

# Citizen Science Project: Breeding Distribution of Brewer's Sparrows in Alpine Areas of Colorado



Colorado Parks and Wildlife (CPW) is soliciting information from birders to help document the statewide breeding distribution and breeding ecology of Brewer's Sparrows (*Spizella breweri*) in alpine habitats near treeline (~11,000-13,000 ft) on public lands in Colorado in summer 2023. Because many high-elevation alpine habitats are remote and challenging to get to, and Brewer's Sparrows can be difficult to identify, CPW is looking for help from birders that can identify Brewer's Sparrows by sight and sound, safely hike off trail at high elevation, and use eBird.

## **Brewer's Sparrows in alpine areas?**

Brewer's Sparrows normally breed in arid sagebrush habitats (3,300-9,900 ft) in Colorado. However, Colorado also has numerous historical records of Brewer's Sparrows in high-elevation (~11,000-13,000 ft) alpine habitats near treeline during the breeding season (Fig. 1, Table 1). In 2021, CPW initiated a project to study alpine Brewer's Sparrows to determine their taxonomic affinity and breeding status. Based on plumage, morphology, songs, and genetics, alpine Brewer's Sparrows in Colorado are the sagebrush subspecies (*S. b. breweri*) breeding in atypical habitat rather than the timberline subspecies (*S. b. taverneri*). However, their statewide breeding distribution and breeding ecology are poorly understood.

## **Where to look**

Brewer's Sparrows have previously been documented in alpine willow and krummholz habitat in June and July at 68 sites across Colorado (Fig. 1, Table 1). However, breeding has only been confirmed at only two sites (west side of Rollins Pass and along the West Mountain Trail in the Flattops Wilderness). Both revisiting known sites to confirm nesting and visiting new sites to document their breeding distribution would be helpful. CPW has also identified over 30 potential breeding sites where birders can focus searches in new alpine areas (Fig. 2, Table 2). CPW recommends that birders use GPS units, topographic maps, and landownership maps or applications (e.g., onXmaps, Gaia GPS, etc.) to avoid trespassing on private lands or mineral claims. CPW is not responsible for individuals that trespass.

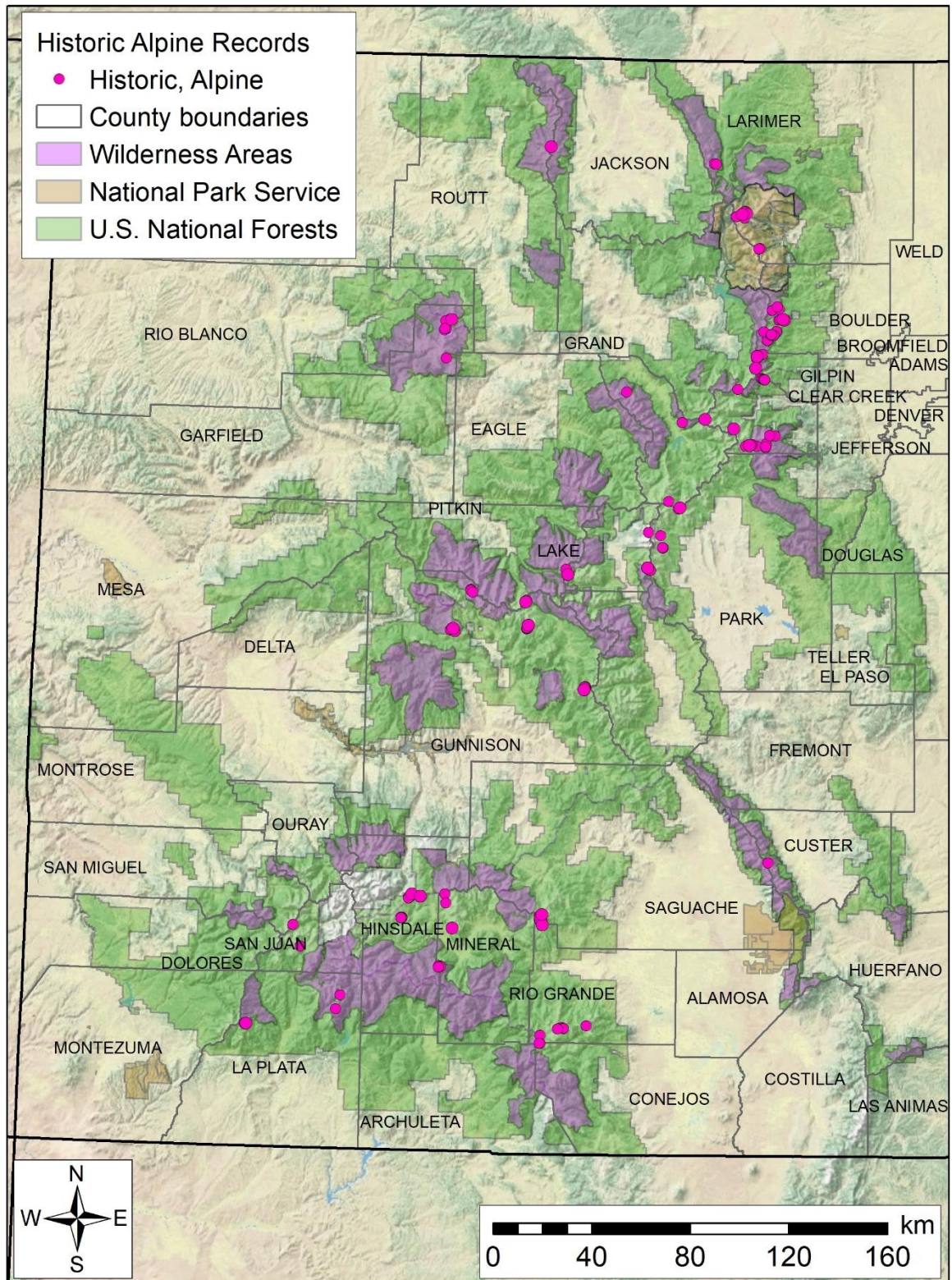


Figure 1. Map of alpine sites with historical records (1914-2022) of Brewer's Sparrows during the breeding season (mid-June-end of July) in western Colorado. Most sites are on U.S. Forest Service, some are in designated Wilderness Areas. See Table 1 for location details.

