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Birds of Selected Grassland and Riparian Plots along the Rocky Mountain Front: Inventory 2004



Prepared for:
The U.S. Fish & Wildlife Service, Partners for Wildlife Program
and
The Nature Conservancy of Montana

By:
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INTRODUCTION

Montana's Rocky Mountain Front has long been recognized as an area of great wildlife diversity. Although the wetland dotted expanse of rolling grass-covered foothills is well known for its biological richness, limited attention has been paid to bird species that inhabit this landscape. Unlike Montana's prairie lands, which are well documented as providing important habitat to many species of birds endemic to the region, little information regarding avian diversity, presence, distribution, or abundance is available for the lands shadowed by the Rocky Mountains.

As a result of an interest in this area, a cooperative project between the Montana Natural Heritage Program, the U.S. Fish and Wildlife Service (USFWS), and the Montana Field Office of The Nature Conservancy was developed in 2004. This effort, a first year survey, was designed to inventory bird species across a representative sample of the grassland and riparian habitats along the Rocky Mountain Front in northwestern Montana. The general project area was bounded on the north by the South Fork of Dupuyer Creek, on the south by the Wolf Creek Hills, to the east generally by state highway 287 and 289, and to the west by the eastern edge of conifer forest habitat along the Front. The Nature Conservancy and the U.S. Fish and Wildlife identified and secured permission to access appropriate properties within this area within which subplots were randomly selected for sampling. Montana Natural Heritage Program staff personnel conducted the field inventory work during the first two weeks of July 2004.

METHODS

The sampling protocols for birds for this project were designed with the understanding the breeding season was well underway by the time of the sampling. The majority of the work was targeted to grassland habitat (approximately 75%), with the remainder to riparian habitat. The USFWS provided annotated maps showing the boundaries and landowners of the private and state-owned properties to be sampled. Each property was at least 100 ha (about 0.38 mi²) in size and with a north-to-south gradient represented in the final selection of properties.

The basic procedure of sampling grassland parcels was to survey at 0.25 mi² (quarter section) sample blocks, each chosen in a stratified random manner. This block size was smaller than the smallest parcel, so each target land parcel with adequate grassland received at least one grassland sample block; the number of sample blocks per parcel was determined by the size of individual parcels, accessibility, and geographic distribution. Heritage personnel walked a zigzag route through each sample block for 60 minutes, during which time all individual birds detected were recorded. When possible, individuals were categorized as adults or juveniles. At locations where extra time was spent tracking birds to nests or otherwise documenting breeding, that time was added to the original 60 minutes, in order to standardize search effort for generating lists of species and individuals. Beginning and end points at each block were GPSd. Sketch maps were made for each grassland sample plot, indicating the route of travel through the block.

To provide a coarse-level habitat description for each sample block, categorical habitat data was collected that included vegetation height (<0.1 m, 0.1-0.5 m, >0.5 m), vegetation type of the two most abundant vertical forms (grass, forb, shrub, bush, tree), percent bare/moss-covered ground (0%, 1-25%, >25-50%, >50-75%, >75%), and grazing intensity (none, light, heavy). Five estimates were made for each study block, one taken every 10 minutes during the sampling period.

Riparian strips in the study area were sampled using methodology similar to that of the grassland blocks, by quarter section. Thus, riparian sample strips were 0.5 miles in length; chosen in a stratified random manner, based on parcel size, and presence of riparian habitat within parcels, accessibility, and geographic distribution. The path of travel through riparian strips was generally parallel to their orientation with minimal backtracking. Beginning and end points of travel through riparian strips were GPSd. All birds detected during the sampling time of 60 minutes were recorded. Likewise to the grassland plots, cases where extra time was spent tracking birds to nests or otherwise documenting breeding, time was added to the original 60 minutes, in order to standardize search. Sketch maps were made for each riparian sample strip, indicating our route of travel through the strip.

To provide a coarse-level habitat description for each riparian area sampled, we recorded categorical habitat data which included vegetation height (<1.0 m, >1-2 m, >2-5m, >5-10 m, >10 m), vegetation type of the two most abundant vertical forms (grass, forb, shrub, bush, tree), number of vegetation layers (i.e., grass, shrub, one tree canopy = 3), diameter of nearest tree (<1-10 cm, >10-20 cm, >20-40 cm, >40 cm) if tree species are present in the riparian area sampled, and grazing intensity (none, light, heavy). Five estimates were made for each study block, one taken every 10 minutes during the sampling period.

RESULTS

Seventy-six bird species were recorded during the 2004 grassland and riparian field surveys (Table 1). Six of the seventy-six are state Species of Concern and include Long-billed Curlew (*Numenius americanus*), Swainson's Hawk (*Buteo swainsoni*), Ferruginous Hawk (*Buteo regalis*), Sprague's Pipit (*Anthus spragueii*), McCown's Longspur (*Calcarius mccownii*), and Chestnut-collared Longspur (*Calcarius ornatus*) (MTNHP 2004). Fourteen of the species observed are identified by the Montana Partner's in Flight as species either of needed conservation action (I), in need of monitoring (II), or of local concern (III) (Table 2) (Casey 2000).

Breeding was confirmed for three of the species of concern, Long-billed Curlew, Swainson's Hawk and Ferruginous Hawk, with the presence of either nests with young or recently fledged juveniles. Based upon observed behavior, breeding was suspected for the other identified Species of Concern. Direct evidence of breeding was observed for four other species recorded during the surveys, Northern Waterthrush (*Seiurus noveboracensis*), Vesper Sparrow (*Pooecetes gramineus*), Red-winged Blackbird (*Agelaius phoeniceus*), and Brewer's Blackbird (*Euphagus cyanocephalus*).

At the time of the field inventory many birds were well into or had completed their breeding event for the year. Although direct evidence of breeding was not confirmed for the majority of species at the time of survey, breeding is likely since these individuals were observed in appropriate habitat, at the appropriate time of year (immediately post-nesting, but pre-migration), and often included singing males. Data from the Montana Bird Distribution database indicates that breeding was either confirmed (B), or indirect evidence of breeding (b) was observed, for all species (save one) for the latilong* in which the sample blocks were surveyed. The Yellow-breasted Chat (*Icteria virens*), was not previously recorded for this latilong location (see table 1) (MBD 2004). In addition, another 141 species are reported as breeding or potentially breeding for this same latilong; these include species present across all habitat types, including conifer forest and wetlands. [*Latilong is a combination of the words latitude and longitude and represents the area formed by the intersection of these imaginary mapping lines (Lenard et al. 2003).]

Thirty grassland and five riparian plots were surveyed. One riparian plot selected for survey was not performed as the condition of the vegetation was limited (no trees and limited-to-no shrub component); the decision was made to exclude the riparian area and replace it with a grassland plot elsewhere on the landowner's property.

Of the forty-two bird species recorded in the grassland plots, the most abundant species was the Vesper Sparrow, accounting for the largest number of individuals per species and detected on 93% (28) of the plots surveyed. The Western Meadowlark (*Sturnella neglecta*) and Horned Lark (*Eremophila alpestris*) were the second and third most conspicuous species, both in number of plots and percentage of plots present (Table 3). These results were anticipated by previous roadside surveys conducted by staff of The Nature Conservancy (Karr and Korte, pers. comm 2004). Interestingly, the fifth and sixth most abundant species detected were the Long-billed Curlew and the McCown's Longspur, both State Species of Concern. The Sprague's Pipit, also a Species of Concern, was within the top thirty percent of the most abundant grassland species observed.

During the 2004 inventory, both the Long-billed Curlew and Sprague's Pipit were consistently present on the north to south plot gradient. The McCown's Longspur, however, was only detected north of the Sun River. While breeding was confirmed for Ferruginous Hawk on one grassland plot during a survey on a parcel south of the Sun River (one adult, two juvenile birds, and a used

nest were recorded), two other individuals were noted north of the river, on a portion of a property not formally included in a survey. Numbers of individuals observed of other Species of Concern were too limited to make any inferences about local distributions for the survey period.

Forty-seven species of birds were recorded during the riparian plot surveys (see Table 4). Eleven species were common to the two habitat types, with Vesper Sparrow the most abundant across both. The three most abundant species observed in the riparian areas were the Yellow Warbler (*Dendroica petechia*), American Robin (*Turdus migratorius*), and Gray Catbird (*Dumetella carolinensis*). The one state Species of Concern observed in the riparian plots was a confirmed breeding observation of the Swainson's Hawk.

Table 1. 2004 Inventory Bird List - abundance and breeding evidence records

Common Name	Scientific name	Survey count total	MBD Evidence of breeding
Vesper Sparrow	<i>Pooecetes gramineus</i>	158	b
Horned Lark	<i>Eremophila alpestris</i>	120	b
Western Meadowlark	<i>Sturnella neglecta</i>	110	b
McCown's Longspur*	<i>Calcarius mccownii</i>	70	b
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	46	b
Yellow Warbler	<i>Dendroica petechia</i>	40	b
American Goldfinch	<i>Carduelis tristis</i>	34	b
Common Yellowthroat	<i>Geothlypis trichas</i>	33	b
Savannah Sparrow	<i>Passerculus sandwichensis</i>	29	b
Long-billed Curlew*	<i>Numenius americanus</i>	21	b
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	17	B
American Robin	<i>Turdus migratorius</i>	17	B
Black-billed Magpie	<i>Pica hudsonia</i>	16	b
Tree Swallow	<i>Tachycineta bicolor</i>	15	b
Western Wood-Pewee	<i>Contopus sordidulus</i>	14	b
Gray Catbird	<i>Dumetella carolinensis</i>	14	b
Song Sparrow	<i>Melospiza melodia</i>	13	b
Clay-colored Sparrow	<i>Spizella pallida</i>	12	b
Killdeer	<i>Charadrius vociferus</i>	11	b
Red-tailed Hawk	<i>Buteo jamaicensis</i>	9	b
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	9	b
Warbling Vireo	<i>Vireo gilvus</i>	9	B
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	9	b
Upland Sandpiper	<i>Bartramia longicauda</i>	8	b
Common Raven	<i>Corvus corax</i>	8	B
Northern Flicker	<i>Colaptes auratus</i>	7	b
House Wren	<i>Troglodytes aedon</i>	6	b
Sprague's Pipit*	<i>Anthus spragueii</i>	6	b
Cedar Waxwing	<i>Bombycilla cedrorum</i>	6	B
Brown-headed Cowbird	<i>Molothrus ater</i>	6	b
Least Flycatcher	<i>Empidonax minimus</i>	5	B
Mallard	<i>Anas platyrhynchos</i>	4	b
Northern Harrier	<i>Circus cyaneus</i>	4	b
Eastern Kingbird	<i>Tyrannus tyrannus</i>	4	b
Rock Wren	<i>Salpinctes obsoletus</i>	4	b
Swainson's Hawk*	<i>Buteo swainsoni</i>	3	B
Ferruginous Hawk*	<i>Buteo regalis</i>	3	b
American Kestrel	<i>Falco sparverius</i>	3	b
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	3	B
Wilson's Snipe	<i>Gallinago delicata</i>	3	b
Common Nighthawk	<i>Chordeiles minor</i>	3	b
Cordilleran Flycatcher	<i>Empidonax occidentalis</i>	3	b
Black-capped Chickadee	<i>Poecile atricapilla</i>	3	b

