCC 2010a and 2010b; WQCD 2010a, appendix A.

Exhibit 10-19. Rio Grande River Basin Use Classifications by Waterbody Segment

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
Rio Grande River Basin (CORGRG)													
1	All tributaries to the Rio Grande, including all wetlands, lakes and reservoirs, which are within the Weminuche Wilderness Area	165.80	•				•				•	•	OW[2]
2	Mainstem of the Rio Grande, including all wetlands, tributaries, lakes and reservoirs, from the source to a point immediately above the confluence with Willow Creek	380.70	•				•				•	•	
3	Rio Grande Reservoir; Santa Maria Reservoir; mainstem of Seepage Creek from the outlet of Santa Maria Reservoir to a point 1 mile below the outlet of Santa Maria Reservoir; North Clear Creek from the outlet of Continental Reservoir to a point immediately above the confluence with Rito Hondo Creek	[3]		•			•					•	
4	Mainstem of the Rio Grande from a point immediately above the confluence with Willow Creek to the Rio Grande/Alamosa County line	87.32	•				•				•	•	
5	All tributaries to the Rio Grande, including all wetlands, lakes and reservoirs, from immediately above the confluence with Willow Creek to State Highway 112 bridge in Del Norte	326.80	•				•				•	•	
6	Mainstem of West Willow Creek from immediately above Deerhorn Creek to the Park Regent Mine dump	1.55	•				•						

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
7	Mainstem of West Willow Creek from the Park Regent Mine dump to the confluence with East Willow Creek; mainstem of East Willow Creek to the confluence with West Willow Creek, mainstem Willow Creek, including all tributaries from the confluence of East and West Willow Creeks to the confluence with the Rio Grande	11.80					•					•	UP[4]
8	Mainstem of Goose Creek, including all tributaries, and wetlands from the source to the confluence with the Rio Grande	27.60	•				•				•	•	
9 +L	Mainstem of the South Fork of Rio Grande, including all tributaries, wetlands, lakes and reservoirs, from source to confluence with Rio Grande	162.80[5]	•				•				•	•	
10	Mainstem of Pinos Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to the confluence with Rio Grande	102.10	•				•				•	•	
11	Mainstem of San Francisco Creek (Rio Grande County), including all tributaries, wetlands, lakes and reservoirs, from the source to the confluence with Spring Branch	32.00	•				•				•	•	
12	Mainstem of the Rio Grande from the Rio Grande/Alamosa County line to the Old State Bridge east of Lobatos (Conejos County Road G)	65.40			•		•					•	
13	Mainstem of the Rio Grande from Old State Bridge east of Lobotos (Conejos County Road G) to the Colorado/New Mexico border	8.44	•				•					•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
14	All tributaries to the Rio Grande including wetlands, lakes and reservoirs, which are within the Rio Grande National Forest, from the State Highway 112 bridge in Del Norte to immediately below the confluence of Rock Creek with the Rio Grande	35.60	•				•				•	•	
15	All tributaries to the Rio Grande from State Highway 112 bridge in Del Norte to the Colorado-New Mexico Stateline	540.90							•			•	UP
16	All waters within the Alamosa National Wildlife Refuge	9.84				•	•					•	UP
17	All waters within the Monte Vista National Wildlife Refuge	13.90				•	•					•	UP
18	All wetlands tributary to the Rio Grande, including lakes and reservoirs, from State Highway 112 bridge in Del Norte to the Colorado/New Mexico border	3.96				•	•					•	UP
19	Mainstem of Rock Creek, including all tributaries, wetlands, lakes and reservoirs from source to Monte Vista Canal	49.80	•				•				•	•	
20	Mainstem of Cat Creek from the source to the Terrace Main Canal	10.50	•				•					•	
21	Mainstem of Ute Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to U.S. Hwy 160	34.90	•				•				•	•	
22	Mainstem of Ute Creek from U.S. Hwy 160 to the confluence with Sangre de Cristo Creek	3.77		•			•				•	•	
23	Mainstem of Sangre de Cristo Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to State Hwy 159	133.70	•				•					•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
24	Mainstem of Sangre de Cristo Creek from State Highway 159 to inlet of Smith Reservoir	5.52		•			•					•	
25	Mainstem of Trinchera Creek including all tributaries, wetlands, lakes and reservoirs, from source to the outlet of Mountain Home Reservoir	33.80	•				•				•	•	
26	Mainstem of Trinchera Creek from the outlet of Mountain Home Reservoir to the Rio Grande	21.50		•			•					•	
27	Smith Reservoir	[6]	•				•				•	•	
28	Mainstem of Rito Seco, including all tributaries, wetlands, lakes and reservoirs, from the source to the outlet of Salzar Reservoir	12.20	•				•				•	•	
29	Mainstem of Rito Seco from the outlet of Salzar Reservoir to the confluence with Culebra Creek	1.86		•			•				•	•	
30 +L	Mainstem of Culebra Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to State Highway 159 except segments 28 and 29, mainstem and all tributaries of Costilla Creek in Colorado to 7 Road	159.50[7]	•				•				•	•	
Subtotal Segments		30	19	4	1	3	29	0	1	0	17	29	6
Subtotal Miles [8]		2,443.56	1,765.11	32.65	65.40	27.70	1,902.66	0	540.90	0	1,616.55	2,442.01	746.20
Alamosa River / La Jara Creek / Conejos Creek Basin (CORGAL)													
1	All tributaries to the Rio Grande, including all wetlands, lakes and reservoirs which are within the South San Juan Wilderness area	135.22	•				•				•	•	OW
2	Mainstem of the Alamosa River, including all tributaries, wetlands, lakes and reservoirs from source to immediately above the confluence with Alum Creek	26.65	•				•				•	•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
3a	All tributaries to the Rio Grande, including all wetlands, lakes and reservoirs which are within the South San Juan Wilderness area	3.06		•			•					•	UP
3b	All tributaries to the Rio Grande, including all wetlands, lakes and reservoirs which are within the South San Juan Wilderness area	4.80	•				•					•	UP
3c	Mainstem of the Alamosa River from immediately below the confluence with Fern Creek to immediately below the confluence with Ranger Creek	5.48	•				•					•	UP
3d	Mainstem of the Alamosa River from immediately below the confluence with Ranger Creek to the inlet of Terrace Reservoir	5.08	•				•					•	
4a	Mainstem of Alum Creek, Bitter Creek, Burnt Creek and Iron Creek from their sources to their confluences with the Alamosa River	10.80					•					•	UP
4b	Mainstem of Iron Creek from its source to immediately above the confluence with South Mountain Creek	2.92	•				•					•	
5	Mainstem of Wightman Fork from source to west line of S30 T37N R4E, including all tributaries and wetlands	2.80	•				•					•	
6	Mainstem Wightman Fork from the west line of S30, T37N, R4E to the confluence with the Alamosa River	5.76					•					•	UP
7	Jasper Creek, including all tributaries and wetlands, from the source to the confluence with Alamosa River	3.17		•			•					•	UP
8	Terrace Reservoir	[9]		•			•					•	UP
9	Mainstem of Alamosa River from the outlet of Terrace Reservoir to Colorado Hwy 15 (Gunbarrel Road)	10.80	•				•					•	UP

