



## Appendix B – Environmental and Recreational Focus Area Mapping Update

South Platte Basin Implementation Plan

South Platte Basin Roundtable/Metro Basin  
Roundtable

April 17, 2015



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# Environmental and Recreational Focus Area Mapping Update

The Focus Areas developed in Statewide Water Supply Initiative (SWSI) 2010 for the South Platte Basin were updated for inclusion into the South Platte Basin Implementation Plan. The methodology for the update of the focus area mapping is described in detail in this technical memorandum.

## 1 SWSI 2010 Focus Area Mapping

As part of the Water for the 21st Century Act, the basin roundtables were required to complete Nonconsumptive Needs Assessments (NCNAs). The SWSI efforts have produced some NCNAs and mapping of environmental and recreational attributes. This effort has included an extensive inventory, analysis, and synthesized mapping effort that built upon the SWSI 2 environmental and recreational attribute mapping as a common technical platform for the basin roundtables. The basin roundtables have utilized environmental and recreational mapping to identify where the nonconsumptive focus areas exist within the basin. The basin roundtables' nonconsumptive focus areas and further study efforts are intended to facilitate the identification of projects and methods to address environmental and recreational water needs.

### Reference Documents

The following discussion is based upon:  
[SWSI 2010 South Platte Basin Report Basinwide Consumptive and Nonconsumptive Water Supply Needs Assessments-South Platte Basin Needs Assessment and Appendix C of SWSI 2010](#)

The Focus Area maps developed by each basin roundtable are based on a common set of environmental and recreational attributes representing where Colorado's important water-based environmental and recreational attributes are located. The maps are reflective of stakeholder input for the focus areas and also reflect stream reaches and subwatersheds with higher concentrations of environmental and recreational qualities. These maps were generated to provide information to the basin roundtables on important environmental and recreational areas in their basins but were not intended to dictate future actions. It should be noted, and as will be shown in this section, that this effort has not identified all streams as important. The NCNAs are not intended to create a water right for the environment and will not diminish, impair, or cause injury to existing absolute or conditional water rights. The CWCB and basin roundtable developed the environmental and recreational focus area mapping for the following purposes:

- The maps are intended to provide useful information for water supply planning so that future conflicts over environmental and recreational needs can be avoided.
- The maps can assist in identifying environmental and recreational water needs status, such as where needs are being met, where additional future study may need to take place, or where implementation projects in the basin are needed.

- The maps can help basins plan for the water needs of species of special concern so that they do not become state or federally-listed as endangered or threatened in the future.
- The maps can provide opportunity for collaborative efforts for future multi-objective projects.

The South Platte Basin Roundtable and Metro Roundtable reviewed all available data layers for their basin, and based on stakeholder knowledge and outreach, selected stream reaches that represented the majority of environmental and recreational activity in their basins. The environmental and recreational data layers for each basin were selected using the SWSI 2 GIS data layers as a starting point. The basin roundtables reviewed the available data layers compiled during SWSI 2 and then suggested and contributed additional data layers as deemed appropriate for each basin. The SWSI 2010 Report's Appendix C contains the Nonconsumptive Needs Assessment Focus Mapping Final Report that provides the detailed methodology utilized by each basin roundtable in developing their focus area map.

The South Platte Basin examined their collected environmental and recreational data layers and utilized a stakeholder process to establish what the environmental and recreational Focus Areas should be for their respective basins. The basin roundtables summarized their environmental and recreational attributes on a map and created a table summarizing why the segment was included as a focus area and important attributes for each segment.

The South Platte Basin NCNA subcommittee opted to use the term "Candidate Focus Areas" for its major segments with environmental, recreational, and environmental and recreational nonconsumptive water attributes. The South Platte Basin also divided the basin into the following sub-basins—High Plains, Lower South Platte, Northern, Denver Metro, Upper Mountain, and South Metro.

More information regarding the methodology used by CDM and CWCB to produce the original focus areas can be found in the South Platte Basin Needs Assessment and Appendix C of SWSI 2010. Included below are the Focus Area map and table from Appendix C of SWSI 2010.