Eared Grebe	<i>Podiceps nigricollis</i>	2	b
Gadwall	<i>Anas strepera</i>	2	B
American Wigeon	<i>Anas americana</i>	2	B
Sandhill Crane	<i>Grus canadensis</i>	2	b
Marbled Godwit	<i>Limosa fedoa</i>	2	b
Mourning Dove	<i>Zenaida macroura</i>	2	B
Calliope Hummingbird	<i>Stellula calliope</i>	2	b
Belted Kingfisher	<i>Ceryle alcyon</i>	2	b
Mountain Chickadee	<i>Poecile gambeli</i>	2	b
Mountain Bluebird	<i>Sialia currucoides</i>	2	b
Cassin's Vireo	<i>Vireo cassinii</i>	2	b
Yellow-rumped Warbler	<i>Dendroica coronata</i>	2	b
Northern Waterthrush	<i>Seiurus noveboracensis</i>	2	b
Yellow-breasted Chat	<i>Icteria virens</i>	2	- +
Spotted Towhee	<i>Pipilo maculatus</i>	2	b
Chipping Sparrow	<i>Spizella passerina</i>	2	b
Turkey Vulture	<i>Cathartes aura</i>	1	B
Golden Eagle	<i>Aquila chrysaetos</i>	1	B
Merlin	<i>Falco columbarius</i>	1	B
Ring-necked Pheasant	<i>Phasianus colchicus</i>	1	b
Spotted Sandpiper	<i>Actitis macularia</i>	1	b
Ring-billed Gull	<i>Larus delawarensis</i>	1	B
Great Horned Owl	<i>Bubo virginianus</i>	1	b
Rufous Hummingbird	<i>Selasphorus rufus</i>	1	b
Downy Woodpecker	<i>Picoides pubescens</i>	1	b
Dusky Flycatcher	<i>Empidonax oberholseri</i>	1	b
Barn Swallow	<i>Hirundo rustica</i>	1	b
American Crow	<i>Corvus brachyrhynchos</i>	1	B
Ruby-crowned Kinglet	<i>Regulus calendula</i>	1	b
Veery	<i>Catharus fuscescens</i>	1	b
Chestnut-collared Longspur*	<i>Calcarius ornatus</i>	1	b
Red-breasted Nuthatch	<i>Sitta canadensis</i>	1	b

* Species on the Montana Animal Species of Concern list - July 2004

+The Yellow-breasted Chat is the only species not previously recorded for this latilong. Since it was a new record, no evidence of breeding was available for this latilong.

Table 2. Birds of conservation concern observed during 2004 Inventory

Common name	Species of concern	MT Partners in Flight
Sprague's Pipit	G4/S2B	I
Long-billed Curlew	G5/S2B	II
Ferruginous Hawk	G4/S2B	II
Swainson's Hawk	G5/S3B	III
Mc Cown's Longspur	G5/S2B	-
Chestnut-collared Longspur	G5/S3B	-
Cordilleran Flycatcher	-	II
Marbled Godwit	-	II
Veery	-	II
Red-naped Sapsucker	-	II
Northern Harrier	-	III
Clay-colored Sparrow	-	III
Gray Catbird	-	III
Least Flycatcher	-	III
Chipping Sparrow	-	III
Killdeer	-	III

Montana Animal Species of Concern

(S=state status; G=global status)

S2B – At risk during breeding because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.

S3B – Potentially at risk during breeding because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.

G4 – Uncommon but not rare (although the species may be rare in parts of its range) usually widespread. Apparently not vulnerable across most of its range, but possibly cause for long-term concern.

G5 – Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable across most of its range (MTNHP 2004).

Montana Partner's in Flight Priority Levels

I Conservation Action: these are species for which Montana has a clear obligations to implement conservation.

II Monitoring Species: Montana has a high responsibility to monitor the status of these species, and/or to design conservation actions.

III Local Concern: Presence of these species may serve as added criteria in the desing and selection if conservation or monitoring strategies (Casey 2000).

Table 3. Birds observed on grassland plots (n = 30 plots).

Bird Species	Total # of individuals	# of plots present	% of plots present
Vesper Sparrow	137	28	93%
Western Meadowlark	110	24	80%
Horned Lark	120	20	67%
Brewer's Blackbird	46	13	43%
Long-billed Curlew	22	12	40%
McCown's Longspur	70	10	33%
Savannah Sparrow	29	10	33%
Upland Sandpiper	8	6	20%
Killdeer	11	5	17%
Sprague's Pipit	6	5	17%
Red-tailed Hawk (flyover)	5	4	13%
Northern Harrier	4	4	13%
Cliff Swallow	17	2	7%
Black-billed Magpie	9	2	7%
Common Raven (flyover)	4	2	7%
Rock Wren	4	2	7%
Red-winged Blackbird	3	2	7%
Sharp-tailed Grouse	3	2	7%
American Goldfinch (flyover)	3	2	7%
Marbled Godwit	2	2	7%
American Goldfinch	8	1	3%
Clay-colored Sparrow	4	1	3%
Common Raven	4	1	3%
Tree Swallow	4	1	3%
Ferruginous Hawk	3	1	3%
Mountain Bluebird	2	1	3%
Sandhill Crane	2	1	3%
Common Nighthawk	2	1	3%
Brown-headed Cowbird	2	1	3%
Eared Grebe	2	1	3%
Gadwall	2	1	3%
American Wigeon	2	1	3%
Ring-billed Gull	1	1	3%
Ring-necked Pheasant	1	1	3%
Golden Eagle (flyover)	1	1	3%
Chestnut-collared Longspur	1	1	3%
Common Yellowthroat	1	1	3%
Red-tailed Hawk	1	1	3%
American Crow (flyover)	1	1	3%
Turkey Vulture (flyover)	1	1	3%
American Kestrel (flyover)	1	1	3%
Merlin (flyover)	1	1	3%
Wilson's Snipe	1	1	3%

Table 4. Birds observed on riparian plots (n = 5 plots).

Bird Species	Total # of individuals	# of plots present	% of plots present
Yellow Warbler	40	4	80%
American Robin	17	4	80%
Gray Catbird	14	4	80%
Song Sparrow	13	4	80%
Common Yellowthroat	32	3	60%
American Goldfinch	23	3	60%
Vesper Sparrow	15	3	60%
Western Wood-Pewee	14	3	60%
Tree Swallow	11	3	60%
Warbling Vireo	9	3	60%
Red-naped Sapsucker	9	3	60%
Northern Flicker	7	3	60%
Black-billed Magpie	7	3	60%
House Wren	6	3	60%
Clay-colored Sparrow	8	2	40%
Yellow-rumped Warbler	6	2	40%
Least Flycatcher	5	2	40%
Eastern Kingbird	4	2	40%
Red-tailed Hawk	3	2	40%
Cordilleran Flycatcher	3	2	40%
Mourning Dove	2	2	40%
Calliope Hummingbird	2	2	40%
Wilson's Snipe	2	2	40%
Belted Kingfisher	2	2	40%
Red-winged Blackbird	6	1	20%
Cedar Waxwing	6	1	20%
Mallard	4	1	20%
Brown-headed Cowbird	4	1	20%
Swainson's Hawk	3	1	20%
Black-capped Chickadee	3	1	20%
American Kestrel	2	1	20%
Spotted Towhee	2	1	20%
Yellow-breasted Chat	2	1	20%
Cassin's Vireo	2	1	20%
Northern Waterthrush	2	1	20%
Chipping Sparrow	2	1	20%
Mountain Chickadee	2	1	20%
Barn Swallow	1	1	20%
Dusky Flycatcher	1	1	20%
Common Nighthawk	1	1	20%
Veery	1	1	20%
Downy Woodpecker	1	1	20%
Rufous Hummingbird	1	1	20%
Spotted Sandpiper	1	1	20%
Great Horned Owl	1	1	20%

Ruby-crowned Kinglet	1	1	20%
Red-breasted Nuthatch	1	1	20%

SPECIES LISTS BY PROPERTY

The species indicated in each description below were observed on the properties identified and represent combined observations of birds in the grassland and riparian plots, where appropriate. We suggest neither that these lists are comprehensive nor definitive and stress that any decisions made based upon these observations are done so with a caveat understanding the limitations of the data. We strongly encourage additional field work during the breeding season in future years to capture additional species and their use of the habitat available on these properties.

Bay

Two grassland plots were surveyed on the Bay property on July 2, 2004; [T16N R4W S18 SW1/4; T16N R4W S18 NE1/4] (see attached map). A total of thirteen species were observed on the property; two were state Species of Concern, the Long-billed Curlew and Sprague’s Pipit. Although no evidence was discovered to confirm breeding, both of these species were observed singing or calling, behavior suggesting that breeding may have occurred at this location. Additional species observed include Killdeer, Upland Sandpiper, Wilson’s Snipe, Horned Lark, Rock Wren, Common Yellowthroat, Vesper Sparrow, Savannah Sparrow, Western Meadowlark, Brewer’s Blackbird, Brown-headed Cowbird. Two observations of food carrying by Brewer’s Blackbirds confirmed breeding for this species on this property.

Broken O Ranch

On July 9, 2004 four quarter sections were inventoried for bird species on the Broken O Ranch; [T21N R6W S29 SE¼; T21N R6W S28 SW¼; T21N R6W S33 SW¼; T21N R6W S32 NE¼] (see attached map). Survey of these grassland plots revealed seven bird species. Two state Species of Concern, the Long-billed Curlew and McCown’s Longspur, were recorded as either singing or calling at the time of the survey. This behavior suggests breeding, and given the appropriateness of the habitat, breeding is assumed, although no direct evidence was discovered. Other species recorded were Turkey Vulture, Red-tailed Hawk, Upland Sandpiper, Horned Lark, and Vesper Sparrow. The Vesper Sparrow, Horned Lark, and Upland Sandpiper exhibited behavior to suggest breeding, while the Turkey Vulture and Red-tailed Hawk were observed flying over the site.

