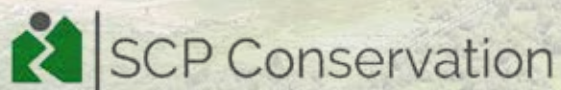


# GUNNISON HEADWATERS MITIGATION BANK

Bank Manager and Agent:  
Rocky Mountain Mitigation, LLC  
Contact: Stephen Decker  
Decker@RockyMountainMitigation.com  
Phone: (303) 351-1530



Bank Sponsor: SCP Conservation, LLC



Landowner: Colorado State Land Board



SEPTEMBER 15, 2021

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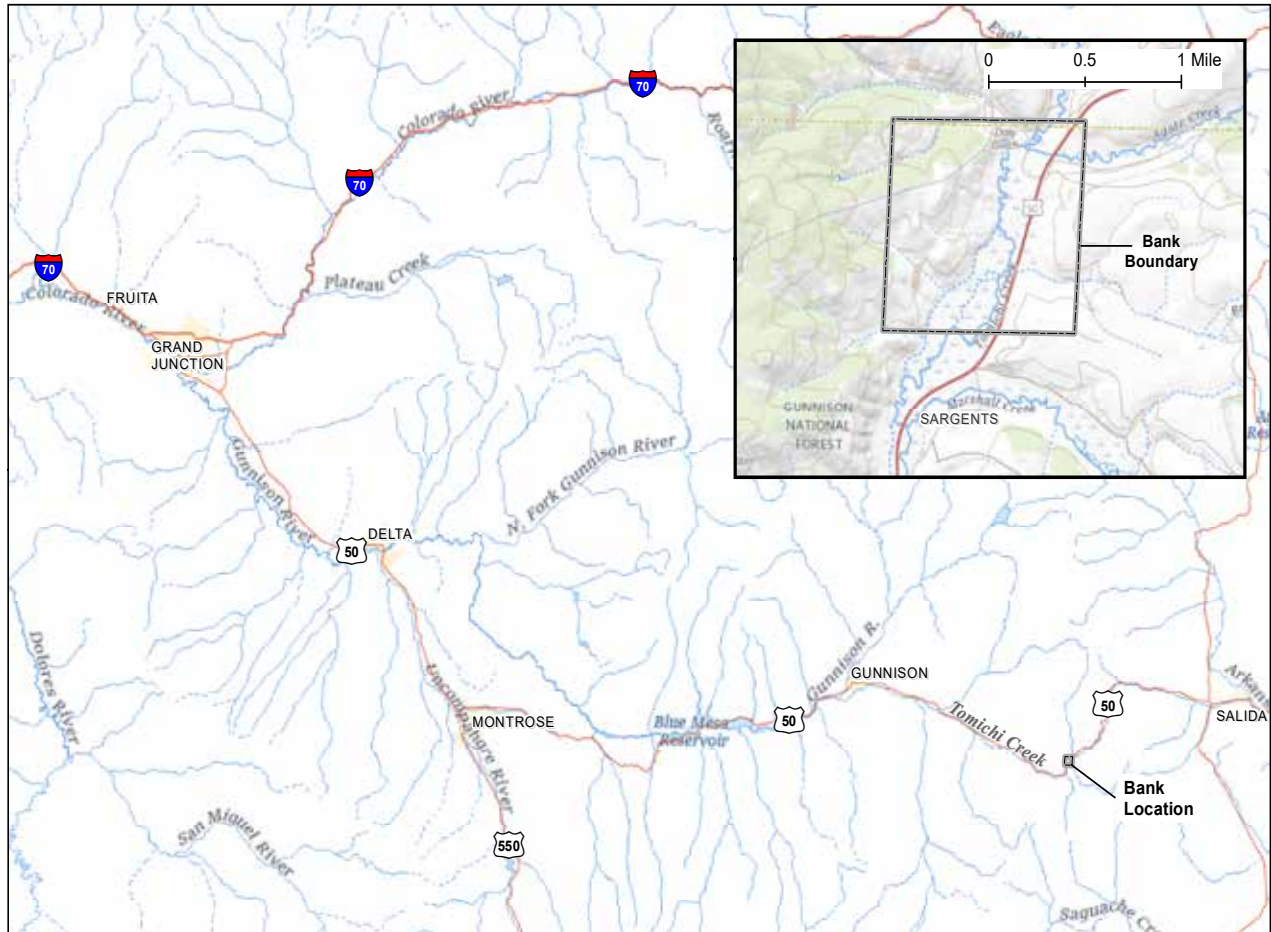
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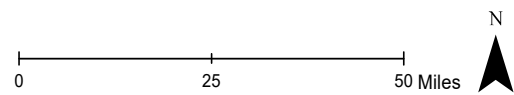
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**Figure 1: Location Map**  
Gunnison Headwaters Mitigation Bank



**GUNNISON HEADWATERS MITIGATION BANK - Location Map**



## SECTION 1

# OBJECTIVES

Tomichi Creek is a major tributary to the Gunnison River basin and the larger Colorado River basin that serves as a primary water source for western Colorado, Utah, Arizona, Nevada, and California. Tomichi Creek originates at the base of Monarch Mountain and flows through the town of Sargents into the Tomichi Valley until it meets the Gunnison River just southwest of Gunnison, Colorado. The Gunnison River flows down from the western slope of Colorado west into Grand Junction where it joins with the Colorado River. From there, the Colorado River continues to flow to the west and southwest through the western states and the Grand Canyon until it flows south into the Gulf of California.

The proposed Gunnison Headwaters Mitigation Bank (GHMB or Bank) is strategically located within the headwater areas of Tomichi Creek on a 620-acre parcel (Bank Site) owned by the Colorado State Land Board (CSLB). The Bank Site is within Sections 9, 10, 15, 16, and 17, Township 48 North, Range 5 East, straddling Gunnison and Saguache Counties in Colorado.

One of CSLB's main missions is to generate funds from state-owned property in order to help fund the Colorado Department of Education's Building Excellent Schools Today (BEST) program. CSLB has been extremely successful over the years with this program generating over \$600,000,000 for the program since 2008.

The primary objective of the proposed GHMB project is to restore, enhance, and preserve wetlands, streams, and other natural resource habitats on the Bank Site for use as compensatory mitigation for the unavoidable impacts to Waters of the US focusing on a watershed approach. The Bank's conceptual design includes the restoration (reestablishment) of 73 acres of wetlands, enhancement of 103 acres of existing wetlands, enhancement and preservation of 11,088 linear feet of Tomichi Creek and 1,859 linear feet of Agate Creek, and the establishment and enhancement of a 203-acre buffer. The Colorado Natural Heritage Program (CNHP) has identified a special aquatic fen to potentially exist onsite that we will