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
10	Mainstem of the Alamosa River from Colorado Highway 15 (Gunbarrel Road) to its point of final diversion	27.30		•			•					•	UP
11 +L	Mainstem of La Jara Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to immediately above the confluence with Hot Creek	158.30[10]	•				•					•	
12	Mainstem of La Jara Creek from immediately above the confluence with Hot Creek to the confluence with the Rio Grande	36.80				•	•					•	
13	Mainstem Hot Creek from source to confluence with La Jara Creek	14.00	•				•				•	•	
14 +L	Mainstem of Conejos River including all tributaries, wetlands, lakes and reservoirs, from source to immediately above the confluence with Fox Creek	139.50[11]	•				•				•	•	
15	Mainstem of Conejos River from a point immediately above the confluence with Fox Creek to the confluence with the San Antonio River	35.70		•			•				•	•	
16	Mainstem of the Conejos River from the confluence with the San Antonio River to the confluence with the Rio Grande	17.80				•	•					•	UP
17	Mainstem of Rio de Los Pinos, including all tributaries, wetlands, lakes and reservoirs, from the source to the New Mexico border, except for specific listings in segment 1. Mainstem of the Rio San Antonio from the New Mexico border to Highway 285	50.30	•				•				•	•	
18	Mainstem of the Rio San Antonio from Highway 285 to the confluence with the Conejos River	17.40				•	•					•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
19	Mainstem of Rio Chama, including all tributaries, wetlands, lakes and reservoirs, from the source to the Colorado New Mexico border	68.60	•				•				•	•	
20	All tributaries to the Rio Grande, including wetlands, lakes and reservoirs, which are within the Rio Grande National Forest	143.90	•				•				•	•	
21	All tributaries to the Alamosa River, La Jara Creek, and the Conejos River from the confluence with Fox Creek to the Rio Grande	303.90							•			•	UP
22	All wetlands, lakes, and reservoirs tributary to the Rio Grande	[12]				•	•					•	UP
Subtotal Segments		26	14	5	0	4	25	0	1	0	8	26	13
Subtotal Miles [8]		1,230.04	768.35	69.23	0	72.00	926.14	0	303.90	0	613.87	1,230.04	528.09
Closed Basin / San Luis Valley Basin (CORGCB)													
1	All tributaries to the Closed Basin, including all wetlands, lakes and reservoirs, which are within the La Garita Wilderness Area	28.00	•				•				•	•	OW
2	Mainstem of La Garita Creek, including all tributaries, wetlands, lakes, and reservoirs, from the source to 38 Road; mainstem of Carnero Creek, including all tributaries, wetlands, lakes, and reservoirs, from the source to 42 Road	166.20	•				•				•	•	
3	All tributaries to the Closed Basin	702.40				•	•				•	•	UP
4	Mainstem of San Luis Creek, including all tributaries, wetlands, lakes and reservoirs, from the source to a point immediately below the confluence with Piney Creek	168.30	•				•				•	•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
5	Mainstem of San Luis Creek from a point immediately below the confluence with Piney Creek to the inlet to San Luis Lake	45.10		•			•					•	
6	San Luis Lake	[13]	•				•					•	
7	Head Lake	[14]		•			•					•	
8	Mainstem of Kerber Creek, including all wetlands, tributaries, lakes, and reservoirs, from the source to immediately above the Cocomongo Mill site. Mainstem of Squirrel Creek from the source to immediately above Bear Creek, Brewery Creek from source to Kerber Creek, and the mainstem of Elkhorn Gulch	18.40	•				•					•	
9a	Mainstem, tributaries, and wetlands of Kerber Creek, except for specific listings in segment 8, from the source to immediately above the confluence of Brewery Creek	60.20					•				•	•	UP
9b	Mainstem of Kerber Creek from the confluence with Brewery Creek to the confluence with San Luis Creek	16.10	•				•				•	•	UP
10	Sand Creek mainstem and all tributaries and wetlands, from the source to the mouth. Medano Creek mainstem and all tributaries and wetlands, from the source to the mouth	81.60	•				•				•	•	OW
11	All tributaries to the Closed Basin within the Rio Grande National Forest boundaries	187.50	•				•				•	•	
12	Mainstem of Saguache Creek from the boundary of the La Garita Wilderness Area to Hwy 285; all tributaries to Saguache Creek, including all wetlands, lakes, and reservoirs, from the source to a point immediately below the confluence with Ford Creek	430.19	•				•				•	•	

Stream Segment[1]	Segment Description[1]	Stream Miles[1]	Aquatic Life[1]				Recreation[1]				Water Supply[1]	Agriculture[1]	Designation[1]
			Cold 1	Cold 2	Warm 1	Warm 2	Existing	Potential	Not Suitable	Undetermined			
13a	Mainstem of Saguache Creek from U.S. Hwy 285 to the confluence with San Luis Creek; mainstem of Russel Creek and mainstem of Cottonwood Creek downstream of the National Forest boundary	47.18				•	•				•	•	UP
13b	North Branch Saguache Creek and all tributaries	12.05				•	•				•	•	UP
14	All wetlands tributary to the Closed Basin	5.73				•	•					•	UP
Subtotal Segments		16	9	2	0	4	16	0	0	0	11	16	8
Subtotal Miles [8]		1,968.95	1,096.29	45.10	0	767.36	1,968.95	0	0	0	1,899.72	1,968.95	953.26
Total Segments		72	42	11	1	11	70	0	2	0	36	71	27
Total Miles [15]		5,642.55	3,629.75	146.98	65.40	867.06	4,797.75	0	844.80	0	4,130.14	5,641.00	2,227.55

[1] WQCC 2010a and 2010b; WQCD 2010a, appendices A and B.
[2] OW = Outstanding Waters
[3] Lake-only segment. Lake acres = 1,619.80.
[4] UP = Use Protected
[5] Assessed lakes in this segment total 348.30 acres.
[6] Lake-only segment. Lake acres = 673.00.
[7] Assessed lakes in this segment total 743.20 acres.
[8] Totals may not add due to rounding.
[9] Lake-only segment. Lake acres = 141.60.
[10] Assessed lakes in this segment total 927.52 acres.
[11] Assessed lakes in this segment total 416.10 acres.
[12] Lake-only segment. Lake acres = 20.43.
[13] Lake-only segment. Lake acres = 530.00.
[14] Lake-only segment. Lake acres = 203.60.
[15] All acres for lake-only segments and lakes that are part of a segment with streams or wetlands and that have been assessed have been individually footnoted and are not included in the segment miles.