Crawford

Five grassland blocks were surveyed on the Crawford property; [T24N R7W S14 NW¼; T24N R7W S14 NE¼; T24N R7W S14 SW¼; T24N R7W S14 SE¼; T24N R7W S13 SE ¼] (see attached map). Thirteen species of birds were observed during the survey. Two state Species of Concern were observed on this property, the Long-billed Curlew and Sprague’s Pipit. One of the Long-billed Curlews was a juvenile and confirmed breeding at this location. The Sprague’s Pipits were observed singing and suggest breeding, although no direct evidence (nest, eggs, or young) was observed at the time of the survey. Two species were observed flying over the site, the Turkey Vulture and Golden Eagle. An additional species, the Northern Harrier, was observed flying over the site, but was observed several times and was exhibiting hunting behavior. All other species, Ring-necked Pheasant, Sandhill Crane, Upland Sandpiper, Marbled Godwit, Horned Lark, Vesper

Sparrow, Western Meadowlark, and Brewer's Blackbird were seen or heard on the site. Appropriate habitat existed on the property to suggest its importance for breeding and/or foraging habitat for these species.

Dellwo

One grassland and one riparian plot were surveyed on the Dellwo property on July 8, 2004; [T25N R8W S3 SE¼; T26N R8W S35 SW] (see attached map). Eleven bird species were observed on the two blocks. Breeding was confirmed in the riparian area for Swainson's Hawk, a state Species of Concern, with the presence of a nest and two downy nestlings. A dead Western Meadowlark was also observed in the nest. Other species recorded in the riparian area include Yellow Warbler, Common Yellowthroat, American Robin, Song Sparrow, Clay-colored Sparrow, Gray Catbird, and Black-billed Magpie. All of these species are suspected of breeding at this location as many singing males were present. Breeding was confirmed for the American Robin and Clay-colored Sparrow as food carries were observed by individuals of both species, indicating young were being fed.

Two additional Species of Concern were observed on the grassland portion of the property that was surveyed, the Sprague's Pipit and Chestnut-collared Longspur. Other grassland species include Horned Lark, Vesper Sparrow and Western Meadowlark. Direct evidence of breeding was not obtained for these species, although the habitat appeared appropriate and singing males were observed.

DNRC

One grassland plot was inventoried on DNRC land on July 9, 2004 [T23N R7W S14 SW¼] (see attached map). Breeding of the Long-billed Curlew, a state Species of Concern, was confirmed at this site. The adult curlews were exhibiting behavior that suggested the presence of nest or young, and one juvenile bird was discovered. A second state Species of Concern, the McCown's Longspur, was observed on the site and showed behavior to suggest breeding, although no direct evidence was found. Additional bird species noted on this site include Northern Harrier, Killdeer, Horned Lark, Vesper Sparrow, Savannah Sparrow, and Western Meadowlark. Although not observed during the inventory, three Red-tailed Hawks, two adults and one immature, were observed along the road on the way out from this point.

Gollehon

Two grassland plots were surveyed on the Gollehon property on July 6, 2004; [T22N R5W S2 SW¼; T22N R5W S3 SE¼] (see attached map). Eight species of birds were observed on these parcels; Ring-billed Gull, Horned Lark, Cliff Swallow, Mountain Bluebird, Vesper Sparrow, McCown's Longspur, Western Meadowlark, and Brewer's Blackbird. The McCown's Longspur is a State Species of Concern. Fourteen individuals of this species were present, many of them were singing males, suggesting breeding at the location. Breeding was confirmed for the Mountain Bluebird (a nest box on one of the fences was active; food carry by the adult male was observed, the female was also present). Singing males of the Horned Lark, Vesper Sparrow, Western Meadowlark, and Brewer's Blackbirds were also observed, suggesting breeding for these species. Cliff Swallows were abundant and foraging across these two blocks, but breeding was not anticipated as appropriate breeding habitat was not immediately present on these blocks, although adjacent parcels contained suitable habitat. The Ring-billed Gull was observed as it flew over one of the plots, it did not land during the survey.

Jones

Two grassland blocks were surveyed on the Jones property on July 9, 2004; [T22N R7W S22 SW¼; T22N R7W S27 NE¼] (see attached map). Six species of birds were observed during the inventory. Two of the species, the Long-billed Curlew and McCown's Longspur are state Species of Concern. Several singing male McCown's Longspurs were observed, behavior that suggests breeding activity. Additional species observed on these parcels include Merlin, Horned Lark, Vesper Sparrow, and Western Meadowlark. The Horned Lark, Vesper Sparrow, and Western Meadowlark also exhibited behavior indicating they may have been breeding on these parcels.

Krause

Birds of the grassland plot surveyed on the Krause property [T19N R6W S6 SW¼] (see attached map) on July 1, 2004 include Ferruginous Hawk, a state Species of Concern. Breeding was confirmed for this species with the observation of an adult hawk, two immature birds, and the discovery of a recently used nest atop a ridge point on the property. Downy feathers and whitewash were evident at the nest site. Other birds recorded on this property include Rock Wren, Vesper Sparrow, and Western Meadowlark. Each of these species was observed singing or calling, behavior that suggests breeding.

LF Ranch - Augusta

Two riparian and two grassland quarter sections were surveyed on the LF Ranch-Augusta on July 10, 2004; [T19N R8W S3 NE¼; T19N R8W S3 NW¼; T19N R8W S2 NW¼; T19N R8W S1 NW¼] (see attached map). Forty species of birds were recorded for these parcels and are listed below. Of these, the Red-naped Sapsucker, Cordilleran Flycatcher, and Veery are identified by Montana Partner's In Flight as Priority II Species. Priority II species are identified as species for which Montana has a high responsibility to monitor status, and/or to design conservation actions to protect the species. The asterisk indicates that behavior (either singing, displaying, or food carry) of the species suggests the species was breeding at this location.

- Mallard
- Red-tailed Hawk*
- Sharp-tailed Grouse
- Spotted Sandpiper
- Wilson's Snipe*
- Mourning Dove*
- Common Nighthawk
- Calliope Hummingbird*
- Rufous Hummingbird
- Belted Kingfisher
- Red-naped Sapsucker*
- Downy Woodpecker
- Northern Flicker*
- Western Wood-Pewee*
- Least Flycatcher*
- Dusky Flycatcher*
- Cordilleran Flycatcher
- Eastern Kingbird

Tree Swallow
 Black-billed Magpie
 Black-capped Chickadee*
 House Wren*
 Veery*
 American Robin*
 Gray Catbird*
 Cedar Waxwing*
 Warbling Vireo*
 Cassin's Vireo*
 Yellow Warbler*
 Yellow-rumped Warbler*
 Northern Waterthrush*
 Common Yellowthroat*
 Yellow-breasted Chat*
 Spotted Towhee*
 Clay-colored Sparrow*
 Vesper Sparrow*
 Song Sparrow*
 Red-winged Blackbird*
 Western Meadowlark*
 Brewer's Blackbird*
 American Goldfinch*

LF Ranch - Skunk Creek

One riparian and three grassland plots were surveyed on the LF Ranch-Skunk Creek on July 2, 2004; [T17N R6W S15 NW¼; T17N R6W S15 NE¼; T17N R6W S14 SW¼; T17N R6W S23 NW¼] (see attached map). Thirty-two species of birds were recorded for these parcels and are listed below. Of these, the Long-billed Curlew is a state Species of Concern. Two additional Species of Concern, the Sprague's Pipit and Bobolink (*Dolichonyx oryzivorus*) were observed in parcels adjacent to the blocks surveyed and were within the boundary of the LF Ranch. An open water pond was present on this site and accounts for the Eared Grebe, Gadwall, American Wigeon, Killdeer, and Tree Swallow. An asterisk indicates that behavior (either singing, displaying, or food carry) of the species suggests the species may have been breeding at this location. Two nests of Vesper Sparrow were found, one with 4 nestlings and one with 3 eggs.

Eared Grebe
 American Wigeon
 Turkey Vulture
 Red-tailed Hawk*
 American Kestrel*
 Killdeer
 Upland Sandpiper*
 Long-billed Curlew*
 Marbled Godwit*
 Great Horned Owl
 Common Nighthawk*
 Belted Kingfisher*
 Red-naped Sapsucker*
 Northern Flicker*

Western Wood-Pewee*
Cordilleran Flycatcher*
Black-billed Magpie*
Tree Swallow
Mountain Chickadee*
Red-breasted Nuthatch*
House Wren*
Ruby-crowned Kinglet*
American Robin*
Gray Catbird*
Warbling Vireo*
Yellow Warbler*
Yellow-rumped Warbler*
Chipping Sparrow*
Vesper Sparrow*
Savannah Sparrow*
Red-winged Blackbird*
Western Meadowlark*
Brewer's Blackbird*
Brown-headed Blackbird
American Goldfinch*

Melaney

Four grassland plots on the Melaney property were surveyed on July 3, 2004; [T17N R4W S5 NE¼; T17N R4W S5 SE¼; T17N R4W S8 SE¼; T17N R4W S18 NW¼] (see attached map). In total, eleven species of birds were observed on these parcels. Two state Species of Concern, the Long-billed Curlew and Sprague's Pipit, were recorded as either singing or calling at the time of the survey. This behavior suggests breeding, and given the appropriateness of the habitat, breeding is assumed, although no direct evidence was discovered. Additional species observed during the inventory include Northern Harrier, Killdeer, Upland Sandpiper, Horned Lark, Common Raven, Vesper Sparrow, Savannah Sparrow, Western Meadowlark, and Brewer's Blackbird. Breeding was confirmed for the Horned Lark (three fledglings were discovered), Vesper Sparrow (fledglings were found as well as a nest with three eggs), and the Brewer's Blackbird (food carry), with indirect evidence of breeding for the Upland Sandpiper, Killdeer, Western Meadowlark, and Savannah Sparrow.

Peebles

Two blocks, one grassland and one riparian, were surveyed on the Peebles property on July 8, 2004 [T25N R7W S6 SE¼; T25N R7W S16 NE¼] (see attached map). Strong winds during the time of the inventory hampered efforts and may have prevented detection of all birds present. One state Species of Concern, the McCown's Longspur, was observed on the grassland plot. Appropriate breeding habitat existed at this site, and since the bird was a displaying male, breeding is suspected. Additional species found on the grassland site include Northern Harrier, which was being chased by a group of Brewer's Blackbirds, Horned Lark, Western Meadowlark, and Vesper Sparrow. Red-winged Blackbirds were observed in a small wet meadow at the edge of the block. Two Red-tailed Hawks were also observed flying overhead during the survey.

The riparian strip was comprised mainly of shrub species. With an absence of tree cover the number of bird species in this block was limited to Black-billed Magpie, Clay-colored Sparrow,

Gray Catbird, Song Sparrow, and Barn Swallow. Two Ferruginous Hawks, state Species of Concern, were observed flying over another parcel during the survey, so although they were not recorded for either of the blocks selected for inventory, it should be noted that they were observed foraging over the larger area of the Peebles property.