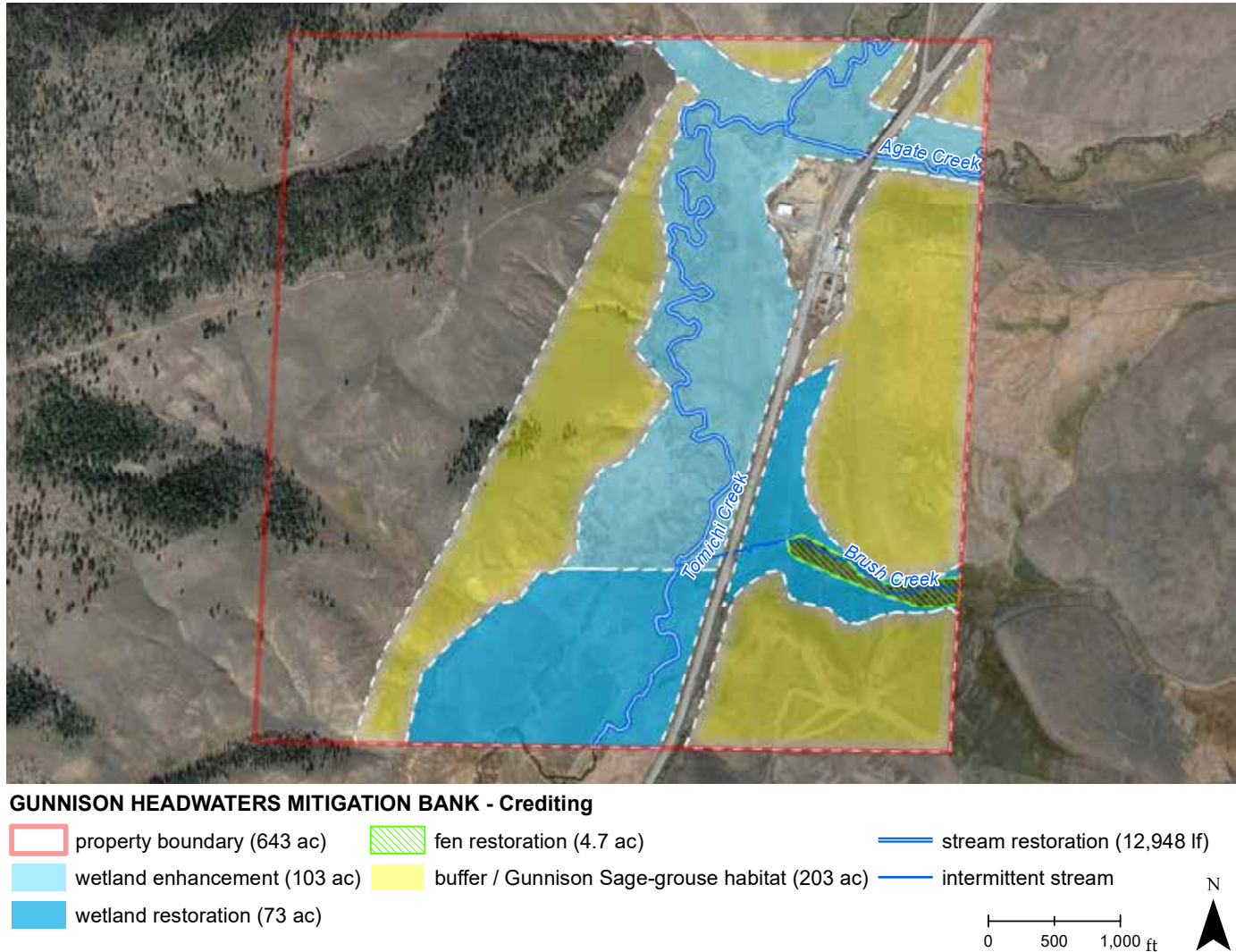
be enhancing that is about 4.7 acres. Additionally, the design plan calls for restoration and enhancement of 203 acres of Gunnison Sage-grouse (*Centrocercus minimus*) (hereafter, GUSG) habitat improvements within the wetland and stream buffer zone. Wetland restoration and enhancement will be accomplished through targeted grading to reestablish historic hydrology, removal of other impediments such as removal of invasive species, eliminating cattle grazing, eliminating haying activities, enhancing fish passage, enhancing GUSG habitat, and planting native vegetation. The site will then be protected in perpetuity with a site protection instrument. Restored and enhanced aquatic resources will functionally represent palustrine emergent and palustrine scrub-shrub wetlands that are characteristic of floodplains found in both the Rocky Mountain Subalpine-Montane Riparian Shrubland and Rocky Mountain Subalpine-Montane Fen ecological systems. The Bank plans to reestablish and enhance the important functions of these aquatic resources, which are currently largely absent due to on-site haying and cattle ranching activities.

The main objectives of the Gunnison Headwaters Mitigation Bank include:

- Establish a self-sustaining site that will result in net increases in aquatic resource functions and services
- Restore 73 acres of wetlands through reestablishing historic natural hydrological connections and through grading and planting of native species
- Restore 4.7 acres of fen by improving the local hydrological connections
- Enhance 103 acres of wetlands by removing invasive species present on the site and removing cattle ranching and haying activities
- Preserve and enhance 12,948 linear feet of channel along Tomichi Creek and Agate Creek by improving fish habitat
- Enhance and preserve 203 acres of buffer and Gunnison Sage-Grouse habitat by removing invasive species, cattle ranching activities, and planting native vegetation species
- Protect entire Bank Site with a permanent site protection instrument and an associated long-term stewardship fund

## SECTION 1, CONT'D

**Figure 2:** Crediting Map



**Figure 3:** Credit Activity Table

Credit Activity Table			
Activity	Acres / Linear feet	Ratio	Credits
Wetland Restoration (Reestablishment)	73	1 to 1	73
Fen Restoration	4.7	1 to 1	4.7
Wetland Enhancement	103	3 to 1	34.3
Buffer / Gunnison Sage Grouse Enhancement	203	5 to 1	40.6
Stream Enhancement	12,948	TBD	TBD
Estimated Total Credits			152.6

The Gunnison Headwaters Mitigation Bank will provide compensatory mitigation credits fully compliant with the Compensatory Mitigation for Losses of Aquatic Resources Mitigation Rule (2008 Mitigation Rule), the US Army Corps of Engineers (USACE) and the US Environmental Protection Agency (EPA). In doing so, the Bank Project will restore and protect a site damaged and threatened by cattle grazing, water development, mining, and future oil and gas activities.



## SECTION 2

# ESTABLISHMENT & OPERATION

The Tomichi Creek riparian corridor has been heavily impacted by anthropogenic activities which have resulted in the loss and degradation of historical wetland habitat. Specific on-site impacts are largely associated with ongoing cattle and haying efforts that have left the site heavily degraded. This habitat loss has in turn led to a reduction in aquatic functions and services provided by wetlands, including reduced flood attenuation, reductions in water quality, increased sediment loads, and the spread of invasive species.

This site was selected for the GHMB because of its current degraded state, its connection to important downstream aquatic ecosystems, its relationship to other conservation lands, and the site's potential to provide improved habitat connectivity for flora and fauna of the Gunnison Basin. The targeted restoration, enhancement, and preservation activities have a high likelihood of success because the activities would be restoring the natural aquatic functions and services present on the site historically, ultimately resulting in a net increase of aquatic resource functions and services.

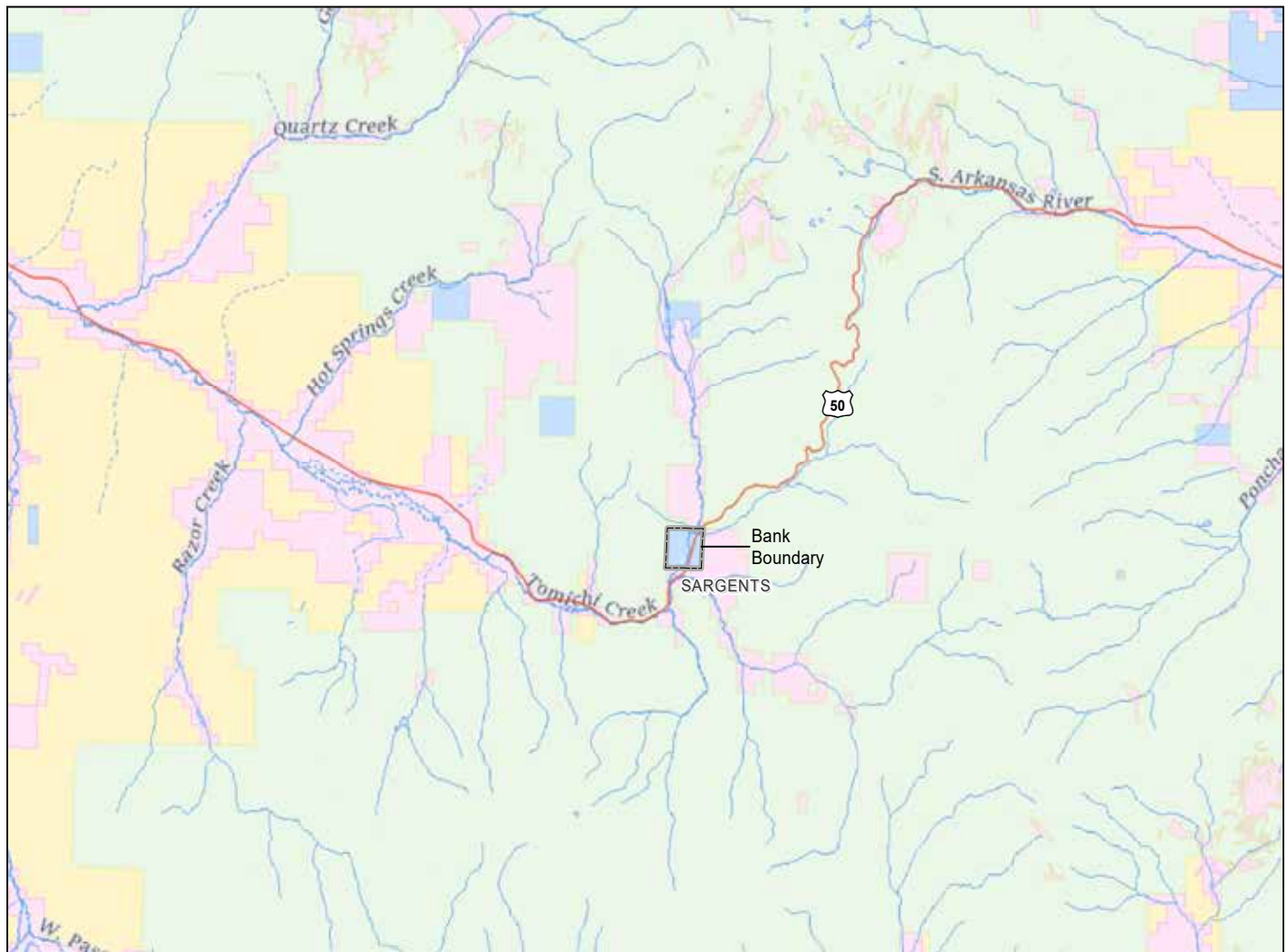
### Conceptual Design and Work Activities

The conceptual design for the Bank includes the restoration (re-establishment) of 73 acres of wetlands, enhancement 4.7 acres of fen, enhancement of 103 acres of existing wetlands, enhancement of 12,948 linear feet of stream, and the enhancement of 203 acres of buffer. All areas will be preserved in perpetuity after restoration and enhancement activities. There will be four main work zones, each with a suite of restoration activities targeted to the unique habitat and ecological needs of each zone, resulting in an improvement in overall aquatic resource functions and services for the entire site. Extensive wetlands were historically present on the site and were mainly supported through groundwater, which was influenced by the flows in Tomichi Creek. Restored wetlands will likewise be supported by groundwater.