Exhibit 10-20. in text

Exhibit 10-21. in text

Exhibit 10-22. in text

Exhibit 10-23. in text

Exhibit 10-24. in text

Exhibit 10-25. Rio Grande River Basin Wetlands

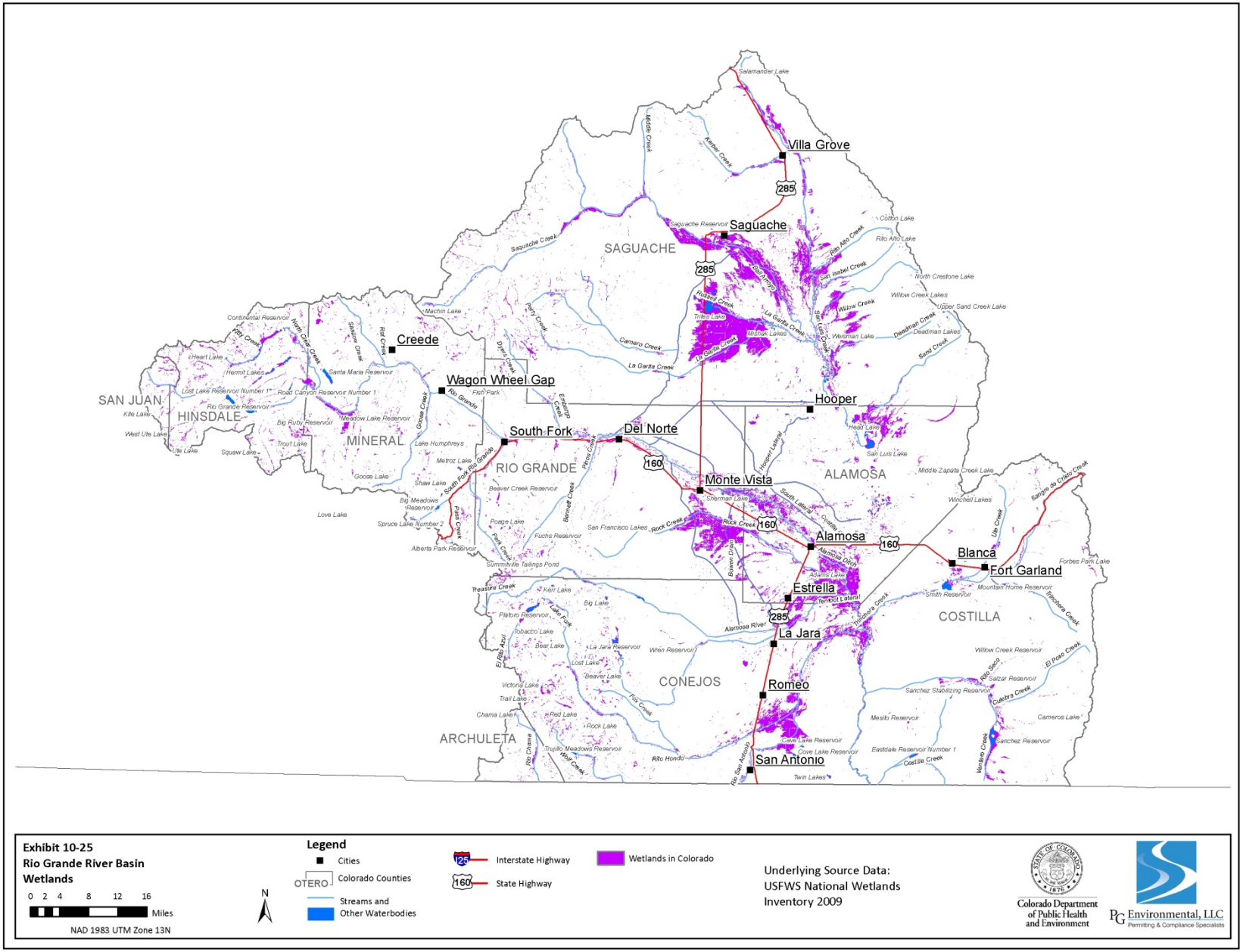
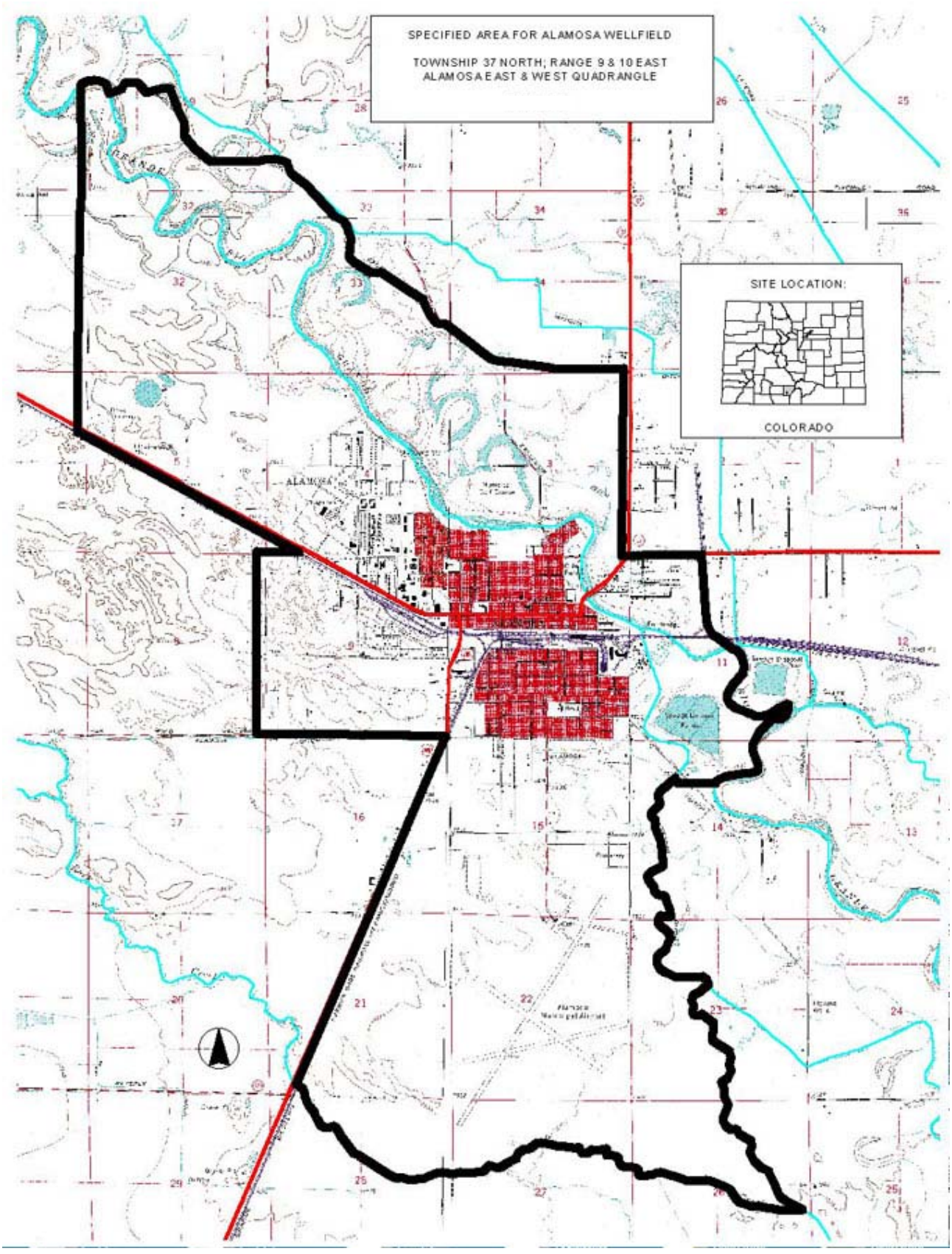