Skelton

Two grassland plots were surveyed on the Skelton property on July 9, 2004; [T26N R8W S1 NE¼; T26N R8W S1 NW¼] (see attached map). During the planning of this project, a riparian plot was identified for survey on this property. However, when the inventory work was performed the riparian plot was replaced by a grassland plot as the riparian area proved less diverse in plant species and structure than available data indicated.

Ten bird species were observed during the inventory of these two grassland plots. Strong winds during the time of the inventory hampered efforts and may have prevented hearing all the birds present. Among those birds seen and heard include Sharp-tailed Grouse, Long-billed Curlew, Horned Lark, Black-billed Magpie, American Crow, Vesper Sparrow, Savannah Sparrow, McCown's Longspur, Western Meadowlark, and Brewer's Blackbird. The Long-billed Curlew and the McCown's Longspur are state Species of Concern. The behavior of the Long-billed Curlews observed indicated that young may have been present, holding tight to a spot, then flushing on approach with territorial behavior, but no juvenile was found. Several McCown's Longspurs were also observed in behavior that suggested breeding. Given the observed behavior and the appropriateness of the habitat, we anticipate that both species were breeding at this location.

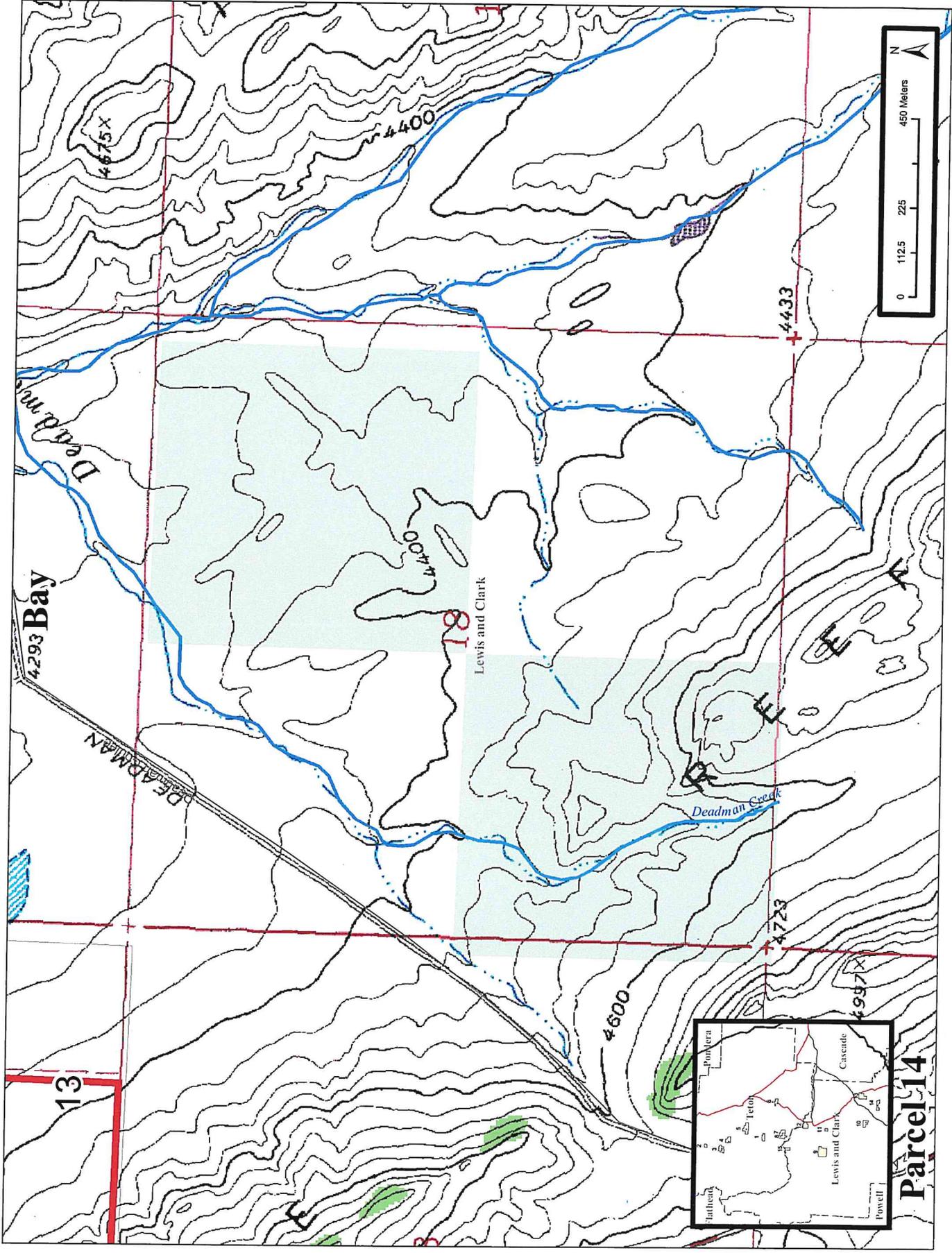
CONCLUSIONS

This report describes the methods we used for performing a first year inventory of bird species along the Rocky Mountain Front, and presents data from the 2004 field visit. Several state Species of Concern and/or PIF Priority Species were detected (Table 2), with many additional species present that are typical breeding members of grassland communities or riparian communities elsewhere in Montana. Most if not all of the species of special conservation concern probably breed on or near the properties where they were observed, however, our inventory occurred too late in the nesting season to determine breeding status with certainty. Thus, the information presented here should not be considered a comprehensive assessment of the avian diversity and status across the study area.

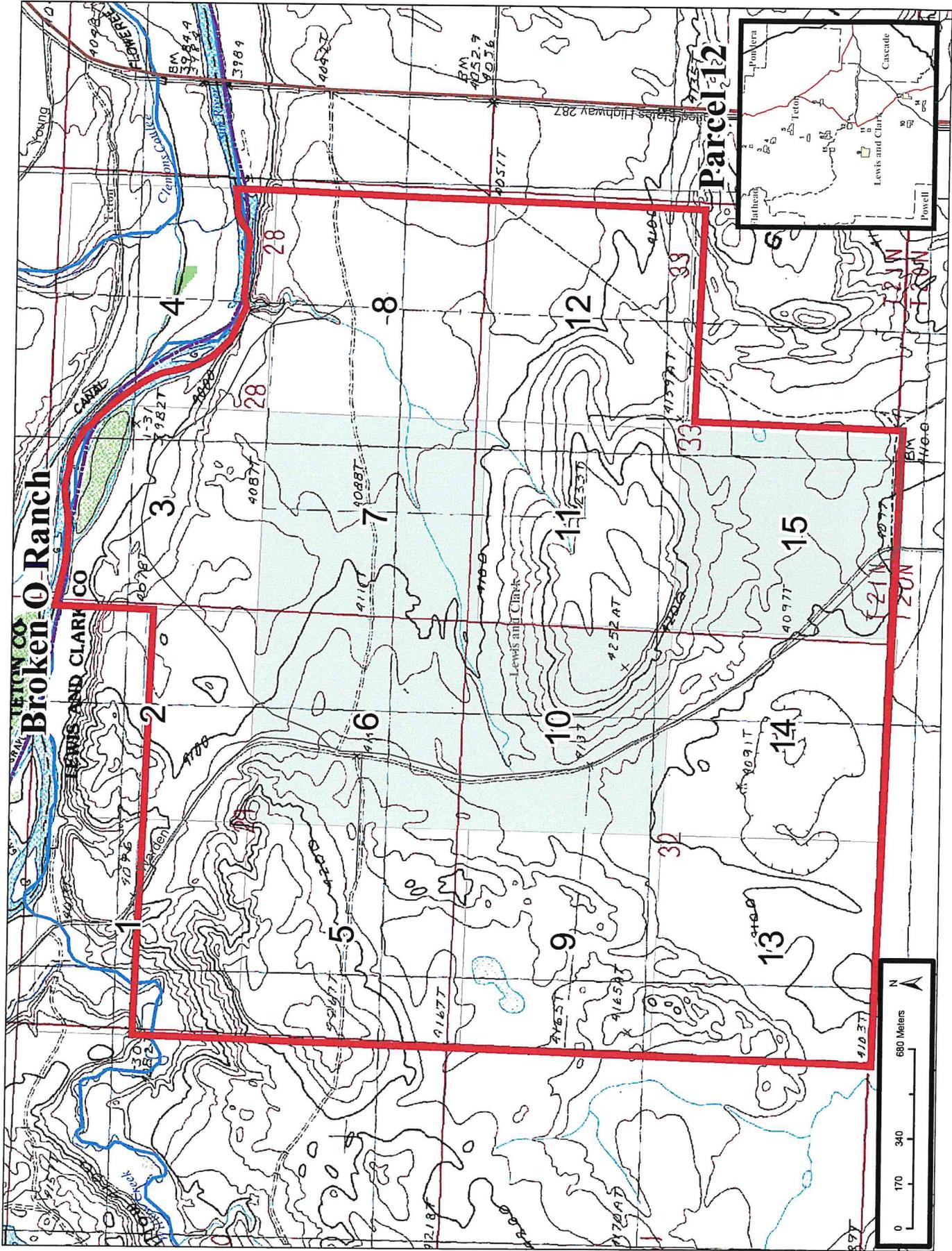
As a result of our inventory, we encourage the U.S. Fish and Wildlife Service and The Nature Conservancy to investigate the opportunity to initiate more intensive studies along the Front. Further investigations will assist in a better understanding of the avian diversity, distribution, status, and abundance in this area and its subsequent importance to the birds of Montana; the evidence gathered so far suggests the study area supports breeding populations of a significant number of bird species of conservation concern.

