

Biodiversity of the Colorado State University Lands



CNHP's mission is to preserve the natural diversity of life by contributing the essential scientific foundation that leads to lasting conservation of Colorado's biological wealth.

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WARNER COLLEGE OF
Natural Resources
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ABSTRACT

During the academic year of 2021-2022, the Colorado Natural Heritage Program (CNHP) was contracted by CSU Facilities Management to complete a biodiversity survey of the CSU lands. This assessment will be used by Facilities Management to self-report on the Biodiversity component of the Operations category in the STARS (Sustainability, Tracking, Assessment, & Ratings System) report. This report assesses endangered and vulnerable species (including migratory species) on CSU-owned and managed lands and areas of biodiversity importance on CSU-owned and managed lands. An additional aim of this project was to include students in the geospatial analysis, research, and field data collection efforts, thereby lowering project costs and providing mentorship and experience to the students.

Biodiversity was assessed through a geospatial environmental review of the properties which includes documented and potential occurrences of regulatory species and other species of concern within the property and a 1-mile buffer, assessment of the conservation areas adjacent to the property and within a buffer, and the diversity and acreage of wetlands and other ecosystem types. The conservation value of each property, based on a Return-on-Investment report, is presented. Geospatial data area used to evaluate climate resiliency and landscape disturbance. Further research into species on the largest and most well-studied properties is presented, along with results of field work.

Colorado State University holds 32 individual properties, spanning 14 counties across Colorado, covering a total of 3,943 hectares. Properties held by CSU had 303 documented occurrences of regulatory species and other species of concern within 1 mile returned in the environmental review; additionally, potential habitat was returned for another 2210 regulatory and other species of concern from a combination of range maps, general precision CNHP element occurrence records, and models. Through the many metrics of biodiversity assessed, several properties stood out; these included the Eastern Colorado Research Center, the Mountain Campus, Foothills, Horsetooth, and the Environmental Learning Center. At the Eastern Colorado Research Center, a combination of research field work recorded 187 species as visual observations and/or within a modeled area. At the Mountain Campus, student research and field work recorded a total of 1,044 species as visual observations and/or within a modeled area, with 754 Animalia species, 273 Plantae species and 17 Fungi species.

Along with providing information on the biodiversity on the CSU lands, this project provided educational value to CSU students and facilitated the creation of a storymap to showcase the biodiversity of CSU lands to the public and stakeholders. The biodiversity assessment suggests several actions which could be taken to protect, enhance, or restore the biodiversity found on CSU lands and identified properties with possible conservation gains through enhancement and restoration.

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INTRODUCTION

The [Colorado Natural Heritage Program](#) (CNHP) is a sponsored program within Warner College of Natural Resources at Colorado State University (CSU) in Fort Collins, Colorado. CNHP tracks and ranks Colorado's rare and imperiled species and habitats and is a member of the [NatureServe Network](#), an international network of partners monitoring the status of biodiversity from state, national and global perspectives. During the academic year of 2021-2022, CNHP was contracted by CSU Facilities Management to complete a biodiversity survey of the CSU lands. This assessment will be used by Facilities Management to self-report on the Biodiversity component of the Operations category in the framework for colleges and universities to measure their sustainability performance as tracked by STARS, the [Sustainability Tracking, Assessment & Ratings System](#). Through this set of metrics, CSU is acknowledged as one of the most sustainable universities in the country, with the second highest score out of 681 rated institutions (stars.aashe.org, accessed 5/17/2022). CSU received and has maintained the highest rating of Platinum since 2015, demonstrating a sustained commitment to campus sustainability.

The objectives of this report are to inform the criteria in the STARS reporting framework related to:

1. Assess both endangered and vulnerable species (including migratory species) on CSU-owned and managed lands and
2. Assess areas of biodiversity importance on CSU-owned and managed lands.

Along with other biodiversity metrics, neighboring properties adjacent to and within a defined buffer to CSU-owned lands are reviewed for conservation ownership and management to inform this last criterion. Additional criteria in the STARS assessment are the existence of plans or programs, either put into place by the University or other agencies but followed by the University, to protect or positively affect the species, habitats, and or ecosystems identified in this assessment. This report also discusses conservation programs and plans. Beyond providing the metrics needed for the STARS framework, this report may be used to inform future efforts towards restoration, habitat connectivity enhancement, and land use planning.

Colorado State University holds 32 individual properties, spanning 14 counties across Colorado, covering a total of 3,943 hectares. The University is a land grant institution, which [acknowledges with respect](#) that the lands occupied today are the traditional and ancestral homelands of the Arapaho, Cheyenne and Ute Nations and peoples. CSU properties are concentrated in Larimer County in northcentral Colorado but span the state from the southwest corner in Montezuma County to the southeast corner in Baca County. Properties range in size from 1,196 hectares to 0.06 hectares, with the average size of 123 hectares. Two of the largest properties owned by CSU are the Eastern Colorado Research Center, which is a livestock research facility in Washington County located in the heart of Colorado's sandstone terrestrial ecosystem, and the Mountain Campus, an academic field studies facility in Larimer County in the montane forest lodgepole pine terrestrial ecosystem.

The assessment of biodiversity of CSU lands followed a tiered approach. Using CNHP's online interactive mapping tool, the [Colorado's Conservation Data Explorer \(CODEX\)](#), an environmental review was conducted for each of CSU's 32 owned properties. CODEX synthesizes documented sensitive species data and potential species habitat using models from CNHP, Colorado Parks & Wildlife (CPW), Bird Conservancy of the Rockies, USFWS, and a myriad of other sources. The biodiversity of the CSU lands was assessed through intersecting the GIS footprint of the properties to all geospatial data layers

accessed through CODEX and other geospatial data sources. Secondly, research and field visits were conducted for targeted properties to compile a detailed list of documented species occurrences. CSU’s largest properties, the Eastern Colorado Research Center, and the Mountain Campus, were included in this effort. As the largest and most well-studied properties, this approach resulted in a large amount of documented biodiversity information.

Additionally, the STARS assessment criteria states that lands managed by the institution are also eligible for inclusion in an assessment of biodiversity. The Semi-arid Grasslands Research Center (SGRC) is a facility in Nunn, Colorado cooperatively managed by CSU and the USDA Agricultural Research Service (ARS). The facility sits on 28 acres of land owned by ARS and leased by CSU. CSU does not participate in the management of this property, other than the buildings on the south side of the road (personal communication Eugene Kelly and Melinda Smith, 5/18/2022) (Appendix 1). The facility is within the larger Central Plains Experimental Range, an area of land owned by ARS and the site of extensive research conducted by CSU staff and others. However, as the property is not managed by CSU, this property was not included in this assessment of biodiversity.

An additional aim of this project was to include students in the geospatial analysis, research, and field data collection efforts, thereby lowering project costs and providing mentorship and experience to the students. Graduate students in the Ecosystem Science and Sustainability (ESS) 501 course in Fall 2021 researched the biodiversity of the Mountain Campus and ECRC properties for their semester-long project. These students also accompanied CNHP staff into the field at the ECRC. Undergraduate students in the ESS 440 course in Spring 2022 ran the geospatial analysis of biodiversity data on the 32 CSU-owned properties for their semester-long project. These students accompanied CNHP staff into the field at the Mountain Campus to collect biodiversity data. Both groups of students created an ESRI Storymap in addition to a final report to showcase the project and the biodiversity of the CSU lands. This [storymap](#), finalized by CNHP staff in June 2022, is a publicly available document providing interested citizens, stakeholders, and the STARS decision makers access to a dynamic window through which they can understand our university’s positive impacts on biodiversity.

METHODS

Geospatial analysis of CSU lands

Shapefiles of the property boundaries were obtained from CSU Facilities in the fall of 2021 and used by students in the ESS 440 course to run an environmental review for each property using CODEX in the spring of 2022. Detailed instructions on the procedure and data to collect were created by CNHP staff mentors (Appendix 2). The CODEX reports returned data in several categories either within the property boundary or within a 1-mile boundary buffer, depending on the category (Table 1).

Table 1. Categories of data returned in the CODEX report for each CSU property.

Documented Occurrences of Regulatory Species within 1 mile of Project Area
Potential Regulatory Species within Project Area: Models, Range Maps or Records with Low Precision
Documented Occurrences of Other Species of Concern within 1 mile of Project Area
Potential Occurrences of Other Species of Concern within Project Area: Models, Range Maps, Low Precision Records
CNHP Potential Conservation Areas (PCAs) and Other Special Areas within 1 mile of Project Area

Students compiled data on the number of species in first four categories listed in Table 1 above, the number of PCAs and other Special Areas, the number of types of NWI features in the property and wetland acreage. Regulatory species included species with federal protection under the [Endangered Species Act](#) (ESA) or [Bald and Golden Eagle Protection Act](#) along with [USFWS designated critical habitat](#). Other species of concern included globally rare species and plant communities, [Bureau of Land Management \(BLM\) Sensitive Species](#) or [USFS Special Status Species](#), [Colorado Threatened and Endangered List Status](#), or Tier 1 and Tier 2 priority species from the [Colorado State Wildlife Action Plan](#), and species of economic and recreational value. Globally rare species and plant communities are ranked according to [CNHP and the NatureServe Network ranking](#) methodology using a 1-5 scale, with 1 indicating critically imperiled and 5 secure, for both global rarity (G-rank) and state rarity (S-rank). All ranks are reported along with the species name in the CODEX tables. [Potential Conservation Areas \(PCAs\)](#) are sites identified by CNHP which encompass known elements of biodiversity and the habitat needed to sustain these elements. Other Special Areas include [Colorado Designated State Natural Areas](#), [Audubon Important Bird Areas](#), managed lands from the [Colorado Ownership, Management, and Protection \(COMaP\)](#) database linked within CODEX and the Colorado SB181 High Priority Habitats. Colorado SB181 high priority habitats are habitats designated in wildlife maps which are updated annually and subject to a hearing. These habitats trigger avoidance or consultation with CPW by oil and gas operators under new rules by the Colorado Oil and Gas Conservation Commission (COGCC). See Appendix 3 for a table of all conservation statuses and hyperlinked website references used in this report. These data were used to create a picture of biodiversity for each property, as well as flag the presence of endangered and vulnerable species.

A Return-on-Investment (ROI) report was also run in the CODEX for each property. This report estimates the annual benefits in dollars based on the ecosystems which are present on the property and the services they provide (Seidl et. al. 2017). The ecosystem types are pulled from the [National Landcover Database](#) (v. 2016), which is derived from Landsat mosaics at a spatial resolution of 30 meters. The students used this data to investigate the number of ecosystem types on the properties and acreage of each class.

Further geospatial analysis was completed on these properties to assess the climate resiliency, connectedness, and anthropogenic impacts on a landscape scale using three additional datasets. CNHP staff developed detailed procedures on how to run reports or gather statistics based on these data (Appendix 2), which ESS 440 students then ran.

The first dataset, the Landscape Disturbance Index (LDI), is a raster digital dataset developed by CNHP representing eight layers of individually modeled anthropogenic impacts (Decker et al. 2017). The mean and standard deviation of the index on the property, calculated from values in 30 x 30 m raster cells, were calculated by the students.

The second dataset, the Colorado Ownership, Management, and Protection (COMaP) layer, is a geospatial database with over 28,000 entries of protected lands parcels from over 300 different data sources. The students ran an analysis of the percentage of land of within a 4-mile buffer of each property in 333 different management categories in the database. The CSU biologist also reviewed CSU-owned properties in ArcGIS with the COMaP layer and CNHP PCA layer to note any properties which were adjacent to legally protected areas (e.g., IUCN Category I-VI) or regions of conservation importance called out in the STARS criteria. This includes a Strict Nature Reserve, Wilderness Area, National Park,

Natural Monument or Feature, Habitat/Species Management Area, Protected Landscape/Seascape, or Protected area with sustainable use of natural resources. This, in conjunction with the tally of the number of PCAs and other special management areas within a 1-mile buffer of the properties returned from the CODEX environmental review, paints a picture of the connectedness of CSU lands to other lands with conservation value.

The third dataset was found in the The [Nature Conservancy's \(TNC\) Resilient and Connected \(R&C\) Landscape Mapping Tool](#), an interactive online mapping tool returning metrics on resilience to climate change. This tool returns the percentage of the property within 7 categories of climate resiliency, ranging from far above average to far below average, as well as including the percentage of developed land on the property. The climate resiliency score is based on two metrics which are also reported independently: the local connectedness and landscape diversity metrics. For these metrics, the tool returns the percentage of the property in the same seven categories of far above average to far below average. The local connectedness is evaluated based on level of development and the landscape diversity metric is based on the variety of microhabitats on the property which create variations in topography, local climate and other factors. A diversity of microhabitats and less development indicate greater potential climate resiliency.

For data quality control, four of the 32 properties (10%) were selected randomly by CNHP staff to check the student's tally of data in each CODEX category and check their geospatial analysis results. From Tables 1-5 in the CODEX report, a high rate of error was found in the actual number of species in the CODEX report and the number reported by the students (28%), which led to a line-by-line check of these data. The category of "Total # potential species of concern within a project area" was difficult for both students and CNHP staff to count with confidence. CNHP staff developed a procedure to obtain these data by converting the pdf report into an xml file and using the remove duplicate function in Excel to obtain accurate counts in all categories for the CODEX reports. For the ROI data transcription and LDI, COMaP, and TNC R&C Lands spatial data analysis, the same random 10% of properties were used and the spatial analysis was re-run data and the data checked. No errors were found on the check of transcription from the Return-on-Investment reports and only minor errors in the geospatial analysis checks were noted (less than 1% of totals), therefore no further checks of these data were completed. For the COMaP analysis, one property did not total to 100% and the analysis of that property was repeated.

Detailed Analysis of Selected Properties

For the two largest and most well-studied properties, the Mountain Campus and the Eastern Colorado Research Center (ECRC), additional research and field data collection were conducted to assess the biodiversity of the properties. The students in the Fall 2021 ESS 501 graduate course combed several datasets to compile a list of species documented from the sites (Table 2). Databases for species observations on the property using the property boundary shapefile included iNaturalist, SEINet, Symbiota Collections of Arthropods Network (SCAN), and Global Biodiversity Information Facility (GBIF). eBird creates population maps for bird species based on observations from their platform. Modeled species habitat came from the Species Activity Mapping Data from the Colorado Parks and Wildlife (CPW). The selected species lists from each database were merged and duplicate entries for the same species were condensed to construct a master list for each research site. Observations were selected over modeled data, and when multiple observations for the same species had been made, the most recent observation was kept.

Table 2. Summary of data sources for the detailed analysis of selected properties.

Source	Data Type
iNaturalist	Most popular citizen science platform for all types of biological observations
SEINet	Museum and Herbarium collections database for plant species
SCAN	Symbiota Collections of Arthropods Network - the largest collection of preserved and observed arthropods
GBIF	Global Biodiversity Information Facility - integrated collection of observations from multiple research, academic, and citizen science platforms
eBird	Avian breeding, migration, and year-round population distribution maps created from global citizen science observations
CPW	Colorado Parks and Wildlife - habitat models for Colorado's fauna

In addition to their database and mapping resources search, the ESS 501 students conducted interviews with facility staff, researchers, and other professionals associated with the campuses to obtain records and knowledge on species biodiversity. Information provided included field observations, scientific literature of species research conducted at the campuses, and species lists from past and ongoing research. From the ECRC, the students talked with the property manager, Doug Couch and his son, Wesley Couch (10/15/2021). For information pertaining to the Mountain Campus, virtual conversations took place with Seth Webb, the Mountain Campus Director (10/26/21), Paul Doherty, a CSU Department of Fish, Wildlife & Conservation Biology (DFWCB) professor (10/26/21), and Lise Aubry, a CSU DFWCB professor (10/28/21). Additionally, communication via email was exchanged with Sara Bombaci, a CSU DFWCB assistant professor (10/29/21), who provided a species list from the 2015 CSU SEEDS Chapter BioBlitz where 270 unique species were identified at the Mountain Campus, and with Tanya Dewey, a CSU Department of Biology research scientist, regarding her bat research on the campus (10/28/21) (Appendix 1). Observations from this acquired information were cross-referenced by the students with the modeled species data from the CPW All Species Activity Map Data and eBird species population maps to confirm predictions.

For the ECRC and Mountain Campus, the ESS 501 students used various functions in Microsoft Excel (Appendix 2) to intersect the species lists with CNHP databases to link species to additional data such as scientific name, nativity status, and heritage, state, and federal ranks. The invasive status of plant species was investigated with Colorado Department of Agriculture maintained list of [Colorado Noxious Weeds](#). Additionally, both ESS 501 and ESS 440 students annotated the plant species list from these two campuses with [Coefficient of Conservatism \(C values\)](#) for each plant species (Rocchio 2007, Smith et al. 2020). C values range from 0-10 and represent the degree to which a plant species shows specificity to a landscape which is relatively unaltered from pre-European settlement conditions. High values indicate the plant is associated with relatively undisturbed landscapes and low values indicate species which can tolerate habitat degradation (Appendix 3). C values have been assigned to each species by a panel of expert botanists in Colorado. Using the C values, the ESS 440 students ran a Floristic Quality Assessment of each campus, using the online [Floristic Quality Analysis Calculator](#) to obtain the mean C value and

Floristic Quality Index (FQI), where the FQI is the mean C value of all plants multiplied by the square root of the number of all plants (Appendix 2).

In the fall of 2021, two field visits were made to the ECRC by CNHP biologists and the ESS 501 students on October 15th and 29th. Four zones of the property were selected for data collection. On October 15th, three out of these four zones were equipped with a Wildlife Acoustics Song Meter Mini Bat monitor to record ultrasonic animal vocalizations (bats and rodents) – one of these monitors was also equipped for acoustic sound recording (birds) – and all four zones were equipped with a Cuddeback Digital trail camera (Figures 1 & 2). Monitoring locations were selected in accordance with available space and to avoid obstacles that would interfere with the acoustic monitoring devices' ability to detect sounds. The Song Meter Mini Bat was configured and paired on-site using the Song Meter iPhone application. On the initial visit, potential disturbances and signs of wildlife were noted. On the second field trip, an opportunistic list of plant species observations was made as the acoustic devices and camera traps were reclaimed. The observations made on these visits and recorded by the monitoring equipment were added to the species lists compiled from research.

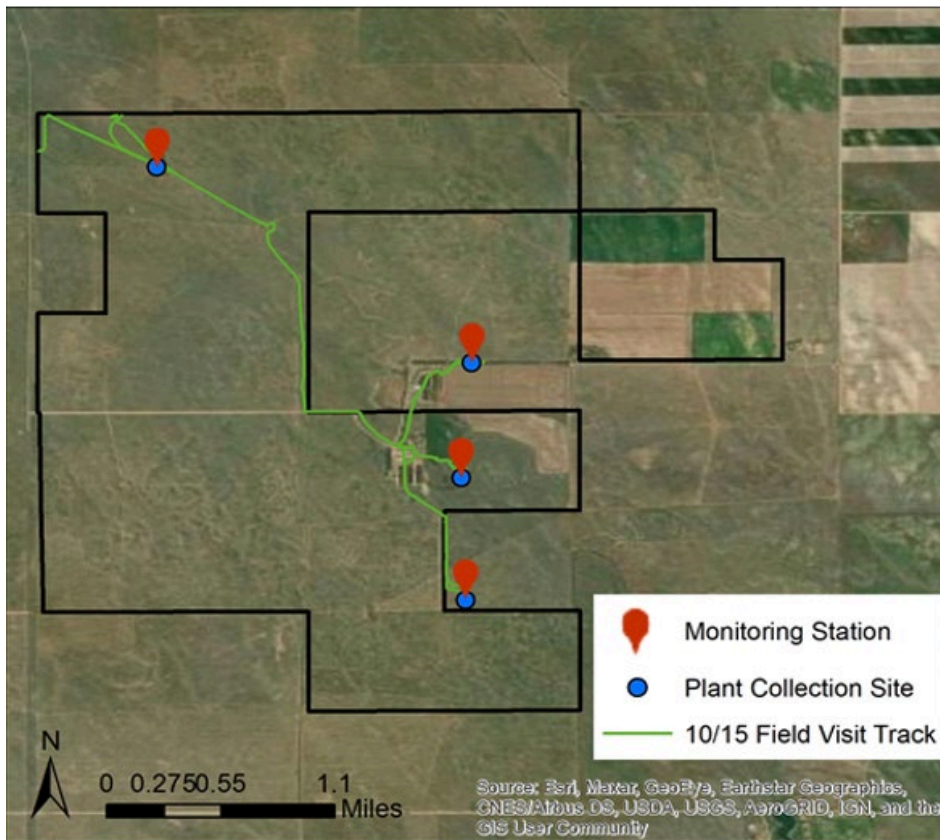


Figure 1. ECRC acoustic monitoring stations, field visit tracks and plant collection sites.