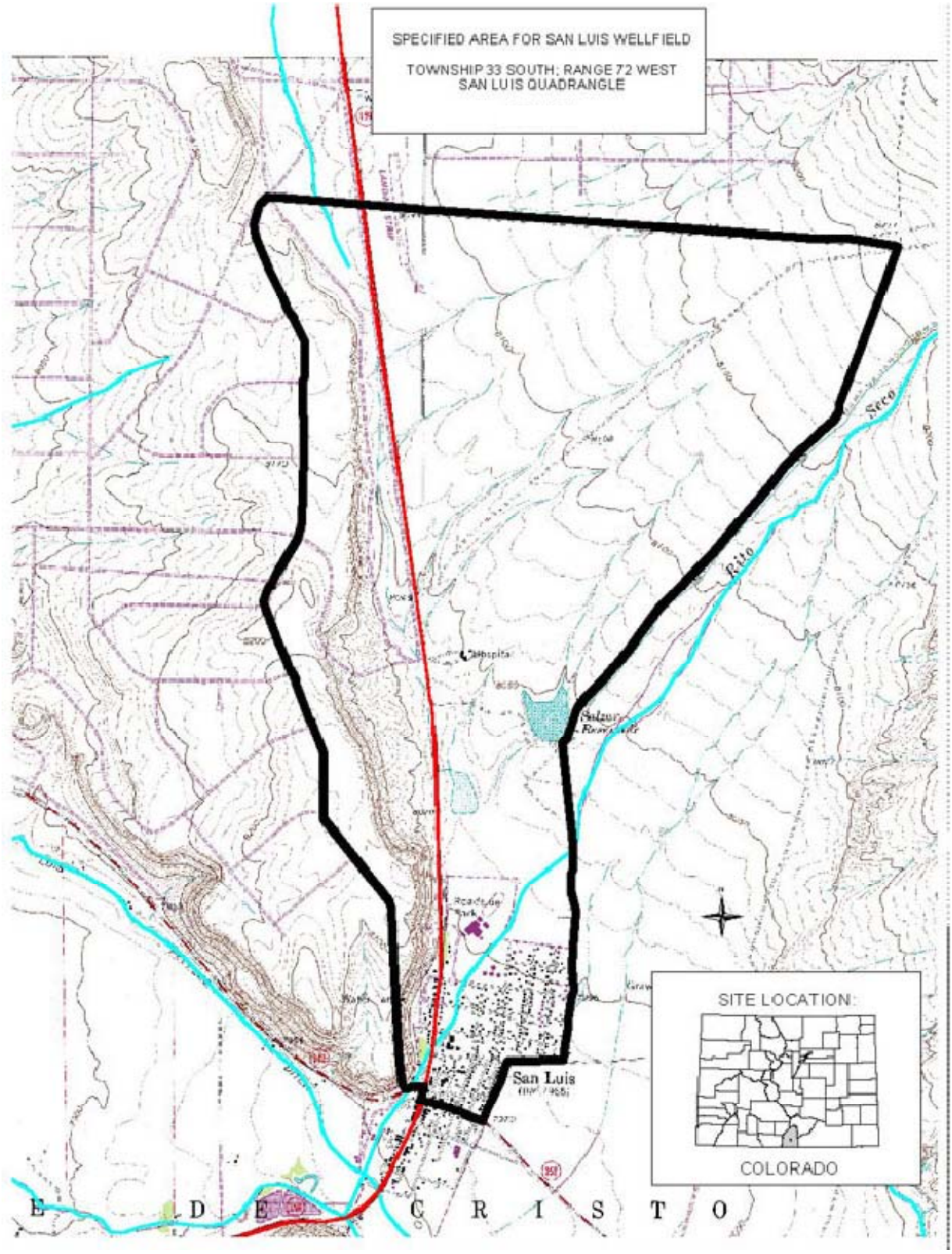
Exhibit 10-26. in text

Exhibit 10-27. Rio Grande River Basin; City of Alamosa Wellfield, Alamosa County



Source: WQCC 2006.

Exhibit 10-28. Rio Grande River Basin; San Luis Water and Sanitation District Wellfield, Costilla County



Source: WQCC 2006.

Exhibit 10-29. Rio Grande River Basin Impaired Stream Segments

Number of Impaired Segments	Total Stream Miles Impaired	Use Categories Not Being Attained *(percent of classified uses by category basin-wide)*						Parameters (number of impacted segments)
		Aquatic Life Cold Water (n=53)	Aquatic Life Warm Water (n=12)	Existing Recreation (n=70)	Not Suitable for Recreation (n=2)	Water Supply (n=36)	Agriculture (n=71)	
Basin-wide *(n= 72 segments and 5,642.55 stream miles)*								
13	188.21	10 *(19%)*	0 *(0%)*	2 *(3%)*	0 *(0%)*	1 *(3%)*	1 *(1%)*	Copper (2) Iron (2) pH (2) Cadmium (1) Dissolved Oxygen (1) *E. coli* (1) Zinc (1)
Impaired Segments and Miles as Percent of Total Segments and Stream Miles in Basin								
18%	*3%*							

Source: WQCC 2010b; WQCD 2010a, appendices A to D.

Exhibit 10-30. Rio Grande River Basin Impaired Lake/Reservoir Segments

Number of Impaired Lakes	Total Acres Impaired	Use Categories Not Being Attained *(percent of classified uses by category basin-wide)*						Parameters (number of impacted lakes)
		Aquatic Life Cold Water (n=9)	Aquatic Life Warm Water (n=1)	Existing Recreation (n=10)	Not Suitable for Recreation (n=0)	Water Supply (n=4)	Agriculture (n=10)	
Basin-wide *(n= 10 segments and 5,623.55 acres)*								
4	2,127.30	4 *(44%)*	0 *(0%)*	0 *(0%)*	0 *(0%)*	0 *(0%)*	0 *(0%)*	Dissolved Oxygen (2) Iron (2) Ammonia (1)
Impaired Lakes and Acres as Percent of Total Segments and Lake Acres in Basin								
40%	*38%*							

Source: WQCC 2010b; WQCD 2010a, appendices A to D.

Exhibit 10-31. Rio Grande River Basin Impaired Waterbody Segments

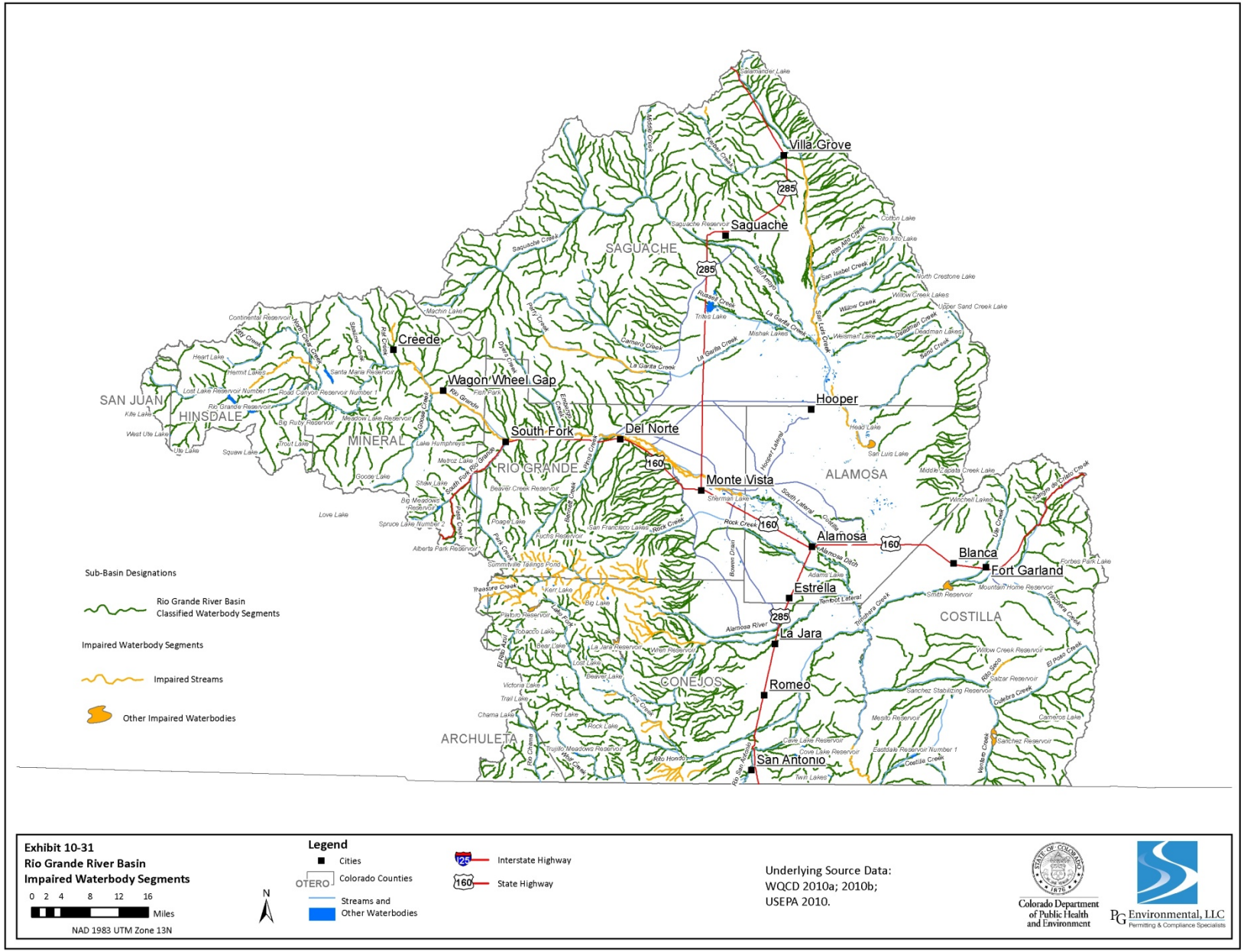


Exhibit 10-32. Rio Grande River Basin Impairments by Stream Segment[1]