TABLE 1. Alpine sites in western Colorado with breeding-season records (1 June-31 July) of Brewer's Sparrows by county, ownership, and site, 1914-2022. Elevation and coordinates are approximate. Some sites have mixed private and public ownership.

| Site <sup>1</sup>                  | Ownership (Wilderness Area)            | County            | Elev (ft) | Latitude  | Longitude   |
|------------------------------------|--|-------------------|-----------|-----------|-------------|
| Blue Lake                          | Roosevelt NF (Indian Peaks)            | Boulder           | 11312     | 40.087616 | -105.617035 |
| Bald Mountain                      | Roosevelt NF (Indian Peaks)            | Boulder           | 11221     | 39.996782 | -105.609590 |
| Chittenden                         | Roosevelt NF (Indian Peaks)            | Boulder           | 10939     | 39.978651 | -105.638683 |
| Fourth of July Mine                | Roosevelt NF (Indian Peaks)            | Boulder           | 11216     | 40.010223 | -105.656096 |
| Horseshoe Creek                    | Roosevelt NF (Indian Peaks)            | Boulder           | 10999     | 40.011249 | -105.596302 |
| Mt. Audubon Trail - Lower          | Roosevelt NF (Indian Peaks)            | Boulder           | 11129     | 40.093289 | -105.583620 |
| Mt. Audubon Trail – Upper          | Roosevelt NF (Indian Peaks)            | Boulder           | 11683     | 40.102040 | -105.592240 |
| Niwot Ridge                        | Roosevelt NF                           | Boulder           | 11381     | 40.052446 | -105.562814 |
| Berthoud Pass                      | Arapaho NF                             | Clear Creek/Grand | 11315     | 39.798022 | -105.776862 |
| Chicago Lakes Basin                | Arapaho NF (Mount Evans)               | Clear Creek       | 11182     | 39.630795 | -105.625993 |
| Kelso Mountain                     | Arapaho NF                             | Clear Creek       | 11967     | 39.593553 | -105.720462 |
| Mount Evans-Summit Lake            | Arapaho NF                             | Clear Creek       | 12857     | 39.600000 | -105.641000 |
| Mount Goliath                      | Arapaho NF (Mount Evans)               | Clear Creek       | 11715     | 39.628542 | -105.599861 |
| Guanella Pass                      | Arapaho NF/Pike NF                     | Clear Creek       | 11591     | 39.595813 | -105.717505 |
| Mount Evans                        | Arapaho NF/Pike NF                     | Clear Creek       | 14069     | 39.586707 | -105.643158 |
| Saint Mary's Glacier               | Arapaho NF/Private                     | Clear Creek       | 11499     | 39.834701 | -105.651630 |
| Bierstadt Trail                    | Pike NF (Mount Evans)                  | Clear Creek       | 12101     | 39.590656 | -105.686533 |
| Long Trek Mountain                 | Rio Grande NF                          | Conejos           | 11884     | 37.397305 | -106.662489 |
| Upper Venable Lake                 | San Isabel NF (Sangre de Cristo)       | Custer            | 12065     | 38.066867 | -105.620124 |
| Bear River Trail                   | Routt NF (Flattops)                    | Garfield          | 11251     | 40.002639 | -107.165096 |
| Devil's Causeway                   | Routt NF (Flattops)                    | Garfield          | 11609     | 40.039577 | -107.148407 |
| Chinese Wall Trail                 | White River NF (Flattops)              | Garfield          | 11341     | 39.998685 | -107.174290 |
| Mosquito Peak                      | White River NF (Flattops)              | Garfield          | 11526     | 40.004827 | -107.172650 |
| West Mountain Trail <sup>1</sup>   | White River NF (Flattops)              | Garfield          | 11443     | 39.896364 | -107.161762 |
| Heart Lake                         | Roosevelt NF (James Peak)              | Gilpin            | 11316     | 39.875944 | -105.693139 |
| Rollins Pass (E side)              | Roosevelt NF (James Peak)              | Gilpin            | 10956     | 39.926654 | -105.661526 |
| Rollins Pass (W side) <sup>1</sup> | Arapaho NF                             | Grand             | 11654     | 39.922136 | -105.686339 |
| Cumberland Pass                    | Gunnison NF                            | Gunnison          | 11948     | 38.705200 | -106.477470 |
| Italian Mountain                   | Gunnison NF                            | Gunnison          | 11910     | 38.924831 | -106.747084 |
| Scarp Ridge                        | Gunnison NF/Private                    | Gunnison          | 11913     | 38.899476 | -107.095660 |
| Taylor Pass                        | Gunnison NF/White River NF             | Gunnison/Pitkin   | 11876     | 39.018024 | -106.758303 |
| Frigid Air Pass                    | White River NF (Maroon Bells-Snowmass) | Gunnison          | 11976     | 39.049823 | -107.019883 |

TABLE 1. (cont.). Alpine sites in western Colorado with breeding-season records (1 June-31 July) of Brewer's Sparrows by county, ownership, and site, 1914-2022. Elevation and coordinates are approximate. Some sites have mixed private and public ownership.