Figure 2. Monitoring station deployment locations represented by A. Small, linear mature cottonwood gallery, B. Treed windrow, C. Mid-grass prairie, D. Cattle trough adjacent to cattle pastures, E. Acoustic monitoring device.

CNHP biologists with assistance from Ecosystem Science and Sustainability 440 students, deployed three monitoring stations across the Mountain Campus on April 10th, 2022 (Figures 3 & 4). All three of the monitoring stations were equipped with a Wildlife Acoustics Song Meter Mini Bat to record ultrasonic sounds. At one site, one of these monitors was also equipped for acoustic sound recording. All three stations were equipped with a Cuddeback Digital trail camera. Monitoring stations were deployed from April 10th to April 28th, 2022. The Song Meter Mini Bat was configured and paired on-site using the Song

Meter iPhone application. The observations made on these visits and recorded by the monitoring equipment were added to the species lists compiled from research.



Figure 3. The ESS 440 students and CNHP staff mounting acoustic monitoring devices at the Mountain Campus in April 2022.



Figure 4. Moose cow and calf observed while retrieving equipment from a Mountain Campus monitoring station.

A CNHP biologist manually listened to all dawn chorus acoustic recordings at both the ECRC and the Mountain Campus using the Windows Groove Music application. Audibly identifiable species were documented (Appendix 4). Sonograms of sound files were reviewed in Kaleidoscope Pro 5.4.7. All recorded ultrasonic sound files from both ECRC and the Mountain Campus were vetted for bat calls, auto-identified and manually confirmed using Sonobat 4.2.2.1 North America.

In early June of 2022, two CNHP botanists visited the ECRC to compile an opportunistic species list, catching early summer flora, and survey for rare plants. Botanists surveyed for species around acoustic monitoring stations and as possible in pastures without cattle. Surveying took place over ~4 miles, and surveys continued until no new plants were found in the area. CNHP botanists used ESRI Field Maps for navigation and data collection. These botanists returned to a historic record of the rare plant *Astragalus plattensis* but could not confirm its presence due to lack of flowers.

Storymap Outreach Tool

Students from both the ESS 501 and ESS 440 classes produced an [ESRI storymap](#) to describe their project and results. The ESS 440 class in the spring built upon the work of ESS 501. CNHP staff finalized this project in the early summer of 2022, reorganizing the storymap into a final cohesive product.

RESULTS

From the Geospatial Review of CSU lands, 32 properties were identified spanning 14 counties and ranging in size from 1,196 hectares to 0.06 hectares (Figure 5). Properties serve a diversity of interests for the institution (Table 3). Using the ecosystem types based on the National Landcover Dataset in the Return-on-Investment report, the largest ecosystem type represented on the CSU lands is the grassland/herbaceous type, followed by agriculture, evergreen forest and shrub/scrub (Figure 6).

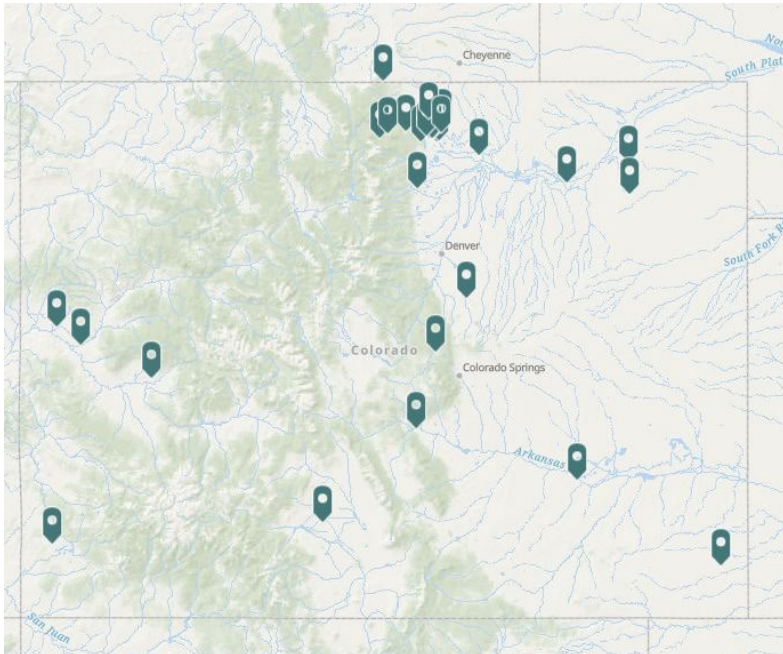


Figure 5. Map of CSU lands across the state of Colorado.

Table 3. Overview of CSU lands. Dominant ecosystem was taken from the Return-on-Investment reports.

Property	Acres	Hectares	County	Dominant Ecosystem	University Uses
ARDEC	1083	438	Larimer	Agriculture	Agricultural Research Development and Education Center supporting research, education, and outreach programs with 881 farmable/irrigated acres for crop production.
Arkansas Valley	101	41	Otero	Grassland	Arkansas Valley Research Center opened in 1888 to conduct irrigated agriculture research targeting solutions for regionally important problems in southeast Colorado.
Borden	71	29	Larimer	Evergreen Forest	This property was donated to CSU by the Borden family in 2009 and has served as the site for numerous class and research projects.
Boulder	3	1	Boulder	Agriculture	Also known as Lyons Prepared, this is used in conjunction with the Colorado State Forest Service and the Town of Lyons to prepare for future floods, snowstorms, and forest fires.
Buckhorn	161	65	Larimer	Grassland/Herbaceous	This is a mountain property located five miles northeast of Pingree Park.
Canon City	1	1	Fremont	Developed Land	This property is used in collaboration with the Colorado State Forest Service and Warner College of Natural Resources is there for forest management and wildfire mitigation
Central Great Plains	318	129	Washington	Agriculture	The Central Great Plains Research Station is managed in conjunction with the USDA Agricultural Research Service with research focusing on the efficient use of plant nutrients, pesticides, and water as well as soil conservation/preservation.
East Campus	18	7	Larimer	Developed Land	This property is just east of the main campus and contains the University Center for the Arts, Gregory Allicar Museum of Art, Avenir Museum of Design and Merchandising, and the LEAP Institute for the Arts.
Eastern Colorado Research Station	2956	1196	Washington	Grassland/Herbaceous	The Eastern Colorado Research Station is a livestock production research center that works closely with CSU's Department of Animal Sciences. Their research focuses on grazing management for beef production along with livestock nutrition and breeding.
Edward	0	0	Larimer	Developed Land	The Edwards home was a gift from Dave and Paula Edwards with the hope that it would become a gathering place for family, friends, and the community, as well as a home for the future CSU president.
Environmental Learning Center	179	73	Larimer	Emergent Herbaceous Wetlands	The Environmental Learning Center facilitates youth environmental education experiences to foster an appreciation for the outdoors and create future environmental leaders.

Property	Acres	Hectares	County	Dominant Ecosystem	University Uses
Foothills	1386	561	Larimer	Grassland/Herbaceous	The Foothills Campus is located a few miles west of CSU's main campus. It includes the City of Fort Collins Water Treatment Plant, 5.3 MW solar plant, the equine center, Colorado State Forest Service greenhouse and nursery and other labs.
Fort Morgan	2	1	Morgan	Developed Land	Morgan County Extension is part of the CSU Extension Office which provides assistance and programs on agriculture, horticulture, livestock, 4-H youth development, and Family/Consumer Sciences
Franktown	0	0	Douglas	Developed Land	CSU's Franktown property is used in collaboration with the Colorado State Forest Service and Warner College of Natural Resources to research wildfire risk, forest health, and post-fire forest health.
Fruita	93	38	Mesa	Agriculture	The Grand Valley Research Station located in Fruita focuses their research on integrated cropping systems, reduced tillage operations, cover crops, single season inter-cropping, as well as research on alternative crops and forages.
Gabbard-Rutledge	313	127	Larimer	Grassland/Herbaceous	The Gabbard-Rutledge Property, more commonly known as the Waverly Property, is managed by the CSU Forest and Rangeland Stewardship department and used for undergraduate and graduate rangeland courses and research focused on restoration of native rangeland plant communities.
Horsetooth	118	48	Larimer	Evergreen Forest	This property sits on top of Horsetooth Mountain and consisting of two sites leased for communications towers and a recreational easement to Larimer County
Hort Farm	63	25	Larimer	Agriculture	The Horticultural Field Research Center is the southern part of the ARDEC facilities. Their research projects include turf-grass, ornamental trees, shrubs, and specialty crops research and agrivoltaics research.
Main Campus	404	163	Larimer	Developed Land	Colorado State University's main campus comprises educational buildings, student housing, dining halls, the rec center, and the oval.
Maxwell Ranch	389	157	Larimer	Evergreen Forest	Maxwell Ranch is a working cattle ranch owned by CSU and is used to teach and research economically sustainable cattle ranching strategies.
Mountain Campus	1178	477	Larimer	Evergreen Forest	The Mountain Campus exists to serve the Colorado State University community and the surrounding region for academic field studies, educationally focused conferences, and mountain research.

Property	Acres	Hectares	County	Dominant Ecosystem	University Uses
Northern Colo Research Demonstration Center	40	16	Weld	Agriculture	The use of this property is to research the economic viability, environmental sustainability, and social acceptability of agriculture.
Orchard Mesa	80	32	Mesa	Agriculture	In conjunction with the College of Agricultural sciences, the Orchard Mesa Research Station researches tree fruits, wine grape production, and ornamental horticulture.
Rogers Mesa	84	34	Delta	Agriculture	The Organic Agriculture Research Station – Rogers Mesa – focuses their research on organic grapes, apples, peaches as well as vegetable and seed production to help serve local organic growers.
San Luis Valley	316	128	Rio Grande	Agriculture	The San Luis Valley Research Center is part of the Colorado Agricultural Experiment Station supporting people in the San Luis Valley through its seed certification program and research on potato varieties, diseases, and pest control.
South Campus	179	72	Larimer	Developed Land	CSU’s South campus is used for CSU’s Veterinary Teaching hospital, Equine Orthopedic Center, Horticulture Center, Natural Resources Research Center, and some off-campus housing.
Southeast Colo Research Center	2	1	Baca	Grassland/Herbaceous	The Plainsman Research Center focuses on optimizing irrigation and water conservation, soil preservation, and developing and enhancing crop varieties.
Southwest Colo Research Center	158	64	Montezuma	Agriculture	This property is used for irrigation and harvest techniques, soil development and preservation, and optimizing crop plant productivity for high-elevation regions.
Timberline	5	2	Larimer	Developed Land	The Timberline property is part of a land swap with the Timberline Church to develop new affordable apartments.
Washington School	2	1	Larimer	Developed Land	The Washington School used to be part of the Poudre School District and was originally built in 1919 to fulfill the growing Fort Collins population at that time. It is now CSU’s Early Childhood Center which each year serves approximately 150 children while simultaneously training more than 130 students from various departments across campus.
West Campus	43	17	Larimer	Developed Land	The West Campus property is used for off campus housing.
Woodland Park	1	0	Teller	Developed Land	The Woodland Park Field Office of the Colorado State Forest Service is a service and outreach agency for CSU used for forest health, wildfire risk and post fire rehabilitation research.

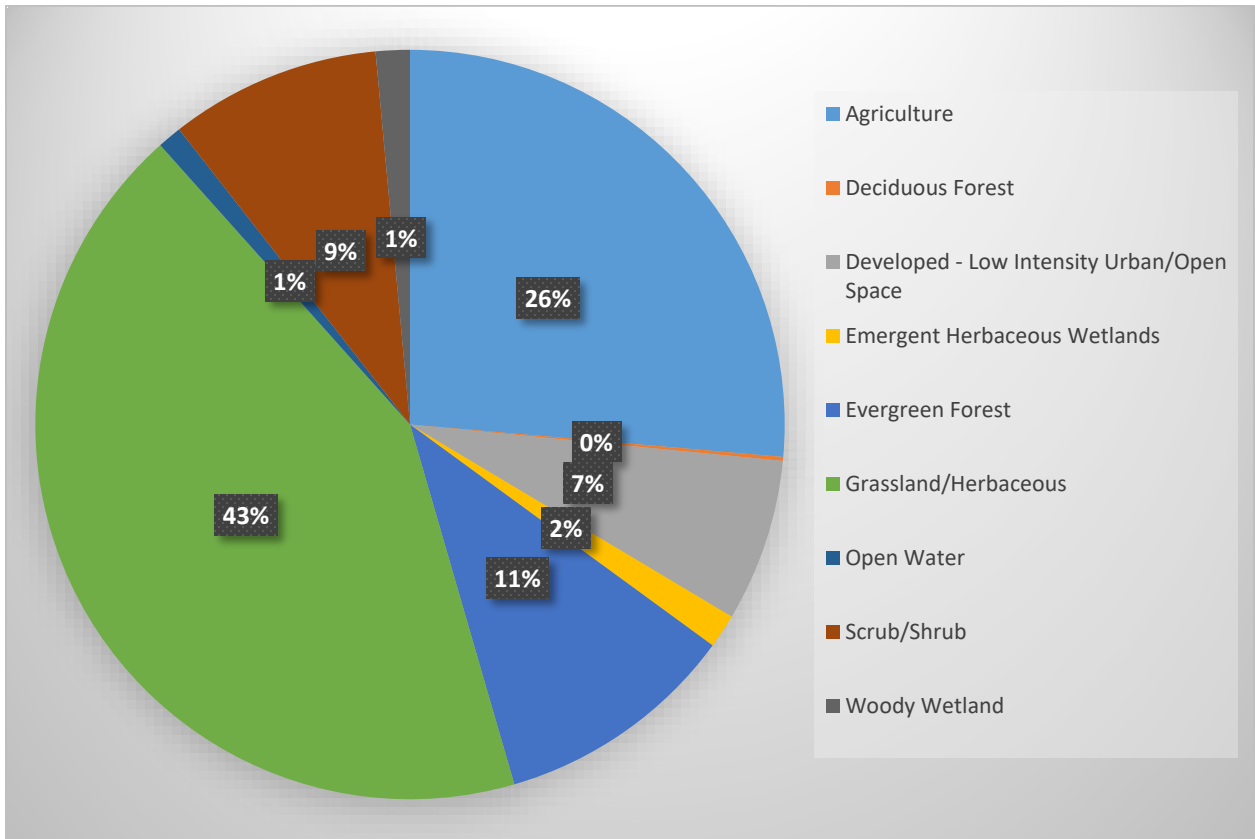


Figure 6. Percentage of Ecosystem Types of the CSU lands based on National Landcover Dataset from the Return-on-Investment reports for each property.

Properties held by CSU had 303 documented occurrences of regulatory species and other species of concern within 1 mile returned in the environmental review of CODEX; additionally, potential habitat was returned for another 2210 regulatory and other species of concern from a combination of range maps, general precision CNHP element occurrence records, and models (Table 4). Regulatory species (those species with federal protection under the Endangered Species Act, the Bald and Golden Eagle Protection Act, or USFWS critical habitat) and other species of concern (including rare species, natural communities, and species of economic, recreational or conservation value) which were documented within 1 mile of the property are detailed in Table 5 and Appendix 4 - Table 1. The 2210 species returned in the environmental review with a potential occurrence are available in the environmental review reports for each property, located in an Online Appendix here: [Biodiversity of CSU Lands Report Online Appendix](#)

The environmental review is only a preliminary screening tool; it does not confirm that a species is present on the property. This review cannot substitute for the potential knowledge gained by having a biologist conduct a field survey of the area. For properties where fish species were returned as documented occurrences within 1 mile of the property, the CNHP biologist reviewed aerial photography and the [USGS National Hydrography Dataset](#) to see if the property had water. If not, fish species were grayed out in Table 5 and Appendix 4 - Table 1 but were not removed from the tally in Table 4. No other judgements were made of the presence of species on the property. Knowledge of regulatory species and other species of concern within a 1-mile buffer of the property is valuable information to guide surveys, potential restoration, or partnerships with nearby landowners.

Table 4. CSU lands with documented and potential numbers of regulatory species and other species of concern from an environmental review in CODEX. See Appendix 3 for an explanation of the codes used in the Status column.

Property	Total # documented occurrences of regulatory species within 1 mile	Total # potential regulatory species within project area	Total # documented occurrences of species of concern within 1 mile	Total # potential species of concern within project area
ARDEC	0	3	9	64
Arkansas Valley	0	1	9	72
Borden	0	1	13	60
Boulder	2	2	13	65
Buckhorn	0	3	8	45
Canon City	1	1	7	70
Central Great Plains	0	1	1	37
East	0	3	12	89
Eastern Colorado Research Station	0	1	7	47
Edward	0	3	10	89
Environmental Learning Center	2	3	18	89
Foothills	2	3	29	88
Fort Morgan	0	1	3	53
Franktown	0	2	5	49
Fruita	3	2	8	84
Gabbard-Rutledge	0	2	5	84
Horsetooth	2	2	16	86
Hort Farm	0	3	11	66
Main	0	3	12	89
Maxwell Ranch	0	2	3	42
Mountain Campus	2	2	8	38
Northern Colo Research Demonstration Center	0	2	2	63
Orchard Mesa	6	1	9	66
Rogers Mesa	1	1	7	68
San Luis Valley	0	2	1	51
South	0	4	10	94
Southeast Colo Research Center	0	2	4	45
Southwest Colo Research Center	0	3	4	52

Property	Total # documented occurrences of regulatory species within 1 mile	Total # potential regulatory species within project area	Total # documented occurrences of species of concern within 1 mile	Total # potential species of concern within project area
Timberline	1	3	10	59
Washington School	0	3	11	88
West	0	4	10	89
Woodland Park	0	2	6	58
TOTAL	22	71	281	2139

Table 5. Properties with regulatory species returned as documented within 1 mile of the property in an environmental review in CODEX where regulatory species include species with federal protection under ESA, BGEPA, or USFWS critical habitat. See Appendix 3 for an explanation of the codes used in the Status column. Species greyed out are believed not to have habitat on the property based on aerial photography (ESRI, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community).

Property	Total # species within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Orchard Mesa	6	<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	2006	CNHP EO	G5T2T3 S1B, LT, SC, SWAP Tier 1, USFS, BLM
		<i>Haliaeetus leucocephalus</i>	Bald Eagle	N/A	CPW Roost Site	G5 S3B,S3N, SC, SWAP Tier 2, USFS, BLM, BGEPA
		<i>Gilia elegans</i>	Bonytail Chub	N/A	CPW HUC12 Presence	G1 SX,LE, SE, SWAP Tier 1
		<i>Ptychocheilus lucius</i>	Colorado Pikeminnow	1979	CNHP EO/CPW HUC12 Presence	G1 S1, LE, XN, ST, SWAP Tier 1
		<i>Xyrauchen texanus</i>	Razorback Sucker	7/15/1981	CNHP EO/CPW HUC12 Presence	G1 S1, LE, SE, SWAP Tier 1
		<i>Sclerocactus glaucus</i>	Colorado Hookless Cactus	5/14/2014	CNHP EO - off property	G2G3 S2S3 LT, SWAPT Tier 1
Fruita	3	<i>Gilia elegans</i>	Bonytail Chub	N/A	CPW HUC12 Presence	G1 SX ,LE, SE, SWAP Tier 1
		<i>Ptychocheilus lucius</i>	Colorado Pikeminnow	N/A	CPW HUC12 Presence	G1 S1, LE, XN, ST, SWAP Tier 1
		<i>Xyrauchen texanus</i>	Razorback Sucker	7/15/1981	CNHP EO/CPW HUC12 Presence	G1 S1, LE, SE, SWAP Tier 1

Property	Total # species within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Foothills	2	<i>Oncorhynchus clarkii</i>	Cutthroat Trout	N/A	CPW HUC12 Presence	G5 S4 PS
		<i>Spiranthes diluvialis</i>	Ute Ladies' Tresses	8/11/2006	CNHP EO - off property	G2G3 S2, LT, SWAP Tier 1
Environmental Learning Center	2	<i>Haliaeetus leucocephalus</i>	Bald Eagle	7/5/2020	CPW Winter Concentration Area, CPW Nests-Active	G5 S3B,S3N, SC, SWAP Tier 2, USFS, BLM, BGEPA
		<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	1954	CNHP EO	G5T2 S1, LT, ST, SWAP Tier 1
Horsetooth	2	<i>Aquila chrysaetos</i>	Golden Eagle	7/15/2019	CPW Nests- Active	G5 S3S4B,S4N, SWAP Tier 1, BGEPA
		<i>Oncorhynchus clarkii</i>	Cutthroat Trout	N/A	CPW HUC12 Presence	G5 S4 PS
Boulder	2	<i>Haliaeetus leucocephalus</i>	Bald Eagle	2008	CPW Winter Concentration Area, CPW Roost Sites, CNHP EO	G5 S3B,S3N, SC, SWAP Tier 2, USFS, BLM, BGEPA
		<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	9/17/1999	CNHP EO - off property	G5T2 S1, LT, ST, SWAP Tier 1
Mountain Campus	2	<i>Oncorhynchus clarkii stomias</i>	Cutthroat Trout	9/2/1993	CNHP EO	G5T1Q S2, LT, ST, SWAP Tier 1
		<i>Oncorhynchus clarkii</i>	Cutthroat Trout	N/A	CPW HUC12 Presence	G5 S4 PS
Canon City	1	<i>Haliaeetus leucocephalus</i>	Bald Eagle	N/A	CPW Winter Concentration Area	G5 S3B,S3N, SC, SWAP Tier 2, USFS, BLM, BGEPA
Rogers Mesa	1	<i>Haliaeetus leucocephalus</i>	Bald Eagle	N/A	CPW Winter Concentration Area, CPW Roost Sites	G5 S3B,S3N, SC, SWAP Tier 2, USFS, BLM, BGEPA
Timberline	1	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	1954	CNHP EO - off property	G5T2 S1, LT, ST, SWAP Tier 1

Orchard Mesa in Mesa County had the highest number of regulatory species documented within 1 mile of the property, but three of these were endangered fish species, and the property has no water. Other properties, including Fruita, Foothills, and Horsetooth also had fish species returned and these properties do have water present. The Environmental Learning Center has the federally threatened Preble's Meadow Jumping Mouse within 1 mile of the property, and it has the wetland habitat to potentially support this species. Bald eagles and golden eagles were returned for several properties. For other species of concern with documented occurrences within 1 mile of the property, several species with secure conservation status but of economic or recreation value were commonly returned for properties: these included Canada goose, mule deer, white-tailed deer, mountain lion, elk and black bear.