The design approach activities will target the restoration of relict palustrine emergent and palustrine scrub-shrub wetlands which currently may not meet the defined criteria of Waters of the US. Areas targeted for restoration currently consist of relict wet meadow and riparian shrublands that occur in montane valley areas as well as upland areas adjacent to existing wetlands that likely have historically been wetlands. Grades in these target areas will be restored to elevations at which much of the rooting zone of planted wetland species will be within the mean shallow groundwater elevations, as indicated by groundwater well monitoring data.

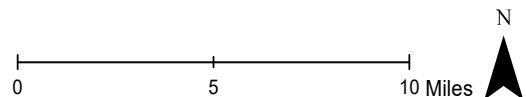
Noxious weeds and invasive species are prevalent on the site in both uplands and wetlands. A significant part of restoration activities will involve removing these species using an integrative approach combining mechanical, cultural, biological, and chemical control techniques. The removal of Canada thistle (*Cirsium arvense*) found throughout the site, will help to improve native species recruitment and establishment on the site. Wetlands will be planted with native species typically found in functioning wet meadows of the Tomichi Creek riparian corridor and will include sedges, rushes, and mesic grasses. Species fitting into these groups would include water sedge (*Carex aquatilis*), Northwest Territory sedge (*Carex utriculata*), tufted hairgrass (*Deschampsia cespitosa*) and baltic rush (*Juncus balticus*). Native shrubs willows (*Salix* spp.) and other species like including shrubby cinquefoil (*Pentaphylloides floribunda*) will also be planted to improve wildlife habitat and reduce bank erosion. Uplands, which are dominated by big sagebrush (*Artemisia tridentata*), will be planted with native species typical in undisturbed areas including grasses such as squirreltail (*Sitanion hystrix*), western wheatgrass (*Agropyron smithii*), Indian ricegrass (*Oryzopsis hymenoides*), Thurber's needlegrass (*Achnatherum thurberianum*) and forbs such as globemallow (*Sphaeralcea* spp.), hawksbeard (*Crepis* spp.), and lupine (*Lupinus* spp.).

Figure 4: Land Ownership Map



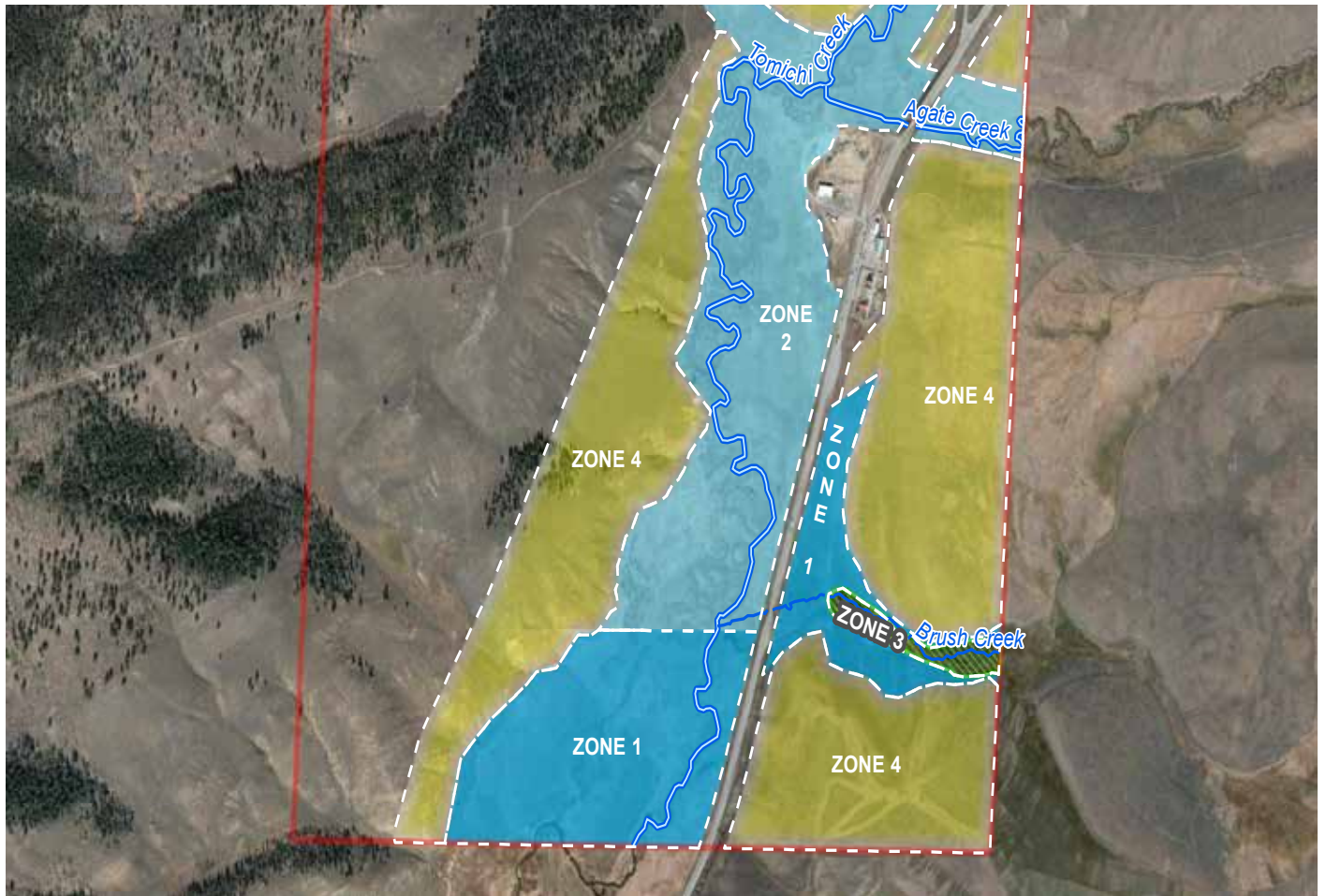
**GUNNISON HEADWATERS MITIGATION BANK - Land Ownership**

- |  |   |
|--|---|
|  State                     |  Private           |
|  Bureau of Land Management |  US Forest Service |

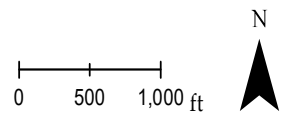
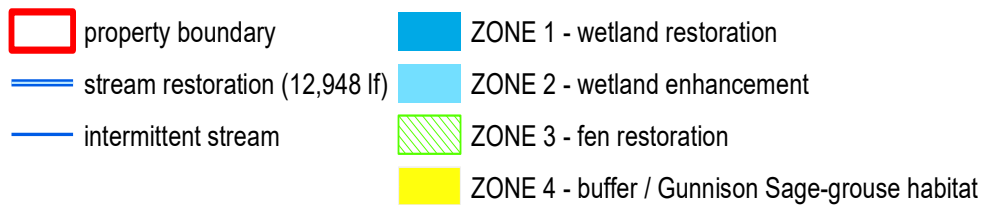


## SECTION 2, CONT'D

**Figure 5:** Design Map with four target restoration activity zones plus streams.



### GUNNISON HEADWATERS MITIGATION BANK - Zones



## Zone 1 Restoration

Zone 1 consists of a 73 acre area along Tomichi Creek including an area of irrigated pasture on the west of Highway 50 and a wet meadow area on the east side on the Highway. The irrigated pasture is dominated by introduced perennial grasses including timothy (*Phleum pratense*) and perennial forbs including clover (*Trifolium* spp.). There is a stark absence of woody species in Zone 1 (south side of the fence) relative to Zone 2 (north side of the fence) (Figure 6), which is not devoted to cattle grazing and haying like Zone 1. In and of themselves, irrigated hay fields provide suitable brood rearing habitat for GUSG (USFWS 2014). However, aggressive introduced perennial grasses present in Zone 1 may limit the extent of forbs which are also preferred by GUSG during brood rearing (USFWS 2014). Therefore, restoration activities proposed for Zone 1 on the west side of the Highway include seeding with native forbs and planting willows at a low density so as to not impact meadow habitat preferred by GUSG. On the east side of the Highway, similar activities are proposed with the exception of haying-related activities.