Figure 1-1 - SWSI 2010 South Platte Focus Area Map

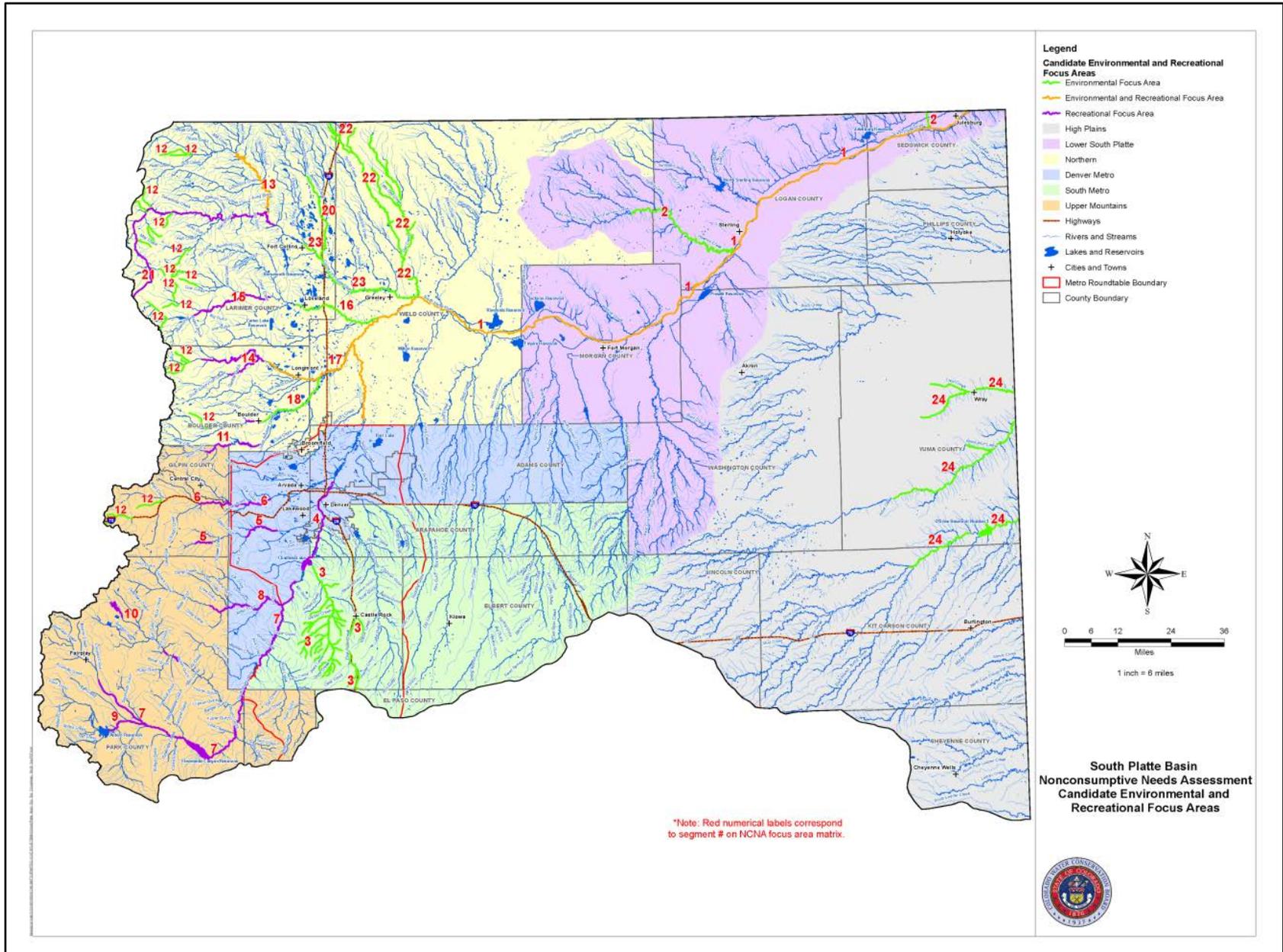


Table 1-1- SWSI 2010 South Platte Focus Areas Table

South Platte Nonconsumptive Needs Assessment Focus Reaches					DRAFT
GEOGRAPHIC AREA	Segment #	Segment Description	Environmental	Recreational	RATIONALE FOR CONSIDERATION
Lower South Platte/Northern	1	South Platte River: South boundary of Weld County to state line.	<b>X</b>	<b>X</b>	Waterfowl Hunting and Viewing Recreation. Habitat for plains fish that are listed as state endangered, threatened and species of concern. This segment contains rare or imperiled riparian plant communities.
Lower South Platte	2	Lodgepole Creek and Pawnee Creek.	<b>X</b>		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
South Metro	3	Plum Creek Watershed, including East and West Plum Creek and all tributaries	<b>X</b>		Habitat for plains fish that are listed as state endangered, threatened and species of concern. This segment contains rare or imperiled riparian plant communities.
Denver Metro/South Metro	4	South Platte River: Below Chatfield Reservoir to Sand Creek		<b>X</b>	Whitewater Boating. Municipal Recreational Corridor
Upper Mountain/Denver Metro	5	Bear Creek: Truesdell to Indian Creek and Evergreen Lake to Bear Creek Lake		<b>X</b>	Fishing. Whitewater Boating
Upper Mountain/Denver Metro	6	Clear Creek: Idaho Springs to Golden Whitewater Park		<b>X</b>	Whitewater Boating. Fishing
Upper Mountain/Denver Metro/ South Metro	7	South Platte River: Middle and South Fork Confluence to Chatfield Reservoir. Middle Fork: Upstream end of Gold Medal reach to confluence with South Fork South Platte River		<b>X</b>	Gold Medal Fisheries. Whitewater Boating.

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Upper Mountain	8	North Fork South Platte River: Bailey to confluence with South Platte River		<b>X</b>	Fishing. Whitewater Boating.
Upper Mountain	9	South Fork South Platte River below Antero Res.		<b>X</b>	Fishing
Upper Mountain	10	Michigan Creek and Taryall Creek. Those segments within State Wildlife Areas		<b>X</b>	Fishing
Northern/Upper Mountain	11	South Boulder Creek: Gamble Gulch to Shadow Canyon		<b>X</b>	Fishing. Whitewater Boating
Northern/Upper Mountain	12	All mountain tributaries with Greenback Cutthroat Trout populations.	<b>X</b>		Habitat for federal/state threatened species.
Northern	13	North Fork Poudre River: Dale Creek to confluence with Poudre River	<b>X</b>	<b>X</b>	Fishing recreation. Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	14	North Saint Vrain Creek: Horse Creek to Hwy 36. South Saint Vrain: from Middle Saint Vrain to confluence with North Saint Vrain.		<b>X</b>	Whitewater Boating. Fishing
Northern	15	Big Thompson River: Estes Park to mouth of canyon.		<b>X</b>	Fishing. Whitewater Boating
Northern	16	Big Thompson River: Just above Big Thompson Ditch #2 to confluence with South Platte.	<b>X</b>		Habitat for plains fish that are listed as state endangered, threatened and species of concern.