In addition to the number of regulatory and other species of concern on the properties, the diversity of ecosystems and wetlands on the property were assessed using CODEX. Using nine categories of ecosystem types, six properties had five or more types present. These were (in order of most to least): Foothills, Environmental Learning Center, ARDEC, Mountain Campus, and the Eastern Colorado Research Station and Rogers Mesa were tied (Figure 7, Appendix 4 -Table 2). Several properties had no developed land, as determined by the National Land Cover Dataset used for the Return-on-Investment analysis. These included the Mountain Campus, Maxwell Ranch, Buckhorn, Horsetooth, and Boulder. In total, CSU lands had over 691 hectares (1,709 acres) of wetlands returned in CODEX as determined by the National Wetland Inventory data (Appendix 4 - Table 3). Six properties included over 50 acres of wetlands (20.23 hectares); these were Environmental Learning Center, Mountain Campus, Foothills, San Luis Valley, Eastern Colorado Research Station and ARDEC. These six properties were also among the properties with the highest diversity of wetland types, along with South Campus, Gabbard-Rutledge and the Central Great Plains Research Station. In terms of the approximate annual economic benefits from ecosystem services from the Return-on-Investment report, the Mountain Campus had the highest return on investment, followed by Foothills, the Eastern Colorado Research Station, Main Campus and ARDEC (Appendix 4 – Table 3). Across CSU lands, the calculated conservation value of the properties combined ranged from \$1,659,941 to \$4,897,609. Full Return-on-Investment reports for each property are available in an Online Appendix located here: [Biodiversity of CSU Lands Report Online Appendix](#).

Fourteen of the CSU-owned properties had either adjacent protected properties or were encompassed within, contained, or adjacent to a CNHP Potential Conservation Area (Table 6). These classes are examples of protected areas and regions of conservation importance and defined in the STARS criteria. Within a 1-mile buffer of CSU-owned lands, there were a total of 22 CNHP PCAs and 89 other special areas (Table 6). For the CSU-owned properties, other special areas were primarily SB181 High Priority Habitats. For information on all other special areas within 1 mile of the project area, see the environmental review reports for each property, located in an Online Appendix here: [Biodiversity of CSU Lands Report Online Appendix](#). For the percentage of management descriptions within a 4-mile buffer around each property see Appendix 4- Table 4. By these metrics, the Mountain Campus, Foothills and Horsetooth properties stood out as high biodiversity importance.

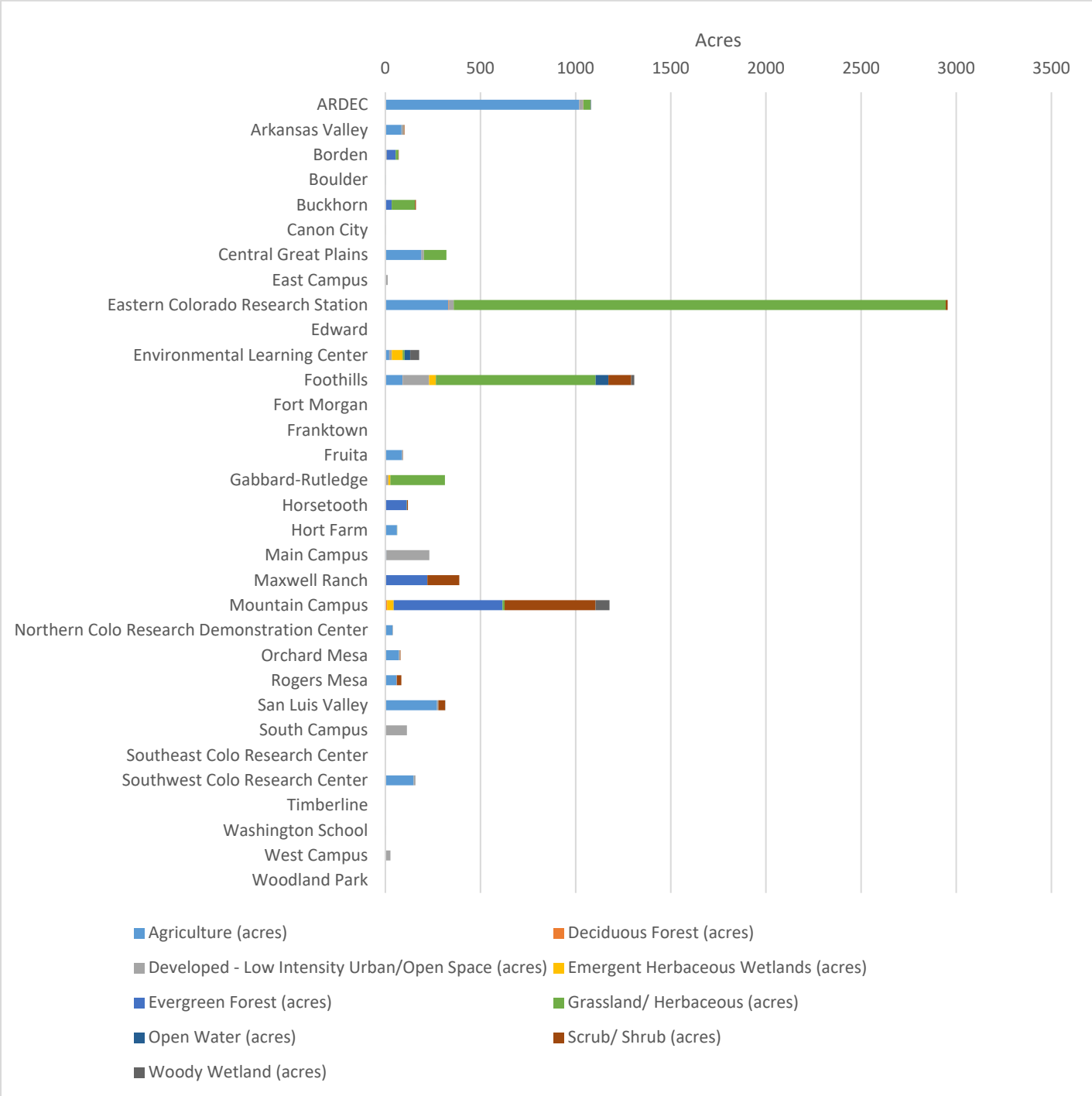


Figure 7. Ecosystem types for each of the CSU-owned properties based on National Landcover Dataset from the Return-on-Investment reports.

Table 6. Properties with either an adjacent protected properties or is encompassed within, contained, or is adjacent to a CNHP Potential Conservation Area. See Appendix 3 for an explanation of the codes used in the table.

Property	Adjacent or encompassing protected areas/ regions of conservation importance	# of CNHP PCAs within 1 mile	# of other special areas data types within 1 mile of project area
ARDEC	Private land with protection	0	3
Arkansas Valley	Central Arkansas Playas CNHP PCA (B3)	2	2
Borden	None	1	5
Boulder	County Open Space - General Management	2	8
Buckhorn	US National Forest (Roosevelt NF) - General Management	2	6
Canon City	None	1	5
Central Great Plains	None	0	0
East Campus	City of Fort Collins - City Park	0	2
Eastern Colorado Research Station	Colorado State Land Board - General Management, Eastern Colorado Agricultural Research Center Site CNHP PCA (B5)	1	1
Edward	None	0	1
Environmental Learning Center	City of Fort Collins Natural Area (Running Deer/Cache la Poudre-Big Thompson/Cottonwood Hollow Natural Area)	0	3
Foothills	Private Natural Area (HOA), City of Fort Collins Natural Area (Maxwell), City of Fort Collins - General Management, Horsetooth Reservoir Hogbacks CNHP PCA (B2)	3	5
Fort Morgan	None	1	0
Franktown	None	0	2
Fruita	None	0	1
Gabbard-Rutledge	None	0	3
Horsetooth	Larimer County Park (Horsetooth Mountain Park), Horsetooth Reservoir Hogbacks CNHP PCA (B2)	2	6
Hort Farm	None	0	1
Main	None	0	2
Maxwell Ranch	US National Forest (Roosevelt NF) - General Management, CSU Research Foundation Special Management Area	0	3

Property	Adjacent or encompassing protected areas/ regions of conservation importance	# of CNHP PCAs within 1 mile	# of other special areas data types within 1 mile of project area
Mountain Campus	NPS (Rocky Mountain National Park), US National Forest (Roosevelt NF) - Comanche Peak Wilderness, US National Forest (Roosevelt NF) - General Management, Cache la Poudre National Wild and Scenic River designation, South Fork Cache la Poudre CNHP PCA (B3)	1	5
Northern Colo Research Demonstration Center	None	0	1
Orchard Mesa	None	2	8
Rogers Mesa	Private land with protection	0	5
San Luis Valley	None	0	0
South	None	0	2
Southeast Colo Research Center	Comanche Grassland CNHP PCA (B3)	1	1
Southwest Colo Research Center	None	0	5
Timberline	City of Fort Collins - General Management	0	
Washington School	None	0	1
West	None	0	2
Woodland Park	None	3	0

Based on the metric of Landscape Disturbance Index (LDI), seven of the 32 CSU-owned properties fall in the category of low disturbance, and the rest fall in the category of high. Low disturbance properties include Horsetooth, Mountain Campus, Maxwell, Buckhorn, Borden, the Eastern Colorado Research Station and Gabbard-Rutledge (Table 7).

Table 7. CSU-owned properties sorted by Mean Landscape Disturbance Index scores from lowest to highest disturbance index values. Green highlights indicate a low disturbance (0-250) and red a high disturbance level (>=500). No properties fell within the medium category (250-<500).

Property Name	Mean	Standard deviation
Horsetooth	37	68
Mountain Campus	71	103
Maxwell Ranch	79	115
Buckhorn	111	125
Borden	170	119
E Colo Res Stat	171	188
Gabbard-Rutledge	218	127
San Luis Valley	518	169
Rogers Mesa	616	162
Southwest Colo Res Cntr	644	199
Foothills	793	205
Canon City	793	4
Fruita	793	111
Franktown	799	
ARDEC	807	334
South	830	76
Boulder	833	85
Fort Morgan	845	37
Main	865	158
West	871	105
Orchard Mesa	880	131
Central Great Plains	893	182
Edward	967	
Woodland Park	968	7
Timberline	992	81
Arkansas Valley	1014	116
Southeast Colo Res Cntr	1041	7
Environmental Learning Center	1052	136
Hort Farm	1064	180
Washington School	1080	7
East	1225	61
N Colo Res Demo Cntr	1277	107

Over a third of the CSU-owned properties (13 properties) had 90% or more of their lands in the above average or average categories for climate resiliency (Appendix 4 - Table 5). Many of the same properties with a diversity of ecosystem types, wetlands, and many regulatory and other species of concern documented within 1-mile were again noted in this category. These included the Mountain Campus,

Eastern Colorado Research Center, Foothills, Horsetooth, the Environmental Learning Center and others. All of the properties which fell in the below average climate resiliency categories had high percentages of developed land. The full reports from the TNC Resilient and Connected Landscape tool for each CSU-owned property are available in an Online Appendix here: [Biodiversity of CSU Lands Report Online Appendix](#).

Further Research on Largest and Well-Studied Properties

At the Eastern Colorado Research Center, student research and the results of CNHP field work found a total of 187 species as visual observations and/or within a modeled area (Appendix 5). This can be subdivided into 99 Animalia species and 88 Plantae species. Of these, two species of plants and 20 species of animals are considered to be species of concern. Notable documented species included the greater prairie chicken (G4T4S3, SWAP Tier 2) and the black-tailed prairie dog (G4S3, SWAP Tier 2), which is a keystone species creating habitat for a cascade of species. The silver-haired bat and an unidentified rodent(s) were detected using ultrasonic recording devices on the campus in October 2021 (Figures 8 & 9). The mean C value of plants species, based on the list as of March 2022, was 3.53 at the ECRC, indicating that on average the plant species which are present at the site could be found equally in areas more or less in a natural state. The percentage of plants which were native species was 84%.

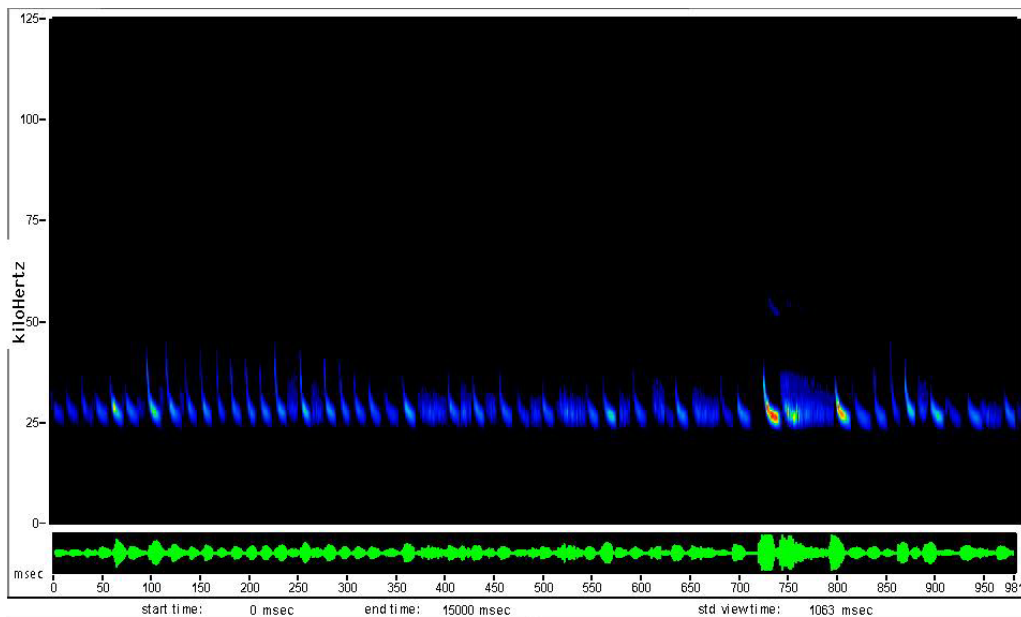


Figure 8. Sonogram of an ultrasonic call sequence of a silver-haired bat (*Lasionycteris noctivagans*) recorded at the ECRC.

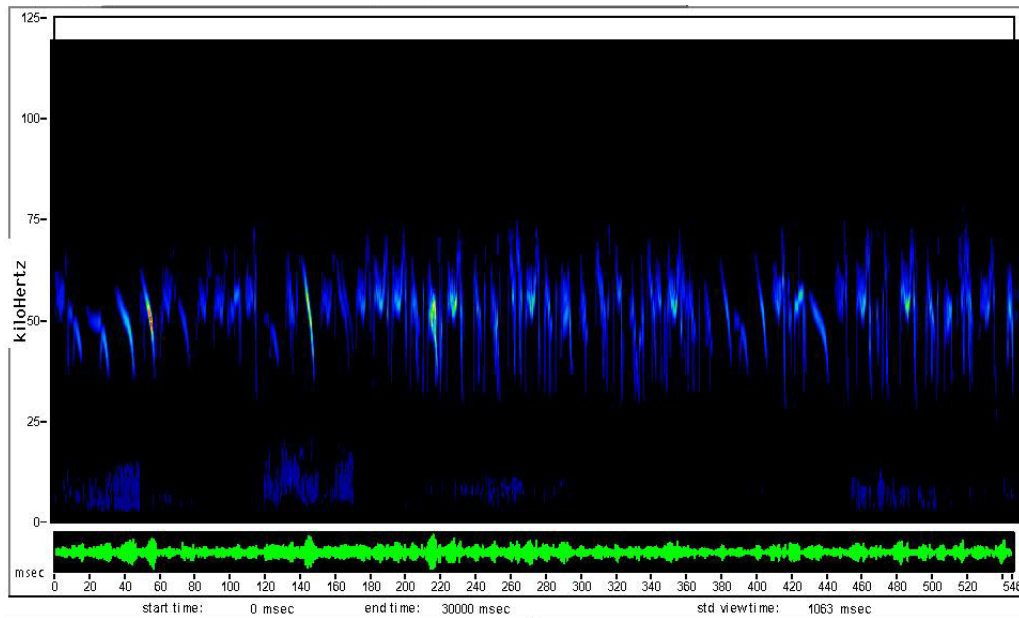


Figure 9. Sonogram of the ultrasonic vocalizations of an unidentified rodent recorded at ECRC. Smaller rodents (e.g., mice) emit vocalizations in ultrasonic frequencies (30-110 kHz) used for social communication.

The silver-haired bat is a widespread species occurring across most of the United States, including Alaska and parts of Canada. The silver-haired bat is found statewide in Colorado, though it is considered more common in the forested mountains. This bat is a long-distance migrant throughout portions of its range and the activity documented via ultrasonic recordings at the ECRC is possibly associated with migration activity. The majority of recorded and confirmed ultrasonic calls occurred over three nights – October 21-23 – when temperatures were relatively consistent with other nights within the monitoring period. Though silver-haired bats will roost in mines, caves, and human-made structures, they more commonly roost in trees. The monitor that recorded the greatest call activity on the ECRC was located adjacent to the isolated grove of large cottonwoods (Figure 2A). These trees are likely providing important roosting and feeding habitat for silver-haired bats, including during migration stopovers. The monitor located at the cattle trough on the northeast portion of the property also received call activity, though far less than the grove of cottonwoods. Rangeland water developments like, “Watering tanks, troughs and ponds maintained for livestock often double as critical resources for a broad array of wildlife” (Taylor and Tuttle 2012, p. 3) can serve as important sources of food and water for bat species like the silver-haired bat. Notably, the silver-haired bat was also recorded at the Mountain Campus. Recorded calls at the Mountain Campus occurred on the limited number of nights during the monitoring period when nighttime temperatures were above freezing. It is suspected that the bats observed at the Mountain Campus were likely hibernating in or around the general vicinity and aroused to feed on warmer nights. The silver-haired bat is a great example of how properties like the ECRC and the Mountain Campus, separated by hundreds of miles and thousands of feet of elevation, can support the same species of conservation concern at different stages in its annual life cycle.

At the Mountain Campus, student research and field work recorded a total of 1,044 species as visual observations and/or within a modeled area (Appendix 6). This can be subdivided into 754 Animalia species, 273 Plantae species and 17 Fungi species. The Animalia numbers included a large list of

arthropod species (575) known from the Mountain Campus. Of these, one species of plant and 21 species of animals are species of concern. Notable visual observations included numerous birds: olive-sided flycatcher (G4S3S4B, SWAP Tier 2), American white pelican (G4S1B, SWAP Tier 2), brown-capped rosy finch (G4S3B, SWAP Tier 1), peregrine falcon (G4T4, S2B, SWAP Tier 2), prairie falcon (G5S4B, S4, SWAP Tier 2), Brewer’s sparrow (G5S4B, SWAP Tier 2), black swift (G4S3B, SWAP Tier 2), bald eagle (G5S3B, S3N, SWAP Tier 2), golden eagle (G5S3S4B, SWAP Tier 1) and northern goshawk (G5S3B, SWAP Tier 2). The western chorus frog was added to the species list following the deployment of acoustic detection devices in the spring of 2022 by CNHP staff and students (Figure 10). The mean C value of plants species was 6.26 at the Mountain Campus, again indicating that on average the plant species which are present at the site could be found equally in areas more or less in a natural state. The percentage of native plant species on the property was very high, 92.74%.