### Zone 1 CONT'D

#### Zone 1 Restoration:

- Cease cattle grazing and haying activities
- Remove invasive species and other noxious weeds
- Restore appropriate hydrology for diverse PEM/PSS wetlands
- Plant diverse native wetland vegetation including forbs and woody species (woody species will only be planted at low density so as to not interfere with meadow habitat preferred by GUSG)

### Zone 2 Enhancement

Zone 2 consists of a 103 acre area of palustrine emergent and willow scrub-shrub wetlands along Tomichi Creek and Agate Creek with limited grazing. Of most concern in this Zone is the presence of noxious weeds, including Canada thistle and invasive species as well as the proximity of disturbance from infrastructure adding increased sediment to the stream and introducing noxious weeds. Enhancement activities proposed for Zone 2 include seeding with native species, planting willows at a low density so as to not impact meadow habitat preferred by GUSG, removing invasive species and ceasing cattle grazing activities.

#### Zone 2 Restoration:

- Plant diverse native wetland vegetation
- Low density willow plantings to preserve meadow habitat preferred by GUSG
- Remove invasive species
- Cease cattle grazing activities

### Zone 3 Fen Restoration

Zone 3 is a 4.7 acre area consisting of a potential fen (a groundwater-fed, organic soil wetland) per Colorado Natural Heritage Program mapping (CNHP 2021). Fen restoration activities include ceasing cattle grazing, removal of invasive species and planting appropriate fen species, such as water sedge, Northwest Territory sedge, tufted hairgrass and shrubby cinquefoil among others (Table 12, Lemly et al. 2018).

#### Zone 3 Restoration:

- Plant diverse native wetland vegetation
- Remove invasive species
- Cease cattle grazing activities

### Zone 4 : Buffer and Gunnison Sage Grouse Enhancement

Zone 4 consists of 203 acres of uplands surrounding the wetland and riparian habitat of the site and overlaps with unoccupied GUSG final critical habitat (USFWS 2014) (Appendix D). GUSG habitat enhancement activities would include wetland and riparian area restoration and enhancement like planting willows, cheatgrass (*Bromus tectorum*) control, and seeding of native succulent forbs. GUSG chicks depend on succulent forbs for early nutrition until 3 months of age and females depend on them during the pre-laying period [Gunnison Sage-grouse Rangewide Steering Committee (GSRSC) and citations therein 2005]. Wet meadows provide an abundance of succulent forbs and insects (GSRSC and citations therein 2005). Seeded forb species would include some of those highly used by GUSG, such as hawksbeard (*Crepis* spp.), milkvetch (*Astragalus* spp.), balsamroot (*Balsamorhiza* spp.), lupine (*Lupinus* spp.), Rocky Mountain bee plant (*Cleome serrulata*), and globemallow (*Sphaeralcea* spp.) (GSRSC and citations therein 2005).

#### Zone 4:

- Plant diverse native wetland vegetation and willows
- Seed native forbs in uplands
- Cheatgrass control in uplands
- Remove invasive species
- Cease cattle grazing activities

## Stream Reaches : Stream Enhancement

In addition to Tomichi Creek, Agate Creek and Brush Creek also flow across the site. Stream restoration is proposed along 12,948 combined linear feet of Tomichi Creek and Agate Creek (perennial streams), while Brush Creek will benefit indirectly from the restoration in Zones 1 and 3 on the east side of Highway 50. Stream restoration activities will improve fish habitat that will in turn enhance the entire reach of Tomichi Creek for fisheries and aquatic species. Stream restoration will target gullies and other impacts of cattle grazing, such as headcuts, which have impacted the integrity of the stream banks and vigor of riparian vegetation.

## General Work Activities

All work activities will be the most practicable as possible to prevent indirect impacts. Guidance from the US Army Corps and Engineers, as well as the IRT, will be used to establish performance standards based on pre and post ecological functional assessment methodologies defined within the Colorado Mitigation Procedures. At no point will the Bank project impair, obstruct, or slow flows within the Tomichi Creek. Invasive species will be cleared and treated prior to grading. Grading activities will use heavy equipment to construct correct grades followed by revegetation using native species occurring naturally in the surrounding region and ecosystems. The upland areas outside of the buffer areas provide good staging areas for this work. The Bank project will develop and adhere to a Stormwater Management Plan. This plan will include Best Management Practices to reduce off-site sedimentation and erosion. The limits of disturbance will be clearly marked in the field to contain construction-related equipment and vehicles to the preapproved limits of disturbance. All construction activities will be appropriately supervised.

**Figure 6:** Photo of fence line in center of site. Zone 1 (left) with lack of woody plants versus Zone 2 (right).





**Figure 7: Conceptual Design**  
 Gunnison Headwaters Mitigation Bank  
 Sargents, Colorado



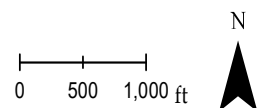
**GUNNISON HEADWATERS MITIGATION BANK**

- property boundary
- wetland enhancement
- wetland restoration
- fen restoration
- buffer / Gunnison Sage-grouse habitat

- stream restoration
- intermittent stream

**Restoration Activities**

- remove invasive / noxious weed species
- restore relict wetland hydrology in areas
- replant pastureland with native species
- restore Gunnison Sage-grouse habitat
- cease cattle grazing activities
- restore stream functions
- restore fen wetland
- plant native willows

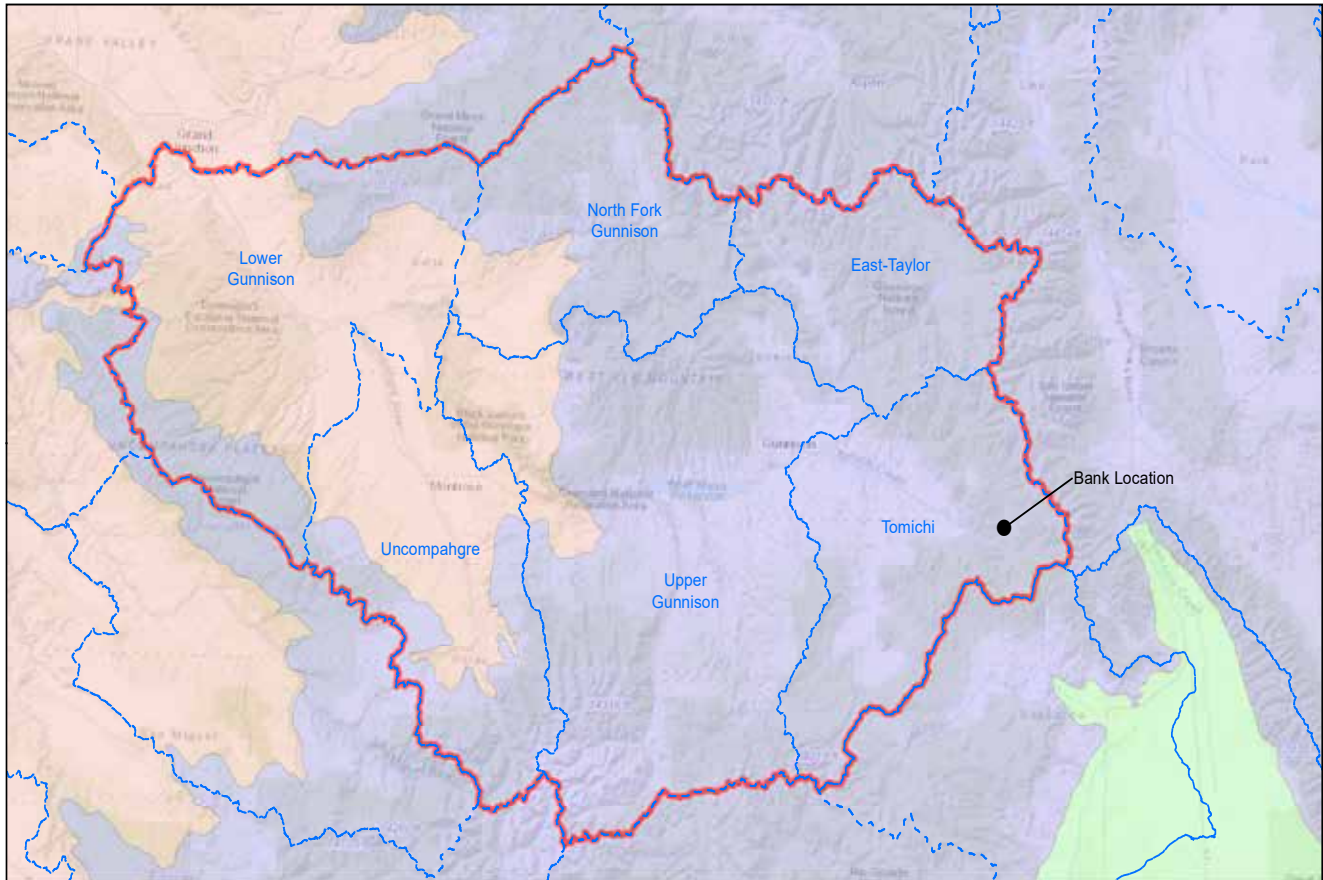




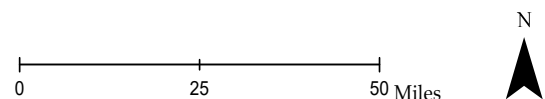
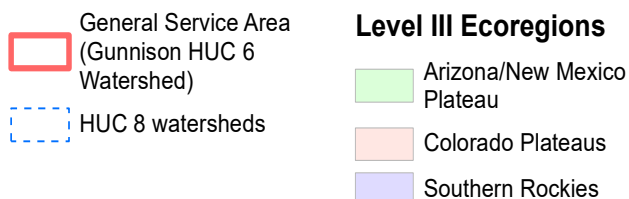
## SECTION 3