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Northern	17	Saint Vrain Creek: James Ditch to confluence with South Platte River.	X	X	Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor, RICDs
Northern	18	Boulder Creek: Hwy 36 to confluence with Saint Vrain Creek.	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor
Northern	19	Boulder Creek: Fourmile Creek to Hwy 36		X	Whitewater Boating. Municipal Recreational Corridor. Fishing
Northern	20	Boxelder Creek	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	21	Cache la Poudre River: Headwaters to Lewstone Creek		X	Recreation. Whitewater boating. The Upper Poudre contains rare or imperiled riparian plant communities.
Northern	22	Lonetree Creek Drainage	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	23	Poudre River: Hwy 287 to confluence with South Platte	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor.
High Plains	24	Republican Drainage Arikaree River: Adler Creek to state line. Black Wolf Creek. Chief Creek. North Fork Republican River. South Fork Republican River: Hell Creek to state line.	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern. The Arikaree contains rare or imperiled riparian plant communities.

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## 2 Updates to SWSI 2010 Focus Area Mapping

The SWSI 2010 Focus Area mapping needed to be updated to include data links to other data sources, as well as to include additional focus areas that were approved by the South Platte and Metro Basin Roundtables.

### 2.1 Linking Focus Areas to Other Data Sources

The evaluation of the existing data to determine environmental and recreational needs and opportunities used the SWSI 2010 data and the new data sets supplied by CWCB. The evaluation included use of two separate data sources, 1) the GIS shapefiles which contains spatial information regarding focus areas attributes and projects, and 2) the MS Access database, which contains more detailed information on some attributes and projects and allows for detailed analysis of the nexus of the focus areas and projects. The SWSI 2010 Focus Segments have numeric and descriptive labels. The GIS data contains both the numeric and descriptive label for each SWSI 2010 focus segment. The MS Access database provided by CWCB contained the descriptive labels but not the numeric label. Both databases have a common data field labeled “COMID”. The COMIDs also have a specific length associated with each COMID. These two data sources were joined adding the numeric label to the descriptive labels in the MS Access database. The joined database could then be used to evaluate the attributes within each individual Focus Area to better address the priorities set by the South Platte BRT and Nonconsumptive Needs Subcommittee.

### 2.2 Addition of Focus Areas

The SWSI 2010 NCNA mapping approved by the Basin Roundtables (BRTs) included the selection of 24 river Focus Areas. Since SWSI 2010 was released, the South Platte and Metro BRTs have approved several new Focus Areas. The new Focus Areas include reaches in Park County and several reaches along the Front Range rivers and streams that connect the mountain river Focus Areas to the plains river Focus Areas. These focus areas were added using the following methodology.

Due to the various sources of data received, multiple steps must be taken to include the Focus Areas in the GIS shapefiles and the MS Access database. In general, those steps required work including digitizing map layers and preparing the data fields for the new Focus Areas for use in the analysis. It was necessary to add common data labels for each new data set for relational queries with the existing databases. In addition, the Focus Area numeric labels were linked to the numeric descriptors of the Focus Area in a table added to the MS Access database.

#### 2.2.1 Canyon Mouth Focus Areas

The South Platte and Metro Roundtables approved the inclusion of several focus areas that connect Focus Areas in the foothills and mountains to the plains river Focus Areas, areas in and near the mouths of several canyons. These Focus Areas are located along the Big Thompson River, the North Fork of the Big Thompson River (and tributaries),

Cache la Poudre River, South Boulder Creek, Middle Boulder Creek, and Left Hand Creek. The Focus Areas were approved for inclusion by the BRTs in Spring 2011.

Through this BIP effort, the Focus Areas were added to the GIS shapefiles and are in the process of being added to the MS Access database. These data were initially provided to the consultant as email correspondence between Colorado Parks and Wildlife (CPW) staff and the nonconsumptive subcommittee. CPW digitized the focus areas approved by the BRTs in ArcGIS to create a shapefile of the areas. The specific rationale and Focus Area information was added to the GIS shapefile attribute tables from the email information by the consultants. The CPW data included many segments that were not approved by the BRTs, only the segments that were approved were included. The information for these Focus Areas will then be added to the NCNA database to ensure the Focus Areas will be included in all data assessments utilizing the database queries.