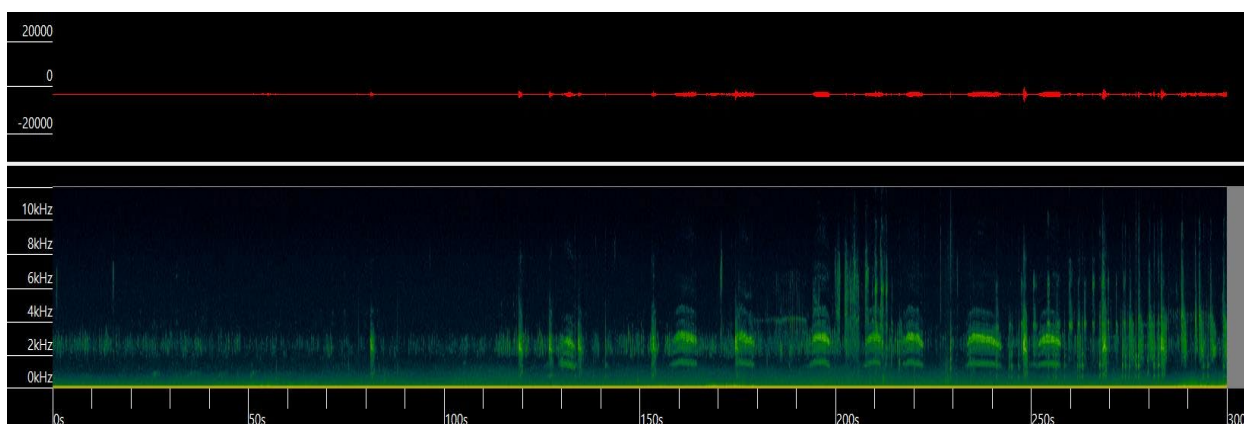


Figure 10. Sonogram of the acoustic vocalizations of American robin and Wilson’s snipe captured on a 5-minute recording at a pond complex at the Mountain Campus where green-winged teal, moose, mallard, and western chorus frogs were observed among other species.

The ESRI Storymap produced to showcase the results of this project can be found here: <https://storymaps.arcgis.com/stories/0c7bc08d08594b3683664bc3103290ad>.

DISCUSSION

Through the many metrics of biodiversity assessed, several properties stood out (Table 8). These included the Eastern Colorado Research Center, the Mountain Campus, and the Foothills and Horsetooth properties near Horsetooth Reservoir in Larimer County. These were the largest (ECRC), highest ranked in number of regulatory and other species of concern within a 1-mile buffer (Foothills), number of adjacent protected lands and/or region of conservation importance (Mountain Campus), diversity of ecosystems (Foothills), economic benefit of ecosystem services (Mountain Campus), lowest Landscape Disturbance Index (Horsetooth) and highest climate resiliency (Horsetooth). The Environmental Learning Center, although small, had the highest number of NWI Wetland classes and wetland acreage, was in the highest class for climate resiliency, and highly ranked for the number of regulatory and other species of concern with a 1-mile buffer. The ARDEC and Maxwell properties were mid-tier for many biodiversity metrics. A few properties stood out for potential habitat for unique species not otherwise found on CSU lands; these were Fruita, for the potential to support endangered Colorado River fish species, and the San Luis Valley property, for the potential to support sandhill cranes.

Table 8. Top CSU-owned properties for biodiversity and their ranking in each biodiversity metric. Ranks are duplicated for properties with the same values in a metric.

	ARDEC	Eastern Colorado Research Center	Environmental Learning Center	Foothills	Horsetooth	Maxwell Ranch	Mountain Campus
Size	4 th	1 st	10 th	2 nd	14 th	6 th	3 rd
# regulatory and other species of concern within 1-mile buffer	9 th	11 th	2 nd	1 st	3 rd	15 th	10 th
# Adjacent protected lands/region of conservation importance	5 th	4 th	3 rd	2 nd	4 th	4 th	1 st
Diversity of Ecosystems	3 rd	5 th	2 nd	1 st	7 th	6 th	4 th
NWI Wetland Acreage	6 th	5 th	1 st	3 rd	14 th	15 th	2 nd
Diversity of NWI Types	4 th	6 th	1 st	2 nd	7 th	6 th	4 th
Economic Benefit	5 th	3 rd	8 th	2 nd	10 th	6 th	1 st
LDI: Least Disturbance	15 th	6 th	28 th	11 th	1 st	3 rd	2 nd
Climate Resiliency	7 th	1 st	1 st	3 rd	1 st	4 th	2 nd

Along with an assessment of biodiversity on the CSU lands, the University should also have in place plans or programs to protect or positively affect the species, habitats and/or ecosystems identified in the assessment to meet the STARS criteria. Plans and programs adopted by other entities may also count for this credit, as long as these apply to and are followed by the institution. CSU hosts the Colorado Natural Heritage Program as a sponsored program within the Warner College of Natural Resources. CNHP is the program which curates and maintains Colorado’s only comprehensive source of information on the status and location of Colorado’s rarest and most threatened species and natural plant communities. As such, CNHP directly works within CSU and with a wide range of stakeholders in partnerships to positively affect Colorado’s biodiversity through surveys, monitoring, assessments, education, and outreach. Along with CODEX and COMaP, CNHP has developed the [Colorado Wetlands Information Center](#) which is an online suite of resources to protect and educate stakeholders about the importance, location, condition, and care of the state’s wetland resources. CNHP also maintains the online [Rare Plant Guide](#) to educate and facilitate the identification and care of our state’s most rare botanical resources. Along with The Nature Conservancy, CNHP created a statewide survey of the status of Colorado’s biodiversity using a scorecard approach to evaluate 18 ecosystems, 113 at-risk vertebrate animal species, and 103 rare

plants through a lens of status, threats, and protection (Rondeau et al. 2011). CNHP regularly updates and tracks the biodiversity status of conservation elements in the state. In addition to the work of CNHP, several conservation plans exist in the state to protect and support rare species which may be found on CSU lands. The federal Endangered Species Act and the Bald and Golden Eagle Protection Act protect federally listed species. The Colorado State Wildlife Action Plan (SWAP) is a statewide conservation plan for all stakeholders in the state, prepared by Colorado Parks & Wildlife. This plan outlines and prioritizes Colorado's conservation needs, including detailed conservation priorities, threats, and conservation actions for over 276 animal and plant species of greatest conservation need listed in the SWAP, many of which have potential habitat on CSU lands.

The biodiversity assessment suggests several actions which could be taken to protect, enhance, or restore the biodiversity found on CSU lands. Aerial photography indicates the historical presence of black-tailed prairie dogs (*Cynomys ludovicianus*) on the ECRC (Figure 11). This is a globally apparently secure (G4) but state vulnerable species (S3) listed in the SWAP as a Tier 2 species and a state species of concern (SC). No signs of an active colony were observed by CNHP biologists during the October 2021 field visit. Prairie dogs are considered keystone species of prairie steppe ecosystems and the presence of their colonies or "towns" provides critical ecological resources for functioning rangelands, e.g., prairie dogs are food sources for predators, their burrows provide homes for other animals, such as burrowing owls, and their burrowing and grazing activity improves local plant diversity and maintains grasslands (Ceballos et al. 2010). Prairie dogs have a high degree of dietary overlap with cattle and recent long-term studies have shown that prairie dog colonies when present in cattle pastures, especially when colonies occupy a large proportion of pastures, can reduce cattle weight gain by 4-8% (Augustine and Derner 2021). But the authors of this same study found

Under conditions of average rainfall during the growing season in shortgrass steppe, prairie dog grazing reduces the amount but enhances the quality of the forage. After measuring the biomass of forage left behind on prairie dog colonies, we found that both protein content and in vitro dry matter digestibility were enhanced (USDA ARS 2021).

As keystone species, black-tailed prairie dogs have an outsized role defining and maintaining the grassland ecosystems of eastern Colorado. CNHP recommends where possible, CSU manage for the coexistence of cattle and prairie dogs on portions of the ECRC.

Additionally, retaining wetlands and riparian corridors on all properties is a critical action to protect biodiversity on CSU properties. In the Intermountain West, more than 80% of wildlife species depend on [wetland and riparian areas](#) during some portion of their life. Maintaining, restoring, and enhancing where needed the wetland and riparian areas and corridors present on a given property is critical for maximizing benefits to the majority of wildlife species occupying or passing through an area. Regulatory and other species of concern (Table 5, Table 1 - Appendix 4) like the western yellow-billed cuckoo, bald eagle, bonytail chub, razorback sucker, and Preble's meadow jumping mouse documented on or within 1 mile of an assessed CSU property are dependent upon healthy, intact wetland and/or riparian systems.

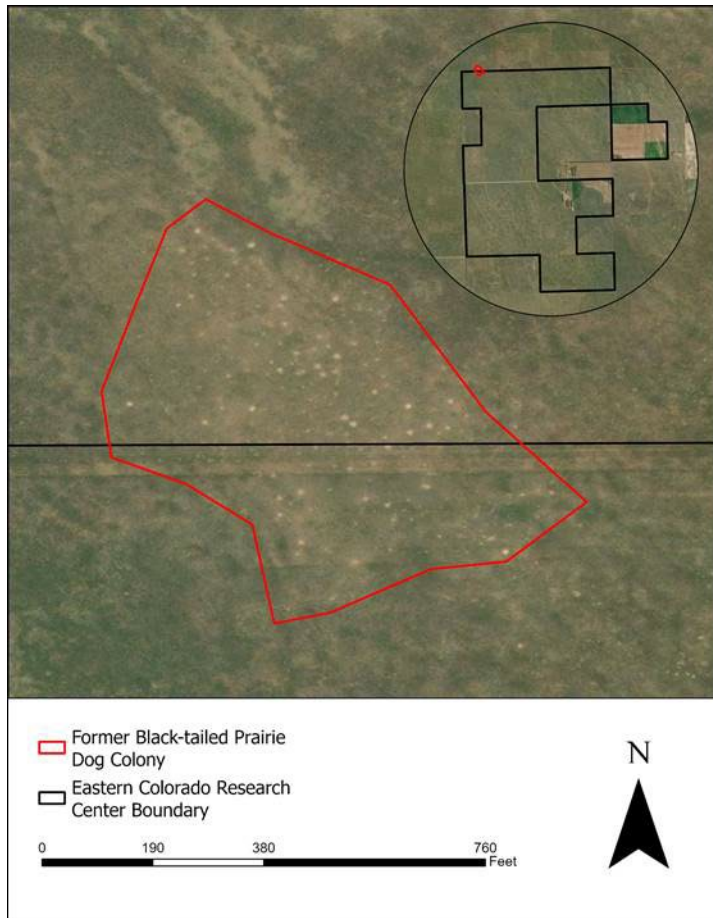


Figure 11. A digitized polygon demarcating the historical black-tailed prairie dog town on the northwest boundary of the ECRC.

Additional on-the-ground inventories during the appropriate season of activity for species could yield more information on the University’s biodiversity holdings. Perhaps a bioblitz involving students, CNHP and other CSU staff, and outside experts at the Foothills property could be held. This is the second largest property of CSU, close to campus, with many rare species documented within 1 mile of the property. Mapping features such as rare plants, nests, and wetlands would allow for the monitoring of conservation and protection of features over time, potentially with assistance from students. A management plan, which maps features of conservation value and details best management practices, would further support conservation of biodiversity. Building partnerships with adjacent landowners, such as the National Park Service or U.S. Forest Service, and coordinating conservation actions across properties could be another avenue to enhance biodiversity.

The biodiversity assessment also identified properties with lower scores on biodiversity metrics. Many of these properties were smaller with lower ecosystem diversity or had fewer documented or potential occurrences of species of concern within 1 mile or higher landscape disturbance scores based on their proximity to the Front Range and other urban areas. Despite this, there are still potentially important conservation targets on these properties and possible conservation gains through enhancement and restoration. The environmental review information on potential species habitat and nearby documented occurrences of rare species can be used to inform the potential of the property and guide restoration. Biodiversity elements present on the property are of high value due to loss from development in the

surrounding area and should be conserved. Biodiverse urban areas provide recreational and therapeutic opportunities for residents and students to connect with nature (Gilligan et al. 2020). The Colorado Natural Heritage Program maintains guidance on restoration of wetland ecosystem, which is also broadly applicable to terrestrial ecosystems, on the [Colorado Wetlands Information Center Restoration and Enhancement](#) page. Simple suggestions such as using a native seed mix for revegetation, retaining hedgerows on agricultural lands, planting pollinator friendly species, and protecting beaver populations may result in big conservation gains.

Along with providing information on the biodiversity on the CSU lands, this project provided educational value to students in the Ecosystem Science and Sustainability (ESS) 501 graduate course and 440 undergraduate capstone course. These students were able to work on a real-world project with CNHP mentors, gaining skills in geospatial data analysis, field data collection techniques, and research and broadening their understanding of ecology and biodiversity, while taking pride in their university. In addition to this report, the resulting storymap will serve as a resource to showcase CSU's contribution to biodiversity in the state of Colorado.

LITERATURE CITED

- Augustine, D.J., and J.D. Derner. 2021. Long-term effects of black-tailed prairie dogs on livestock grazing distribution and mass gain. *The Journal of Wildlife Management* 85(7): 1332–1343.
- Ceballos, G., A. Davidson, R. List, J. Pacheco, P. Manzano-Fischer, G. Santos-Barrera, and J. Cruzado. 2010. Rapid decline of a grassland system and its ecological and conservation implications. *PLoS one* 5.1: e8562. <https://doi.org/10.1371/journal.pone.0008562>
- Decker, K.L., A. Pocewicz, S. Harju, M. Holloran, M.M. Fink, T.P. Toombs, and D.B Johnston. 2017. Landscape disturbance models consistently explain variation in ecological integrity across large landscapes. *Ecosphere* 8(4). Available: <https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecs2.1775>
- Gilligan, L., G. Doyle, G. Smith, J. Lemly, B. Lambert, and J. Handwerk. 2020. Survey and Assessment of Critical Urban Wetlands: City of Aurora. Colorado Natural Heritage Program, Colorado State University, Fort Collins, Colorado. Available: https://cnhp.colostate.edu/download/documents/2020/FINALAuroraReport_with_appendices_0221_web.pdf
- Rocchio, J. 2007. Floristic Quality Assessment Indices for Colorado Plant Communities. Colorado Natural Heritage Program. Fort Collins, Colorado. Available: <https://cnhp.colostate.edu/download/documents/2007/FQAFinalReport.pdf>
- Rondeau, R., K. Decker, J. Handwerk, J. Siemers, L. Grunau, and C. Pague. 2011. The State of Colorado's Biodiversity. Prepared for The Nature Conservancy by the Colorado Natural Heritage Program, Colorado State University, Fort Collins, Colorado. Available: <https://cnhp.colostate.edu/projects/biodiversity-status/>
- Seidl, A., D. Anderson, D. Bennet, A. Greenwell, and M. Menefee. 2017. A CSU Study: Investing in Colorado: Colorado's Return on Investments in Conservation Easements: Conservation Easement Tax Credit Program and Great Outdoors Colorado. Colorado State University, Fort Collins, Colorado. 36 pp. Available: <https://mountainscholar.org/handle/10217/185392>
- Smith, P., G. Doyle, and J. Lemly. 2020. Revision of Colorado's Floristic Quality Assessment Indices. Colorado Natural Heritage Program, Colorado State University, Fort Collins, Colorado.
- Taylor, D.A. and M.D. Tuttle. 2012. *Water for Wildlife: a Handbook for Ranchers and Range Managers*. Revised Edition. Bat Conservation International. Austin, Texas.

APPENDIX 1. Personal communication sources.

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APPENDIX 2. Procedures for running and compiling data from biodiversity data sources.

1. **ESS 440 – CODEX reports for CSU Lands Biodiversity Project**

Guide to how to use CODEX: <https://codex.cnhp.colostate.edu/colorados-conservation-data-explorer-codex-user-guide>

- Create reports for each CSU property – including ROI reports
 - o First add a zipped shapefile of the property into CODEX using the “add resources” button at the top left
 - CSU_Properties.shp.zip is the shapefile of all 32 CSU properties
 - o To create a report, click “create project” in the top left
 - o In the “additional mapping options” dropdown arrow, select “map layers” > choose uploaded layer > select from resource > click property on the map view > accept > next > accept
 - o Enter a title using the property name
 - o Select Conservation/restoration for project type
 - o 1 mile buffer
 - o For project description include property name and CSU Lands Biodiversity Project
 - o Check the Return on Investment box at the bottom before submitting
 - o It will take about 5 minutes for the report to process. Once you get the email notification, you can view the reports under the “My Projects” tab
 - o Download the project report PDF, the CSV file, and ROI report PDF. The project and ROI reports will be used to fill out the Excel table.
 - o Pull information from the tables in the reports into the Excel table
 - For the 4 species tables, there will be some duplicates between the documented occurrences and the potential occurrences. When you come across this, only record the species as documented.
 - In these 4 tables there also will be species listed multiple times with different data types. Only record a species once.
 - For # of other special areas (table 6), use the name of the area for the total #.
 - Managed areas is a yes or no field. If anything is listed in table 7 then it would be yes.
 - For wetlands, total up the acreage of all types and then list the # of different NWI codes.
 - o State Listed Noxious Weed data can be found using the map in CODEX.
 - Make the property shapefile more transparent
 - Turn on the State Listed Noxious Weeds layer
 - o Make sure all the three sublayers are turned on
 - Use the identify button to ID any of the mapped weeds inside the property boundary
 - Record how many different species there are in the table

2. ESS 440 – Getting LDI Mean and Standard Deviation

- Add the LDI layer from Google Drive file into ArcGIS. Add in your shapefile layer with all CSU properties.
- Use the “Extract by Mask” tool to create a clip of the LDI within the property boundary. You can open the attribute table of the shapefile for the property boundary and highlight the property of interest to do this one property at a time. You must save your result in a geodatabase.
- Then use the “Calculate Statistics” tool to run statistics on the raster. You can view results in Raster dataset properties - see Properties when right click layer, choose Source tab and scroll down to Statistics.
- Put the results (mean and stdev) in the table in the CODEX Reports table in the Google Drive.

3. ESS 440 – Working with COMaP data

The goal is to buffer each property by 4 miles and then calculate the % of each managed land category using the intersect tool to better understand the connectivity of the property.

All parts of the ArcMap are in the COMaP GIS data folder. You should be able to download all of that, extract zip files and then find them in the map. The Mountain campus buffer and intersect files can be used as an example. Parcel22cnp is all the CSU properties.



This is the legend of COMaP in case you have to recreate it.