# PROPOSED SERVICE AREA

**Figure 8:** Geographic Service Area Map



### GUNNISON HEADWATERS MITIGATION BANK - General Service Area



The Geographic Service Area (GSA) for the GHMB is proposed as the entire Gunnison 6-digit HUC (140200) basin. This includes the 8-digit HUCs of Tomichi (14020003), Upper Gunnison (14020002), Lower Gunnison (14020005), North Fork Gunnison (14020004), Uncompahgre (14020006), and East Taylor (14020001). The majority of Gunnison 6-digit HUC areas are within the Southern Rockies EPA Level III, with the downstream waters flowing into the Ecoregion Colorado Plateaus. Ecologically, the site location on the perennial Tomichi Creek in the headwaters of the Gunnison 6-digit HUC directly affects and influences the entire 6-Digit HUC downstream waters and aquatic resources of the Gunnison River all the way to the Colorado River year-round. Because of this influence, these headwater aquatic resources represent the most vital and influential resource in the basin and therefore warrant this proposed service area. Additionally, these unique aquatic resources including alpine and subalpine-montane riparian shrubland, wet meadow, and fen provide similar or greater ecological offset value than on-site, in-kind offsets throughout the entire lower watershed of the Gunnison 6-digit HUC.

GHMB may service additional geographic areas as authorized by the US Army Corps on a case-by-case basis.

## SECTION 4

# NEED & FEASIBILITY

There is an exceeding need for aquatic resource compensatory mitigation offset credits within the Gunnison (6-digit HUC) basin. Most parts of Colorado have been experiencing unprecedented population growth in recent years. With that growth comes roads, housing, and other infrastructure development to keep pace with the growth. The growth and development that is happening creates pressure to impact on aquatic resources (and other natural resources), while appropriate compensatory mitigation opportunities are limited. The GHMB will create banked restored areas ahead of time of impact that will provide wetland, stream, and species credits to offset impacts in this region without a temporal loss to aquatic functions and services.

The conceptual project design has a high likelihood of success within the watershed because it is driven by (a) the in-depth site-selection criteria search that was conducted taking into account the watershed approach, (b) the ecologic suitability of the site matching in-kind with impacted resources of those within the watershed, (c) researching and addressing local stakeholder groups and their interests, and (d) providing required financial assurances, long-term funding, long-term management, and a permanent site protection instrument. In addition, the Bank's zone-targeted restoration, enhancement, and preservation activities have a high likelihood of success since the activities are restoring and recovering the previous aquatic functions and services of the area. These resources will ultimately result in a net increase of aquatic resource functions and services, while also enhancing the site's ability to be self-sustaining over time.

The conceptual design has been developed to address the historical and direct impacts to the GHMB, while remaining compatible with future land use in the region. Performance criteria with respect to the Bank's restoration and enhancement activities will be established to ensure all compensatory mitigation criteria are met.

There are no potential conflicts or encumbrances over the property that would interfere with the development and long-term protection of the Bank Site. A title report will be provided prior to IRT approval of the Bank.

## SECTION 5

# OWNERSHIP, LONG-TERM MANAGER

RMM will operate the SPMB as the Bank Manager.  
Contact: Stephen Decker  
Decker@RockyMountainMitigation.com  
Phone: (303) 351-1530

SCP Conservation, LLC is the Bank Sponsor and Bank Owner.  
Contact: Gray Stevens  
Address: 1030 3rd Avenue S #304 Naples, FL 34102  
Email: gstevens@sandycp.com

CSLB will be the owner and Long-Term Manager of the GHMB site in perpetuity. CLSB maintains surface and subsurface ownership on the GHMB property. There will be no surface disturbance activities allowed at the mitigation site.

Colorado State Land Board  
Contact: Mindy Gottsegen  
Email: mindy.gottsegen@state.co.us

A site protection instrument will be placed over the entire Bank site to protect the land in perpetuity. A long-term stewardship fund will be established to fund the perpetual management of the GHMB, which will be held by a US Army Corps approved entity with funds distributed to the Land Manager on an annual basis. The amount contained in this stewardship fund will be determined as part of Bank Establishment and will be reviewed and approved by the IRT.

Financial assurances will be provided as required by the Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (USACE 2008) and following the guidelines set forth in Implementing Financial Assurance for Mitigation Project Success (USACE 2016).

## SECTION 6

# QUALIFICATIONS OF THE BANK SPONSOR

The Bank Sponsor, SCP Conservation LLC, (SCP) has a successful fifteen-year track record as an established mitigation banker with extensive experience in mitigation bank management, habitat offset markets, real estate, and environmental finance.

SCP's managing partner, Gray Stevens, is a regular instructor on the business of banking at the USFWS Training Center in Shepherdstown, WV and a frequent conference speaker on the topic of successful mitigation banking practices. He served for several years on the Board of Directors of the Florida Association of Mitigation Bankers.

The Bank Manager, Rocky Mountain Mitigation, LLC (RMM), is a private company that provides a wide range of natural resource offsets, including wetland and stream compensatory mitigation for the Clean Water Act program. RMM's staff and contractors are highly trained and experienced personnel that have been planning, designing, and implementing mitigation and restoration projects since 2005. RMM staff and contractors have worked in different USACE Districts and states such as Colorado, Nebraska, Virginia, Utah, Maine, New Hampshire, Vermont, and Massachusetts.

## SECTION 7

# ECOLOGICAL SUITABILITY

## Existing Conditions

The Bank site existing conditions exhibit significant evidence of human alteration to aquatic and other natural resources in its landscape. The southern part of the site consists of irrigated hayland which is dominated by introduced perennial grasses which outcompete native grasses and forbs. Repeated mowing/haying has negatively affected the presence of woody species which do not get a chance to establish. The complete lack of woody species on the south side of the property versus the north side, which remains un-mowed, is evidenced in the fence line photograph below and in aerial imagery of the site.

The site is located within the Southern Rocky Mountains Major Land Resource Area (MLRA), which is characterized by mountain ranges dissected by many steep-gradient stream valleys (USDA NRCS 2006). The upper slopes typically support montane forests. On the Bank site, these forests consist of lodgepole pine, aspen, Douglas fir, and ponderosa pine. Lower slopes and valleys support sagebrush shrublands and grasslands. Riparian areas typically support willow, alder, and birch scrub-shrub communities (USDA NRCS 2006)

Most precipitation in the region occurs as snowfall during the winter months and supports wetland communities as groundwater (CNHP 2003). High stream flows and flooding typically occurs in late spring and early summer and directly correlates to snowpack amounts. Upstream wetlands also contribute to baseline streamflow during later-summer and periods of drought. Fens, or groundwater-fed, organic soil wetlands, are also common in the region. These special aquatic resources have a high accumulation of organic matter which can be of “variable thickness and the depth and degree of decomposition



## SECTION 7, CONT'D

varies according to the stability of the water table, quality of detritus, and soil temperatures” (CNHP 2003). Shrub wetlands with  $\geq 40$  cm of organic matter accumulations indicates permanent saturation from groundwater input and not fluvial processes. Wetlands meeting these criteria are typically classified as Rocky Mountain Subalpine-Montane Fens (CNHP 2003).

The majority of the wetland complex at the Bank site can be defined as Rocky Mountain Subalpine-Montane Riparian Shrubland, or Rocky Mountain Subalpine-Montane Fen ecological habitat types. These ecological habitat types are found at montane to subalpine elevations from 2,280 to 3,410 m (7,500 to 11,200 ft). This riparian system is a seasonally flooded shrubland that occurs in a variety of geomorphic settings and with variable community structure, often forming a mosaic of shrub- and herb-dominated vegetation types. These aquatic systems are often defined as narrow to wide bands of shrub and herbaceous vegetation lining stream banks and alluvial terraces, or as extensive willow shrublands of valley bottoms and slopes. Occurrences can also be found around seeps, fens, and isolated springs on hillslopes away from valley bottoms very similar to the aquatic resources found at the Bank site. Vegetation includes short to tall willow, or occasionally birch, alder, or other shrub dominated communities (CNHP 2003).

The herbaceous understory in these areas can be or for dominated, including graminoid species. Higher elevation scrub-shrub communities are typically dominated by species including planeleaf willow (*Salix planifolia*) and wolf willow (*Salix wolfii*). At lower elevations, taller willows predominate, including Geyer willow (*Salix geyeriana*), mountain willow (*Salix monticola*), Booth's willow (*Salix boothii*) and Drummond willow (*Salix drummondiana*). These can be interspersed with other non-willow shrubs including thinleaf alder (*Alnus incana*), river birch (*Betula occidentalis*), and red-osier dogwood (*Cornus sericea*) (CNHP 2003).