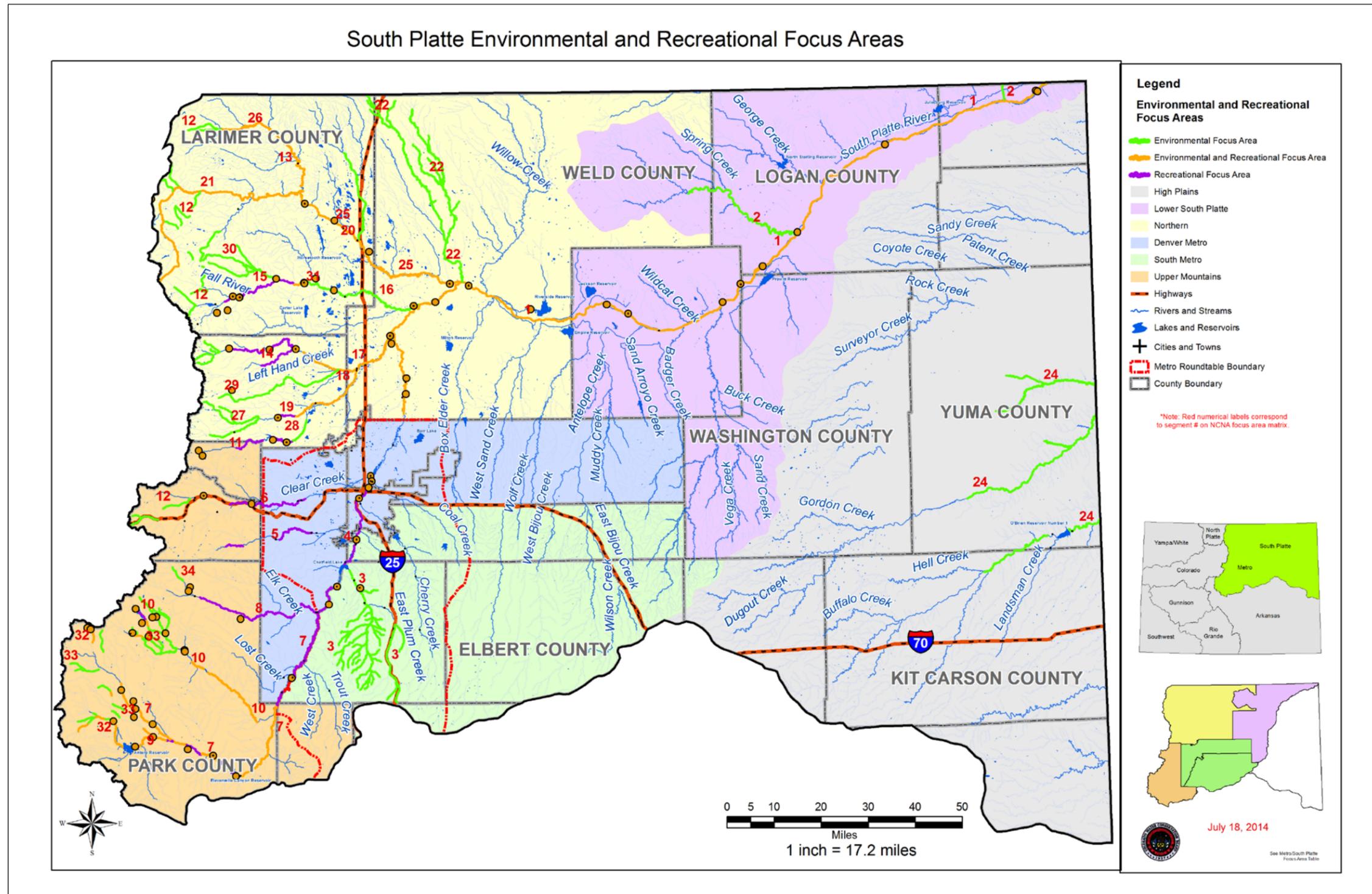
### 2.2.2 Park County Focus Areas

The South Platte Roundtable approved the inclusion of several Focus Areas in Park County with significant riparian communities. These Focus Areas were approved by the South Platte Basin Roundtable in January 2014. The Park County Focus Areas were added to the GIS and are in the process of being added to the MS Access database. These data were initially provided to the consultant as a pdf of the additional and associated table of rationale. The consultants digitized the pdf map in ArcGIS to create a shapefile of the areas. The specific rationale and Focus Area information was added to the GIS shapefile attribute tables. The information for these Focus Areas will then be added to the NCNA database to ensure the Focus Areas will be included in all data assessments utilizing the database queries.

## 3 BIP Focus Area Mapping

The Focus Areas used in the preparation of the South Platte Basin Implementation Plan (SP-BIP) include the updates described above. The SP-BIP Mapping and associated Focus Area table are shown on the following pages and available electronically.

Figure 3-1 - Updated South Platte Environmental and Recreational Focus Areas Map



**Table 3-1 – Updated South Platte Focus Areas Table**

Geographic Area	Segment #	Segment Description	Environmental	Recreational	Rationale
Lower South Platte Northern	1	South Platte River South boundary of Weld County to state line	X	X	Waterfowl Hunting and Viewing Recreation. Habitat for plains fish that are listed as state endangered, threatened and species of concern. This segment contains rare or imperiled riparian plant communities.
Lower South Platte	2	Lodgepole Creek and Pawnee Creek	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
South Metro	3	Plum Creek Watershed including East and West Plum Creek and all tributaries	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern. This segment contains rare or imperiled riparian plant communities.
Denver Metro South Metro	4	South Platte River Below Chatfield Reservoir to Sand Creek		X	Whitewater Boating. Municipal Recreational Corridor.
Upper Mountain Denver Metro	5	Bear Creek Truesdell to Indian Creek and Evergreen Lake to Bear Creek Lake		X	Fishing. Whitewater Boating.
Upper Mountain Denver Metro	6	Clear Creek Idaho Springs to Golden Whitewater Park		X	Whitewater Boating. Fishing.
Upper Mountain Denver Metro South Metro	7	South Platte River: Middle and South Fork Confluence to Chatfield Reservoir Middle Fork: From Crooked Creek confluence to confluence with South Fork South Platte River	X	X	Gold Medal Fisheries. Whitewater Boating. State Wildlife Areas, Eleven Mile Canyon National Forest Recreation Area. Imperiled & rare riparian/wetland plant species & plant communities
Upper Mountain	8	North Fork South Platte River: Camp Santa Maria from just below Geneva Creek confluence to confluence with South Platte River.		X	Fishing. Whitewater Boating.
Upper Mountain	9	South Fork South Platte River below Antero Reservoir.	X	X	Fishing. Waterfowl hunting/viewing. State Wildlife Areas. Significant riparian/wetland plant communities.
Upper Mountain	10	Michigan Creek, Tarryall Creek and tributaries.	X	X	Fishing. Waterfowl hunting/viewing. State Wildlife Areas. Significant riparian/wetland plant communities.
Northern Upper Mountain	11	South Boulder Creek Gamble Gulch to Shadow Canyon		X	Fishing. Whitewater Boating.