<https://desktop.arcgis.com/en/arcmap/latest/extensions/tracking-analyst/063-symbolizing-point-data-with-text-as-character-marker-symbol.htm>

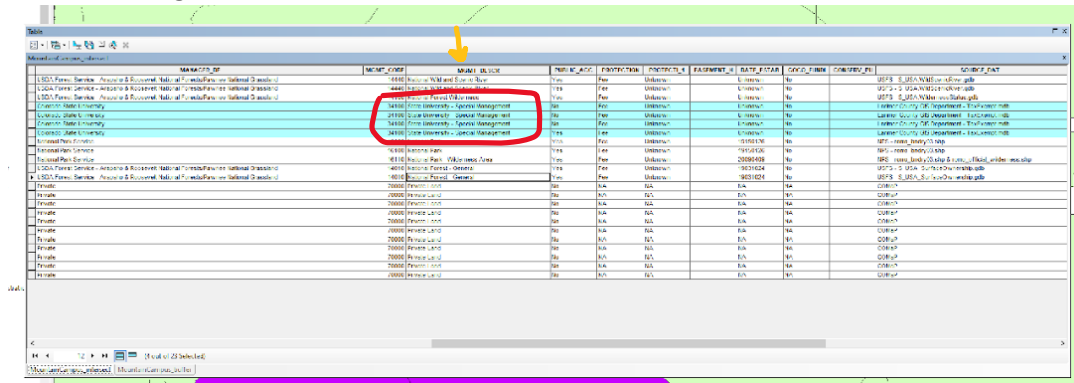
Follow this guide through step 10: <https://support.esri.com/en/technical-article/000010582#:~:text=Open%20ArcMap,Features%20to%20the%20point%20shapefile.>

For step 10, use this instead: $[\text{AreaBuffer}] / [\text{TotalArea}] * 100$

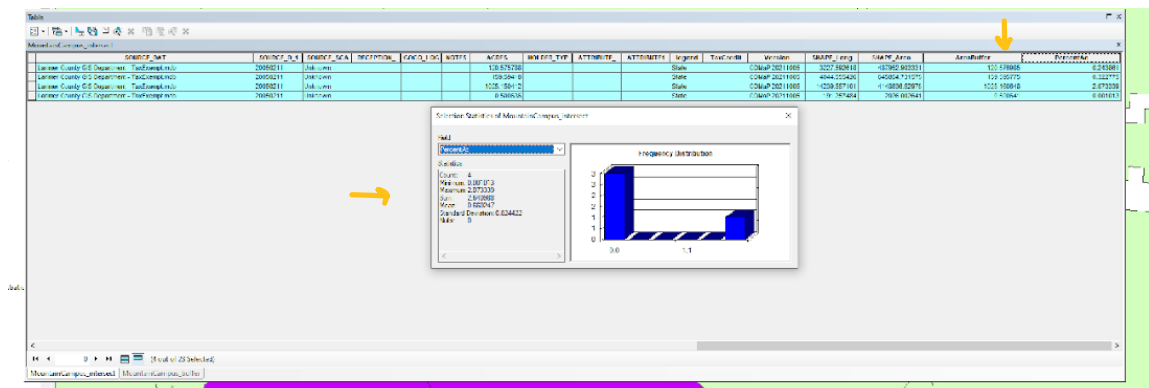
Generally, here are the steps (and the names to use):

1. Buffer the CSU property polygon by 4 miles > name the new layer “[CSU property name]_buffer”

2. Make the new buffer layer hollow so you can see through it
3. Add a new field to the buffer layer attribute table as a double type and call it "TotalArea"
4. In an editor session right click on the new field and select 'Calculate Geometry.' Set property as 'Area' and units to 'Acres US.' This is the total acreage of the buffered area. Save edits and stop editing after this.
5. Now run the intersect tool to add in the COMaP parcels that are within the 4 mile buffered area
6. Your input features are COMaP and the new buffer layer. Name the new layer "[CSU property name]_intersect"
7. Make the new intersect later hollow as well so you can see the COMaP properties below. Use the geoprocessing tools to Dissolve the intersect layer by Management Code.
8. Add a new field to the dissolve later attribute table as a double type and call it "AreaBuffer."
9. Add another field called "PercentAc"
10. Start an editing session and right click on the new "AreaBuffer" field and select 'Calculate geometry.' Set property as 'Area' and units to 'Acres US.' This is the total acreage of each COMaP property within the buffered area.
11. Now right click on the new "PercentAc" field and select 'Field Calculator.' Enter: [AreaBuffer]/[TotalArea] * 100. This calculates the percent of land in the buffered area for each COMaP parcel. This should total 100%.
12. Save edits and stop editing.
13. Sort ascending the MGMT_DESCR and use that field to select all the parcels with the same name. Then right click on "PercentAc" and click 'Statistics'.



14. Do this for each category under the MGMT_DESCR field and copy and paste the sum into the Excel table. It will probably be best to control-find the category in the Excel table. You can also search by management_code.



4. ESS 440 – Working with TNC Resilience and Connected Landscape data

TNC Resilience data: <https://maps.tnc.org/resilientland/>

Link to the TNC definitions: <http://maps.tnc.org/resilientland/coreConcepts.html>

- Go to this website
- Upload zipped shapefile of the property boundary
- It'll take a minute or so to run the report and then results will pop up.
- Use the Resilience pie chart under “Terrestrial Resilience Categories” and enter the % for each category in the Excel sheet. Hover over each section to get the category.
- It is easier to get the data from the website but once you are done, download the PDF (right click on pop-up > print as PDF) and put it in a folder on the drive.

5. ESS 501 – Microsoft Excel formulas and functions used to organize and analyze datasets.

Excel Function	Purpose
=IFERROR(INDEX,(MATCH)))	Match species names between datasets to return tertiary value (or blank if no matching value was found)
=COUNTIF()	Count the number of records if a certain value was observed
Sort by (custom) - Kingdom, Phylum, Class, Order, Family, Species, Date (Newest → Oldest)	Sorting by descending taxonomic level and then date that species was observed
Remove duplicates	Remove all but one record that has the same species name - species with most recent observation kept

6. ESS 440 – Procedure to run Floristic Quality Assessment tools

- Copy of ECRC_Master.xlsx - see tab: Table List - copy out all the entries in the Plantae category into a new spreadsheet
- Copy of Master Biodiversity List - Mountain Campus.xlsx - see tab: Master - copy out all the entries in the Plantae category into a new spreadsheet
- Go to this link: <https://cnhp.colostate.edu/cwic/tools/calculator/> and download the FQA calculator.
 - Read the help documentation provided with the calculator.
- Edit your spreadsheets of plant names so that it will be in the following format for use with the FQA calculator:

Plot	Species	Cover
------	---------	-------

ECRC	Acorus calamus	100
MC	Acorus calamus	100

- Where ECRC is the Eastern Colorado Research Center and MC is the Mountain Campus. Since we don't have cover, add 100 for every species. Make sure you just have the full scientific name (Genus and species, no nomenclature authority) for the species.
- Species names must match the nomenclature used in Weber and Wittman 2001.
 - You can try clicking "Check species names" in the Access calculator to fix any issues. If that doesn't work, you can use the Ack_Weber_compare.xlsx spreadsheet in the google drive to crosswalk names.
 - Check that the scientific name on the master spreadsheet is a name in the Weber species list on the Ack_Weber_compare.xlsx spreadsheet. If you don't find it in the list for Weber, check the list for Ackerfield. Use the Weber name in your final spreadsheet.
 - A spreadsheet with the USDA codes and full species names is provided for reference in the google drive folder - see Copy of CO_Plant_Native_Status.xlsx.
- Use the FQA calculations.pdf in the FQA calculator download materials to calculate indices of Species richness, Native species richness, non-native species richness, %non-native species, Mean C, Mean Cnat for both properties
- *A new version of the calculator is now available on the CNHP website and should be used for calculating future FQA indices. See the CNHP reports page: <https://cnhp.colostate.edu/library/reports/> and filter reports by Title: "Floristic Quality Assessment" and Author: "Smith". Download the zipped folder with report and excel spreadsheet.

APPENDIX 3. Definitions of conservation statuses and classifications and website hyperlink references.

Table 1. Conservation statuses and classifications with definitions and sources.

Ranking	Definition	Source
<u>Potential Conservation Areas (PCA)</u>		
B1	Outstanding Biodiversity Significance	-
B2	Very High Biodiversity Significance	-
B3	High Biodiversity Significance	-
B4	Moderate Biodiversity Significance	-
B5	General Biodiversity Significance	-
<u>CNHP and the NatureServe Network ranking</u>		
G	Global	
S	State	
N	Nation	
X	Presumed Extirpated or Extinct	
Q	Question	
G1 S1	Critically Imperiled - Critically imperiled because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation or extinction (typically 1-5 individuals).	-
G2 S2	Imperiled - Imperiled because of rarity or because of some factor(s) making it very vulnerable to extirpation or extinction (typically 6-20 individuals)	-
G3 S3	Vulnerable - Vulnerable either because rare and uncommon, or found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extirpation or extinction (typically 21-100 individuals).	-

G4 S4	Apparently Secure - Uncommon but not rare, and usually widespread. Possible cause of long-term concern (typically more than 100 occurrences and more than 10,000 individuals)	-
G5 S5	Secure - Common, widespread, and abundant. Perpetually secure under present conditions.	-
<u>Endangered Species Act (ESA) Status</u>		
LE	Federally Listed - Endangered	-
LT	Federally Listed - Threatened	-
LC	Federal Candidate for Listing	-
PS	Partial Status (listed in part of the range)	-
<u>CPW Colorado Threatened and Endangered List Status</u>		
SE	State Listed - Endangered	-
ST	State Listed - Threatened	-
SC	State Candidate for Listing	-
<u>Colorado State Wildlife Action Plan (SWAP) (2015)</u>		
Tier 1	Highest conservation status in Colorado	-
Tier 2	Require monitoring, but conservation action is less urgent	-
<u>Coefficient of Conservatism (C value)</u>		
0	Nonnative species - prevalent in new ground or obligate to non- natural areas	-
1-3	Commonly found in non-natural areas	-
4-6	Equally found in natural and non-natural areas	-
7-9	Obligate to natural areas but can sustain some habitat degradation	-
10	Obligate to high quality natural areas – no evidence species occurs outside high-quality natural areas	-

Native status		
Native	Species historically from Colorado	-
Non-native	Species introduced to Colorado	-
Noxious	Non-native species designated as injurious to the ecosystem	-
<u>Colorado Noxious Weeds</u>		
List A	Species designated for eradication	-
List B	Species require the development and implementation of a state noxious weed management plan designed to stop their continued spread	-
List C	Species require the development and implementation of a state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands	-
Watch List	Species determined to pose a potential threat to the agricultural productivity and environmental values of the lands of the state	-
CNHP EO – Element Occurrence Record: an areas of land occupied by a conservation element (animal, plant, natural plant community)		
<u>BGEPA – Bald and Golden Eagle Protection Act, USFWS</u>		

Table 2. Text reference and associated website hyperlink.

Text Reference	Website Link
Audubon Important Bird Areas	https://www.audubon.org/important-bird-areas
Bald and Golden Eagle Protection Act	https://www.fws.gov/law/bald-and-golden-eagle-protection-act
Bureau of Land Management (BLM) Sensitive Species	https://www.blm.gov/policy/ca-ib-2020-006
CNHP and the NatureServe Network ranking	https://cnhp.colostate.edu/ourdata/help/heritage/
Coefficient of Conservatism (C value)	https://cnhp.colostate.edu/download/documents/2007/FQAFinalReport.pdf
Colorado Designated State Natural Areas	https://cpw.state.co.us/aboutus/Pages/CNAP.aspx
Colorado Natural Heritage Program	https://cnhp.colostate.edu/aboutus/aboutus/
Colorado State Wildlife Action Plan (2015)	https://cpw.state.co.us/aboutus/Pages/StateWildlifeActionPlan.aspx
Colorado's Conservation Data Explorer (CODEX)	https://cnhp.colostate.edu/maps/codex/
Colorado Noxious Weeds	https://ag.colorado.gov/conservation/noxious-weeds/species-id
Colorado Ownership, Management, and Protection (COMaP)	https://comap.cnhp.colostate.edu/
Colorado Threatened and Endangered List Status	https://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx
Colorado Wetland Information Center	https://cnhp.colostate.edu/cwic/
Colorado Wetland Information Center Restoration and Enhancement	https://cnhp.colostate.edu/cwic/work/restoration/
CPW - habitat models for Colorado's fauna (Table 2)	https://codex.cnhp.colostate.edu/
CSU Land Acknowledgement	https://landacknowledgment.colostate.edu/
eBird	https://ebird.org/home
Endangered Species Act (ESA)	https://www.fws.gov/law/endangered-species-act
Endangered Species Act (ESA) Status	https://cnhp.colostate.edu/rareplants/definitions.asp
Floristic Quality Analysis Calculator	https://cnhp.colostate.edu/cwic/tools/calculator/
GBIF	https://doi.org/10.15468/dl.r6njnk
GBIF Institutional Codes	https://www.gbif.org/grscicoll/institution/search

Text Reference	Website Link
iNaturalist	https://www.inaturalist.org
National Landcover Database	https://www.mrlc.gov/data/nlcd-2016-land-cover-conus
NatureServe Network	https://www.natureserve.org/
Potential Conservation Areas	https://cnhp.colostate.edu/ourdata/help#PCA
Rare Plant Guide	https://cnhp.colostate.edu/rareplants/
SCAN	https://scan-bugs.org/portal/#
SEINet	https://swbiodiversity.org/seinet/
storymap	https://storymaps.arcgis.com/stories/0c7bc08d08594b3683664bc3103290ad
Sustainability Tracking Assessment & Ratings System	https://stars.aashe.org/
The Nature Conservancy's (TNC) Resilient and Connected Landscape Mapping Tool	https://maps.tnc.org/resilientland/
US Forest Service (USFS) Special Status Species	https://www.fs.usda.gov/detail/r2/landmanagement/?cid=stelprdb5344319
USGS National Hydrography Dataset	https://www.usgs.gov/national-hydrography/national-hydrography-dataset
USFWS Designated Critical Habitat	https://ecos.fws.gov/ecp/report/critical-habitat
Wetland and riparian areas	https://cnhp.colostate.edu/cwic/about-cwic/importance/

APPENDIX 4. Detailed biodiversity assessment results for CSU properties.

Table 1. Properties with other species of concern returned as documented within 1 mile of the property in an environmental review in CODEX where other species of concern include rare species, natural communities, and species of economic, recreational or conservation value. If multiple last observation dates were returned, the most recent was reported. See Appendix 3 for an explanation of the codes used in the Status column. Species greyed out are believed not to have habitat on the property based on aerial photography (ESRI, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community).

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
ARDEC	9	<i>Branta canadensis</i>	Canada Goose	N/A	CPW Brood Concentration Area CPW Production Area CPW Winter Concentration Area	G5 S5
		<i>Bubo virginianus</i>	Great Horned Owl	4/8/2020	CPW Nests - Active	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2019-05-29	CPW Nests - Active	G5 S5B S5N
		<i>Buteo swainsoni</i>	Swainson's Hawk	4/20/2016	CPW Nests - Active	G5 S5B, SWAP Tier 2
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Pandion haliaetus</i>	Osprey	7/20/2016	CPW Nests - Active	G5 S3B
		<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Arkansas Valley	9	<i>Melanerpes lewis</i>	Lewis's Woodpecker	8/8/2002	CNHP EO	G4 S4, SWAP Tier 2/USFS
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area CPW Roost Sites	G5 S5
		<i>Phasianus colchicus</i>	Ring-necked Pheasant		CPW Concentration Area	G5 SNA
		<i>Hybognathus placitus</i>	Plains Minnow		CPW HUC12 Presence	G4 SH, SWAP Tier 1/USFS
		<i>Phenacobius mirabilis</i>	Suckermouth Minnow		CPW HUC12 Presence	G5 S2 , SE, SWAP Tier 1
		<i>Platygobio gracilis</i>	Flathead Chub		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 1/USFS
		<i>Cervus canadensis</i>	Elk		CPW Resident Population Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area CPW Highway Crossing	G5 S5
Borden	13	<i>Lithobates pipiens</i>	Northern Leopard Frog	5/7/1965	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Cervus canadensis</i>	Elk		CPW Highway Crossing CPW Migration Corridors CPW Severe Winter Range CPW Winter Concentration Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area CPW Winter Concentration Area	G5 S4
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration CPW Human Conflict Area CPW Summer Concentration Area	G5 S5
		<i>Agastache foeniculum</i>	Lavender Hyssop	1896-08-06	CNHP EO	G5 S2
		<i>Carex saximontana</i>	Rocky Mountain Sedge	5/31/1941	CNHP EO	G5 S1
		<i>Cypripedium calceolus</i> ssp. <i>parviflorum</i> (<i>Cypripedium parviflorum</i>)	American Yellow Lady's-slipper	6/25/2014	CNHP EO	G5 S2, USFS

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Boulder	13	<i>Lithobates pipiens</i>	Northern Leopard Frog	1965-04-24	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Ardea herodias</i>	Great Blue Heron		CPW Nesting Area	G5 S3B
		<i>Branta canadensis</i>	Canada Goose		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Pandion haliaetus</i>	Osprey	2020-06-24	CPW Nests - Active	G5 S3B
		<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Cervus canadensis</i>	Elk		CPW Production Area, CPW Resident Population Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S5
		<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	2006-99-99	CNHP EO	G4 S3, SC, BLM/SWAP Tier 2/USFS

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area, CPW Highway Crossing, CPW Resident Population Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area	G5 S5
Buckhorn	8	<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area	G5 S5
		<i>Alces americanus</i>	Moose		CPW Concentration Area	G5T5 SNA
		<i>Cervus canadensis</i>	Elk		CPW Migration Corridors, CPW Production Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S5
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Summer Concentration Area	G5 S5

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Calamagrostis canadensis</i> Western Wet Meadow	Montane Wet Meadows	1990-08-31	CNHP EO	G4 S4
		<i>Picea pungens / Alnus incana</i> Riparian Woodland	Montane Riparian Forests	1990-06-09	CNHP EO	G3 S3
		<i>Purshia tridentata / Muhlenbergia montana</i> Shrubland	Mixed Foothill Shrublands	1985-08-20	CNHP EO	G2 S2
		<i>Salix monticola / Calamagrostis canadensis</i> Wet Shrubland	Montane Willow Carr	1990-08-31	CNHP EO	G3 S3
Canon City	7	<i>Branta canadensis</i>	Canada Goose		CPW Brood Concentration Area, CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Winter Concentration Area	G5 S5
		<i>Cervus canadensis</i>	Elk		CPW Severe Winter Range, CPW Winter Concentration Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Highway Crossing, CPW Resident Population Area, CPW Severe Winter Range	G5 S4

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area, CPW Summer Concentration Area	G5 S5
Central Great Plains	1	<i>Phasianus colchicus</i>	Ring-necked Pheasant	1974-05-02	CPW Concentration Area	G5 SNA
East Campus	12	<i>Lithobates pipiens</i>	Northern Leopard Frog		CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear	1893-07-03	CPW Human Conflict Area	G5 S5
		<i>Acorus calamus</i>	Sweet Flag	2007-99-99	CNHP EO	G4? S1

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Naumburgia thyrsoiflora</i> (<i>Lysimachia thyrsoiflora</i>)	Tufted Loosestrife	2011-04-28	CNHP EO	G5 S1
		<i>Ribes americanum</i>	American Currant		CNHP EO	G5 S2
Eastern Colorado Research Center	7	<i>Branta canadensis</i>	Canada Goose		CPW Production Area	G5 S5
		<i>Bubo virginianus</i>	Great Horned Owl		CPW Nests - Active	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk		CPW Nests - Active	G5 S5B S5N
		<i>Buteo regalis</i>	Ferruginous Hawk		CPW Nests - Active	G4 S3B,S4N, SC, BLM/SWAP Tier 2/USFS
		<i>Phasianus colchicus</i>	Ring-necked Pheasant		CPW Concentration Area	G5 SNA
		<i>Andropogon hallii - Calamovilfa longifolia</i> Grassland	Northern Sandhill Prairie	1977-99-99	CNHP EO	G4G5
		<i>Astragalus plattensis</i>	Platte River Milkvetch	1960-06-25	CNHP EO	G5
Edwards	10	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SWAP Tier 2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
		<i>Acorus calamus</i>	Sweet Flag	1893-07-03	CNHP EO	G4? S1
Environmental Learning Center	18	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Ardea herodias</i>	Great Blue Heron		CPW Nesting Area	G5 S3B
		<i>Branta canadensis</i>	Canada Goose		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Bubo virginianus</i>	Great Horned Owl	2019-07-16	CPW Nests - Active	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2019-07-30	CPW Nests - Active	G5 S5BS5N
		<i>Circus hudsonius</i>	Northern Harrier	2018-06-14	CPW Nests - Active	G5 S3B, SWAP Tier 2/USFS
		<i>Pandion haliaetus</i>	Osprey	2019-07-30	CPW Nests - Active	G5 S3B