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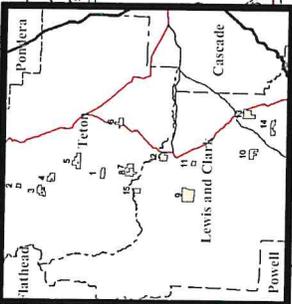
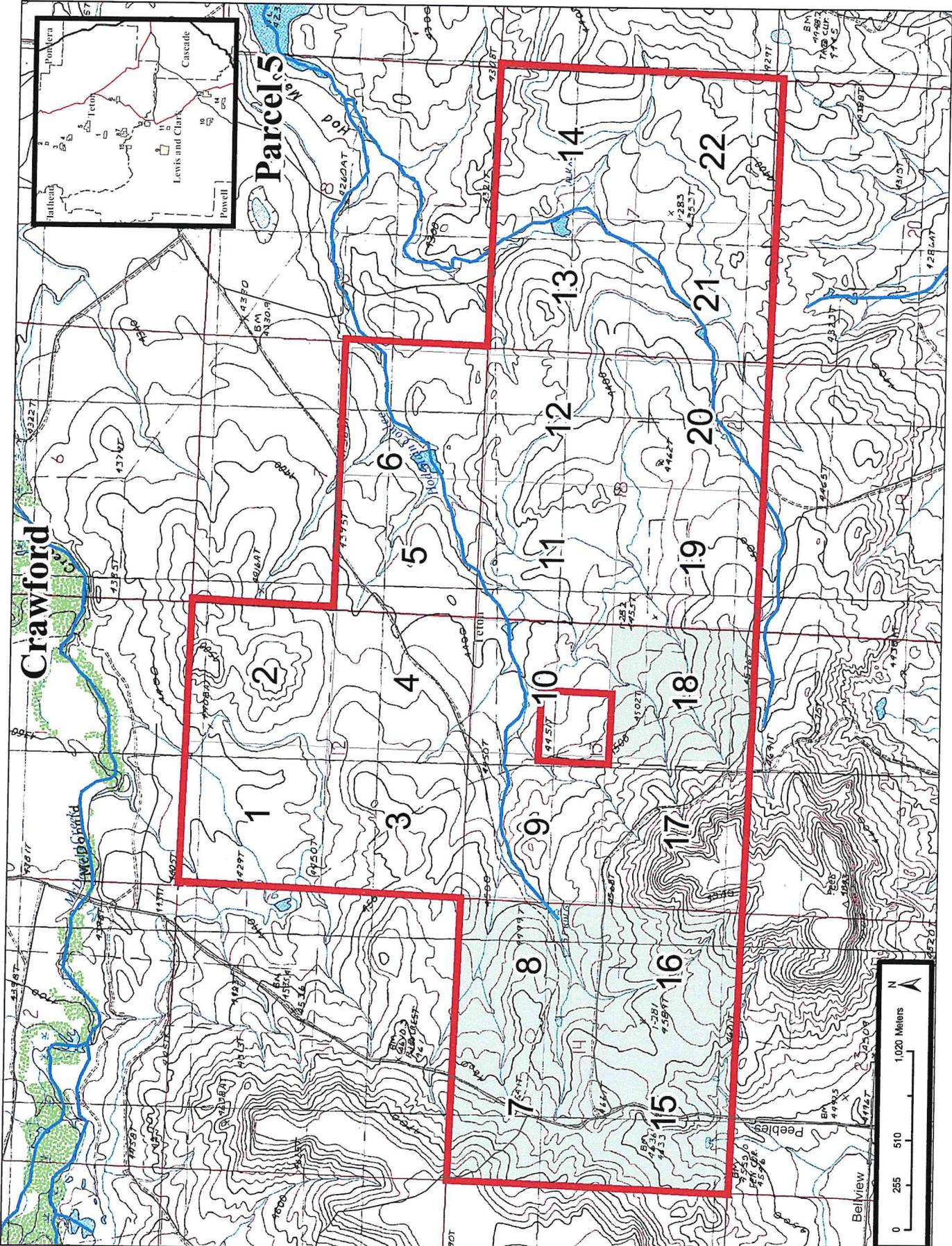


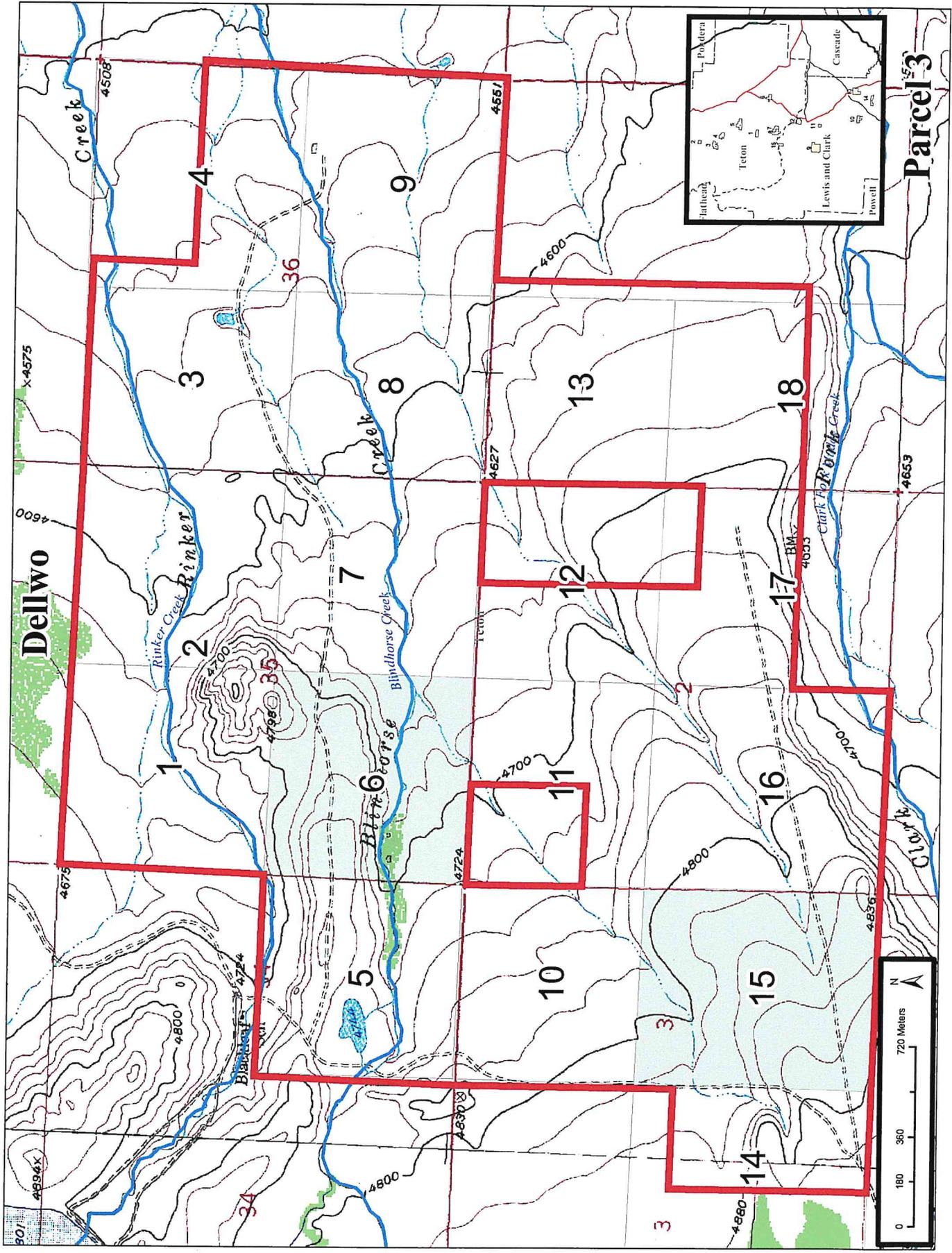
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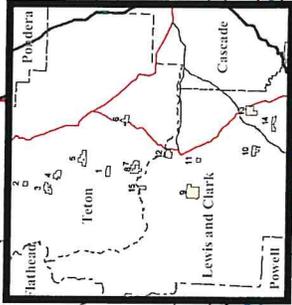
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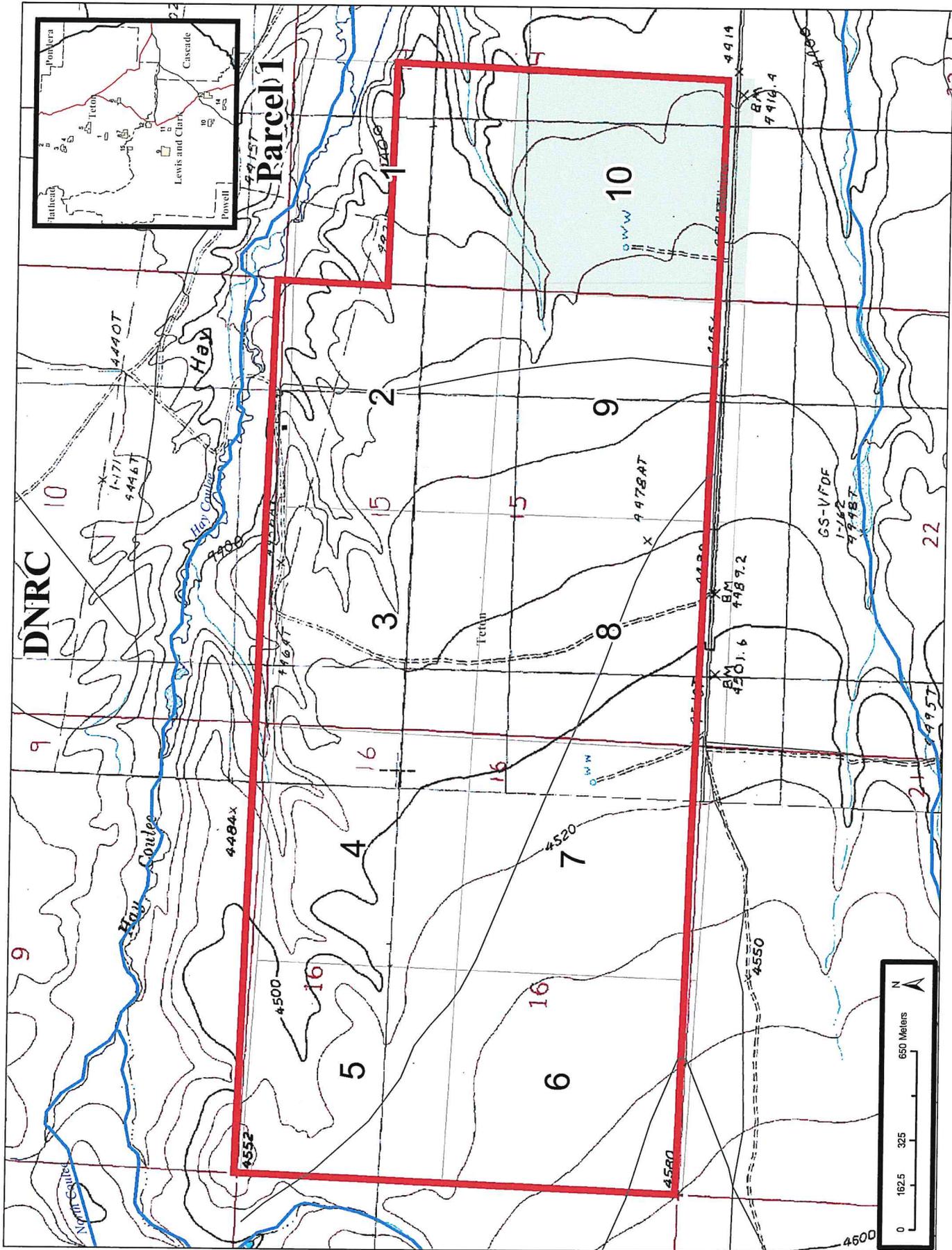
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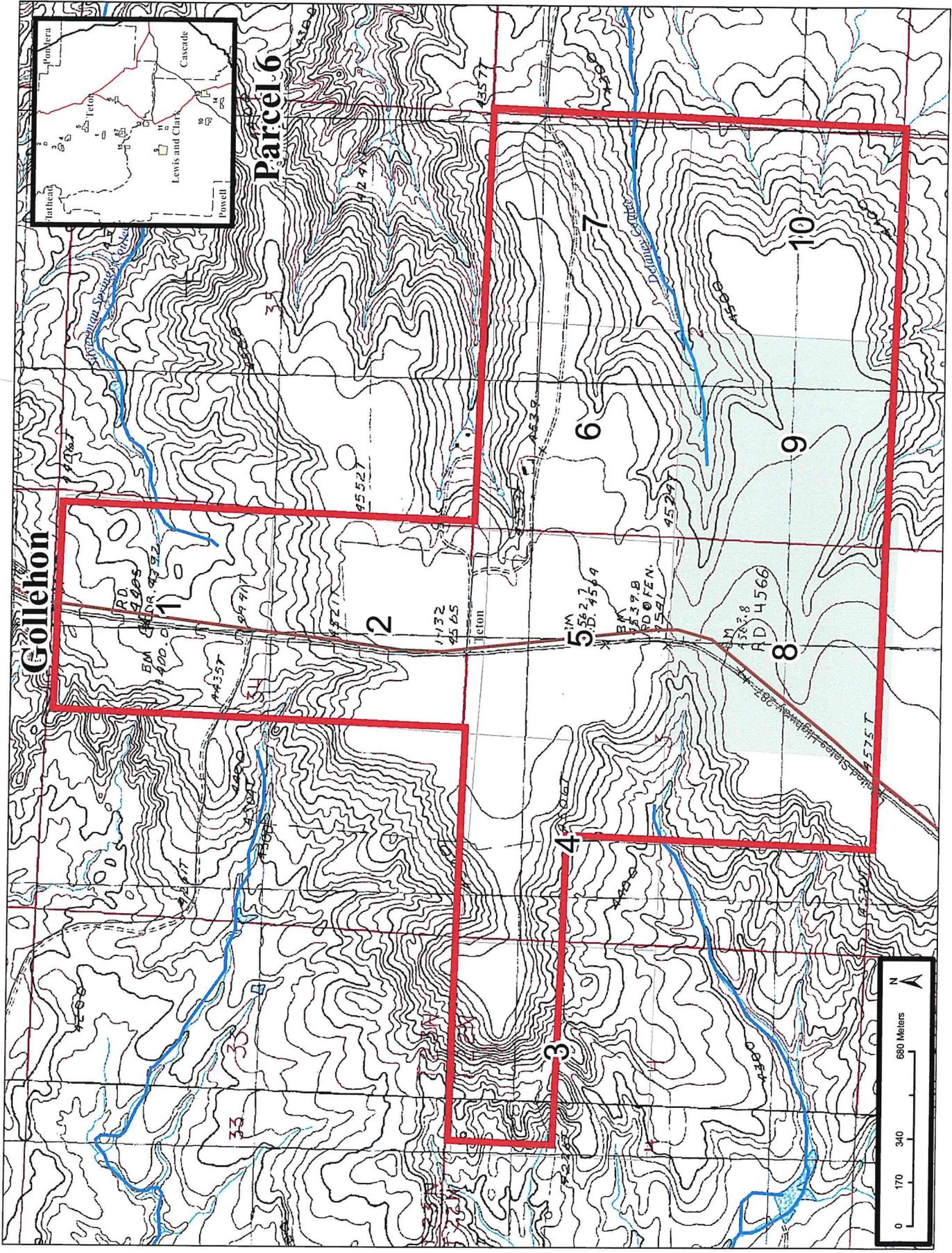