**Table 3-1 – Updated South Platte Focus Areas Table**

Geographic Area	Segment #	Segment Description	Environmental	Recreational	Rationale
Northern Upper Mountain	12	All mountain tributaries with Greenback Cutthroat Trout populations	X		Habitat for federal/state threatened species.
Northern	13	North Fork Poudre River Dale Creek to confluence with Poudre River	X	X	Fishing recreation. Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	14	North Saint Vrain Creek Horse Creek to Hwy 36 South Saint Vrain from Middle Saint Vrain to confluence with North Saint Vrain		X	Whitewater Boating. Fishing.
Northern	15	Big Thompson River Estes Park to mouth of canyon		X	Fishing. Whitewater Boating.
Northern	16	Big Thompson River Just above Big Thompson Ditch 2 to confluence with South Platte	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	17	Saint Vrain Creek James Ditch to confluence with South Platte River	X	X	Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor. RICDs.
Northern	18	Boulder Creek Hwy 36 to confluence with Saint Vrain Creek	X	X	Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor.
Northern	19	Boulder Creek Fourmile Creek to Hwy 36		X	Whitewater Boating. Municipal Recreational Corridor. Fishing.
Northern	20	Boxelder Creek	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	21	Cache la Poudre River Headwaters to Lewstone Creek	X	X	Wild and Scenic River. Recreation. Whitewater boating. The Upper Poudre contains rare or imperiled riparian plant communities.
Northern	22	Lonetree Creek Drainage	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern.
Northern	23	Poudre River Hwy 287 to confluence with South Platte	X	X	Habitat for plains fish that are listed as state endangered, threatened and species of concern. Municipal Recreational Corridor. Additional Greenway benefit.

**Table 3-1 – Updated South Platte Focus Areas Table**

Geographic Area	Segment #	Segment Description	Environmental	Recreational	Rationale
High Plains	<b>24</b>	Republican Drainage Arikaree River Adler Creek to state line Black Wolf Creek Chief Creek North Fork Republican River South Fork Republican River Hell Creek to state line	X		Habitat for plains fish that are listed as state endangered, threatened and species of concern. The Arikaree contains rare or imperiled riparian plant communities.
Northern	<b>25</b>	Cache la Poudre River Canyon mouth to confluence of South Platte River	X	X	Habitat for plains fish that are listed as state endangered, threatened and species of concern. Fishing. Boating.
Northern	<b>26</b>	Cache la Poudre River Halligan Reservoir to Sheep Creek	X	X	Fishing. State Wildlife Areas.
Northern Upper Mountain	<b>27</b>	All mountain tributaries with Greenback Cutthroat Trout populations	X		Habitat for federal and state endangered, threatened and species of concern including cutthroat trout and lake chub.
Northern Upper Mountain	<b>28</b>	South Boulder Creek: Coverage extended to Baseline Reservoir	X		Habitat for state endangered, threatened and species of concern including native minnow species and trout.
Northern	<b>29</b>	Left Hand Creek	X		Habitat for state endangered, threatened and species of concern including common shiner, stonecat, and brassy minnow.
Northern Upper Mountain	<b>30</b>	North Fork Big Thompson and tributaries (West Creek, Miller Fork, Dunraven- Glade)	X		Habitat for federal and state endangered, threatened and species of concern including cutthroat trout.
Northern	<b>31</b>	Big Thompson River upstream Loveland to Cedar Creek	X	X	Habitat for state endangered, threatened and species of concern including trout. Fishing. Whitewater Boating.
Upper Mountain	<b>32</b>	Middle & South Forks of the South Platte and tributaries	X	X	Fishing. State Wildlife Areas. Significant, imperiled & rare wetland/riparian plant species and plant communities
Upper Mountain	<b>33</b>	South Fork of the South Platte & tributaries above Antero Reservoir, Upper Middle Fork tributaries, Upper Tarryall Creek & tributaries	X		Significant, imperiled & rare wetland/riparian plant species and plant communities.
Upper Mountain	<b>34</b>	Portion of Geneva Creek	X		Significant & imperiled rare wetland/riparian plant species and plant communities.