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area, CPW Nesting Area	G4 S1B, BLM/SWAP Tier 2
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Plathemis subornata</i>	Desert Whitetail	2008-07-15	CNHP EO	G4 S3
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
		<i>Carex lasiocarpa</i>	Slender Sedge	2011-06-25	CNHP EO	G5 S2
		<i>Oenothera coloradensis</i> (<i>Gaura neomexicana</i> ssp. <i>coloradensis</i>)	Colorado Butterfly Plant	1897-99-99	CNHP EO	G3T2 S1, SWAP Tier 1
Foothills	29	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Branta canadensis</i>	Canada Goose		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Bubo virginianus</i>	Great Horned Owl	2018-04-16	CPW Nests - Active	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2019-07-30	CPW Nests - Active	G5 S5B S5N
		<i>Megascops asio</i>	Eastern Screech-owl	2018-04-01	CPW Nests - Active	G5 S4B
		<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Atrytone arogos</i>	Arogos Skipper	1985-06-23	CNHP EO	G2G3 S2, SWAP Tier 2
		<i>Atrytonopsis hianna</i>	Dusted Skipper	1998-05-26	CNHP EO	G4G5 S2
		<i>Erynnis martialis</i>	Mottled Dusky Wing	1996-05-21	CNHP EO	G3 S2S3, SWAP Tier 2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Speyeria idalia (Argynnis idalia)</i>	Regal Fritillary	1994-09-03	CNHP EO	G3? S1, SWAP Tier 2/USFS
		<i>Cervus canadensis</i>	Elk		CPW Resident Population Area	G5 S5
		<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	2004-05-21	CNHP EO	G4 S3, SC, BLM/SWAP Tier 2/USFS
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Highway Crossing, CPW Resident Population Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area,	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Sorex nanus</i>	Dwarf Shrew	9999-99-99	CNHP EO	G4 S2, SWAP Tier 2
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area, CPW Summer Concentration Area	G5 S5
		<i>Andropogon gerardii - Schizachyrium scoparium</i> Northwestern Plains Grassland	Xeric Tallgrass Prairie	1996-08-12	CNHP EO	G2? S2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Cercocarpus montanus</i> - <i>Rhus trilobata</i> / <i>Andropogon gerardii</i> Shrubland	Mountain Mahogany - Skunkbush / Big Bluestem Shrubland	1996-09-04	CNHP EO	G2G3 S2
		<i>Cercocarpus montanus</i> / <i>Hesperostipa neomexicana</i> Shrubland	Foothills Shrubland	1996-06-24	CNHP EO	G2G3 S2
		<i>Aristida basiramea</i>	Forktip Threawn	2011-99-99	CNHP EO	G5 S2
		<i>Asclepias stenophylla</i>	Narrow-leaved Milkweed	1897-07-15	CNHP EO	G4G5 S2
		<i>Phacelia denticulata</i>	Rocky Mountain Phacelia	1895-07-15	CNHP EO	G3 S2
		<i>Physaria bellii</i>	Bell's Twinpod	2006-05-23	CNHP EO	G2G3 S2S3, SWAP Tier 2
		<i>Triodanis leptocarpa</i>	Slim-pod Venus' Looking-glass	1995-07-28	CNHP EO	G5? S1
Fort Morgan	3	<i>Lithobates pipiens</i>	Northern Leopard Frog	1963-04-14	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Pelecanus erythrorhynchos</i>	American White Pelican	-	CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Phasianus colchicus</i>	Ring-necked Pheasant	-	CPW Concentration Area	G5 SNA
Franktown	5	<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Cervus canadensis</i>	Elk		CPW Resident Population Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area, CPW Highway Crossing, CPW Resident Population Area, CPW Winter Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
Fruita	8	<i>Dryophytes arenicolor</i>	Canyon Treefrog		CPW HUC12 Presence	G5 S2, BLM/SWAP Tier 2
		<i>Lithobates pipiens</i>	Northern Leopard Frog		CPW HUC12 Presence	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Catostomus discobolus</i>	Bluehead Sucker		CPW HUC12 Presence	G4 S4, BLM/SWAP Tier 1/USFS
		<i>Catostomus latipinnis</i>	Flannelmouth Sucker		CPW HUC12 Presence	G3G4 S3, BLM/SWAP Tier 1/USFS

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Gila robusta</i>	Roundtail Chub		CPW HUC12 Presence	G3 S2, SC, BLM/SWAP Tier 1/USFS
		<i>Lontra canadensis</i>	Northern River Otter	2015-04-04	CPW Field Observations - Positive	G5 S3S4, ST, SWAP Tier 2/USFS
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Highway Crossing, CPW Resident Population Area	G5 S4
		<i>Coluber constrictor mormon</i>	Western Yellowbelly Racer	1962-10-11	CNHP EO	G5T5 S3
Gabbard-Rutledge	5	<i>Lithobates pipiens</i>	Northern Leopard Frog	1962-05-24	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Brood Concentration Area, CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2019-05-29	CPW Nests - Active	G5 S5B,S5N
		<i>Pelecanus erythrorhynchos</i>	American White Pelican	-	CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Puma concolor</i>	Mountain Lion	-	CPW Human Conflict Area	G5 S4

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Horsetooth	16	<i>Lithobates pipiens</i>	Northern Leopard Frog	1972-04-24	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Falco mexicanus</i>	Prairie Falcon	2020-03-31	CPW Nests - Active	G5 S4B,S4N, SWAP Tier 2
		<i>Falco peregrinus</i>	Peregrine Falcon	2019-07-28	CPW Nests - Active	G4 S2B
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area, CPW Winter Concentration Area	G5 S5
		Unknown Raptor		2018-04-15	CPW Nests - Active	
		<i>Callophrys mossii schryveri</i>	Moss's Elfin	1995-05-06	CNHP EO	G4T4 S2S3, SWAP Tier 2
		<i>Erynnis martialis</i>	Mottled Dusky Wing	1996-06-13	CNHP EO	G3 S2S3, SWAP Tier 2
		<i>Cervus canadensis</i>	Elk		CPW Resident Population Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
	<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4	

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area, CPW Summer Concentration Area	G5 S5
		<i>Aristida basiramea</i>	Forktip Threawn	2007-03-22	CNHP EO	G5 S2
		<i>Asclepias stenophylla</i>	Narrow-leaved Milkweed	1897-07-15	CNHP EO	G4G5 S2
		<i>Physaria bellii</i>	Bell's Twinpod	2018-09-10	CNHP EO	G2G3 S2S3, , SWAP Tier 2
		<i>Unamia alba (Oligoneuron album)</i>	Prairie Goldenrod	1897-07-99	CNHP EO	G5 S2
Hort Farm	11	<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2019-05-23	CPW Nests - Active	G5 S5B S5N
		<i>Pandion haliaetus</i>	Osprey	2019-05-23	CPW Nests - Active	G5 S3B
		<i>Pelecanus erythrorhynchos</i>	American White Pelican		CPW Foraging Area	G4 S1B, BLM/SWAP Tier 2
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
Main Campus	21	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S3, SC,
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S4, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S3, ST, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S4, SWAP Tier 1
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area	G5 S5
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S4
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S5
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S1
		<i>Acorus calamus</i>	Sweet Flag	1893-07-03	CNHP EO	G4?

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Ribes americanum</i>	American Currant	2011-04-28	CNHP EO	G5 S2
Maxwell Ranch	3	<i>Alces americanus</i>	Moose		CPW Concentration Area	G5T5 SNA
		<i>Cervus canadensis</i>	Elk		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area	G5 S5
Mountain Campus	8	<i>Anaxyrus boreas</i> pop. 1	Boreal Toad (Southern Rocky Mountain Population)	1999-08-02	CNHP EO, CPW Breeding	G4T1T2Q S1, SE, SWAP Tier 1/USFS
		<i>Arctica</i> sp. 1	A Tiger Moth	1932-08-18	CNHP EO	G1 S1
		<i>Alces americanus</i>	Moose		CPW Concentration Area	G5T5 SNA
		<i>Cervus canadensis</i>	Elk		CPW Migration Corridors, CPW Production Area	G5 S5
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area, CPW Summer Concentration Area	G5 S5
		<i>Salix drummondiana</i> / <i>Calamagrostis canadensis</i> Wet Shrubland	Lower Montane Willow Carrs	2002-09-16	CNHP EO	G3 S3
		<i>Salix geyeriana</i> - <i>Salix monticola</i> / <i>Calamagrostis canadensis</i> Wet Shrubland	Montane Willow Carrs	2002-09-16	CNHP EO	G3 S2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Salix geyeriana</i> / <i>Calamagrostis canadensis</i> Wet Shrubland	Montane Riparian Willow Carr	1990-08-31	CNHP EO	G5 S2
Northern Colorado Research Center	2	<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
Orchard Mesa	9	<i>Ardea herodias</i>	Great Blue Heron		CPW Nesting Area	G5 S3B
		<i>Branta canadensis</i>	Canada Goose		CPW Production Area	G5 S5
		<i>Buteo jamaicensis</i>	Red-tailed Hawk	2016-02-26	CPW Nests - Active	G5 S5B S5N
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area	G5 S5
		<i>Catostomus discobolus</i>	Bluehead Sucker		CPW HUC12 Presence	G4 S4, BLM/SWAP Tier 1/USFS
		<i>Catostomus latipinnis</i>	Flannelmouth Sucker		CPW HUC12 Presence	G3G4 S3, BLM/SWAP Tier 1/USFS
		<i>Gila robusta</i>	Roundtail Chub		CPW HUC12 Presence	G3 S2, SC, BLM/SWAP Tier 1/USFS
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Rogers Mesa	7	<i>Branta canadensis</i>	Canada Goose		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Catostomus discobolus</i>	Bluehead Sucker		CPW HUC12 Presence	G4 S4, BLM/SWAP Tier 1/USFS
		<i>Catostomus latipinnis</i>	Flannelmouth Sucker		CPW HUC12 Presence	G3G4 S3, BLM/SWAP Tier 1/USFS
		<i>Gila robusta</i>	Roundtail Chub		CPW HUC12 Presence	G3 S2, SC, BLM/SWAP Tier 1/USFS
		<i>Ochlodes yuma</i>	Yuma Skipper	1962-08-25	CNHP EO	G4 S2S3
		<i>Cervus canadensis</i>	Elk		CPW Severe Winter Range	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area, CPW Highway Crossing, CPW Resident Population Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S4
San Luis Valley	1	<i>Antigone canadensis tabida</i>	Greater Sandhill Crane		CPW Foraging Area	G5T5 S2B,S4N, SC, SWAP Tier 1
South Campus	10	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Buteo swainsoni</i>	Swainson's Hawk	2016-04-11	CPW Nests - Active	G5 S5B, SWAP Tier 2

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area	G5 S4
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
		<i>Acorus calamus</i>	Sweet Flag	2009-05-12	CNHP EO	G4? S1
Southeast Colorado Research Center	4	<i>Callipepla squamata</i>	Scaled Quail		CPW Concentration Area	G5 S4
		<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area, CPW Roost Sites	G5 S5
		<i>Phasianus colchicus</i>	Ring-necked Pheasant		CPW Concentration Area	G5 SNA
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
Southwest Colorado	4	<i>Tympanuchus phasianellus columbianus</i>	Columbian Sharp-tailed Grouse		CPW Production Area	G5T3 S2, SC, BLM/SWAP Tier 1/USFS

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
Research Center		<i>Cervus canadensis</i>	Elk		CPW Highway Crossing, CPW Limited Use Area, CPW Severe Winter Range, CPW Winter Concentration Area	G5 S5
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Highway Crossing, CPW Resident Population Area, CPW Winter Concentration Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
Timberline	10	<i>Lithobates pipiens</i>	Northern Leopard Frog	1968-05-11	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Production Area, CPW Winter Concentration Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
		<i>Oenothera coloradensis</i> (<i>Gaura neomexicana</i> ssp. <i>coloradensis</i>)	Colorado Butterfly Plant	1897-99-99	CNHP EO	G3T2 S1, SWAP Tier 1
Washington School	11	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area	G5 S4
		<i>Odocoileus virginianus</i>	White-tailed Deer		CPW Concentration Area	G5 S5
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area	G5 S5
		<i>Acorus calamus</i>	Sweet Flag	1893-07-03	CNHP EO	G4? S1

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
West Campus	10	<i>Lithobates pipiens</i>	Northern Leopard Frog	1974-05-02	CNHP EO	G5 S3, SC, BLM/SWAP Tier 1/USFS
		<i>Branta canadensis</i>	Canada Goose		CPW Winter Concentration Area	G5 S5
		<i>Etheostoma exile</i>	Iowa Darter		CPW HUC12 Presence	G5 S3, SC, SWAP Tier 2
		<i>Fundulus sciadicus</i>	Plains Topminnow		CPW HUC12 Presence	G4 S4, SWAP Tier 1
		<i>Hybognathus hankinsoni</i>	Brassy Minnow		CPW HUC12 Presence	G5 S3, ST, SWAP Tier 1
		<i>Lepomis humilis</i>	Orangespotted Sunfish		CPW HUC12 Presence	G5 S5, SWAP Tier 1
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Resident Population Area	G5 S4
		<i>Puma concolor</i>	Mountain Lion		CPW Human Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Fall Concentration, CPW Human Conflict Area	G5 S5
		<i>Acorus calamus</i>	Sweet Flag	1893-07-03	CNHP EO	G4? S1
Woodland Park	6	<i>Meleagris gallopavo</i>	Wild Turkey		CPW Production Area	G5 S5
		<i>Cervus canadensis</i>	Elk		CPW Highway Crossing, CPW Resident Population Area, CPW Winter Concentration Area	G5 S5

Property	Total # documented occurrences of species of concern within 1 mile	Scientific Name	Common Name	Last Observation	Source	Status
		<i>Odocoileus hemionus</i>	Mule Deer		CPW Concentration Area, CPW Highway Crossing, CPW Resident Population Area, CPW Winter Concentration Area	G5 S4
		<i>Puma concolor</i>	Mountain Lion		CPW s Conflict Area	G5 S4
		<i>Ursus americanus</i>	Black Bear		CPW Human Conflict Area , CPW Summer Concentration Area	G5 S5
		<i>Cypripedium calceolus</i> ssp. <i>parviflorum</i> (<i>Cypripedium parviflorum</i>)	American Yellow Lady's-slipper	2010-06-14	CNHP EO	G5 S2, USFS,

Table 2. Ecosystem types from Return-on-Investment report for CSU properties.

Property Name	Agriculture (acres)	Deciduous Forest (acres)	Developed - Low Intensity Urban/Open Space (acres)	Emergent Herbaceous Wetlands (acres)	Evergreen Forest (acres)	Grassland/ Herbaceous (acres)	Open Water (acres)	Scrub/ Shrub (acres)	Woody Wetland (acres)	Diversity of Ecosystem Types
ARDEC	1019.41	0.09	20.87	1.11	0	36.22	2.2	0	1.03	7
Arkansas Valley	84.39	0	11.12	0	0	0.99	0	3.68	0	4
Borden	0	0	8.13	0	45.72	14.73	0	2	0	4
Boulder	2.31	0	0	0	0	0.19	0	0	0	2
Buckhorn	0	0	0	0	33.6	122.26	0	4.65	0	3
Canon City	0	0	0.53	0	0	0.01	0	0.51	0	3
Central Great Plains	189.83	1.11	11.63	0	0	118.08	0	0	0	4
East Campus	0	0	12.33	0	0	0	0	0	0	1
Eastern Colorado Research Station	331.39	2.67	25.18	0	0	2585.4	0	10.4	0	5
Edward	0	0	0.16	0	0	0	0	0	0	1
Environmental Learning Center	20.52	0.28	13.07	56.86	0	10.38	29	1.05	46.9	8
Foothills	91.11	1.11	137.46	34.98	0.67	839.88	66.74	120.09	15.94	9
Fort Morgan	0	0	1.47	0	0	0	0	0	0	1
Franktown	0	0	0.25	0	0	0	0	0	0	1
Fruita	88.04	0	3.98	0	0	0	0	1.15	0	3
Gabbard-Rutledge	0	0	15.54	10.75	0	286.55	0	0	0	3
Horsetooth	0	0	0	0	112.68	1.39	0	4.23	0	3
Hort Farm	60.38	0	1.32	0	0	0.79	0	0	0	3
Main Campus	5.56	0	225.64	0	0	0	0	0	0	2
Maxwell Ranch	0	1.4	0	0	218.41	0.89	0	168.04	0	4
Mountain Campus	0	9.18	0	34.26	572.36	10.67	0	478.19	73.02	6

Property Name	Agriculture (acres)	Deciduous Forest (acres)	Developed - Low Intensity Urban/Open Space (acres)	Emergent Herbaceous Wetlands (acres)	Evergreen Forest (acres)	Grassland/ Herbaceous (acres)	Open Water (acres)	Scrub/ Shrub (acres)	Woody Wetland (acres)	Diversity of Ecosystem Types
Northern Colo Research Demonstration Center	36.9	0	2.74	0	0	0	0	0	0	2
Orchard Mesa	71.4	0	5.13	0	0	0	0	2.9	0	3
Rogers Mesa	57.85	0.03	2.19	0	0.41	0	0	23.29	0	5
San Luis Valley	271.47	0	7.12	0	0	0	0	35.22	1.07	4
South Campus	0	0	113.08	0	0	0	0	0	0	1
Southeast Colo Research Center	0.21	0	0.49	0	0	1.08	0	0	0	3
Southwest Colo Research Center	148.71	0	9.39	0	0	0	0	0	0	2
Timberline	0	0	2.06	0	0	0.64	0	0	0	2
Washington School	0	0	1.23	0	0	0	0	0	0	1
West Campus	0	0	26.87	0	0	0	0	0	0	1
Woodland Park	0	0	0.6	0	0	0	0	0	0	1
TOTAL	2479.48	15.87	659.58	137.96	983.85	4030.15	97.94	855.4	137.96	

Table 3. Return-on-Investment approximate annual economic benefits provided by ecosystem services and National Wetland Inventory results for CSU properties.

Property Name	Low Value	High Value	Total NWI Wetland (acres)	Diversity of NWI Wetland Types
ARDEC	\$155,717	\$407,409	43.17	6
Arkansas Valley	\$14,765	\$54,618	12.2	2
Borden	\$25,290	\$69,718	0	0
Boulder	\$347	\$838	0	0
Buckhorn	\$28,903	\$60,510	13.46	1
Canon City	\$137	\$1,445	0	0
Central Great Plains	\$42,124	\$109,604	12.69	3
East Campus	\$2,942	\$24,671	0	0
Eastern Colorado Research Station	\$271,105	\$613,766	59.34	2
Edward	\$38	\$320	0	0
Environmental Learning Center	\$115,102	\$196,785	658.7	18
Foothills	\$203,651	\$637,021	117.82	17
Fort Morgan	\$351	\$2,941	0	0
Franktown	\$60	\$500	0	0
Fruita	\$13,428	\$39,538	12.09	2
Gabbard-Rutledge	\$44,131	\$95,193	19.84	6
Horsetooth	\$53,875	\$125,306	9.86	1
Hort Farm	\$8,942	\$23,837	0	0
Main Campus	\$54,627	\$453,423	1.18	2
Maxwell Ranch	\$107,816	\$364,156	7.91	2
Mountain Campus	\$390,277	\$1,146,313	583.33	6
Northern Colo Research Demonstration Center	\$5,875	\$18,354	0	0
Orchard Mesa	\$11,380	\$37,349	1.85	1
Rogers Mesa	\$9,342	\$42,531	7.43	2

Property Name	Low Value	High Value	Total NWI Wetland (acres)	Diversity of NWI Wetland Types
San Luis Valley	\$41,785	\$136,954	104.63	2
South Campus	\$26,982	\$226,262	23.98	7
Southeast Colo Research Center	\$260	\$1,236	0	0
Southwest Colo Research Center	\$23,283	\$70,661	2.02	1
Timberline	\$559	\$4,230	0	0
Washington School	\$293	\$2,461	0	0
West Campus	\$6,411	\$53,764	18.3	2
Woodland Park	\$143	\$1,201	0	0
TOTAL	\$1,659,941	\$5,022,915	1709.8	

Table 4. Results of the COMaP analysis of each CSU-owned property within a 4-mile buffer. The percentage of each property within 67 management classes is returned. Note for the Maxwell property, 44% of the property is within WY and no COMaP data is available to complete the analysis. Colors indicate groupings by agencies.

Management Code	Legend Category	Management Description	ARDEC	Arkansas Valley	Borden	Boulder	Buckhorn	Canon City
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce				0.08		
11000	BLM	BLM - General	0.02	0.19		0.12		10.00
11100	BLM	Area of Critical Environmental Concern						5.6
11300	BLM	National Conservation Area						
11320	BLM	Wilderness/National Conservation Area						
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)						
13400	USFWS	Conservation Easement						
13500	USFWS	National Fish Hatchery						
14000	USFS	US Forest Service - General						
14010	USFS	National Forest - General			26.70		67.00	5.90
14100	USFS	National Forest Wilderness			2.86		16.70	
14101	USFS	National Forest Wilderness/National Wild and Scenic River					2.67	
14420	USFS	Scenic Areas						
14440	USFS	National Wild and Scenic River			0.05		3.10	
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area						
16100	NPS	National Park						
16110	NPS	National Park - Wilderness Area						
16200	NPS	National Monument						
31000	State	State Parks						0.65
32000	State	State Land Board	3.60	3.06				0.32

Management Code	Legend Category	Management Description	ARDEC	Arkansas Valley	Borden	Boulder	Buckhorn	Canon City
32100	State	State Land Board Stewardship Trust Land						
33100	State	State Wildlife Area	4.80	3.90	1.59			
33200	State	State Fish Hatchery/Unit						
33300	State	State Administrative Area	0.05					0.24
33400	State	State Habitat Area						
33900	State	State Land Board Public Access Program - Seasonal Access						
34000	State	State University - General						
34100	State	State University - Special Management	1.64					
39000	State	Colorado Department of Transportation						
51000	Local	City Land - General	0.03			1.24		
51100	Local	City Parks	0.03			0.62		
51110	Local	City Dog Parks						
51120	Local	City Golf Course						
51140	Local	City Sport Facility/Recreation Center						
51200	Local	City Museum						
51210	Local	City Cemetery						
51220	Local	City Fairgrounds						
51300	Local	City Natural Area						
51310	Local	City Nature Center/Preserve						
51400	Local	City Forestland						
51500	Local	City Greenbelt						
51710	Local	City Stormwater Area/Channel/Detention Pond	0.01			0.00		
51800	Local	City Public Works/Facilities	0.85					
51999	Local	City Land - Unknown	2.22				1.25	

Management Code	Legend Category	Management Description	ARDEC	Arkansas Valley	Borden	Boulder	Buckhorn	Canon City
52000	Local	County Land - General				36.80		
52100	Local	County Parks						
52220	Local	County Fairgrounds						
52300	Local	County Natural Area						
52600	Local	County Trail/Trail Access						
52800	Local	County Public Works/Facilities						
52999	Local	County Land - Unknown	0.01					
53999	Local	Joint City/County Land - Unknown	0.00					
55000	Local	School District Land - General	0.35		0.01			
55100	Local	School District Parks						
55140	Local	School District Sport Facility/Recreation Center						
55800	Local	School District Public Works/Facilities						
56000	Local	Other Special District Land - General	0.97					
60000	NGO/Land Trust	Non-Governmental Lands						
61000	NGO/Land Trust	National Land Trust Lands						
70000	Private	Private Land - No Protection	79.00	88.40	66.40	44.80	9.30	75.00
71000	Private Conservation	Private Land (w/ Protection)	0.59	4.40	2.00	16.30		1.68
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope	1.57		0.15	0.03		
71020	Private Conservation	Private Land (w/ Protection) - Outlot	4.30		0.18	0.00		
71100	Private Conservation	Private Park						
71120	Private Conservation	Privately Owned Golf Course						
71210	Private Conservation	Privately Owned Cemetery						

Management Code	Legend Category	Management Description	ARDEC	Arkansas Valley	Borden	Boulder	Buckhorn	Canon City
71300	Private Conservation	Private Natural Area						
71600	Private Conservation	Private Trail/Trail Access				0.00		
		Total	100	100	100	100	100	99

Table 4. Continued.