Stream Segment	Stream Miles	Were All Uses Attained in 2010?	Segment Portion	Portion Miles[2]	Use(s) Not Attained[3]								Desig	Parameter(s) Causing Impairments[4]							Source(s)[5]	TMDL Development Status[6]		
					C1	C2	W1	W2	RE	RNS	WS	AG		Cu	pH	E. coli	Zn	Fe	Cd	DO		L	M	H
Rio Grande River Basin (CORGRG)																								
4	87.32	N	Del Norte to county line	43.80	•									•							M			•
7	11.80	N	Nelson Creek, West Willow Creek below Nelson Creek to East Willow Creek	7.80					•				UP[7]		•						M			•
28	12.20	N	Upper Rito Seco below Battle Mtn	12.20					•							•					UK			•
Subtotal Segments Impaired			3																					
Subtotal Stream Miles Impaired			63.80																					
Alamosa River / La Jara Creek / Conejos Creek Basin (CORGAL)																								
2	26.65	N	Tribs to lower Iron Ck	2.09	•									•	•		•	•			UK			•
3a	3.06	N	Alamosa River - Alum Creek to Wightman Fork	3.06		•							UP											
3b	4.80	N	Above Jasper Creek	4.80		•							UP						•		M			•
3c	5.48	N	Alamosa River - Fern Creek to Terrace Reservoir	5.48	•								UP											
3d	5.08	N	all	5.08	•															•	N			•
5	2.80	N	Wightman Fork, upper	2.80	•																			
9	10.80	N	Alamosa River - Terrace Res. to CO Hwy 15	10.80	•							•	UP											
13	14.00	N	all	14.00	•													•			N			•

Stream Segment	Stream Miles	Were All Uses Attained in 2010?	Segment Portion	Portion Miles[2]	Use(s) Not Attained[3]								Desig	Parameter(s) Causing Impairments[4]							Source(s)[5]	TMDL Development Status[6]		
					C1	C2	W1	W2	RE	RNS	WS	AG		Cu	pH	E. coli	Zn	Fe	Cd	DO		L	M	H
Subtotal Segments Impaired			8																					
Subtotal Stream Miles Impaired			48.11																					
Closed Basin / San Luis Valley Basin (CORGCB)																								
9a	60.20	N	Kerber Creek - source to above Brewery Creek	60.20							•		UP											
9b	16.10	N	Kerber Creek - Brewery Creek to San Luis Creek	16.10	•								UP											
Subtotal Segments Impaired			2																					
Subtotal Stream Miles Impaired			76.30																					
Total Segments Impaired			**13**																					
Total Stream Miles Impaired			**188.21**																					

[1] The table includes all segments that are not attaining one or more of their classified uses as presented in appendix A of the 2010 Integrated Report. This can include segments for which a TMDL has been developed (which means the segment is not listed on the 2010 CWA section 303(d) list (Regulation No. 93) (WQCC 2010b; WQCD 2010a). For these segments it likely means that the full effects of TMDL implementation are yet to be realized and the segment has yet to attain its classified uses. The cells for "parameters causing impairments," "source(s)," and "TMDL development status" are left blank in these cases.

[2] Totals may not add due to rounding.

[3] Key to Classified Uses: C1 = Aquatic Life Cold Water 1, C2 = Aquatic Life Cold Water 2, W1 = Aquatic Life Warm Water 1, W2 = Aquatic Life Warm Water 2, RE = Recreation Existing, RNS = Recreation Not Suitable, WS = Water Supply, and AG = Agriculture.

[4] Key to Parameters: Cu = copper, *E. coli* = *Escherichia coli*, Zn = zinc, Fe = iron, Cd = cadmium, and DO = dissolved oxygen.

[5] Key to Sources: M = mining, UK = unknown, and N= natural processes.

[6] Key to TMDL Development Status: L = low priority, M = medium priority and H = high priority.

[7] UP = Use Protected.

Source: WQCC 2010b; WQCD 2010a, appendices A to D.

Exhibit 10-33. Rio Grande River Basin Impairments by Lake/Reservoir Segment[1]

Lake Segment	Lake Acres[1]	Were All Uses Attained in 2010?	Segment Portion	Portion Acres[2]	Use(s) Not Attained[3]								Desig	Parameter(s) Causing Impairments[4]			Source[5]	TMDL Development Status[6]		
					C1	C2	W1	W2	RE	RNS	WS	AG		DO	NH_3	Fe		L	M	H
Rio Grande River Basin (CORGRG)																				
30L [1,4]	743.20	N	Sanchez Reservoir	743.20	●									●			UK			●
Alamosa River / La Jara Creek / Conejos Creek Basin (CORGAL)																				
8	141.60	N	Terrace Reservoir	141.60		●										●	M, N		●	
11L[1,4]	927.52	N	La Jara Reservoir	712.50	●									●			UK			●
Closed Basin / San Luis Valley Basin (CORGCB)																				
6	530.00	N	San Luis Lake	530.00	●										●	●	UK			●
Total Segments Impaired			**4**																	
Total Lake Acres Impaired			**2,127.30**																	

[1] The table includes all segments that are not attaining one or more of their classified uses as presented in appendix B of the 2010 Integrated Report. This can include segments for which a TMDL has been developed (which means the segment is not listed on the 2010 CWA section 303(d) list (Regulation No. 93) (WQCC 2010b; WQCD 2010a). For these segments it likely means that the full effects of TMDL implementation are yet to be realized and the segment has yet to attain its classified uses. The cells for "parameters causing impairments," "source(s)," and "TMDL development status" are left blank in these cases.

[2] Totals may not add due to rounding.

[3] Key to Classified Uses: C1 = Aquatic Life Cold Water 1, C2 = Aquatic Life Cold Water 2, W1 = Aquatic Life Warm Water 1, W2 = Aquatic Life Warm Water 2, RE = Recreation Existing, RNS = Recreation Not Suitable, WS = Water Supply, and AG = Agriculture.

[4] Key to Parameters: DO = dissolved oxygen, NH_3 = ammonia, and Fe = iron.

[5] Key to Sources: UK = unknown, M= mining, and N = natural processes.

[6] Key to TMDL Development Status: L = low priority, M = medium priority, and H = high priority.

Source: WQCC 2010b; WQCD 2010a, appendices A to D.

Exhibit 10-34. Rio Grande River Basin Waterbody Segments Listed for Further Monitoring and Evaluation

Segment	Segment Portion(s)	Parameters of Concern and Source(s) if Known									
		pH	Iron	Selenium	Copper	Cadmium	Manganese	Zinc	Dissolved Oxygen	Lead	Sediment
Rio Grande River Basin (CORGRG)											
2	South Clear Creek		•								
5	Nelson Creek	•			•	•	•	•		•	
9	Beaver Creek Reservoir								•		
13	All										•
27	Smith Reservoir	•									
Alamosa River / La Jara Creek / Conejos Creek Basin (CORGAL)											
2	All, except for the tributaries to Lower Iron Creek	•	•								
3b	Above Jasper Creek			•							
11	La Jara Reservoir	•		•	•			•			
14	Platoro Reservoir	•									
20	All	•	•		•	•	•	•			
Closed Basin / San Luis Valley Basin (CORGCB)											
2	La Garita Creek		•								
5	Lower San Luis Creek								•		
8	Squirrel Creek		•		•	•		•			
Total Segments with One or More Portions on M&E List	13	6	5	2	4	3	2	4	2	1	1

Segment	Segment Portion(s)	Parameters of Concern and Source(s) if Known									
		pH	Iron	Selenium	Copper	Cadmium	Manganese	Zinc	Dissolved Oxygen	Lead	Sediment
Total as Percent of All Segments in Sub-basin, n=72	*18%*	*8%*	*7%*	*3%*	*6%*	*4%*	*3%*	*6%*	*3%*	*1%*	*1%*

Source: WQCC 2010b; WQCD 2010a, appendix D.