Figure 3-2 –South Platte Environmental and Recreational Focus Areas Map - Upper Mountain Region

### South Platte Environmental and Recreational Focus Areas - Upper Mountain Region

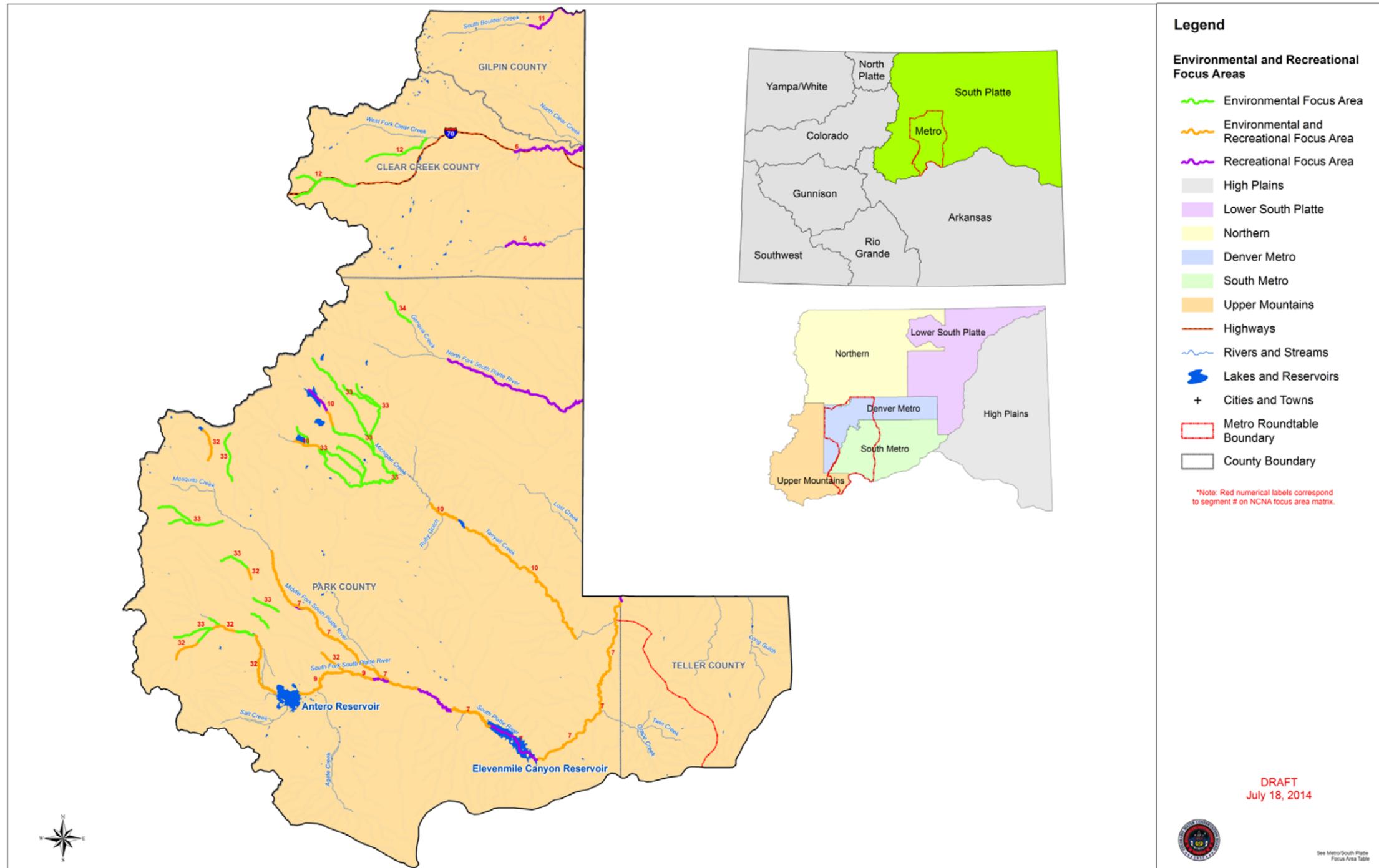


Figure 3-3 - South Platte Environmental and Recreational Focus Areas Map – Northern South Platte Region