| Site <sup>1</sup>          | Ownership (Wilderness Area)       | County        | Elev (ft) | Latitude  | Longitude   |
|----------------------------|-----------------------------------|---------------|-----------|-----------|-------------|
| Buck Mountain              | Rio Grande NF                     | Hinsdale      | 12055     | 37.926251 | -107.223251 |
| Jarosa Mesa                | Rio Grande NF                     | Hinsdale      | 12055     | 37.923138 | -107.275157 |
| Kitty Creek                | Rio Grande NF                     | Hinsdale      | 11693     | 37.848120 | -107.309783 |
| Lost Ranger Peak           | Routt NF (Mount Zirkel)           | Jackson/Routt | 11507     | 40.675553 | -106.684127 |
| Endlich Mesa               | San Juan NF                       | La Plata      | 12224     | 37.507931 | -107.601206 |
| Kennebec Pass              | San Juan NF                       | La Plata      | 11452     | 37.444932 | -108.012304 |
| Upper Florida River Basin  | San Juan NF                       | La Plata      | 11935     | 37.559272 | -107.582318 |
| Mosquito Pass              | Bureau of Land Management/Private | Lake/Park     | 12606     | 39.271507 | -106.191951 |
| Weston Pass                | San Isabel NF/Pike NF/Private     | Lake/Park     | 12036     | 39.132966 | -106.181354 |
| Flattop Mountain Trail     | Rocky Mountain National Park      | Larimer       | 11668     | 40.314516 | -105.676771 |
| Lava Cliffs Overlook       | Rocky Mountain National Park      | Larimer       | 12094     | 40.424914 | -105.753416 |
| Marmot Point               | Rocky Mountain National Park      | Larimer       | 11870     | 40.442510 | -105.737045 |
| Medicine Bow Curve         | Rocky Mountain National Park      | Larimer       | 11634     | 40.447974 | -105.751632 |
| Trail Ridge Visitor Center | Rocky Mountain National Park      | Larimer       | 11782     | 40.440807 | -105.754879 |
| Ute Trail (western)        | Rocky Mountain National Park      | Larimer       | 11330     | 40.429391 | -105.790223 |
| Cameron Peak (SE side)     | Roosevelt NF (Rawah)              | Larimer       | 11449     | 40.620441 | -105.889390 |
| Cameron Peak (W side)      | Roosevelt NF (Rawah)              | Larimer       | 11604     | 40.623034 | -105.898942 |
| Bristol Head               | Rio Grande NF                     | Mineral       | 11706     | 37.812199 | -107.072543 |
| Red Lakes Trail            | Rio Grande NF (Weminuche)         | Mineral       | 12342     | 37.668949 | -107.134162 |
| Snow Mesa                  | Rio Grande NF                     | Mineral       | 12106     | 37.903795 | -107.103967 |
| Mudsill Spring             | Pike NF                           | Park          | 11861     | 39.214607 | -106.123019 |
| Pennsylvania Mountain      | Pike NF                           | Park          | 12605     | 39.261386 | -106.134650 |
| Independence Lake          | White River NF (Hunter-Fryingpan) | Pitkin        | 12134     | 39.132157 | -106.577358 |
| Independence Pass          | White River NF (Hunter-Fryingpan) | Pitkin/Lake   | 12316     | 39.113971 | -106.566830 |
| La Garita Cutoff           | Rio Grande NF                     | Rio Grande    | 11930     | 37.831273 | -106.658356 |
| La Garita Stock Driveway   | Rio Grande NF                     | Saguache      | 12284     | 37.854835 | -106.668458 |
| Ice Lake Basin             | San Juan NF                       | San Juan      | 12249     | 37.810690 | -107.806563 |
| Jura Knob                  | San Juan NF                       | San Juan      | 11784     | 37.732282 | -107.771360 |
| Blowout Pass               | Rio Grande NF                     | Rio Grande    | 11732     | 37.464000 | -106.448000 |
| Grayback Mountain          | Rio Grande NF                     | Rio Grande    | 11991     | 37.455231 | -106.555147 |
| Summit Pass                | San Juan NF/Rio Grande NF         | Rio Grande    | 11857     | 37.427020 | -106.659315 |
| Blue Lakes                 | White River NF                    | Summit        | 11617     | 39.386690 | -106.098770 |

TABLE 1. (cont.). Alpine sites in western Colorado with breeding-season records (1 June-31 July) of Brewer's Sparrows by county, ownership, and site, 1914-2022. Elevation and coordinates are approximate. Some sites have mixed private and public ownership.

|                            |                                 |             |       |           |             |
|----------------------------|---------------------------------|-------------|-------|-----------|-------------|
| Dora Mountain              | White River NF (Eagle's Nest)   | Summit      | 12184 | 39.784204 | -106.303847 |
| Eisenhower Tunnel (W side) | White River NF                  | Summit      | 11522 | 39.688246 | -105.930863 |
| Ptarmigan Peak             | White River NF (Ptarmigan Peak) | Summit      | 11668 | 39.675119 | -106.038825 |
| Hoosier Pass               | White River NF/Pike NF          | Summit/Park | 11921 | 39.358667 | -106.050903 |

<sup>1</sup> Sites where breeding has been confirmed.