Management Code	Legend Category	Management Description	Central Great Plains	E Colo Res Stat	East Campus	Edward	Environmental Learning Center
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce					
11000	BLM	BLM - General					
11100	BLM	Area of Critical Environmental Concern					
11300	BLM	National Conservation Area					
11320	BLM	Wilderness/National Conservation Area					
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)					
13400	USFWS	Conservation Easement					
13500	USFWS	National Fish Hatchery					
14000	USFS	US Forest Service - General					
14010	USFS	National Forest - General					
14100	USFS	National Forest Wilderness					
14101	USFS	National Forest Wilderness/National Wild and Scenic River					
14420	USFS	Scenic Areas					
14440	USFS	National Wild and Scenic River					

Management Code	Legend Category	Management Description	Central Great Plains	E Colo Res Stat	East Campus	Edward	Environmental Learning Center
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area					
16100	NPS	National Park					
16110	NPS	National Park - Wilderness Area					
16200	NPS	National Monument					
31000	State	State Parks					
32000	State	State Land Board	4.45	17.60	0.28	0.29	0.13
32100	State	State Land Board Stewardship Trust Land					
33100	State	State Wildlife Area					
33200	State	State Fish Hatchery/Unit					
33300	State	State Administrative Area			0.01		0.08
33400	State	State Habitat Area					
33900	State	State Land Board Public Access Program - Seasonal Access					
34000	State	State University - General			2.00	1.66	1.22
34100	State	State University - Special Management			0.53		
39000	State	Colorado Department of Transportation			0.04	0.02	0.03
51000	Local	City Land - General			0.17	0.18	
51100	Local	City Parks			2.06	2.00	1.24

Management Code	Legend Category	Management Description	Central Great Plains	E Colo Res Stat	East Campus	Edward	Environmental Learning Center
51110	Local	City Dog Parks				0.01	0.00
51120	Local	City Golf Course			0.67	0.64	0.69
51140	Local	City Sport Facility/Recreation Center					
51200	Local	City Museum			0.21		
51210	Local	City Cemetery				0.22	0.07
51220	Local	City Fairgrounds					
51300	Local	City Natural Area			7.50	5.90	5.00
51310	Local	City Nature Center/Preserve				0.05	0.04
51400	Local	City Forestland					
51500	Local	City Greenbelt					
51710	Local	City Stormwater Area/Channel/Detention Pond			0.14	0.10	0.11
51800	Local	City Public Works/Facilities				0.02	
51999	Local	City Land - Unknown			1.70	1.96	1.67
52000	Local	County Land - General				0.01	0.20
52100	Local	County Parks					
52220	Local	County Fairgrounds					
52300	Local	County Natural Area					0.01

Management Code	Legend Category	Management Description	Central Great Plains	E Colo Res Stat	East Campus	Edward	Environmental Learning Center
52600	Local	County Trail/Trail Access					0.00
52800	Local	County Public Works/Facilities					
52999	Local	County Land - Unknown			0.21	0.22	0.13
53999	Local	Joint City/County Land - Unknown			0.05	0.03	0.39
55000	Local	School District Land - General			1.74	1.70	1.50
55100	Local	School District Parks				0.02	0.02
55140	Local	School District Sport Facility/Recreation Center					
55800	Local	School District Public Works/Facilities					
56000	Local	Other Special District Land - General				0.03	0.42
60000	NGO/Land Trust	Non-Governmental Lands					0.49
61000	NGO/Land Trust	National Land Trust Lands					
70000	Private	Private Land - No Protection	95.56	76.40	82.30	84.60	85.20
71000	Private Conservation	Private Land (w/ Protection)		6.04	0.08	0.13	0.73
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope					0.23
71020	Private Conservation	Private Land (w/ Protection) - Outlot					0.37
71100	Private Conservation	Private Park					
71120	Private Conservation	Privately Owned Golf Course					

Management Code	Legend Category	Management Description	Central Great Plains	E Colo Res Stat	East Campus	Edward	Environmental Learning Center
71210	Private Conservation	Privately Owned Cemetery					0.01
71300	Private Conservation	Private Natural Area			0.21	0.22	
71600	Private Conservation	Private Trail/Trail Access					
		Total	100	100	100	100	100

Table 4. Continued.

Management Code	Legend Category	Management Description	Foothills	Fort Morgan	Franktown	Fruita	Gabbard- Rutledge
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce					
11000	BLM	BLM - General				11.10	0.36
11100	BLM	Area of Critical Environmental Concern					
11300	BLM	National Conservation Area				1.55	
11320	BLM	Wilderness/National Conservation Area					
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)				0.90	
13400	USFWS	Conservation Easement				0.05	
13500	USFWS	National Fish Hatchery					
14000	USFS	US Forest Service - General					
14010	USFS	National Forest - General					
14100	USFS	National Forest Wilderness					
14101	USFS	National Forest Wilderness/National Wild and Scenic River					
14420	USFS	Scenic Areas					
14440	USFS	National Wild and Scenic River					
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area					
16100	NPS	National Park					
16110	NPS	National Park - Wilderness Area					
16200	NPS	National Monument					
31000	State	State Parks	4.70			0.42	
32000	State	State Land Board	0.17	0.55	5.70		3.60
32100	State	State Land Board Stewardship Trust Land					0.00
33100	State	State Wildlife Area	0.08	0.14	5.20	1.05	2.00

Management Code	Legend Category	Management Description	Foothills	Fort Morgan	Franktown	Fruita	Gabbard- Rutledge
33200	State	State Fish Hatchery/Unit	0.37				
33300	State	State Administrative Area	0.09		0.44		
33400	State	State Habitat Area			1.28		
33900	State	State Land Board Public Access Program - Seasonal Access					1.42
34000	State	State University - General	1.02				
34100	State	State University - Special Management					
39000	State	Colorado Department of Transportation				0.01	
51000	Local	City Land - General		1.13	1.13	0.09	
51100	Local	City Parks	1.00			0.10	
51110	Local	City Dog Parks	0.01				
51120	Local	City Golf Course	0.10				
51140	Local	City Sport Facility/Recreation Center					
51200	Local	City Museum					
51210	Local	City Cemetery	0.08				
51220	Local	City Fairgrounds					
51300	Local	City Natural Area	6.70			0.41	
51310	Local	City Nature Center/Preserve					
51400	Local	City Forestland					
51500	Local	City Greenbelt				0.09	
51710	Local	City Stormwater Area/Channel/Detention Pond	0.02				
51800	Local	City Public Works/Facilities				0.07	
51999	Local	City Land - Unknown	1.08				1.00
52000	Local	County Land - General	8.70				
52100	Local	County Parks	3.60				
52220	Local	County Fairgrounds					

Management Code	Legend Category	Management Description	Foothills	Fort Morgan	Franktown	Fruita	Gabbard- Rutledge
52300	Local	County Natural Area	0.25				
52600	Local	County Trail/Trail Access					
52800	Local	County Public Works/Facilities	0.80				
52999	Local	County Land - Unknown	0.07				0.00
53999	Local	Joint City/County Land - Unknown	0.01				0.02
55000	Local	School District Land - General	0.70			0.06	0.09
55100	Local	School District Parks	0.01			0.05	
55140	Local	School District Sport Facility/Recreation Center				0.11	
55800	Local	School District Public Works/Facilities				0.05	
56000	Local	Other Special District Land - General	0.00				4.40
60000	NGO/Land Trust	Non-Governmental Lands					
61000	NGO/Land Trust	National Land Trust Lands					
70000	Private	Private Land - No Protection	69.00	97.73	85.79	80.70	82.30
71000	Private Conservation	Private Land (w/ Protection)	0.92	0.45	0.46	1.35	1.26
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope	0.03			0.03	1.00
71020	Private Conservation	Private Land (w/ Protection) - Outlot	0.33			0.62	2.45
71100	Private Conservation	Private Park	0.01				
71120	Private Conservation	Privately Owned Golf Course				1.07	
71210	Private Conservation	Privately Owned Cemetery	0.00			0.05	
71300	Private Conservation	Private Natural Area	0.13				

Management Code	Legend Category	Management Description	Foothills	Fort Morgan	Franktown	Fruita	Gabbard- Rutledge
71600	Private Conservation	Private Trail/Trail Access					
		Total	100	100	100	100	100

Table 4. Continued.

Management Code	Legend Category	Management Description	Horsetooth	Hort Farm	Main Campus	Maxwell Ranch	Mountain Campus	N Colo Res Demo Cntr
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce						
11000	BLM	BLM - General						
11100	BLM	Area of Critical Environmental Concern						
11300	BLM	National Conservation Area						
11320	BLM	Wilderness/National Conservation Area						
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)						
13400	USFWS	Conservation Easement						
13500	USFWS	National Fish Hatchery						
14000	USFS	US Forest Service - General				32.10		
14010	USFS	National Forest - General	0.28				24.23	
14100	USFS	National Forest Wilderness					46.34	
14101	USFS	National Forest Wilderness/National Wild and Scenic River						
14420	USFS	Scenic Areas						
14440	USFS	National Wild and Scenic River					2.40	
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area						
16100	NPS	National Park					0.93	
16110	NPS	National Park - Wilderness Area					19.52	
16200	NPS	National Monument						
31000	State	State Parks	6.41		0.30			
32000	State	State Land Board		2.23	0.23			
32100	State	State Land Board Stewardship Trust Land						

Management Code	Legend Category	Management Description	Horsetooth	Hort Farm	Main Campus	Maxwell Ranch	Mountain Campus	N Colo Res Demo Cntr
33100	State	State Wildlife Area		0.86		0.68		0.20
33200	State	State Fish Hatchery/Unit						
33300	State	State Administrative Area	0.11	0.08	0.12			
33400	State	State Habitat Area						
33900	State	State Land Board Public Access Program - Seasonal Access						
34000	State	State University - General	0.47	0.39	1.58			
34100	State	State University - Special Management		2.06		1.51	2.64	
39000	State	Colorado Department of Transportation		0.04	0.03			
51000	Local	City Land - General	0.02		0.14			
51100	Local	City Parks	0.37	0.13	1.67			0.56
51110	Local	City Dog Parks	0.01		0.01			
51120	Local	City Golf Course			0.56			
51140	Local	City Sport Facility/Recreation Center						0.14
51200	Local	City Museum						0.00
51210	Local	City Cemetery		0.08	0.17			0.19
51220	Local	City Fairgrounds						
51300	Local	City Natural Area	5.89	3.40	8.45			0.05
51310	Local	City Nature Center/Preserve		0.04	0.04			
51400	Local	City Forestland						
51500	Local	City Greenbelt						
51710	Local	City Stormwater Area/Channel/Detention Pond	0.00	0.04	0.12			
51800	Local	City Public Works/Facilities		1.25				
51999	Local	City Land - Unknown	0.42	4.20	1.69			
52000	Local	County Land - General	11.94		5.41			

Management Code	Legend Category	Management Description	Horsetooth	Hort Farm	Main Campus	Maxwell Ranch	Mountain Campus	N Colo Res Demo Cntr
52100	Local	County Parks	4.84		0.16			
52220	Local	County Fairgrounds						
52300	Local	County Natural Area	0.65					
52600	Local	County Trail/Trail Access						
52800	Local	County Public Works/Facilities	0.01					
52999	Local	County Land - Unknown	0.01	0.13	0.17			
53999	Local	Joint City/County Land - Unknown		0.02	0.02			
55000	Local	School District Land - General	0.11	0.62	1.42			
55100	Local	School District Parks			0.02			
55140	Local	School District Sport Facility/Recreation Center						
55800	Local	School District Public Works/Facilities						
56000	Local	Other Special District Land - General	0.12	0.03	0.02			
60000	NGO/Land Trust	Non-Governmental Lands						
61000	NGO/Land Trust	National Land Trust Lands				0.18		
70000	Private	Private Land - No Protection	59.54	79.54	77.25	21.40	3.94	98.90
71000	Private Conservation	Private Land (w/ Protection)	3.79	0.39	0.11	0.47		
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope	0.85	1.00	0.03			
71020	Private Conservation	Private Land (w/ Protection) - Outlot	3.98	3.47	0.11			
71100	Private Conservation	Private Park						
71120	Private Conservation	Privately Owned Golf Course						
71210	Private Conservation	Privately Owned Cemetery			0.01			

Management Code	Legend Category	Management Description	Horsetooth	Hort Farm	Main Campus	Maxwell Ranch	Mountain Campus	N Colo Res Demo Cntr
71300	Private Conservation	Private Natural Area	0.18		0.17			
71600	Private Conservation	Private Trail/Trail Access						
		Total	100	100	100	56	100	100

Table 4. Continued.

Management Code	Legend Category	Management Description	Orchard Mesa	Rogers Mesa	San Luis Valley	South Campus	Southeast Colo Res Cntr
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce					
11000	BLM	BLM - General	17.80	8.20			
11100	BLM	Area of Critical Environmental Concern					
11300	BLM	National Conservation Area		10.00			
11320	BLM	Wilderness/National Conservation Area		0.95			
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)	0.18				
13400	USFWS	Conservation Easement	0.06				
13500	USFWS	National Fish Hatchery		0.40			
14000	USFS	US Forest Service - General					
14010	USFS	National Forest - General					
14100	USFS	National Forest Wilderness					
14101	USFS	National Forest Wilderness/National Wild and Scenic River					
14420	USFS	Scenic Areas					
14440	USFS	National Wild and Scenic River					
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area					
16100	NPS	National Park					
16110	NPS	National Park - Wilderness Area					
16200	NPS	National Monument					
31000	State	State Parks	1.00				
32000	State	State Land Board	0.03			0.23	
32100	State	State Land Board Stewardship Trust Land					
33100	State	State Wildlife Area	0.70				

Management Code	Legend Category	Management Description	Orchard Mesa	Rogers Mesa	San Luis Valley	South Campus	Southeast Colo Res Cntr
33200	State	State Fish Hatchery/Unit					
33300	State	State Administrative Area					
33400	State	State Habitat Area		1.10		0.01	
33900	State	State Land Board Public Access Program - Seasonal Access					
34000	State	State University - General				1.56	
34100	State	State University - Special Management					
39000	State	Colorado Department of Transportation				0.04	
51000	Local	City Land - General		0.17		0.15	
51100	Local	City Parks				2.03	
51110	Local	City Dog Parks				0.01	
51120	Local	City Golf Course				0.87	
51140	Local	City Sport Facility/Recreation Center					
51200	Local	City Museum					
51210	Local	City Cemetery					
51220	Local	City Fairgrounds				0.18	
51300	Local	City Natural Area				10.24	
51310	Local	City Nature Center/Preserve				0.04	
51400	Local	City Forestland					
51500	Local	City Greenbelt					
51710	Local	City Stormwater Area/Channel/Detention Pond				0.13	
51800	Local	City Public Works/Facilities					
51999	Local	City Land - Unknown				1.67	
52000	Local	County Land - General	0.67			3.83	
52100	Local	County Parks				0.03	
52220	Local	County Fairgrounds		0.04			

Management Code	Legend Category	Management Description	Orchard Mesa	Rogers Mesa	San Luis Valley	South Campus	Southeast Colo Res Cntr
52300	Local	County Natural Area					
52600	Local	County Trail/Trail Access					
52800	Local	County Public Works/Facilities				0.65	
52999	Local	County Land - Unknown				0.18	
53999	Local	Joint City/County Land - Unknown				0.13	
55000	Local	School District Land - General				1.35	
55100	Local	School District Parks				0.02	
55140	Local	School District Sport Facility/Recreation Center					
55800	Local	School District Public Works/Facilities					
56000	Local	Other Special District Land - General				0.02	
60000	NGO/Land Trust	Non-Governmental Lands					
61000	NGO/Land Trust	National Land Trust Lands					
70000	Private	Private Land - No Protection	78.00	70.50	100.00	76.22	100.00
71000	Private Conservation	Private Land (w/ Protection)	1.25	8.70		0.07	
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope	0.01			0.03	
71020	Private Conservation	Private Land (w/ Protection) - Outlot	0.30			0.14	
71100	Private Conservation	Private Park					
71120	Private Conservation	Privately Owned Golf Course					
71210	Private Conservation	Privately Owned Cemetery				0.01	
71300	Private Conservation	Private Natural Area				0.18	

Management Code	Legend Category	Management Description	Orchard Mesa	Rogers Mesa	San Luis Valley	South Campus	Southeast Colo Res Cntr
71600	Private Conservation	Private Trail/Trail Access					
		Total	100	100	100	100	100

Table 4. Continued.

Management Code	Legend Category	Management Description	Southwest Colo Res Cntr	Timberline	Washington School	West Campus	Woodland Park
10300	Misc Federal (BOR, DOD, Misc)	Department of Commerce					
11000	BLM	BLM - General					0.12
11100	BLM	Area of Critical Environmental Concern					
11300	BLM	National Conservation Area					
11320	BLM	Wilderness/National Conservation Area					
12000	Misc Federal (BOR, DOD, Misc)	Bureau of Reclamation (BOR)					
13400	USFWS	Conservation Easement					
13500	USFWS	National Fish Hatchery					
14000	USFS	US Forest Service - General					
14010	USFS	National Forest - General					41.20
14100	USFS	National Forest Wilderness					
14101	USFS	National Forest Wilderness/National Wild and Scenic River					
14420	USFS	Scenic Areas					2.14
14440	USFS	National Wild and Scenic River					
15010	Misc Federal (BOR, DOD, Misc)	DOD Recreation Area					2.12
16100	NPS	National Park					
16110	NPS	National Park - Wilderness Area					
16200	NPS	National Monument	8.50				
31000	State	State Parks			0.10	2.73	
32000	State	State Land Board		0.06	0.29	0.26	0.00
32100	State	State Land Board Stewardship Trust Land					
33100	State	State Wildlife Area					

Management Code	Legend Category	Management Description	Southwest Colo Res Cntr	Timberline	Washington School	West Campus	Woodland Park
33200	State	State Fish Hatchery/Unit					
33300	State	State Administrative Area		0.01		0.13	
33400	State	State Habitat Area			0.15		
33900	State	State Land Board Public Access Program - Seasonal Access					
34000	State	State University - General		1.55	1.71	1.53	
34100	State	State University - Special Management					
39000	State	Colorado Department of Transportation		0.04			
51000	Local	City Land - General			0.18	0.16	
51100	Local	City Parks		1.68	1.90	1.75	
51110	Local	City Dog Parks		0.00	0.01	0.01	
51120	Local	City Golf Course			0.18	0.47	
51140	Local	City Sport Facility/Recreation Center					
51200	Local	City Museum					
51210	Local	City Cemetery		0.09	0.22	0.19	
51220	Local	City Fairgrounds					
51300	Local	City Natural Area			7.29	7.79	
51310	Local	City Nature Center/Preserve		7.72	0.05	0.04	
51400	Local	City Forestland		0.05			
51500	Local	City Greenbelt					
51710	Local	City Stormwater Area/Channel/Detention Pond		0.14	0.10	0.09	
51800	Local	City Public Works/Facilities					
51999	Local	City Land - Unknown		1.23	1.78	1.68	
52000	Local	County Land - General		0.44	5.04	7.96	
52100	Local	County Parks			0.03	1.07	
52220	Local	County Fairgrounds					

Management Code	Legend Category	Management Description	Southwest Colo Res Cntr	Timberline	Washington School	West Campus	Woodland Park
52300	Local	County Natural Area		0.01			
52600	Local	County Trail/Trail Access		0.00			
52800	Local	County Public Works/Facilities					
52999	Local	County Land - Unknown		0.15	0.22	0.20	
53999	Local	Joint City/County Land - Unknown		0.48	0.03	0.03	
55000	Local	School District Land - General		1.82	1.52	1.24	
55100	Local	School District Parks		0.02	0.02	0.02	
55140	Local	School District Sport Facility/Recreation Center					
55800	Local	School District Public Works/Facilities					
56000	Local	Other Special District Land - General		0.21	0.02	0.02	
60000	NGO/Land Trust	Non-Governmental Lands		0.32			
61000	NGO/Land Trust	National Land Trust Lands					
70000	Private	Private Land - No Protection	85.67	81.97	78.81	72.13	50.00
71000	Private Conservation	Private Land (w/ Protection)	5.80	0.98	0.13	0.12	4.40
71010	Private Conservation	Private Land (w/ Protection) - Building Envelope		0.08		0.04	
71020	Private Conservation	Private Land (w/ Protection) - Outlot		0.08		0.16	
71100	Private Conservation	Private Park					
71120	Private Conservation	Privately Owned Golf Course					
71210	Private Conservation	Privately Owned Cemetery		0.01	0.01	0.01	
71300	Private Conservation	Private Natural Area			0.22	0.19	

Management Code	Legend Category	Management Description	Southwest Colo Res Cntr	Timberline	Washington School	West Campus	Woodland Park
71600	Private Conservation	Private Trail/Trail Access					
		Total	100	99	100	100	100

Table 5. TNC climate resiliency data by CSU-owned property. The green highlight indicates that 90% of a greater percentage of lands are average or above for resiliency. The red highlight indicates that 2% or a smaller percentage of the property is average or above for resiliency.