Exhibit 10-35. in text

Exhibit 10-36. in text

Exhibit 10-37. in text

Exhibit 10-38. Rio Grande River Basin Completed and Approved TMDLs

Segment No. and Portion Description	Pollutant(s) Addressed (TMDL Date)	Source(s)	Watershed Description	Current and Possible Future Strategies Identified in TMDL Reports[1]
Alamosa River / La Jara Creek / Conejos Creek Basin (CORGAL)				
CORGAL03a Alamosa River, Alum Creek to Wightman Fork	Aluminum Copper Lead Zinc	The TMDL is archived.[2]		
CORGAL03b Alamosa River, Wightman Fork to Fern Creek	pH Aluminum Copper Zinc	The TMDL is archived.[2]		
CORGAL03c Alamosa River, Fern Creek to Ranger Creek	pH Aluminum Copper Zinc	The TMDL is archived.[2]		
CORGAL03d Alamosa River, Ranger Creek to inlet of Terrace Reservoir	pH Copper Zinc	The TMDL is archived.[2]		
CORGAL05 Wightman Fork above Summitville	pH	The TMDL is archived.[2]		
CORGAL08 Terrace Reservoir	Copper	The TMDL is archived.[2]		
CORGAL09 Alamosa River, outlet of Terrace Reservoir to Highway 15	Copper	The TMDL is archived.[2]		
Rio Grande River Sub-Basin				
CORGRG04 Rio Grande River, Willow Creek to Alamosa County Line Source: WQCD 2008c	Cadmium Zinc (2008)	Historic mining activities. The sources of dissolved cadmium and zinc are predominately from historic mining features in the Willow Creek drainage, and a lesser source from groundwater springs above Wagon Wheel Gap.	Rio Grande Segment 4 is located in Mineral and Rio Grande Counties, Colorado. This 83.3 mile segment is defined as the mainstem of the Rio Grande from a point immediately above the confluence with Willow Creek to the Rio Grande/Alamosa County line. The upper 30 miles of the segment are impaired and are listed on the 2008 303(d) list for dissolved cadmium and dissolved zinc. The Willow Creek Watershed is located in Mineral County, Colorado in the eastern part of the San Juan Mountains in southwestern Colorado. Willow Creek and its tributaries, East Willow Creek and West Willow Creek, drain the Willow Creek Watershed, an area of 39.8 square miles. The primary community in the watershed is the town of Creede, which is the county seat for Mineral County. Creede's elevation is 8,852 feet above mean sea level. Currently, the stream segment that defines the Willow Creek drainage, Rio Grande segment 7 (CORGRG07), has	**Previous and Current Activities:** The TMDL reports that between 1999 and 2003, a number of assessment and restoration activities were undertaken in the watershed, including the following: • **Watershed characterization efforts** in partnership with the U.S. Environmental Protection Agency (EPA), U.S. Forest Service, Natural Resources Conservation Service, Colorado Division of Minerals and Geology, and WQCD. The characterization efforts undertaken included (1) identifying sources of heavy metals, (2) characterizing transport of heavy metals to surface waters, (3) quantifying heavy metals loading to Willow Creek and the Rio Grande River, (4) characterizing mine waste materials, (5) bioassessment of aquatic resources, (6) characterizing hydrological conditions in underground mines, and (7) identifying land revitalization opportunities. • **Stabilization Plan for Commodore Dump.** The state of Colorado completed a preliminary flood control analysis and a conceptual design for the site. Willow Creek runs through the dump.

Segment No. and Portion Description	Pollutant(s) Addressed (TMDL Date)	Source(s)	Watershed Description	Current and Possible Future Strategies Identified in TMDL Reports[1]
			been assigned "ambient conditions" as the applicable water quality standards. However, in order to attain standards in the mainstem of the Rio Grande below Willow Creek, metal loading via the Willow Creek drainage must be addressed. Therefore, the scope of this TMDL includes the Willow Creek drainage and Rio Grande Segment 4.	• **Sampling of Mine Waste Dumps.** The WQCD wrote a sampling and analysis plan for 11 mine waste dumps in the Creede District, some of which are large. The WCRC and contractors performed sampling using CWA section 319 funds. The sampling results revealed some contaminated piles for clean-up. • **Re-contour of Last Chance Waste Pile.** The Western Colorado Research Center (WCRC), Colorado Division of Mining Reclamation and Safety (CDMRS), and U.S. Forest Service re-contoured portions of the Last Chance waste pile to reduce snow accumulation and subsequent leaching during spring snowmelt. They also installed a concrete catchment barrier at the toe of the waste pile to prevent sloughing of eroded waste material into the creek. The project was undertaken with a CWA section 319 grant. • **Stabilization of Amethyst Waste Pile.** Under the above project, the WCRC, CDMRS, and U.S. Forest Service also pulled back waste from the creek, armored the toe of the waste piles against high flow events, deepened the creek channel, and constructed a new grizzly at the portal crossing on the creek above the waste pile. • **Superfund Removal Action.** EPA Region 8 approved a Superfund removal action on Willow Creek. • **Placement of Nelson Tunnel/Commodore Waste Rock Site on Superfund National Priorities List.** At the time of TMDL development, EPA was considering placing the tunnel on the National Priorities List. **Future Activities:** The WQCD recommended the following additional implementation activities: • Monitoring of Willow Creek and its tributaries in addition to the Rio Grande above and below the confluence of Willow Creek • More in-depth characterization of groundwater sources • Additional remediation in order for aquatic life use-based standards to be attained below the Willow Creek mixing zone.
Closed Basin / San Luis Valley Basin (CORGCB)				
CORGCB09a and 09b Kerber Creek, from the source to San Luis Creek Source: WQCD 2008b	Cadmium Lead Silver Copper Zinc pH (2008)	Historic mining activities.	Kerber Creek to Brewery Creek (segment CORGCB09a) is not attaining its classified uses for cadmium. In 2008, a TMDL was approved covering this parameter in addition to lead, silver, and pH. The second segment is from Brewery Creek to San Luis Creek (segment CORGCB09b). It is not attaining its classified uses for copper. The TMDL approved in 2008 also covers this segment for copper, cadmium and zinc. Both TMDLs indicate that legacy mining features and draining adits in the Bonanza Mining District are the main sources of the cadmium and copper exceedances. The area was actively mined from 1880 to 1969, and	**Previous and Current Activities:** WQCD identifies a number of restoration planning, and implementation activities that have been performed, including the following: • **Sampling and Analysis.** Sampling and analysis was undertaken to evaluate mining-related impacts on surface water, groundwater, and soils; to evaluate contaminant pathways and mine hydrology; and to perform geologic mapping. • **Biological Assessments.** Assessments were performed to identify stream and riparian habitat impacts. • **Prioritization of Remediation Activities.** The overall site was assessed to prioritize strategies for addressing impacts from areas of concern.