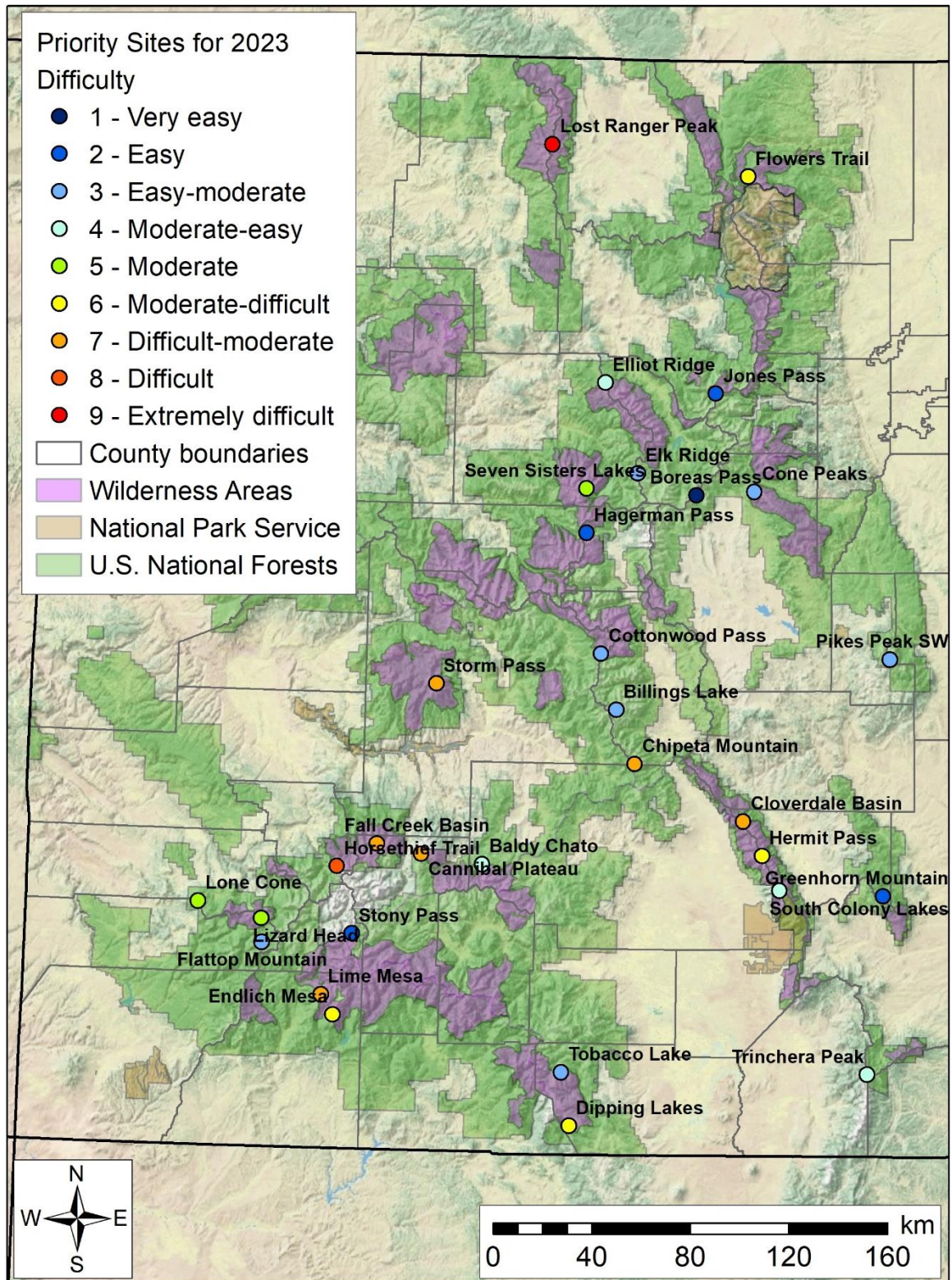


Figure 2. Map of high-priority alpine sites on public land where CPW is soliciting information from birders to help document breeding Brewer’s Sparrows in summer 2023, color-coded by difficulty of access. See Table 2 for location details.

TABLE 2. Priority alpine sites for Brewer's Sparrow surveys from mid-June through mid-August 2023 by county, ownership, and site, with relative difficulty of vehicle/hiking access. Coordinates are approximate and represent a central location within suitable shrub patches.

| Site                | Ownership (Wilderness area)      | County        | Difficulty            | Elev (ft) | Latitude  | Longitude   |
|---------------------|----------------------------------|---------------|-----------------------|-----------|-----------|-------------|
| Billings Lake       | San Isabel NF                    | Chaffee       | 3-Easy-moderate       | 11798     | 38.623110 | -106.331772 |
| Chipeta Mountain    | San Isabel NF                    | Chaffee       | 7-Difficult-moderate  | 11603     | 38.425763 | -106.241406 |
| Cottonwood Pass     | San Isabel NF                    | Chaffee       | 3-Easy-moderate       | 12011     | 38.827170 | -106.406188 |
| Jones Pass          | Arapaho NF                       | Clear Creek   | 2-Easy                | 11727     | 39.782458 | -105.880568 |
| Dipping Lakes Trail | Rio Grande NF (South San Juan)   | Conejos       | 6-Moderate-difficult  | 12038     | 37.098798 | -106.520906 |
| Tobacco Lake        | Rio Grande NF (South San Juan)   | Conejos       | 3-Easy-moderate       | 12034     | 37.295069 | -106.559896 |
| Cloverdale Basin    | San Isabel NF                    | Custer        | 7-Difficult-moderate  | 11969     | 38.219525 | -105.734682 |
| Hermit Pass         | San Isabel NF                    | Custer        | 6-Moderate-difficult  | 12011     | 38.094375 | -105.647054 |
| South Colony Lakes  | San Isabel NF (Sangre de Cristo) | Custer        | 4-Moderate-easy       | 11809     | 37.967108 | -105.565235 |
| Flattop Mountain    | San Juan NF                      | Dolores       | 3-Easy-moderate       | 12077     | 37.745083 | -107.950164 |
| Lizard Head         | San Juan NF (Lizard Head)        | Dolores       | 5-Moderate            | 11922     | 37.832256 | -107.954824 |
| Seven Sisters Lakes | White River NF (Holy Cross)      | Eagle         | 5-Moderate            | 11862     | 39.430608 | -106.485733 |
| Pikes Peak SW       | Pike NF                          | El Paso       | 3-Easy-moderate       | 11830     | 38.814107 | -105.056824 |
| Storm Pass          | Gunnison NF (West Elk)           | Gunnison      | 7-Difficult-moderate  | 11950     | 38.706027 | -107.173001 |
| Cannibal Plateau    | Gunnison NF                      | Hinsdale      | 7-Difficult-moderate  | 11985     | 38.082441 | -107.224962 |
| Fall Creek Basin    | Uncompahgre NF (Uncompahgre)     | Hinsdale      | 7-Difficult-moderate  | 11989     | 38.116873 | -107.429777 |
| Greenhorn Mountain  | San Isabel NF                    | Huerfano      | 2-Easy                | 11409     | 37.947428 | -105.086804 |
| Trinchera Peak      | San Isabel NF                    | Huerfano      | 4-Moderate-easy       | 12093     | 37.295869 | -105.158612 |
| Lost Ranger Peak    | Routt NF (Mount Zirkel)          | Jackson/Routt | 9-Extremely difficult | 11697     | 40.687036 | -106.676968 |
| Endlich Mesa        | San Juan NF (Weminuche)          | La Plata      | 6-Moderate-difficult  | 11863     | 37.487789 | -107.613950 |
| Lime Mesa           | San Juan NF (Weminuche)          | La Plata      | 7-Difficult-moderate  | 11879     | 37.559821 | -107.670990 |
| Hagerman Pass       | San Isabel NF /White River NF    | Lake/Pitkin   | 2-Easy                | 11984     | 39.268372 | -106.483364 |
| Flowers Trail       | Roosevelt NF (Comanche Peak)     | Larimer       | 6-Moderate-difficult  | 11491     | 40.577506 | -105.736778 |
| Horsethief Trail    | Uncompahgre NF (Uncompahgre)     | Ouray         | 8-Difficult           | 11765     | 38.029826 | -107.612405 |
| Cone Peaks          | Pike NF                          | Park          | 3-Easy-moderate       | 11993     | 39.425927 | -105.694783 |
| Baldy Chato         | Gunnison NF (La Garita)          | Saguache      | 4-Moderate-easy       | 12406     | 38.050518 | -106.941082 |
| Stony Pass          | Rio Grande NF (Weminuche)        | San Juan      | 2-Easy                | 12036     | 37.785455 | -107.536479 |
| Lone Cone           | Uncompahgre NF                   | San Miguel    | 5-Moderate            | 11337     | 37.888377 | -108.248258 |
| Elk Ridge           | White River NF                   | Summit        | 3-Easy-moderate       | 12085     | 39.487997 | -106.245770 |
| Elliot Ridge        | White River NF                   | Summit        | 4-Moderate-easy       | 11339     | 39.818526 | -106.404889 |
| Boreas Pass         | White River NF /Pike NF          | Summit/Park   | 1-Very easy           | 11477     | 39.410019 | -105.968025 |