### South Platte Environmental and Recreational Focus Areas - Northern South Platte Region

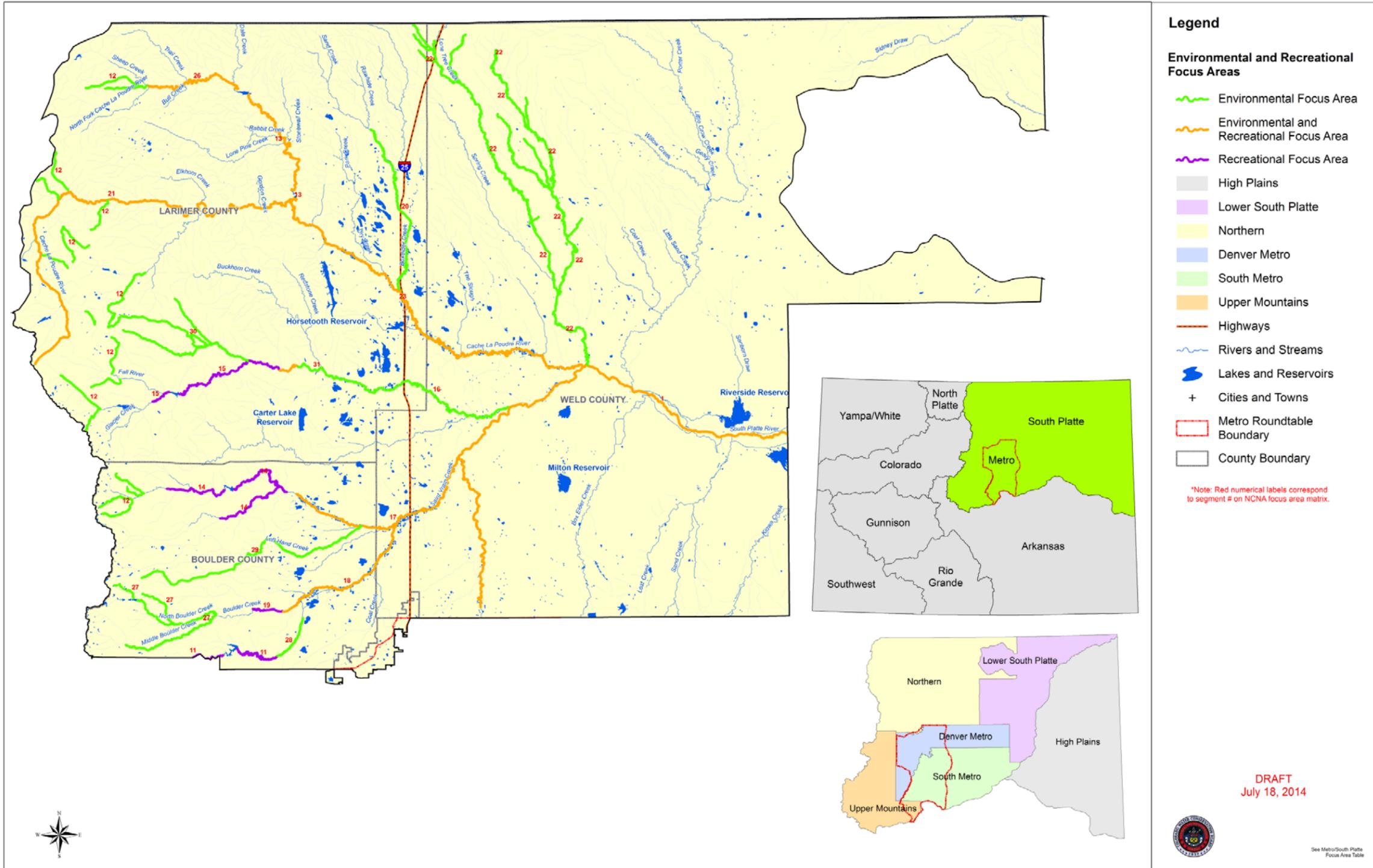


Figure 3-4 - South Platte Environmental and Recreational Focus Areas Map – Metro Region