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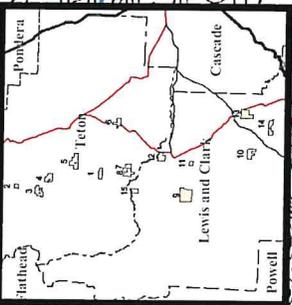


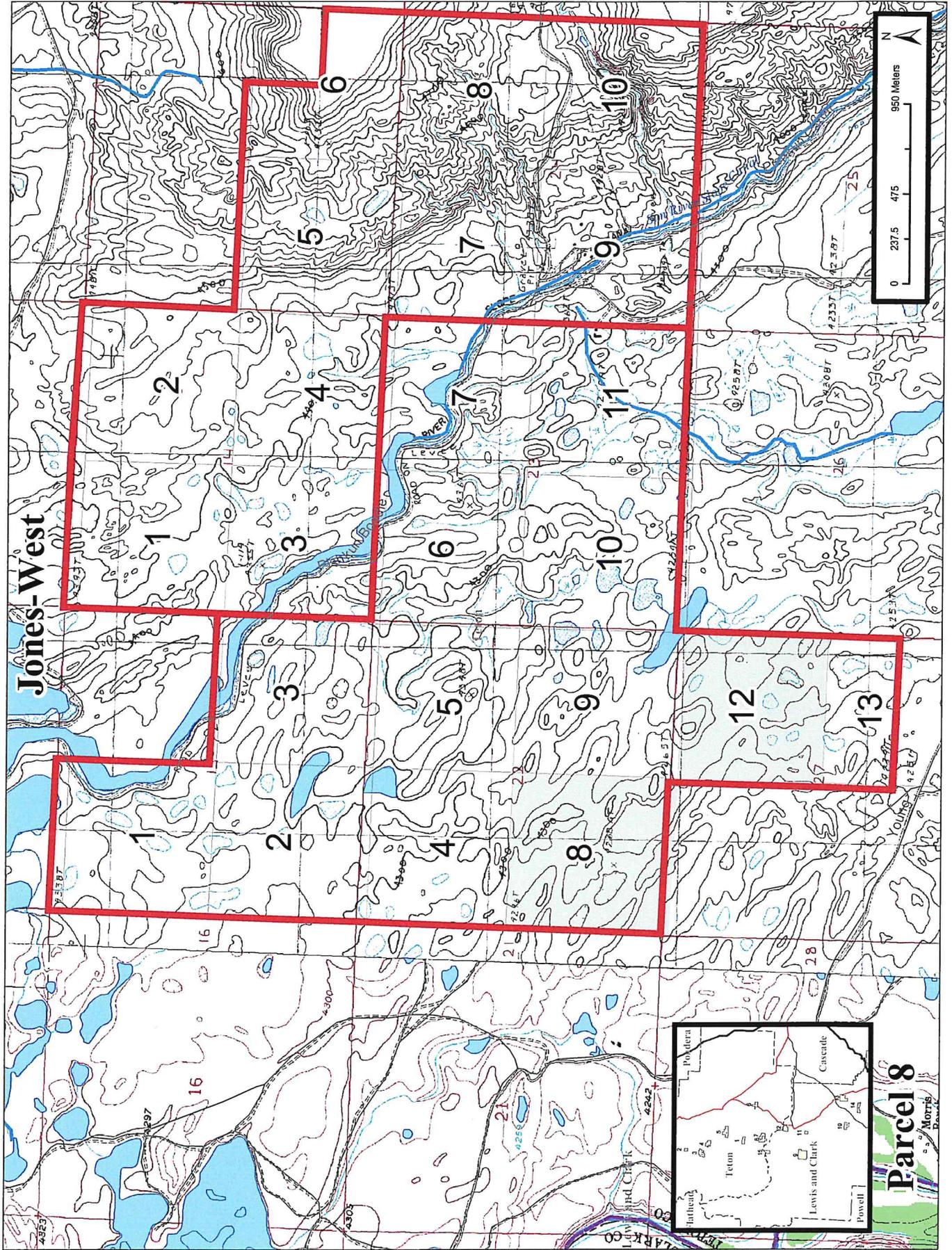




Gollehon

Parcel 6



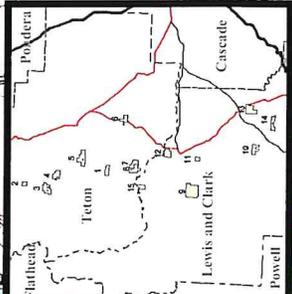


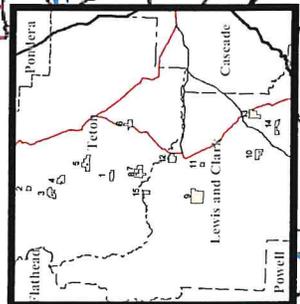
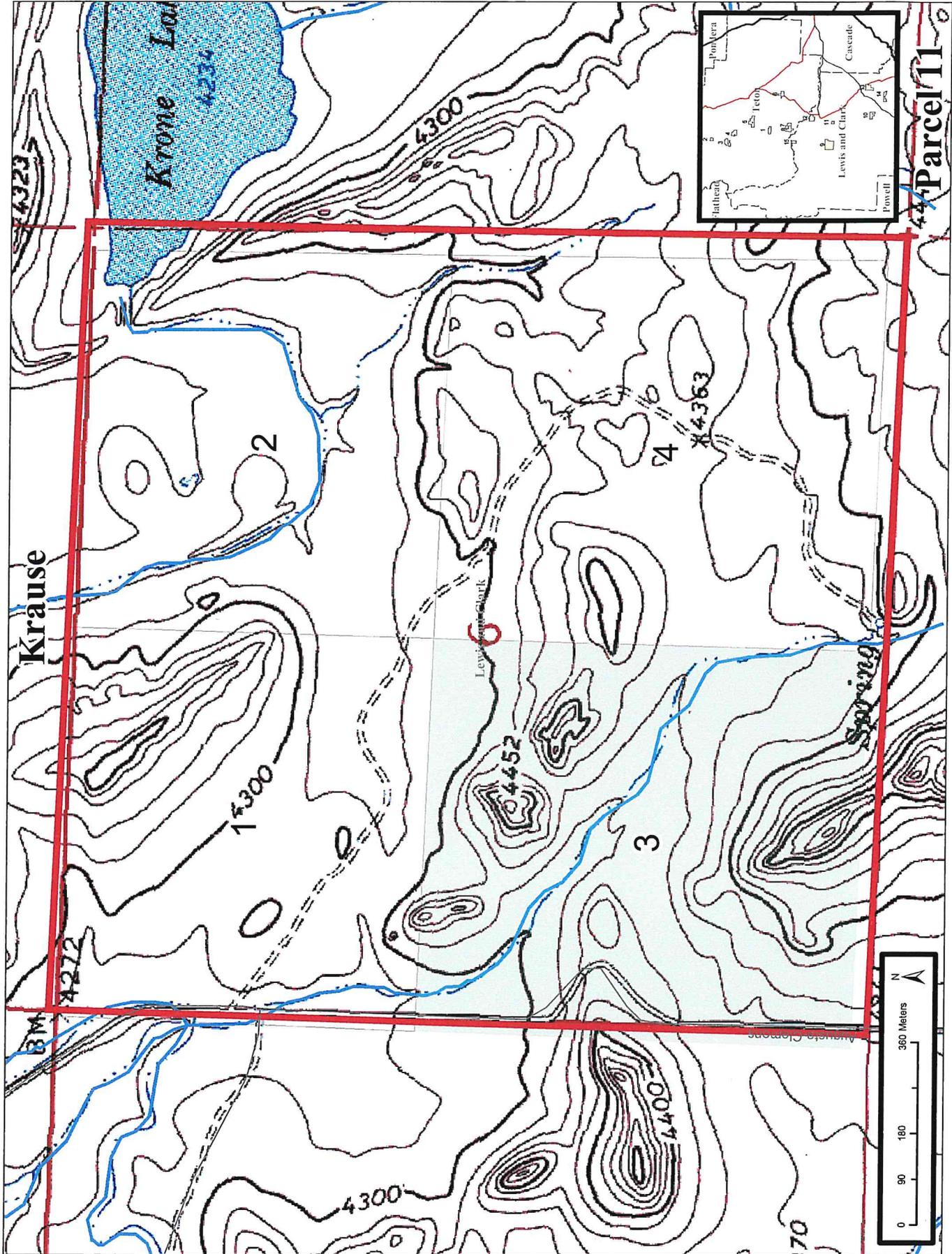