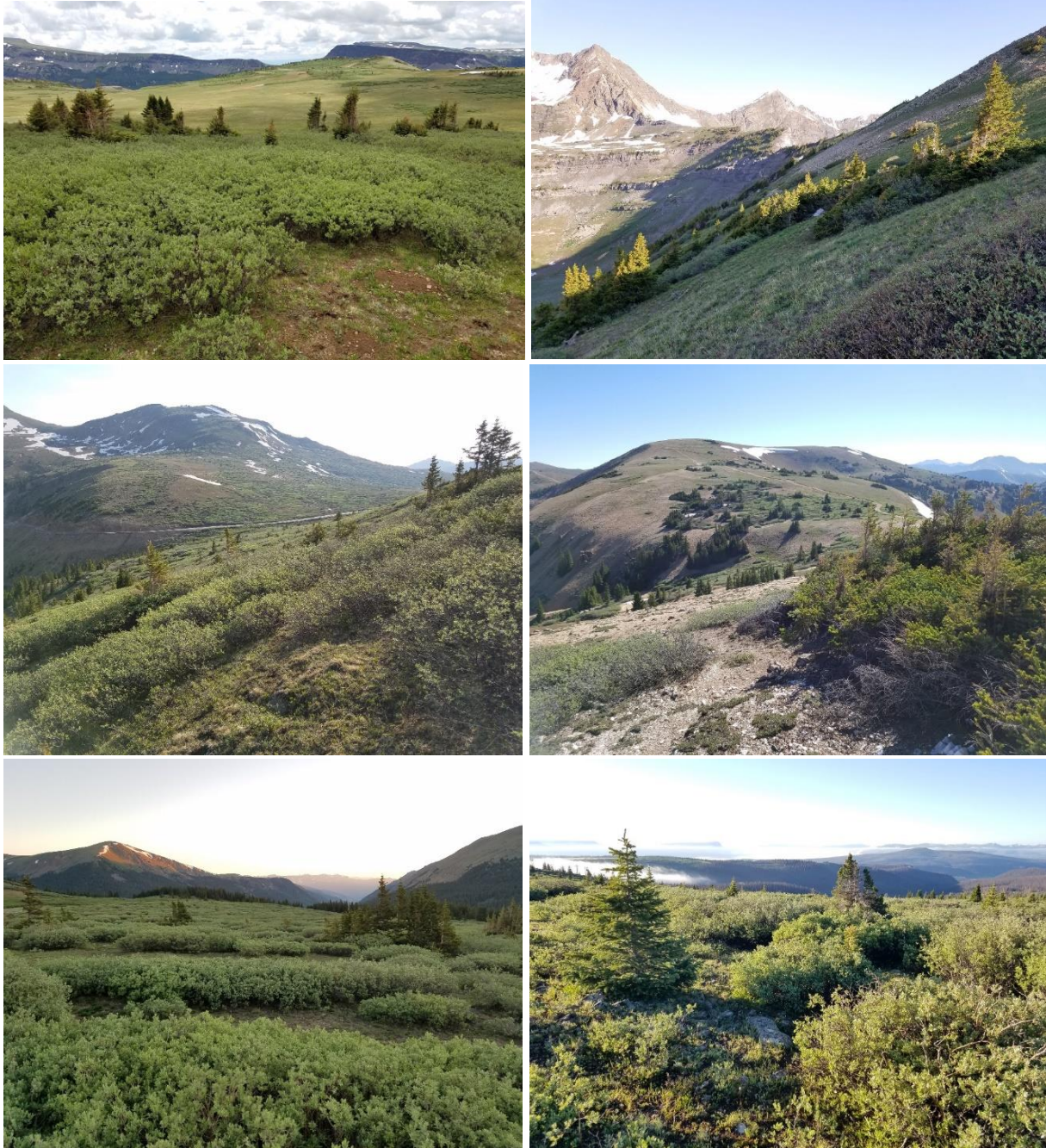


Figure 3. Examples of habitat at alpine sites in Colorado where Brewer's Sparrows were found in 2021. Birds typically were found in alpine willows 2-6 ft tall with sparse krummholz on drier ridges and slopes (rather than in dense, tall willows in bogs or along creek bottoms).