The site also provides the diversity of habitats required for the lifecycle of GUSG, making it an ideal choice for protection through a mitigation banking instrument. The diversity of habitat includes breeding habitat (small open areas adjacent to stands of sagebrush or “leks”); summer habitat (high elevation mesic areas, croplands, wet meadows, and riparian areas); and winter habitat (sagebrush available above accumulated snow) (USFWS 2019).

A full wetland delineation report will be conducted and submitted at the appropriate time; an NWI map is provided for reference in Appendix A.

The soils on the site are typical within floodplain wetlands along Tomichi Creek and are encouraging for restoration activities. There were four soil types mapped within wetlands in the study area (USDA, 2021): Cryolls-Cryaquolls association, 0 to 15 percent slopes. The Cryaquolls soil type portion is classified as poorly drained and is commonly found on valley floors. Other upland soil types include Goosepeak gravelly loam, cool, 20 to 65 percent slopes, Herberman very gravelly sandy loam, 25 to 65 percent slopes, Herberman, moist-Kismuth complex, 25 to 65 percent slopes, Quander very gravelly loam, dry, 5 to 25 percent slopes, Tellura very gravelly clay loam, dry, 15 to 65 percent slopes, very bouldery. Soils Map can be found in Appendix B.

There is diverse species habitat at the Bank Site including black bear, elk, mule deer, snowshoe hare, jackrabbit, cottontail, turkey, grouse, ptarmigan, and numerous species of fish in the area include rainbow trout, brown trout, and brook trout. The Bank Site is outside of mapped critical habitat for the Southwestern Willow Flycatcher and the Western Yellow-billed Cuckoo. In addition, the site lacks the dense woody vegetation along Tomichi Creek that might be used by either species. The site is also outside of the cool, boreal spruce-fir forest that the Canada Lynx relies on for its survival. GUSG Critical Habitat overlaps with the Project area. Suitable habitat; consisting of large, contiguous areas of sagebrush with a diversity of grasses and forbs, and nearby wetland and riparian areas; may be present in the Project area. Leks may potentially also be present in the Project area.

The Bank is within the mapped critical habitat for the GUSG. The grouse was listed as Threatened under the Endangered Species Act in 2014, and critical habitat was established for the species at the same time. Tomichi Creek Headwaters contains 360 acres of unoccupied critical habitat within a 1,450 acre block of unoccupied critical habitat for GUSG in the east end of the Gunnison Basin. Designated unoccupied critical is habitat that occurs within the boundaries of the species' historical range; within approximately 18.5 km (11.5 mi) of occupied habitat; which contains large portions habitat where at least 25 percent of the landscape is dominated by sagebrush cover within a 1.5-km (0.9-mi) radius. The unoccupied habitats are important because they allow for the expansion of the current geographic distribution of the species and potentially facilitate movements among populations. The block of unoccupied habitat to the east of the Gunnison Basin provides a link between those birds in occupied habitat to the north and west.

The Habitat Report, conducted by Corvus Environmental, for the Bank Site can be found in Appendix C.

**Figure 9 Existing Conditions:** Impacts from cattle grazing and haying activities that can be seen via aerial. The area north of the fenceline has limited cattle grazing but no haying, while the south of the fenceline has on-going intense cattle grazing and haying activities.



## SECTION 8

# WATER RIGHTS

Water rights are of vital consideration to any project due to the appropriations system of the state. RMM will work directly with the Colorado Department of Water Resources to ensure compliance with water laws and that the Bank's restoration and enhancement efforts are compliant with Colorado State water laws and provide sufficient water to support the restoration design. We considered water availability through our site selection process. The site aquatic resources are driven mainly by groundwater. Additionally, there is an existing in-stream flow right on Tomichi Creek as it runs through the site.

## REFERENCES

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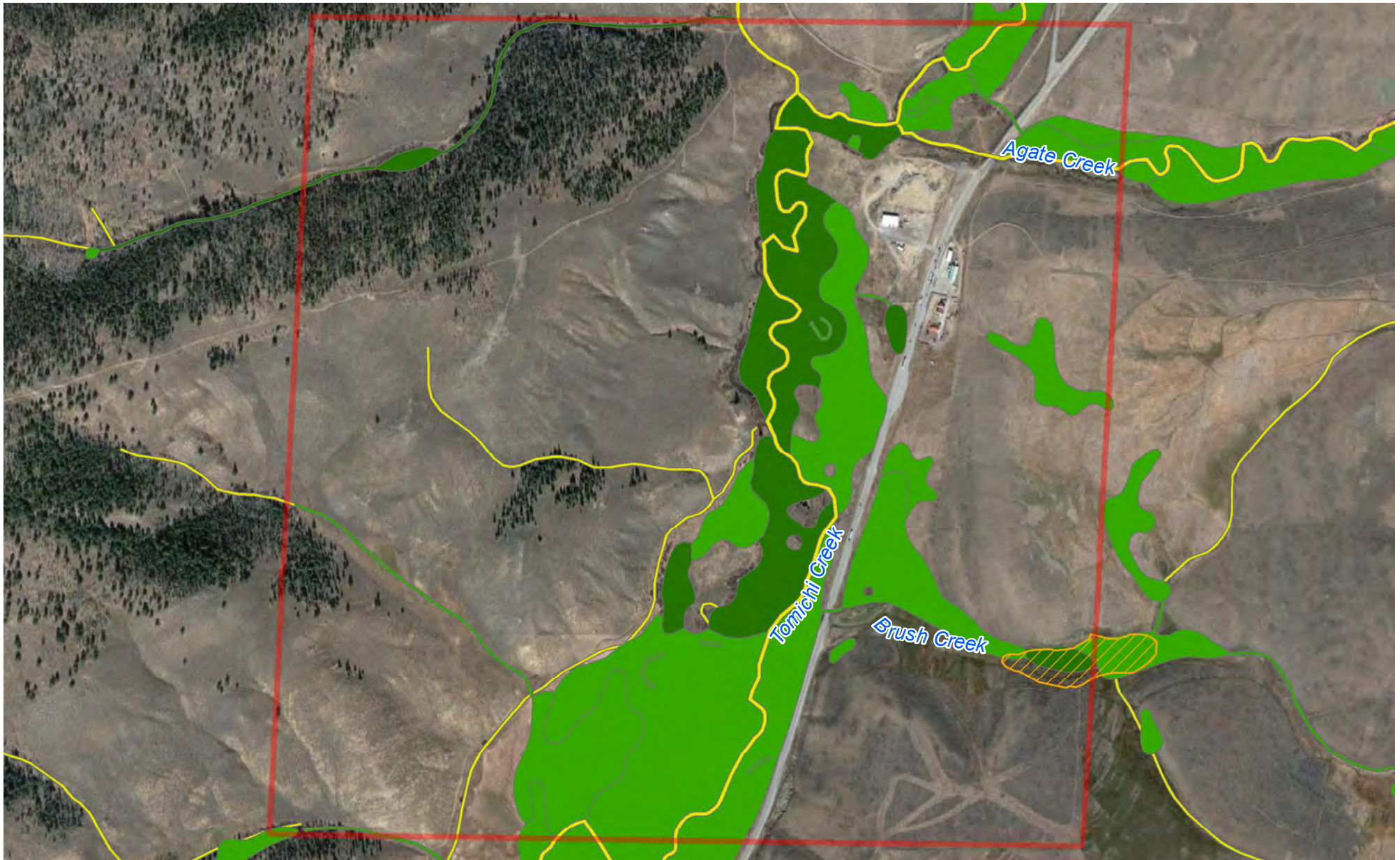
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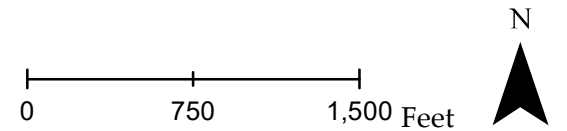
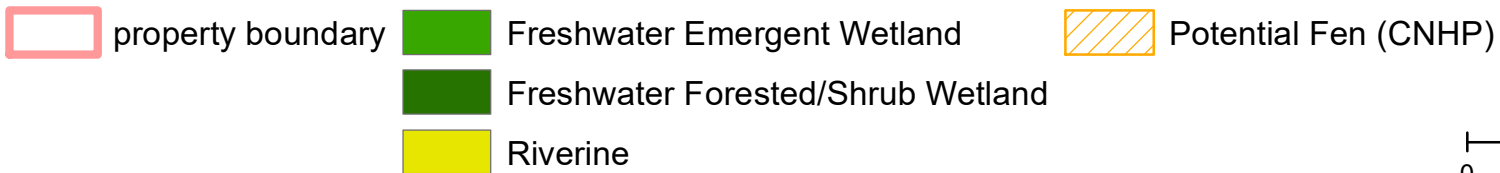
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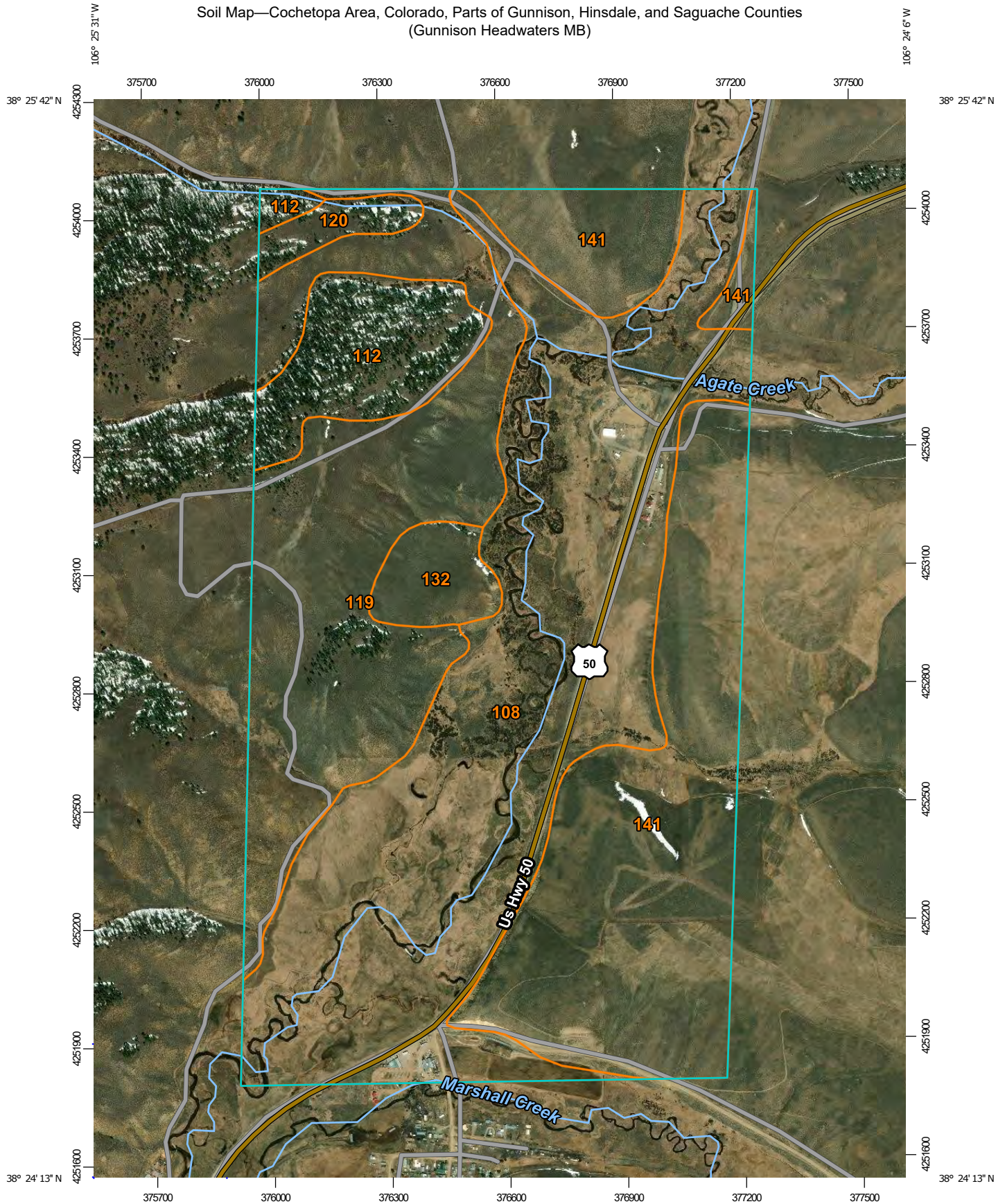