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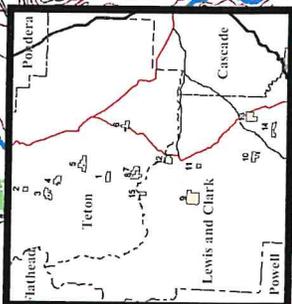
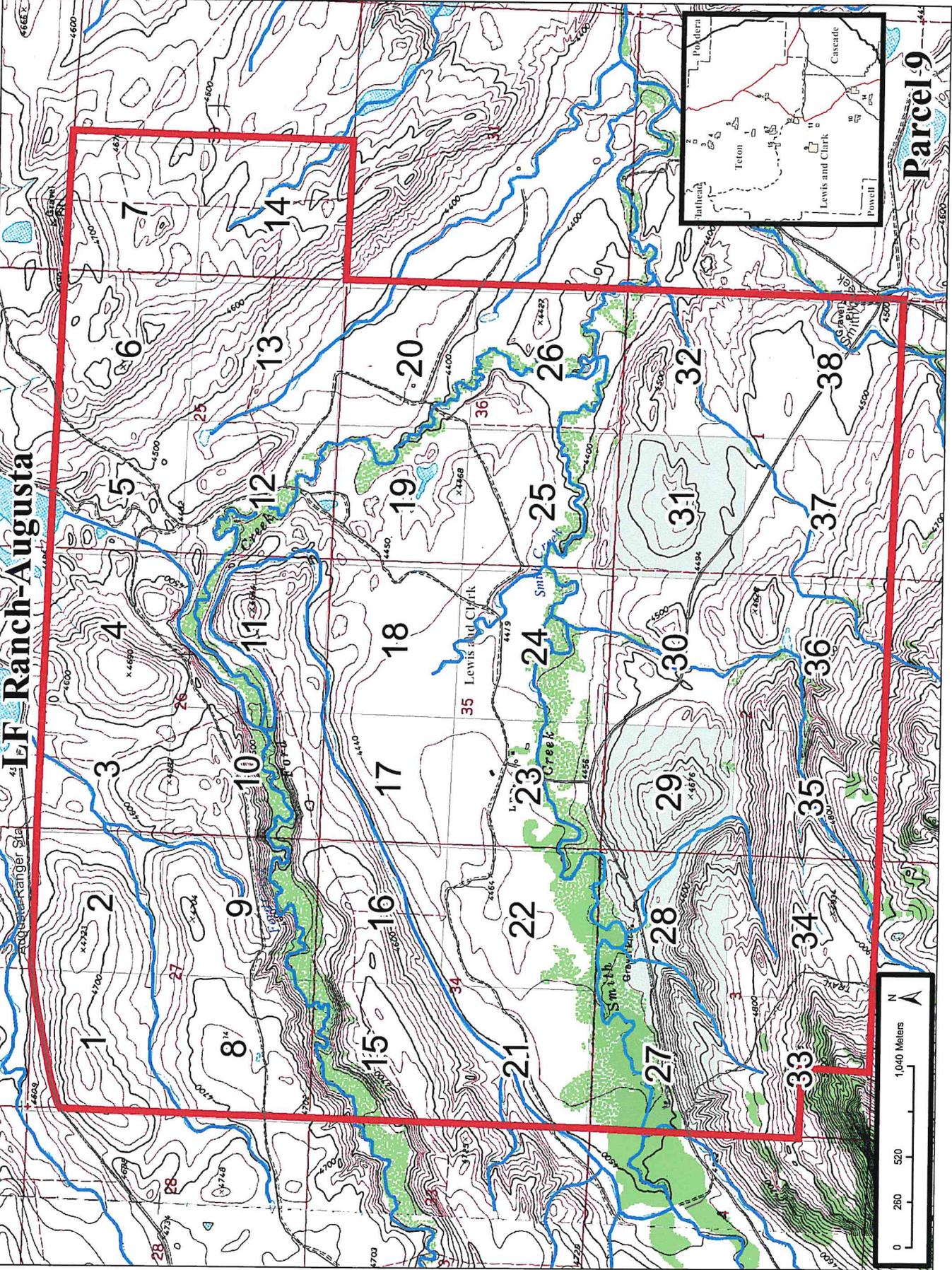
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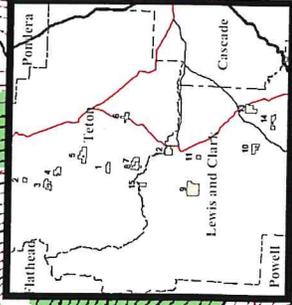
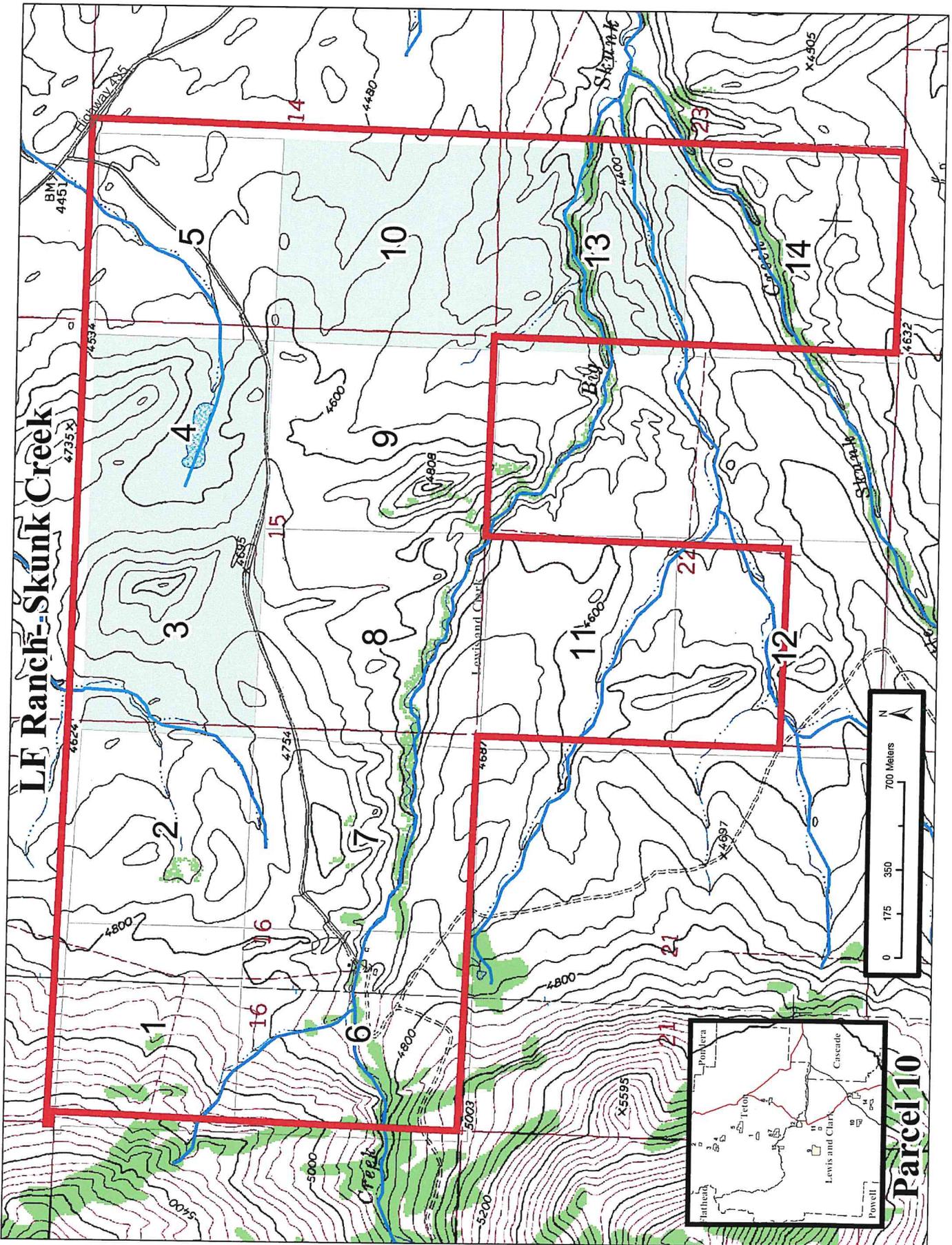