### **Habitats to search**

Searching in the right habitat at the right elevation is crucial for finding alpine Brewer's Sparrows! Territories are typically in large patches of alpine willow 2-6 feet tall with a grassy understory on drier slopes and ridges, often mixed with stunted Engelmann spruce (*Picea engelmanni*) or subalpine fir (*Abies lasiocarpa*) krummholz (Fig. 3). In Colorado, most of these habitats occur from 11,300 to 12,500 ft., but birds have been found in alpine willows as low as ~10,900 ft. (Spring Creek Pass) and as high as ~14,000



ft. (Mount Evans). Alpine Brewer's Sparrows in Colorado are usually found with White-crowned Sparrows and Wilson's Warblers and sometimes with Slate-Colored Fox Sparrows. They generally are not found in wet willow bogs where Lincoln's Sparrows occur, or in dense, tall willows along creeks.

### **When to look**

Searching at the right time of day and the right time of year is also important. Birders should look for Brewer's Sparrows at alpine sites between mid-June and mid-August (~June 15-August 15). Brewer's Sparrows don't arrive at alpine sites until mid-June (earliest known arrival is 9 June). They are thought to nest from late June through the end of July and likely remain on the breeding territories through at least mid-August. Birds may arrive and breed earlier or later in any given year depending on snowpack. It is unknown whether birds are itinerant breeders (i.e., birds first nest in sagebrush then move up to alpine willows to renest). If they are, it's possible that they may also only breed in alpine areas in drought years.

Detectability of Brewer's Sparrow is likely highest in late June and early July. During this time, more unpaired males are present, and unpaired males sing at much higher rates than paired males. However, males often stop singing by early afternoon at all times of year, so arriving as early as possible in the morning maximizes the chance of detecting them. However, July should be the best time to observe breeding behaviors and confirm nesting. Surveying in July may require song playback to increase detectability (if allowed).

### **Identification - songs**

Brewer's Sparrows are small and brown and can be difficult to identify visually and to separate from other similar species, so the easiest way to find and identify Brewer's Sparrows is by song. All Brewer's Sparrow songs consist of trills and buzzes. Males give two kinds of songs, short songs and long songs. Each male typically sings only 1 short song type between 2-4 seconds long. Short songs typically consist of 1, 2, or 3 parts (Fig. 4 a-c). Males sing short songs over and over in "repeat mode" (e.g., AAAAA...). Short songs are typically only given by unpaired males, so they are more often heard earlier in the breeding season. Each male's short song is often individually distinctive, and short songs vary so much among males that some can sound like the songs of other species, such as Oregon Junco, Chipping Sparrow, Clay-colored Sparrow, Orange-Crowned Warbler, Black-throated Sparrow, or even Rock Wren.

Brewer's Sparrows' long songs are what the species is best known for (Fig. 5). Each male also sings 40+ long song types varying from 5-35 seconds long. Long songs are often preceded by a series of high-pitched trills. Males typically give long songs during dawn chorus and aggressive territorial disputes with other males. Paired males occasionally give spontaneous bouts of long songs while the female is incubating. Males usually sing long songs in "serial mode" (e.g., BCDEF), with each long song typically different than the previous one. Males respond most strongly to long song playback.

### **Identification - field marks**

Adult Brewer's Sparrows have a white throat; an unmarked, pale breast (juveniles' breasts are streaked); a faint, whitish eye-ring; a pale supercilium; a gray collar around the nape of the neck; brown crown and back with dark brown or blackish streaks, an indistinct, pale, central crown stripe; pale lores; an indistinct malar stripe and facial markings, and a relatively long, unmarked, brown tail (Fig. 7). The best way to become familiar with Brewer's Sparrows is to review their appearance and songs in a birding app, then go birding in sagebrush habitats from early May through mid-June. Look and listen for singing males and watch the behavior of nesting pairs.