**GUNNISON HEADWATERS MITIGATION BANK - NWI Mapping**

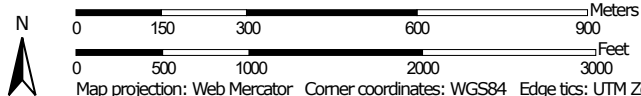




Soil Map—Cochetopa Area, Colorado, Parts of Gunnison, Hinsdale, and Saguache Counties  
(Gunnison Headwaters MB)



Map Scale: 1:13,300 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

8/26/2021  
Page 1 of 3

Soil Map—Cochetopa Area, Colorado, Parts of Gunnison, Hinsdale, and Saguache Counties  
(Gunnison Headwaters MB)

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cochetopa Area, Colorado, Parts of Gunnison, Hinsdale, and Saguache Counties

Survey Area Data: Version 13, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Oct 7, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
108	Cryolls-Cryaquolls association, 0 to 15 percent slopes	285.9	40.6%
112	Goosepeak gravelly loam, cool, 20 to 65 percent slopes	45.6	6.5%
119	Herbman very gravelly sandy loam, 25 to 65 percent slopes	155.3	22.1%
120	Herbman, moist-Kismuth complex, 25 to 65 percent slopes	10.3	1.5%
132	Quander very gravelly loam, dry, 5 to 25 percent slopes	17.3	2.5%
141	Tellura very gravelly clay loam, dry, 15 to 65 percent slopes, very bouldery	189.1	26.9%
<b>Totals for Area of Interest</b>		<b>703.5</b>	<b>100.0%</b>



## MEMORANDUM

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September 18, 2021

To: Stephen Decker, Rocky Mountain Mitigation

From: Carla DeMasters, CORVUS Environmental Consulting, LLC

Re: INFORMAL (no federal nexus currently) Federally Threatened and Endangered Species Habitat Assessment for Gunnison Headwaters Mitigation Bank

Rocky Mountain Mitigation (Client) have requested a threatened and endangered species habitat assessment for the Tomichi Creek Headwaters Mitigation Bank Project area in anticipation of proposed land management or disturbance to comply with Section 7 of the Endangered Species Act. The Project is located along State Highway 50 less than 1 mile north of the town of Sargents in Saguache County, Colorado. The proposed work primarily entails wetland and stream restoration and enhancement.

### **Project Objective**

The purpose of the threatened and endangered species habitat assessment is to determine if there may be suitable habitat for listed species listed under the Endangered Species Act (ESA) within the Project area. This Project also assesses the potential for impacts to species that may not occur in the Project area but would be affected by project-related water depletions within their associated river basin.

### **Project Area Description**

The Project area consists of approximately 526 acres of land along Colorado State Highway 50 less than 1 mile north of the town of Sargents, Colorado. The elevation in the Project area ranges from approximately 8,500 to 8,900 feet above mean sea level.

CORVUS accessed the United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPAC) database and requested an unofficial (not for consultation) list of threatened and endangered species that may be present in the Project area or may be affected by the proposed Project (see attached ECOS report). The listed species, preferred habitat and listing status are provided in Table 1. A field visit was conducted on July 8, 2021, to record onsite conditions and habitats. The habitat requirements for these species were compared with onsite observations to determine if there may be suitable habitat for each species in the Project area.

TABLE 1. FEDERALLY THREATENED AND ENDANGERED SPECIES POTENTIALLY FOUND IN PROJECT AREA

Species	Preferred Habitat*	Status
<b>Birds</b>		
Gunnison Sage-grouse ( <i>Centrocercus minimus</i> )	Require large, contiguous areas of sagebrush with a diversity of grasses and forbs, as well as healthy wetland and riparian areas.	Threatened
Mexican Spotted Owl ( <i>Strix occidentalis lucida</i> )	Residents of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density). Canyons with riparian or conifer communities are also important components.	Threatened
Southwestern Willow Flycatcher ( <i>Empidonax traillii extimus</i> )	Requires dense riparian habitats for nesting consisting of cottonwood/willow and tamarisk vegetation near saturated soils, standing water, streams, pools, or cienegas. Typically found below 8,500 feet of elevation.	Endangered
Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )	Densely covered woody habitats with nearby water. Habitats includes woodlands with low shrubby vegetation, orchards, abandoned farmland, and dense thickets along streams and marshes. Nest in willows along flowing water with cottonwoods nearby for forage.	Threatened
<b>Fishes</b>		
Bonytail ( <i>Gila elegans</i> )	Warm water, main-stem streams, occasionally found in backwaters and reservoirs of the Colorado and Green Rivers. Prefer rocky, silty, or muddy substrates except during spawning where they prefer cobble.	Endangered
Colorado Pikeminnow (=squawfish) ( <i>Ptychocheilus lucius</i> )	Swift flowing muddy rivers with quiet, warm backwaters (CPW 2021).	Endangered
Humpback Chub ( <i>Gila cypha</i> )**	Deep, turbid, fast-moving waters commonly associated with large boulders and steep cliffs (CPW 2021).	Endangered
<b>Mammals</b>		
Canada Lynx ( <i>Lynx canadensis</i> )	Associated with boreal to subalpine forest habitats in the western United States. Prefer areas that receive deep snow and have high prey densities.	Threatened

Source: USFWS 2021.