Segment No. and Portion Description	Pollutant(s) Addressed (TMDL Date)	Source(s)	Watershed Description	Current and Possible Future Strategies Identified in TMDL Reports[1]
			environmental problems arising from the historical mining activities include continuous discharge of high metal content drainage from one of the mine adits, erosion of high metal content mining wastes into Kerber Creek, and stormwater runoff. As a result, fish and normal aquatic life have disappeared as far as 10 miles downstream of the Bonanza Mining District. WQCD reports in the TMDL that the previous and current activities listed to the right were implemented generally between 1994 and 2003 and that by 2008 Kerby Creek had progressed from supporting virtually no aquatic life over a 10-mile stretch to primary achievement of water quality goals. Fish are now present in Kerber Creek below its confluence with Brewer Creek, as well as other areas in the former mining district.	• **On-site Collection of Tailings.** Tailings and other metal-bearing and acid-generating mine wastes were consolidated and capped in an on-site repository. • **In-Place Closure of Tailings.** In-place closure was performed in areas of difficult access along Kerber Creek. • **Design and Construction of Structural Components to Collect Mine Waste.** A concrete plug was designed and constructed 2,200 feet inside the primary mine drainage feature at the site, the Rawley 12 adit. The strategy included the design and construction of a pond for surge control and passive water treatment during the mine adit rehabilitation and plugging process. It also included installation of a drying bed to stabilize sludge removed from the surge pond. • **Development of a Local Limestone Quarry.** The quarry was developed to supply limestone for repository capping, repository and stream bank erosion protection (boulders and riprap), neutralization of certain waste materials, and reclamation soil amendments. • **Implementation of Mine Infiltration and Stormwater Controls**. • **Hydrological Modifications.** These efforts included re-establishment of natural meandering channel patterns; channel stabilization with rock barbs, vortex weirs, root wads, and willow/alder plantings; and lining of channels to preclude infiltration into mine workings. • **Other Waste Removal and Consolidation.** These activities included stream channel restoration and stabilization, riparian zone enhancement, installation of sediment control structures, and creation of stream diversions. • **Reclamation of Upland and Riparian Areas.** • **Road and Bridge Improvements.** These activities were undertaken to facilitate response actions and public safety. • **Monitoring Effectiveness of Response Actions.** **Future Activities:** The WQCD identified the following additional implementation actions in the TMDL: • The U.S. Forest Service and the WQCD should continue to control orphan mine sites in the watershed. • The WQCD and its partners should continue to monitor water quality to assess recovery.
Sanchez Reservoir Source: USEPA 2008	Mercury (2008)	Atmospheric deposition and generalized geologic background watershed loading	A private irrigation company, Costilla Estates Development Company, constructed Sanchez Reservoir approximately 6 miles south of San Luis in 1912 in order to supply irrigation water. In 1956, ownership of the reservoir was transferred to the Sanchez Ditch and Reservoir Company. The Colorado Division of Wildlife (CDOW) began fishery management in 1978, although fish stocking records exist from 1952. With a drainage area of 226.6 square miles,	**Previous and Current Activities:** EPA noted at the time the TMDL was developed that the preferred option under the Clean Air Mercury Rule (CAMR Option 1) would result in only a 2.2 percent reduction in mercury deposition rates to the Sanchez watershed, far below the needed reduction of 73 percent (USEPA 2008) **Future Activities:**

Segment No. and Portion Description	Pollutant(s) Addressed (TMDL Date)	Source(s)	Watershed Description	Current and Possible Future Strategies Identified in TMDL Reports[1]
			the reservoir receives flow from Culebra Creek, Vallejos Creek, and San Francisco Creek via the Sanchez canal as well as directly from five intermittent streams. The majority of the watershed is contained within Costilla County, CO, with a small portion in Taos County, NM. The reservoir has a surface area of 3,145 acres and a storage capacity of 103,000 acre feet at 8,300 feet above mean sea level. The reservoir rarely approaches full storage however, and typically contains about 40,000 acre-feet with an area of about 1,600 acres.	The WQCD suggests some general areas for mitigating mercury, which include the following: • Promote strategies that reduce the regional and global transport of mercury through heads of state agencies, the state Governor, federal agency executives, state and national professional associations, industrial trade associations, and other entities. • Reduce erosion and sedimentation in the watershed to yield a net benefit to the management of mercury in the reservoir. The transport of mercury from the watershed is associated with the movement of sediment. The Sanchez Canal was identified as a potential starting point because recent sampling suggests that the upper portion of the canal is a net source of mercury load. The specific strategy would be to place the spoils, from the annual dredging of the canal, down-gradient so that sediment fines and mercury do not re-contaminate the canal. • Conduct public education and other activities to reduce illicit dumping of household waste and management of potential mercury sources from automobile junkyards in the watershed. The WQCD acknowledges that the likely net reduction in mercury in the watershed and reservoir would be small.

[1] The strategies indicated are those noted in the TMDL reports as those taking place at the time the TMDL was developed and those projected for the future. The exhibit does not report on the current status of any of these activities as this information was not readily available for the first SWQMP.

[2] Archived TMDLs may be obtained by sending an email to comments.wqcd@state.co.us. Due to time and resource constraints, these TMDLs were not accessed and reviewed for the first SWQMP.

Exhibit 10-39. in text

Exhibit 10-40. in text

Exhibit 10-41. Rio Grande River Basin Point Source Projects and Scheduled Improvements[1]

County	Permit Number	Permit Type, Expiration Date & Status[2]	Facility or Authority Project Name Address (if available)	Source Info[3]	IUP[4] No.	Applicable IUP Appendices[5]	Project Type[6]	Project Description	Estimated Cost	Population to Benefit from Project
Alamosa	G650088	NPDES Gen. 8/16/2007 Expired	Alamosa, City of PO Box 419 Alamosa, CO 81101	Envirofacts	NA	NA	NA		NA	NA
	-		Alamosa County	CWNS and IUP	030004W (Mosca ID)	B	WWT	New WWTP[7]; Improvement/ Expansion of WWTP; Connect to Existing Facility; Collection System and/or Interceptor Construction or Rehabilitation; Eliminate ISDS[8]	$729,000	50
	G650088	NPDES Gen. 8/16/2007 Expired	East Alamosa Water and Sanitation District	CWNS	NA	NA	NA		NA	NA
	0033189			IUP	050015W	B	WWT	Collection System and/or Interceptor Construction or Rehabilitation	$383,168	1,450
	-		Town of Hooper	CWNS and IUP	080002W	B	WWT	New WWTP; Eliminate ISDS	$1,000,000	125
	0044458	NPDES 1/31/2013 Effective	Regional Wastewater Treatment Facility 1124 Old Airport Road Alamosa, CO 81101	Envirofacts	NA	NA	NA		NA	NA
Total for Alamosa County									**$2,112,168**	
Conejos	0040975	NPDES 11/30/2012 Effective	Antonito, Town of 5376 County Road 14 Antonito, CO 81120	Envirofacts	NA	NA	NA		NA	NA
	0020150	NPDES 10/31/2009 Effective	La Jara, Town of 19251 County Road 17 La Jara, CO 81140	Envirofacts, CWNS, and IUP	030150W	B	WWT	Collection System and/or Interceptor Construction or Rehabilitation; Improvement/ Expansion of WWTP	$2,050,000	869
					080026W	B and C	StW	Stormwater Project	$500,000	854
					090014W	B	WWT	Improvement/Expansion of WWTP; Collection System and/or Interceptor Construction or Rehabilitation	$525,000	1,025
	0042935	NPDES 7/31/2008 Admin. Continued	Manassa Wastewater Treatment Plant Approx 1/4 Mi. Northeast of Town Manassa, CO 81141	Envirofacts, CWNS, and IUP	030176W	B	WWT	Improvement/Expansion of WWTP	$500,000	1,042