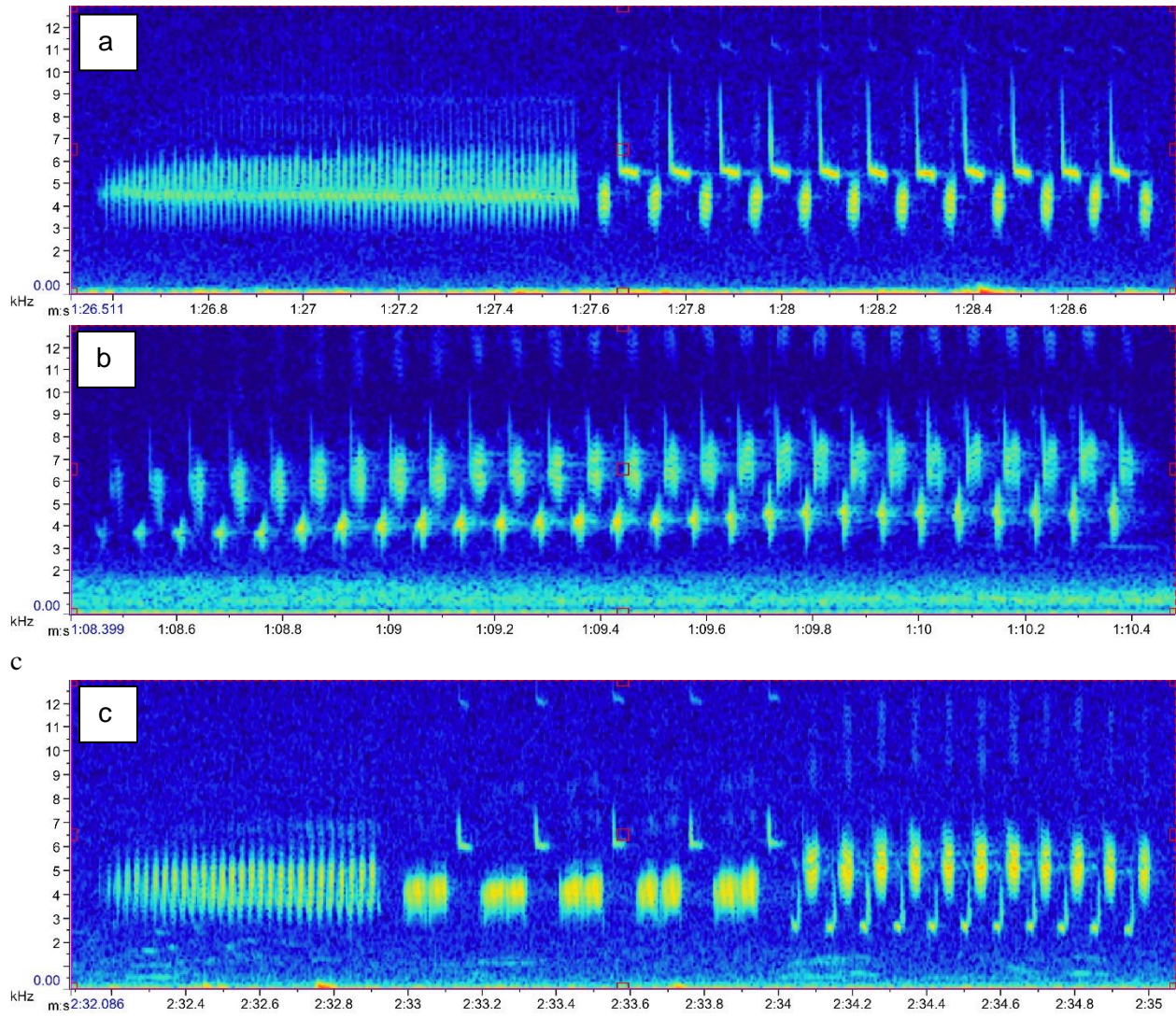


Figure 4. Example sound spectrographs of short songs of three different male Brewer's Sparrows, including a typical 2-part song, a 1-part song, and a 3-part song. Short songs are usually 2-4 seconds long.

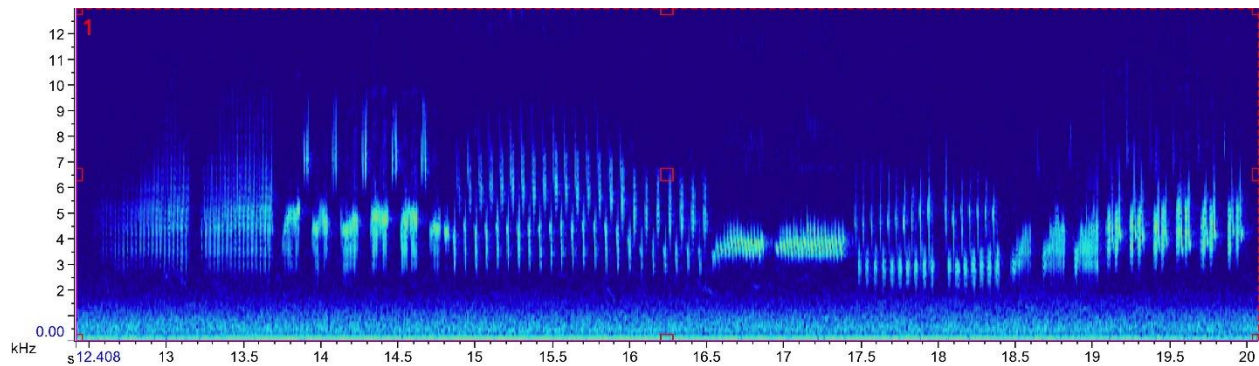


Figure 5. Example sound spectrograph of one long song type from a male Brewer's Sparrow (however, each male can give 40 or more different long song types). This song type is nearly 20 seconds in length.