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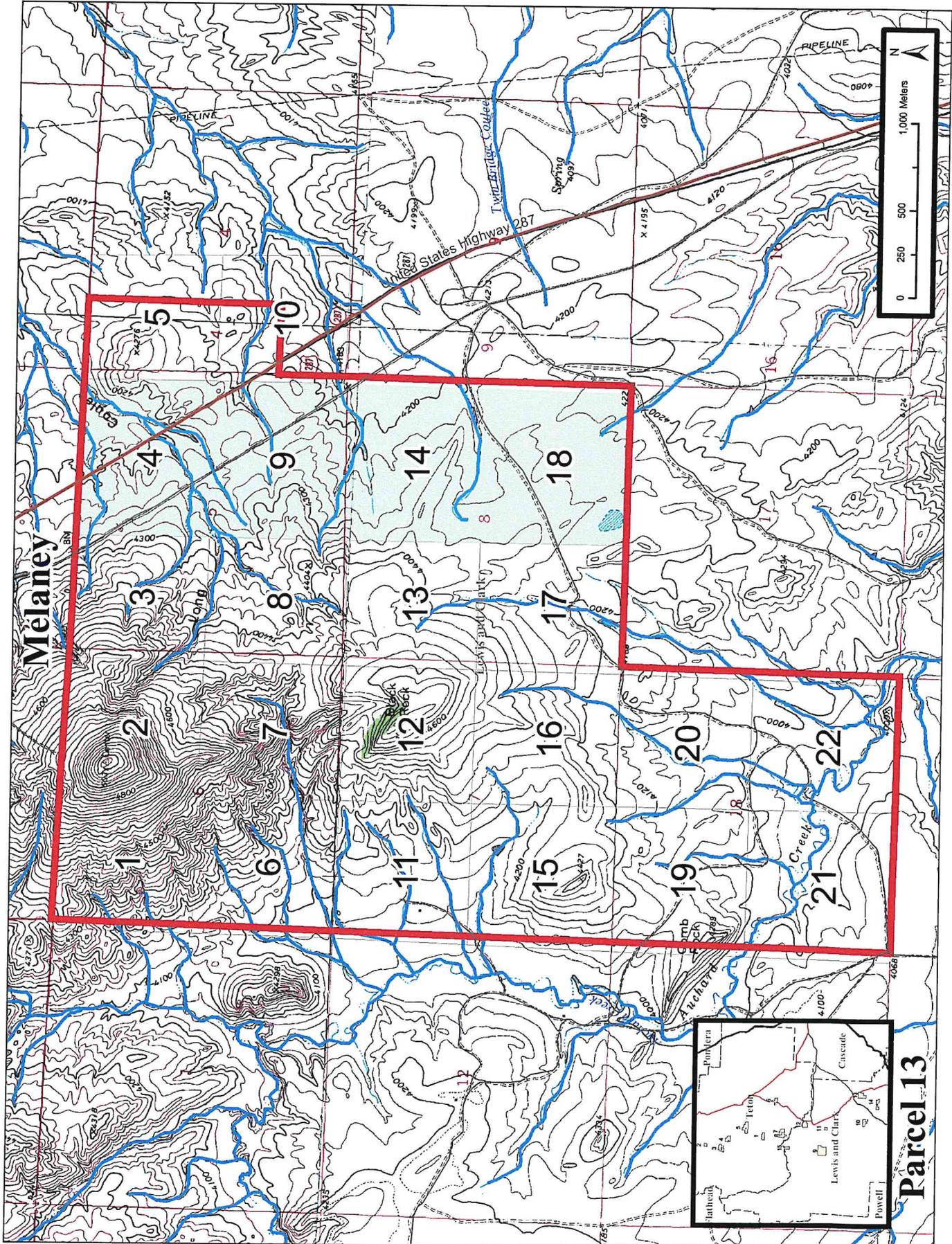
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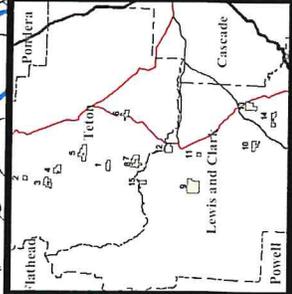
LF Ranch - Skunk Creek

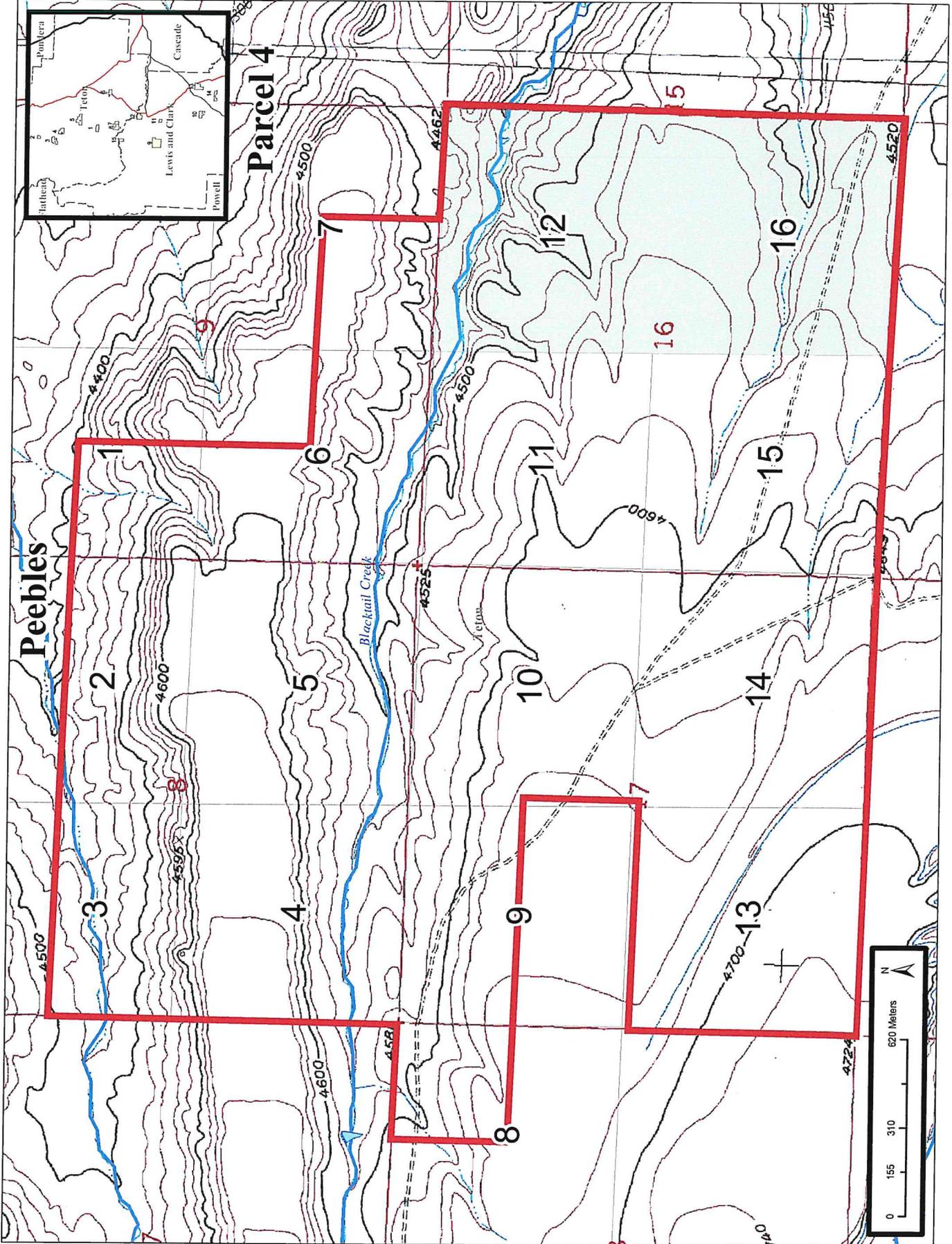


Parcel 10



Parcel 13



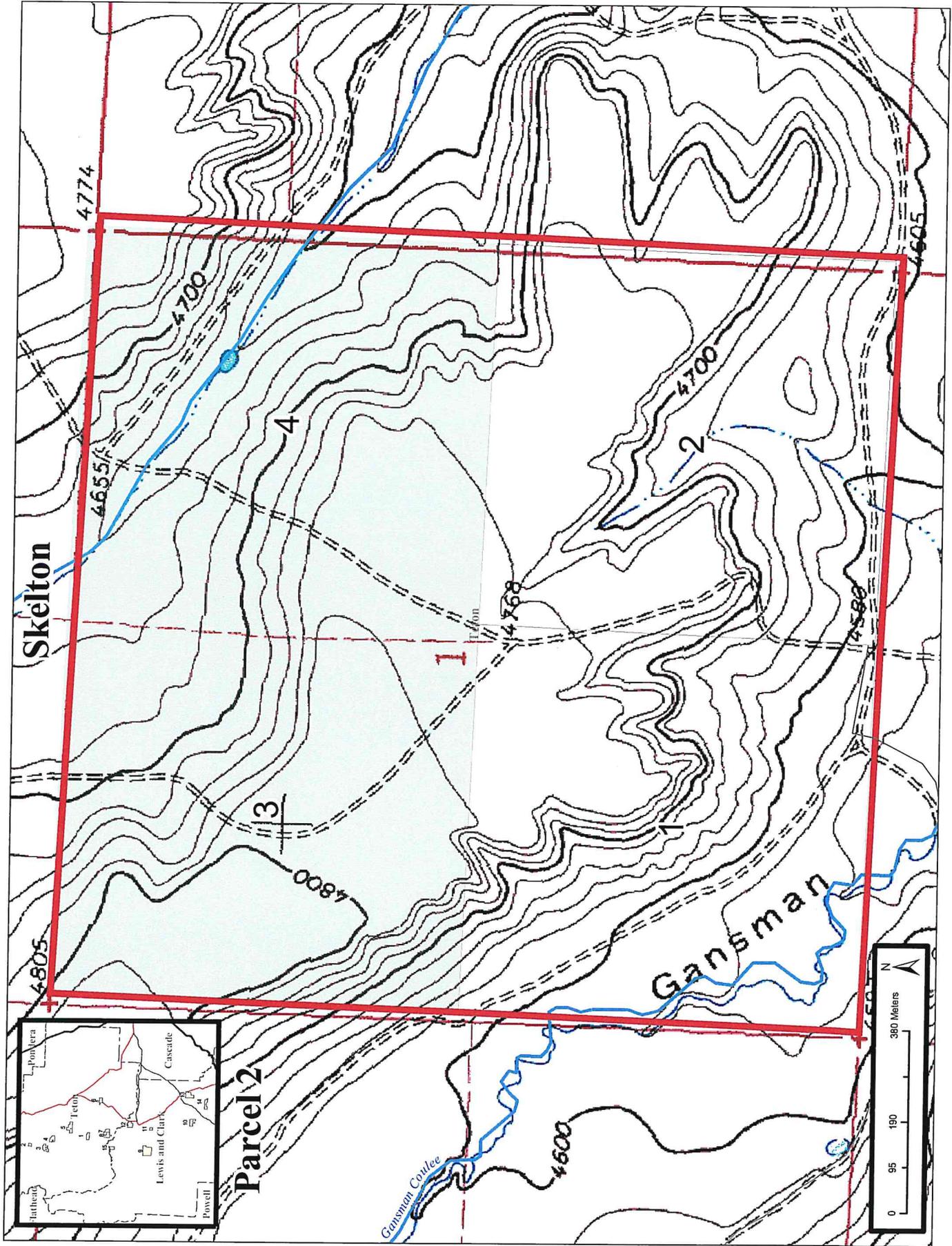


Peebles

Parcel 4

Blacktail Creek





Skelton

Parcel 2

Gansman