### South Platte Environmental and Recreational Focus Areas - Metro Region

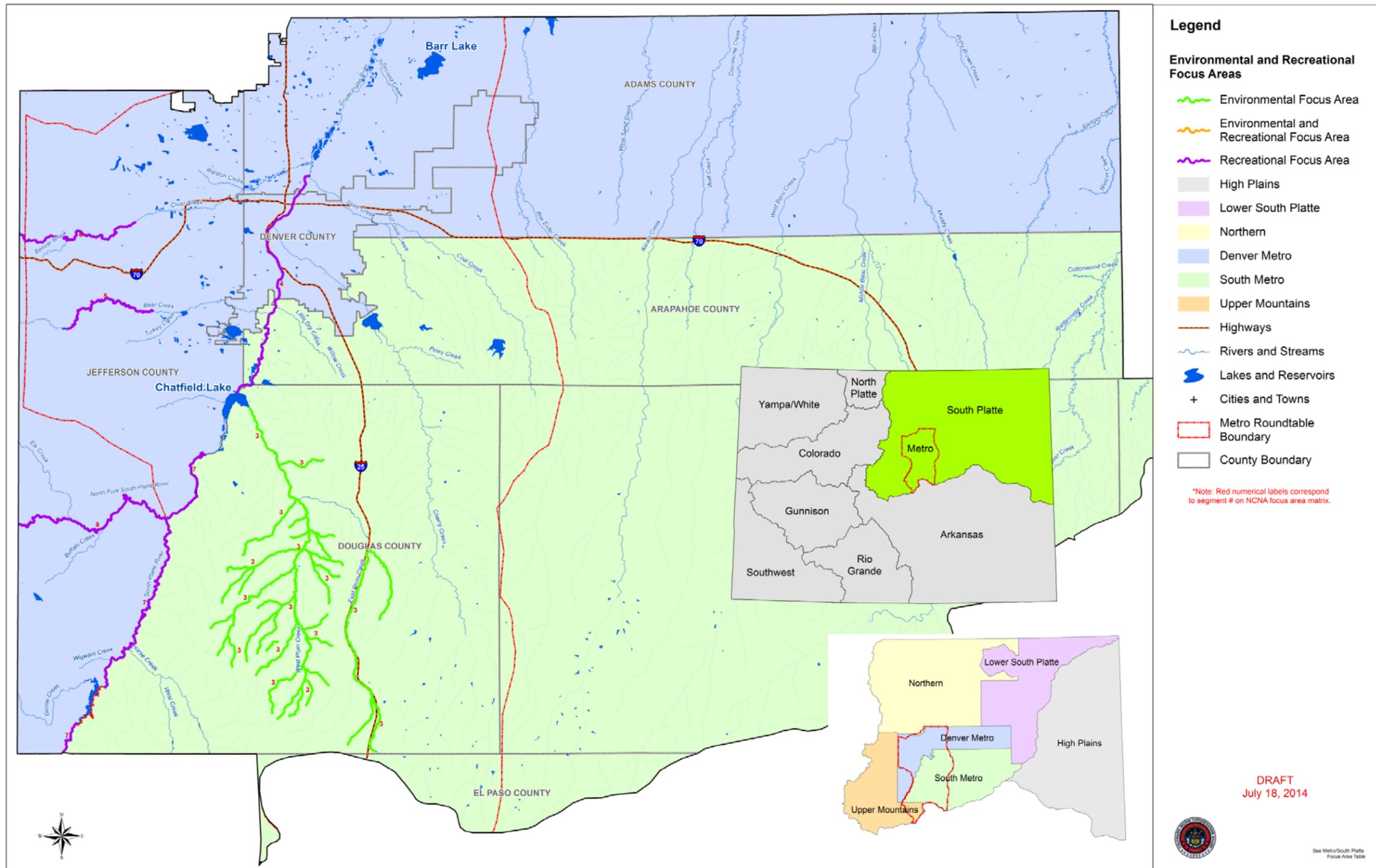
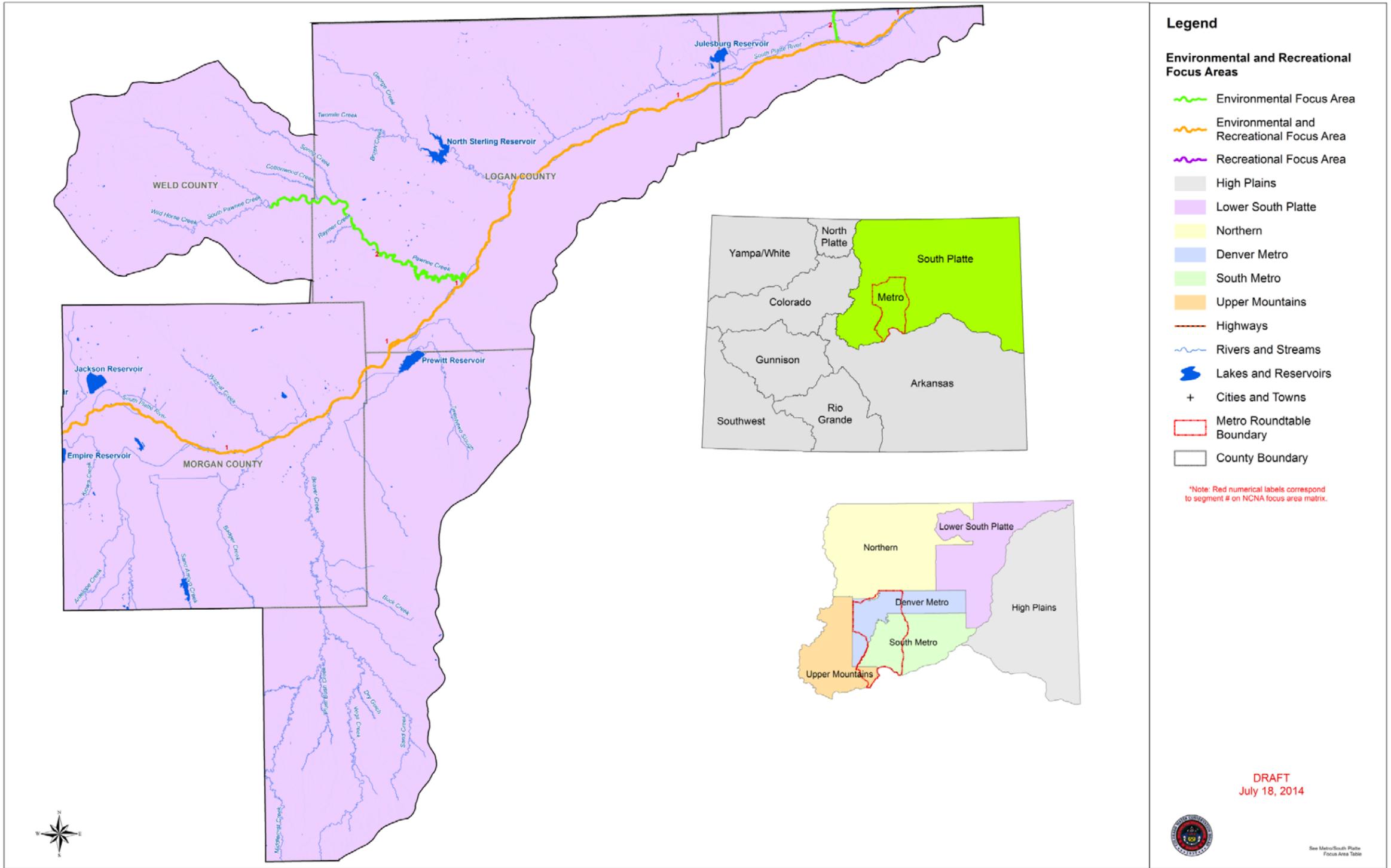


Figure 3-5 - South Platte Environmental and Recreational Focus Areas Map – Lower South Platte Region

### South Platte Environmental and Recreational Focus Areas - Lower South Platte Region



- Legend**
- Environmental and Recreational Focus Areas**
- ~ Environmental Focus Area
  - ~ Environmental and Recreational Focus Area
  - ~ Recreational Focus Area
  - High Plains
  - Lower South Platte
  - Northern
  - Denver Metro
  - South Metro
  - Upper Mountains
  - Highways
  - Rivers and Streams
  - Lakes and Reservoirs
  - + Cities and Towns
  - Metro Roundtable Boundary
  - County Boundary

*\*Note: Red numerical labels correspond to segment # on NCNA focus area matrix.*

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See Metro South Platte Focus Area Table

Figure 3-6 - South Platte Environmental and Recreational Focus Areas Map – High Plains Region

### South Platte Environmental and Recreational Focus Areas - High Plains Region