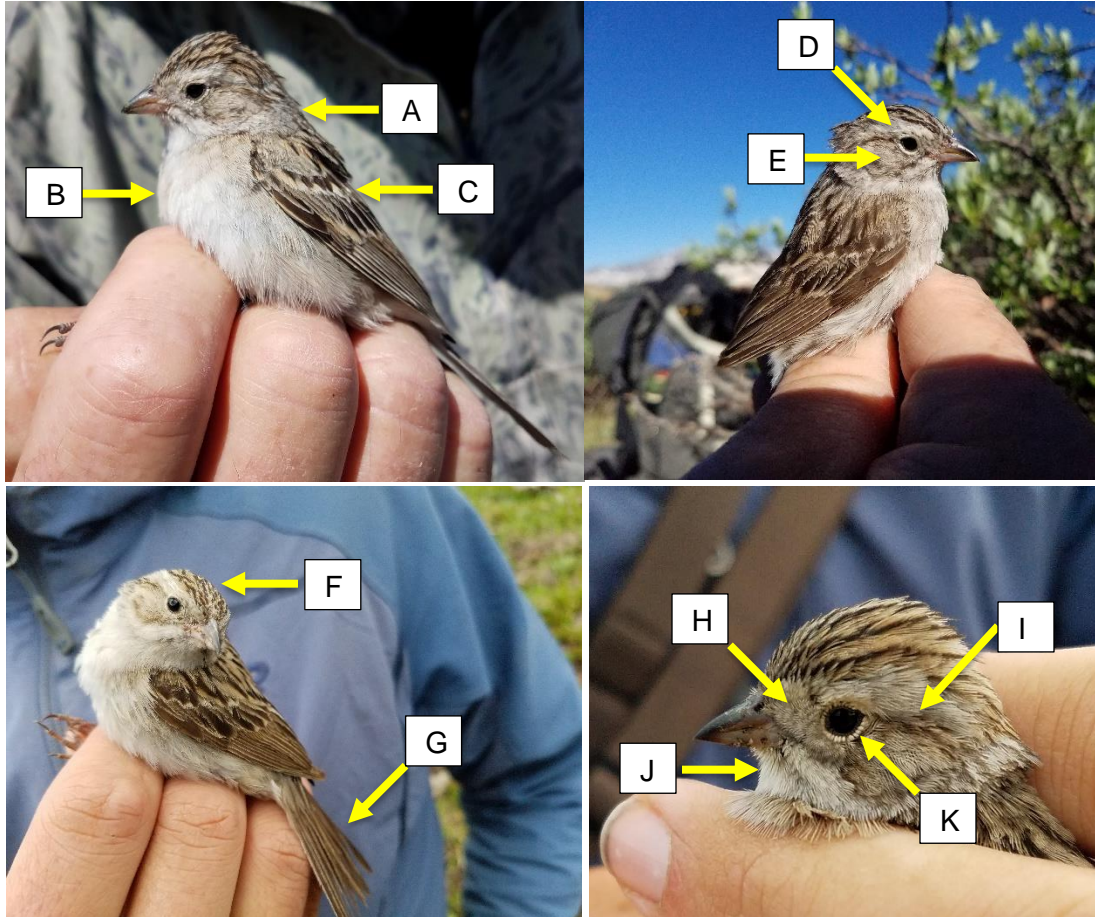


Figure 7. Brewer's Sparrow field marks: (A) indistinct gray collar on the nape of the neck; (B) pale, unmarked breast and flanks; (C) faint pale wing bar; (D) pale supercilium; (E) indistinct facial markings; (F) streaked crown with an indistinct, pale, central crown stripe; (G) long, unmarked, brown tail; (H) pale lores; (I) brown eyestripe; (J) whitish throat; and (K) faint, white eye-ring (especially below the eye).

### Using playback

Brief playback of songs using a birding app can be helpful for finding territorial males and getting them to approach close enough to confirm identification. Long songs are more aggressive signals, so long song playback is much more effective at eliciting territorial responses. Unpaired males may respond with short songs, but most males respond with long songs. Please use playback sparingly and responsibly in accordance with the American Birding Association's Code of Ethics (<https://www.aba.org/aba-code-of-birding-ethics/>), and only use playback you can't find them in suitable habitat simply by looking and listening. Do not use playback in designated wilderness areas or in national parks or monuments.

### Confirming nesting

It would be ideal to confirm breeding at each site where birds are found. Please observe any birds you find (including males) and note any evidence of breeding. In Brewer's Sparrows, males feed the female during both courtship and incubation, including while she is on the nest. Both males and females incubate eggs and nestlings, often trading off incubation bouts, and both males and females feed nestlings and recently-fledged, stub-tailed young.

## **Collecting and sharing sightings with CPW using eBird**

Use the eBird app to collect and submit your alpine Brewer's Sparrow sightings! If you are unfamiliar with eBird, go to [www.ebird.org](http://www.ebird.org) and click on the Help tab for more information about the eBird app for smartphones and tutorials on how to use eBird, create and submit checklists, and submit media (photos and recordings).

If you find Brewer's Sparrows in alpine areas, it would be ideal to submit a separate *incidental* eBird checklist right at the location(s) where you find them. eBird will automatically record the GPS location of your incidental checklist (make sure your phone's "Location" function is enabled). In some cases, you may need to add the location and submit the checklist later once you have cell coverage. Submitting an incidental checklist provides much more precise location information about where Brewer's Sparrows were found and will increase the scientific value of your observation. Feel free to include other species you detect at the same location. *If you want to keep track of all species you find along your entire hike, please create a separate "traveling" checklist that starts at the trailhead.*

If the identity of the bird is in question, please submit a recording (preferred) or photo of the bird. You can record the singing male and confirm its identity using the video function in your camera app or a bird song recording and identification app (e.g., SongSleuth, BirdNet, Merlin). If using a smart phone, you can automatically geo-tag photos with your GPS location by enabling the Location function in the settings for your Camera app.

We want/need to confirm breeding at more alpine sites! Please observe any birds you find, note any breeding behaviors or evidence of nesting, and add an eBird breeding status code to your observation. If you find a nest, take note of the nest contents (eggs or nestlings), but do not disturb or touch the nest, and move away quickly. Include nest contents information in the "Details" field for your observation.

We are also interested the vegetation in alpine habitats where Brewer's Sparrows are found. This includes the species of shrub or tree (if known), its approximate height (specify ft or m), and the understory (grass, tundra, other shrubs, rock). Enter relevant information in "Details" for your observation. For example, "Male singing from 2-m tall subalpine fir krummholz in a patch of alpine willows 3-5 feet tall on a steep, west-facing slope surrounded by tundra."

You can only add photos or recordings to an eBird checklist *after* you have saved the checklist (i.e. after you have stopped birding). If you have cell phone coverage, reopen the eBird app, select Submitted checklists, open the checklist, then click eBird.org. That will redirect you to your checklist online. You can then upload any recordings or photos. eBird has tutorials available online for how to upload photos and recordings to your checklists.

Share the incidental checklists you submit with our eBird account (username "CO alpine BRSP"). This will share your checklist and associated media with CPW.

## **Contact Information**

Please contact Dr. Brett Walker with Colorado Parks and Wildlife with any questions regarding the alpine Brewer's Sparrow project ([brett.walker@state.co.us](mailto:brett.walker@state.co.us); 970-255-6125) or if you want more detailed maps of where to search for them. Thank you in advance for your contributions!