County	Permit Number	Permit Type, Expiration Date & Status[2]	Facility or Authority Project Name Address (if available)	Source Info[3]	IUP[4] No.	Applicable IUP Appendices[5]	Project Type[6]	Project Description	Estimated Cost	Population to Benefit from Project
Conejos	0038954	NPDES 1/31/2008 Expired	Platoro Joint Venture South Edge of Town Platoro, CO	Envirofacts	NA	NA	NA		NA	NA
	G581000		Romeo Lagoons	CWNS	NA	NA	NA		NA	NA
	G581017		Romeo, Town of	IUP	030235W	B	WWT	Improvement/Expansion of WWTP; New or Improvements to Biosolids Handling Facility; Collection System and/or Interceptor Construction or Rehabilitation	$599,000	430
Total for Conejos County									**$4,174,000**	
Costilla	-		Blanca, Town of	CWNS and IUP	050006W	B	WWT	Collection System and/or Interceptor Construction or Rehabilitation	$600,000	402
	0036528	NPDES 8/31/2010 Effective	Costilla County Water and Sanitation District 11037 County Road L.5 San Luis, CO 81152	Envirofacts and IUP	090115W	B	WWT	Improvement/Expansion of WWTP; Collection System and/or Interceptor Construction or Rehabilitation	$500,000	1,000
	G650149	NPDES Gen. 10/19/2012 Effective	Fort Garland Water and Sanitation District 1/4 Section 21, T30S, R72W Fort Garland, CO 81133	Envirofacts	NA	NA	NA		NA	NA
	0045675	NPDES 9/30/2012 Effective	San Luis Gold 3 ½ miles north of town on Rito Sico Rd. San Luis, CO 81152	Envirofacts	NA	NA	NA		NA	NA
	G583003	NPDES Gen. 4/30/2004 Admin. Continued	San Luis Lagoons	CWNS and IUP	030242W	B	WWT	Improvement/Expansion of WWTP; Collection System and/or Interceptor Construction or Rehabilitation	$300,000	739
Total for Costilla County									**$1,400,000**	
Mineral	0040533	NPDES 1/31/2011 Effective	Creede, Town of 2223 North Main Street Creede, CO 81130	Envirofacts and CWNS	NA	NA	NA		NA	NA
Total for Mineral County									**$0.00**	
Rio Grande	0020281	NPDES 12/31/2011 Effective	Del Norte, Town of 1 mile east of town on US Hwy 160 Del Norte, CO 81132	CWNS, Envirofacts, and IUP	050001W	B	WWT	Improvement/Expansion of WWTP	$400,000	1,705

County	Permit Number	Permit Type, Expiration Date & Status[2]	Facility or Authority Project Name Address (if available)	Source Info[3]	IUP[4] No.	Applicable IUP Appendices[5]	Project Type[6]	Project Description	Estimated Cost	Population to Benefit from Project
Rio Grande	0023132	NPDES 4/30/2013 Effective	Henderson Lagoon Facility Approximately ¼ of a mile northeast of town Monte Vista, Co 81144	Envirofacts	NA	NA	NA		NA	NA
	0023132 (0036927)	NPDES 4/30/2013 Effective	Monte Vista Wastewater Treatment Plant	CWNS and IUP	030188W	B	WWT	Improvement/Expansion of WWTP; Consolidation of Wastewater Treatment Facilities; Collection System and/or Interceptor Construction or Rehabilitation	$9,500,000	4,700
					090059W	B	WWT	Improvement/Expansion of WWTP; Consolidation of Wastewater Treatment Facilities; Collection System and/or Interceptor Construction or Rehabilitation	$3,761,300	4,700
					090130W	B	StW	Stormwater Project	$12,808,000	4,700
	G588039	NPDES Gen. 5/31/2010 Effective	South Fork Water and Sanitation District	CWNS and IUP	070001W	B	WWT	Improvement/Expansion of WWTP; Green Infrastructure, Water Efficiency, Energy Efficiency	$1,250,000	1,000
	G650142	NPDES Gen. 10/19/2012 Effective	Veterans Center Wastewater Treatment Plant 201 North Road 3 East Monte Vista, Co 81144	Envirofacts	NA	NA	NA		NA	NA
	0036927	NPDES 4/30/2013 Effective			NA	NA	NA		NA	NA
Total for Rio Grande County									**$27,719,300**	
Saguache	0046914	NPDES 2/28/2010 Effective	Aspen Institute Wastewater Treatment Facility 70502 County Road T Crestone, CO 81131	Envirofacts	NA	NA	NA		NA	NA
	G581019 (G600424)	NPDES Gen. 4/30/2004 Admin. Continued	Center Sanitation District	CWNS and IUP	030044W	B	WWT	Improvement/Expansion of WWTP; New or Improvements to Biosolids Handling Facility	$250,000	2,500
	-		Crestone , Town of	CWNS and IUP	070023W	B	StW	Stormwater Project	$500,000	125
					090023W	B	SWP	Source Water Protection	$52,000	130

County	Permit Number	Permit Type, Expiration Date & Status[2]	Facility or Authority Project Name Address (if available)	Source Info[3]	IUP[4] No.	Applicable IUP Appendices[5]	Project Type[6]	Project Description	Estimated Cost	Population to Benefit from Project
Saguache	0043109	NPDES 7/31/2007 Expired	Mobile Home Estates Wastewater Treatment Facility 4 miles west of town Crestone, CO 81131	Envirofacts	NA	NA	NA		NA	NA
	-		Moffat Lagoon	CWNS and IUP	030187W	B	WWT	WWTP; Collection System and/or Interceptor Construction or Rehabilitation; Eliminate ISDS	$500,000	114
	G582007		Saguache Wastewater Treatment Plant	CWNS and IUP	030240W	B and C	WWT	Improvement/Expansion of WWTP; Collection System and/or Interceptor Construction or Rehabilitation	$1,834,000	578
	0047619				090057W	B and C	WWT	Green Infrastructure, Water Efficiency, Energy Efficiency	$25,000	578
Total for Saguache County									**$3,161,000**	

Total Estimated Cost All Projects	**$38,566,468**	

[1] Note that this table identifies only NPDES facilities contained in the publicly available data sources evaluated; therefore, it should not be considered an all-inclusive list.

[2] Admin. Continued = Administratively Continued (permit status). For a review of the various NPDES permit types issued by Colorado, consult chapter 3 of the SWQMP.

[3] Source information is USEPA 2010a and 2010d; WQCD 2010b .

[4] IUP = Intended Use Plan (WQCD 2010b).

[5] The 2010 IUP contains several appendices containing lists of projects. Appendix B is a list of the current construction needs for all identified eligible water quality projects (i.e., project eligibility list) including point source treatment, nonpoint source, stormwater, and source water assessment projects. Appendix C lists projects that are likely to be funded with Water Pollution Control Revolving Funds (WPCRF) loans in 2010. For those projects included in appendix A, the loan value is sometimes lower than the estimated cost. Only the estimated cost as shown in appendix B is shown in this table.

[6] Project type categories include the following: WWT = advanced or secondary wastewater treatment, including infiltration and inflow correction, NPS = nonpoint source control project, StW = stormwater project, and SWP = source water protection project.

[7] WWTP = wastewater treatment plant.

[8] ISDS = individual sewage disposal systems.

Exhibit 10-42. Rio Grande River Basin Summary of CWA Section 319 Nonpoint Source Grant Projects

Number of Projects	Fiscal Year	GRTS Project Number	Project Title	Functional Categories	Primary NPS Categories	Secondary NPS Categories	Total Budget	CWA Section 319(h) Portion *(percent of total budget)*	Other Funding
4	2005	12	Nelson Tunnel and Amethyst Pile BMPs	BMP Design/Implementation	Resource Extraction	Abandoned Mine Drainage	$485,191	$197,723 *(41%)*	$287,468
	2005	13	Rio Grande Watershed Restoration Strategic Plan	Watershed Modeling General Usage	Agriculture	Land Development or Redevelopment	$52,600	$25,000 *(48%)*	$27,600
	2005	14	Culebra Watershed Plan	Watershed Planning	Silviculture	None Specified	$0	$0 *(0%)*	$0
	2010	--	Upper Kerber Creek Watershed Plan - Trout Unlimited	Watershed Planning	None specified	None specified	Recommended for funding	None specified	None specified
Basin Totals									
4	2005-2010	--	--	--	--	--	$537,791	$222,723 *(41%)*	$315,068

Sources: USEPA 2010c; WQCC 2010b; WQCD 2010a.