\*Preferred habitat descriptions from USFWS Environmental Conservation Online System (ECOS) Species Profiles.

\*\*Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. This species does not need to be considered if the project is outside of its occupied habitat and does not deplete water from the basin (USFWS).



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HABITAT FOR LISTED SPECIES IN PROJECT AREA

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**Gunnison Sage-grouse** Critical Habitat overlaps with the Project area. ***Suitable habitat; consisting of large, contiguous areas of sagebrush with a diversity of grasses and forbs, and nearby wetland and riparian areas; may be present in the Project area. Leks may potentially also be present in the Project area.***

**Mexican Spotted Owl** habitat consists of closed canopy forests in steep canyons. Some potentially suitable habitat consisting of mature coniferous forest is present in the Project area, but not in an area that would be affected by any Project work. The Project area is also not located within this species' range in Colorado, which does not include Saguache County (USFWS 2021). ***Potentially suitable habitat consisting of mature coniferous forest may be present in the Project area but is unlikely to be affected by the Project.***

**Southwestern Willow Flycatchers** require dense riparian habitats for nesting consisting of cottonwood/willow and tamarisk vegetation near saturated soils, standing water, streams, pools, or cienegas. This species is typically found below 8,500 feet of elevation. The Project area ranges from approximately 8,500 to 8,900 feet above mean sea level and as such, is at the upper elevational limit for this species. The Project area is also located at the northernmost extent of this species' range in Colorado, which includes Saguache County (USFWS 2021). ***Potentially suitable habitat consisting of dense willow riparian areas along Tomichi Creek may be present in the Project area.***

**Yellow-billed Cuckoo** habitat consists of densely covered woody habitats with nearby water, including streamside willow thickets for nesting. This bird is considered a riparian obligate that prefers multiple vegetation layers including cottonwoods in Colorado (CPW 2019). The Project area is also located within this species' range in Colorado, which includes Saguache County (USFWS 2021). Dense willows (*Salix* spp.) occur along Tomichi Creek; however, the community is lacking the stratum diversity typically preferred by this bird, namely that which could be provided by cottonwood trees (*Populus* spp.). ***Potentially suitable habitat consisting of dense willow riparian areas along Tomichi Creek may be present in the Project area.***

**Bonytail** and **Humpback Chub** are fish present in the Colorado River Basin that are affected by new, continued, or ongoing water depletions affecting flow volume and timing within the Colorado River Basin. Bonytail occupied habitat includes the Colorado and Green Rivers within Mesa and Moffat Counties. The Humpback Chub occupies the Black Rocks and Westwater Canyon areas of the Colorado River, Desolation/Gray Canyon area of the Green River, and in the Lower Colorado River Basin in the Grand Canyon (Upper Colorado River Endangered Fish Recovery Program 2020). The Project area does not fall within the occupied range of these fish in Colorado, which does not include Saguache County (USFWS 2021). However, at this time, the proposed Project is not anticipated to change the total surface area of wetlands or open water, so there will be no project-associated change to flow volume or timing in Tomichi Creek. ***As a result, the project may likely result in no changes in depletions to the Colorado River Basin.***

Two wild populations of the **Colorado Pikeminnow** exist in Colorado, one in the Upper Colorado River system and one in the Green River system (USFWS). This fish utilizes medium to large sized rivers with deep, turbid, swift flowing waters with eddies, runs, and backwaters (USFWS). Spawning occurs during

declining flow in June through August with average water temperatures of 22-25° Celsius (C) (C.F.R 1994) and within high-turbidity systems such as cobble-bottomed riffles (Colorado River Recovery). Spawning has been documented to be associated with declining flows in June, July, or August and average water temperatures ranging from 22 to 25 °C (C.F.R 1994). The nearest USGS stream gauge at Sargents, CO (09115500) does not collect temperature data. Based on water temperatures from the USGS stream gauge on Tomichi Creek at Gunnison (09119000), water temperatures for the spawning timeframe (June, July, August) roughly range from 15.3°C to 18.4 °C, which is below the typical Colorado Pikeminnow spawning temperature range. ***As such, potential Colorado Pikeminnow spawning habitat is likely not present in the Project area.***

**Canada Lynx** reside in subalpine and upper montane forest areas which range from 9,900 feet to 11,600 feet in elevation (USFS). Forests in these areas typically contain subalpine fir, Engelmann spruce, aspen, and lodgepole pine. The Project area is located within this species' range in Colorado, which includes Saguache County (USFWS 2021). Some potentially suitable habitat consisting of coniferous forest is present in the Project area, but not in an area that would be affected by any Project work. The elevation within the Project area ranges from approximately 8,500 to 8,900 feet, slightly lower is elevation than this species prefers. Additionally, the project area is located next to Colorado State Highway 50 creating consistent human disturbance nearby the Project area. ***As a result, potential suitable habitat for the Canada lynx is likely not present in the Project area.***

Additional work, including but not limited to an official IPAC database request and effects determinations for the species listed above, may be required for ESA compliance.

Sincerely,



Carla DeMasters  
Senior Ecologist

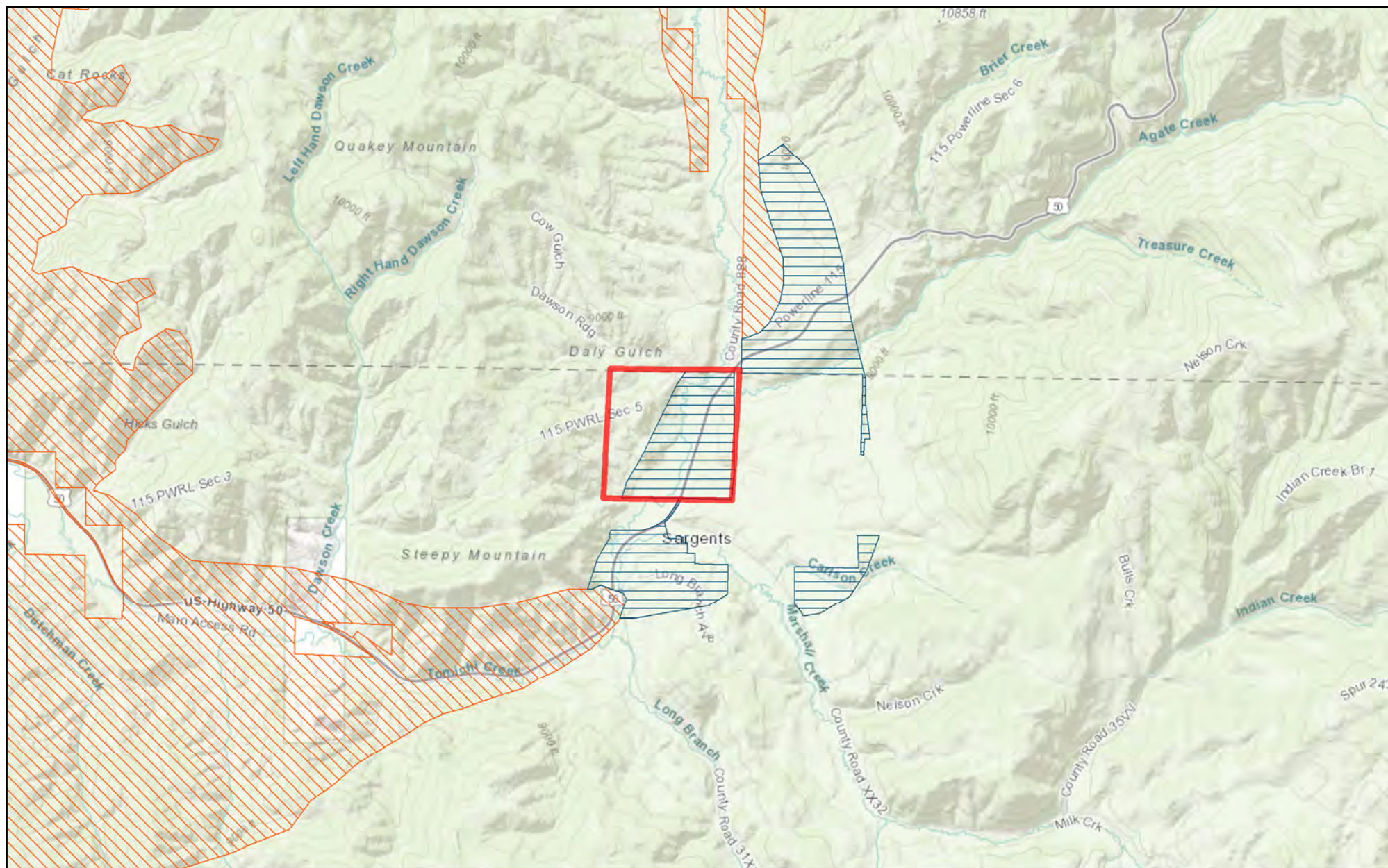
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# **GUNNISON HEADWATERS MITIGATION BANK - Gunnison Sage Grouse Habitat**