Property Name	Resilience data							
	Far above average	Above average	Slightly above average	Average	Slightly below average	Below average	Far below average	Developed
Arkansas Valley		2%	6%	92%				
Borden	1%	55%	44%					
Boulder		100%						
Canon City				100%				
Environmental Learning Center		3%	91%	7%				
Franktown			50%	50%				
Gabbard-Rutledge		65%	17%	18%				
Horsetooth		97%	3%					
Buckhorn	35%	57%	6%	2%				
E Colo Res Stat		4%	44%	53%				
Mountain Campus	5%	55%	20%	18%	2%			
Foothills	7%	43%	20%	23%	3%			5%
Maxwell Ranch	4%	17%	30%	39%	7%	3%		
Central Great Plains				60%	21%	20%		
Hort Farm			6%	28%	35%	30%		
ARDEC			4%	11%	16%	69%		
West				2%		62%		36%
East							64%	36%
Edward								100%
Fort Morgan							100%	
Fruita							100%	
Main						25%	32%	43%
N Colo Res Demo Cntr							100%	
Orchard Mesa							100%	

Property Name	Resilience data							
	Far above average	Above average	Slightly above average	Average	Slightly below average	Below average	Far below average	Developed
Rogers Mesa							97%	3%
San Luis Valley							100%	
South					29%	12%	24%	35%
Southeast Colo Res Cntr						100%		
Southwest Colo Res Cntr						3%	97%	
Timberline						83%		17%
Washington School						100%		
Woodland Park					80%			20%

APPENDIX 5. Animal and plant species lists compiled from the Eastern Colorado Research Center.

Table 1. Animal Species List at the Eastern Colorado Research Center, compiled from research and field visit. Species of Concern are in bold.

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
ARTHROPOD						
Acrididae	<i>Arphia conspersa</i>	Speckle-winged Rangeland Grasshopper	GBIF	Visual observation	5/3/1968	
Acrididae	<i>Arphia pseudonietana</i>	Red-winged Grasshopper	GBIF	Visual observation	8/15/1968	
Acrididae	<i>Aulocara femoratum</i>	White-crossed Grasshopper	GBIF	Visual observation	7/25/1989	
Acrididae	<i>Cordillacris crenulata</i>	Crenulate-winged Grasshopper	GBIF	Visual observation	6/28/1989	
Acrididae	<i>Cordillacris occipitalis</i>	Spot-winged Grasshopper	GBIF	Visual observation	7/25/1989	
Aphididae	<i>Therioaphis (Therioaphis) trifolii</i>	Yellow Clover Aphid	SCAN	Visual observation	9/15/1955	
Arctiidae	<i>Estigmene acrea</i>	Salt Marsh Moth	GBIF	Visual observation	6/9/1991	
Arctiidae	<i>Hypoprepia miniata</i> subsp. <i>miniata</i>	Scarlet Lichen Moth	GBIF	Visual observation	6/19/1994	
Arctiidae	<i>Virbia fragilis</i>	Fragile Virbia	GBIF	Visual observation	6/19/1994	
Arctiidae	<i>Virbia immaculata</i>	Plain Winged Holomelina	GBIF	Visual observation	6/19/1994	
Carabidae	<i>Cicindela formosa</i>	Big Sand Tiger Beetle	GBIF	Visual observation	6/13/1990	
Carabidae	<i>Cicindela punctulata</i>	Punctured Tiger Beetle	GBIF	Visual observation	6/19/1994	
Carabidae	<i>Clivina impressifrons</i>	Slender Seedcorn Beetle	GBIF	Visual observation	6/9/1991	
Erebidae	<i>Bleptina caradrinalis</i>	Bent Winged Owlet	SCAN	Visual observation	6/19/1994	
Erebidae	<i>Bulia deducta</i>	North American Moth	SCAN	Visual observation	6/9/1990	

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
Erebidae	<i>Melipotis indomita</i>	Indomitable Graphic Moth	SCAN	Visual observation	6/9/1990	
Geometridae	<i>Chlorochlamys chloroleucaria</i>	Blackberry Looper	GBIF	Visual observation	6/19/1994	
Geometridae	<i>Digrammia excurvata</i>	Digrammia	GBIF	Visual observation	6/19/1994	
Geometridae	<i>Digrammia pertinata</i>	Geometrid Moth	GBIF	Visual observation	6/19/1994	
Geometridae	<i>Euaspiates spinataria</i>	Yucca Moth	GBIF	Visual observation	6/19/1994	
Geometridae	<i>Glaucina infumataria</i>	Glaucina Moth	GBIF	Visual observation	6/19/1994	
Geometridae	<i>Metanema inatomaria</i>	Pale Metanema	GBIF	Visual observation	6/9/1990	
Geometridae	<i>Plataea trilinearia</i>	Sagebrush Girdle	GBIF	Visual observation	6/9/1990	
Mutillidae	<i>Dasymutilla leda</i>	Red Velvet Ant	GBIF	Visual observation	6/13/1990	
Noctuidae	<i>Apamea inordinata semilunata</i>	Apamea	GBIF	Visual observation	6/8/1991	
Noctuidae	<i>Caradrina montana</i>	Civil Rustic Caradrina	GBIF	Visual observation	6/9/1990	
Noctuidae	<i>Peridroma saucia</i>	Pearly Underwing	GBIF	Visual observation	6/9/1990	
Noctuidae	<i>Schinia meadi</i>	Mead's Flower Moth	GBIF	Visual observation	6/9/1990	
Notodontidae	<i>Gluphisia septentrionis</i>	Common Gluphisia	GBIF	Visual observation	6/19/1994	
Pentatomidae	<i>Thyanta custator</i>	Red Shouldered Stink Bug	SCAN	Visual observation	6/19/1994	
Sphingidae	<i>Ceratomia amyntor</i>	Elm Sphinx	GBIF	Visual observation	6/9/1990	
BIRD						
Accipitridae	<i>Accipiter cooperii</i>	Cooper's Hawk	ECRC Staff	Visual observation		
Accipitridae	<i>Aquila chrysaetos</i>	Golden Eagle	CPW	Modeled overall range		G5S3S4B, S4N, SWAP Tier 1
Accipitridae	<i>Buteo jamaicensis</i>	Red-tailed Hawk	ECRC Staff	Visual observation		
Accipitridae	<i>Buteo regalis</i>	Ferruginous Hawk	CPW	Visual observation		G4S3B, S4N, BLM, SWAP Tier 2, USFS, SC
Accipitridae	<i>Buteo swainsoni</i>	Swainson Hawk	CPW	Modeled overall range		G5S5B, SWAP Tier 2

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
Accipitridae	<i>Circus hudsonius</i>	Northern Harrier	CPW	Modeled overall range		G5S3B, SWAP Tier 2
Ardeidae	<i>Botaurus lentiginosus</i>	American Bittern	CPW	Modeled breeding range		
Alaudidae	<i>Eremophila alpestris</i>	Horned Lark	CNHP	Acoustic recording	10/18/2021	
Charadriidae	<i>Charadrius montanus</i>	Mountain Plover	CPW	Modeled overall range		G3S2B, BLM, SWAP Tier 1, USFS, SC
Columbidae	<i>Streptopelia decaocto</i>	Eurasian Collared-dove	ECRC Staff	Visual observation		
Columbidae	<i>Zenaida macroura</i>	Mourning Dove	CNHP	Visual observation	10/15/2022	
Emberizidae	<i>Junco hyemalis</i>	Dark-eyed Junco	CNHP	Visual observation	10/15/2021	
Emberizidae	<i>Zonotrichia leucophrys</i>	White-crown Sparrow	CNHP	Visual observation	10/15/2021	
Falconidae	<i>Falco mexicanus</i>	Prairie Falcon	CPW	Modeled observation		G5S4B, S4N, SWAP Tier 2
Falconidae	<i>Falco sparverius</i>	American Kestrel	CNHP	Visual observation	10/15/2021	
Fringillidae	<i>Spinus tristis</i>	American Goldfinch	CNHP	Visual observation	10/15/2021	
Icteridae	<i>Dolichonyx oryzivorus</i>	Bobolink	CPW	Modeled breeding range		G5S3B, SWAP Tier 2
Odontophoridae	<i>Colinus virginianus</i>	Northern Bobwhite	CPW	Modeled overall range		
Passerellidae	<i>Ammodramus savannarum</i>	Grasshopper Sparrow	CPW	Modeled breeding range		
Passerellidae	<i>Calamospiza melanocorys</i>	Lark Bunting	CPW	Modeled breeding range		

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
Passerellidae	<i>Peucaea cassinii</i>	Cassin Sparrow	CPW	Modeled breeding range		G5S4B, SWAP Tier 2, USFS
Passerellidae	<i>Spizella breweri</i>	Brewer Sparrow	CPW	Modeled breeding range		G5S4B, SWAP Tier 2
Passeridae	<i>Passer domesticus</i>	House Sparrow	CNHP	Visual observation	10/15/2021	
Phasianidae	<i>Meleagris gallopavo</i>	Wild Turkey	ECRC Staff	Visual observation		
Phasianidae	<i>Phasianus colchicus</i>	Ring-necked Pheasant	ECRC Staff, CPW	Visual observation		
Phasianidae	<i>Tympanuchus cupido pinatus</i>	Greater Prairie Chicken	ECRC Staff, CPW	Visual observation		G4T4S3, USFS, SWAP Tier 2
Scolopacidae	<i>Bartramia longicauda</i>	Upland Sandpiper	CPW	Modeled overall range		
Scolopacidae	<i>Numenius americanus</i>	Long-billed Curlew	CPW	Modeled overall range		G5S2, BLM, SWAP Tier 2, USFS, SC
Strigidae	<i>Athene cunicularia</i>	Burrowing Owl	CPW	Modeled breeding range		G4S4B, BLM, SWAP Tier 1, USFS, SC
Strigidae	<i>Bubo virginianus</i>	Great Horned Owl	CNHP	Trail Camera observation		
Turdidae	<i>Catharus fuscescens</i>	Veery	CPW	Modeled breeding range		G5S3B, SWAP Tier 2
Tytonidae	<i>Tyto alba</i>	Barn Owl	ECRC Staff	Visual observation		
MAMMAL						
Antilocapridae	<i>Antilocarpa americana</i>	Pronghorn	ECRC Staff, CPW	Visual observation		
Canidae	<i>Canis latrans</i>	Coyote	ECRC Staff	Visual observation		
Canidae	<i>Vulpes vulpes</i>	Red fox	ECRC Staff	Visual observation		
Cervidae	<i>Odocoileus hemionus</i>	Mule Deer	ECRC Staff, CPW	Visual observation		

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
Cervidae	<i>Odocoileus virginianus</i>	White-tailed Deer	CPW	Modeled overall range		
Cricetidae	<i>Onychomys leucogaster arcticeps</i>	Northern Grasshopper Mouse	GBIF	Visual observation	5/2/1957	
Heteromyidae	<i>Perognathus flavescens flavescens</i>	Plains Pocket Mice	GBIF	Visual observation	10/11/1957	
Leporidae	<i>Lepus townsendii</i>	White-tailed Jackrabbit	CPW	Modeled overall range		G5S4, SWAP Tier 2
Leporidae	<i>Sylvilagus</i> sp.	Cottontail Rabbit	ECRC Staff	Visual observation		
Mephitidae	<i>Memphitis memphitis</i>	Striped Skunk	ECRC Staff	Visual observation		
Mustelidae	<i>Taxidea taxus</i>	Badger	ECRC Staff	Visual observation		
Procyonidae	<i>Procyon lotor</i>	Common Raccoon	ECRC Staff	Visual observation		
Sciuridae	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	ECRC Staff, CPW	Visual observation		G4S3, BLM, SWAP Tier 2, USFS, SC
Sciuridae	<i>Ictidomys tridecemlineatus pallidus</i>	Thirteen-lined Ground Squirrel	GBIF	Visual observation	5/2/1957	
Sciuridae	<i>Xerospermophilus spilosoma obsoletus</i>	Spotted Ground Squirrel	GBIF	Visual observation	5/2/1957	
Vespertilionidae	<i>Lasionycteris noctivagans</i>	Silver-haired Bat	CNHP	Ultrasonic Recording	10/18/2021	G3G4S3S4
Vespertilionidae	<i>Lasiurus borealis</i>	Red Bat	CPW	Modeled overall range		G3G4S2S3B
Vespertilionidae	<i>Lasiurus cinereus</i>	Hoary Bat	CPW	Modeled overall range		G3G4S3S4B, SWAP Tier 2, USFS
Vespertilionidae	<i>Perimyotis subflavus</i>	Tri-colored Bat	CPW	Modeled overall range		G2G3S2
REPTILE						
Chelydridae	<i>Chelydra serpentina</i>	Snapping Turtle	CPW	Modeled overall range		
Colubridae	<i>Coluber constrictor</i>	North American Racer	CPW	Modeled overall range		

Family	Scientific Name	Common Name	Source	Observed/Modeled	Observation Date	CNHP Ranks
Colubridae	<i>Heterodon nasicus</i>	Plains Hog-nosed Snake	CPW	Modeled overall range		
Colubridae	<i>Lampropeltis triangulum</i>	Milksnake	CPW	Modeled overall range		
Colubridae	<i>Pituophis catenifer sayi</i>	Bullsnake	CPW	Modeled overall range		
Colubridae	<i>Thamnophis radix</i>	Plains Gartersnake	CPW	Modeled overall range		
Colubridae	<i>Thamnophis sirtalis</i>	Common Gartersnake	CPW	Modeled overall range		G5S3, SWAP Tier 2, SC
Emydidae	<i>Chrysemys picta</i>	Painted Turtle	CPW	Modeled overall range		G5S5
Emydidae	<i>Terrapene ornata ornata</i>	Ornate Box Turtle	CPW	Modeled overall range		
Phrynosomatidae	<i>Holbrookia maculata</i>	Common Lesser Earless Lizard	CPW	Modeled overall range		
Phrynosomatidae	<i>Sceloporus consobrinus</i>	Prairie Lizard	CPW	Modeled overall range		
Phrynosomatidae	<i>Sceloporus tristichus</i>	Plateau Fence Lizard	CPW	Modeled overall range		
Scincidae	<i>Mabuya varia</i>	Variable Skink	CPW	Modeled overall range		
Scincidae	<i>Plestiodon multivirgatus</i>	Many-lined Skink	CPW	Modeled overall range		
Teiidae	<i>Aspidoscelis sexlineatus</i>	Six-lined Racerunner	CPW	Modeled overall range		
Trionychidae	<i>Apalone spinifera</i>	Spiny Softshell	CPW	Modeled overall range		
Viperidae	<i>Crotalus viridis</i>	Prairie Rattlesnake	CPW	Modeled overall range		

Table 2. Plant species at the Eastern Colorado Research Center, compiled from research and field visit. Species of Concern are in bold.

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Agavaceae	<i>Leucocrinum montanum</i>	common starlily	CNHP	Visual Observation	5/31/2022	Native	6	
Agavaceae	<i>Yucca glauca</i>	soapweed yucca	CNHP	Visual Observation	5/31/2022	Native	4	
Amaranthaceae	<i>Amaranthus retroflexus</i>	redroot amaranth	CNHP	Visual Observation	5/31/2022	Non-native	0	
Anacardiaceae	<i>Rhus trilobata</i>	skunkbush	CNHP	Visual Observation	10/29/2021	Native	5	
Apocynaceae	<i>Asclepias sp.</i>		CNHP	Visual Observation	6/1/2022			
Asteraceae	<i>Ambrosia psilostachya</i>	Cuman ragweed	CNHP	Visual Observation	10/29/2021	Native	3	
Asteraceae	<i>Artemisia filifolia</i>	sand sagebrush	CNHP	Visual Observation	10/29/2021	Native	5	
Asteraceae	<i>Artemisia frigida</i>	prairie sagewort	CNHP	Visual Observation	10/29/2021	Native	4	
Asteraceae	<i>Artemisia ludoviciana</i>	white sagebrush	CNHP	Visual Observation	5/31/2022	Native	4	
Asteraceae	<i>Carduus nutans</i>	Musk Thistle	CNHP	Visual observation	10/29/2021	Non-native, B	0	
Asteraceae	<i>Cirsium undulatum</i>	wavyleaf thistle	CNHP	Visual Observation	10/29/2021	Native	5	
Asteraceae	<i>Conyza canadensis</i>	Horseweed	GBIF	Visual observation		Native	1	
Asteraceae	<i>Erigeron bellidiastrum</i>	western daisy fleabane	CNHP	Visual Observation	5/31/2022	Native	4	
Asteraceae	<i>Grindelia squarrosa</i>	curlycup gumweed	CNHP	Visual Observation	5/31/2022	Native	3	
Asteraceae	<i>Helianthus petiolaris</i>	prairie sunflower	CNHP	Visual Observation	10/29/2021	Native	2	
Asteraceae	<i>Hymenopappus tenuifolius</i>	Chalk Hill Hymenopappus	GBIF	Visual observation		Native	6	
Asteraceae	<i>Lygodesmia juncea</i>	skeletonweed	CNHP	Visual Observation	10/29/2021	Native	4	
Asteraceae	<i>Packera tridenticulata</i>	threeleaf ragwort	CNHP	Visual Observation	5/31/2022	Native	7	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Asteraceae	<i>Ratibida columnifera</i>	Upright Prairie Coneflower	SEINET	Visual observation	10/10/1976	Native	4	
Asteraceae	<i>Senecio riddellii</i>	Riddell's ragwort	CNHP	Visual Observation	5/31/2022	Native	5	
Asteraceae	<i>Solidago simplex</i> spp. <i>Simplex</i>	Sticky Goldenrod	CNHP	Visual observation	10/29/2021			
Asteraceae	<i>Thelesperma filifolium</i>	stiff greenthread	CNHP	Visual Observation	6/1/2022	Native	5	
Asteraceae	<i>Tragopogon dubius</i>	yellow salsify	CNHP	Visual Observation	5/31/2022	Non-native	0	
Boraginaceae	<i>Cryptantha minima</i>	little cryptantha	CNHP	Visual Observation	10/29/2021	Native	3	
Boraginaceae	<i>Lappula occidentalis</i>	flatspine stickseed	CNHP	Visual Observation	5/31/2022	Native	2	
Brassicaceae	<i>Alyssum alyssoides</i>	Pale Madwort	CNHP	Visual observation	10/29/2021	Non-native	0	
Brassicaceae	<i>Sisymbrium altissimum</i>	tall tumble mustard	CNHP	Visual Observation	10/29/2021	Non-native	0	
Cactaceae	<i>Echinocereus viridiflorus</i>	nylon hedgehog cactus	CNHP	Visual Observation	5/31/2022	Native	6	
Cactaceae	<i>Opuntia fragilis</i>	brittle pricklypear	CNHP	Visual Observation	5/31/2022	Native	3	
Cactaceae	<i>Opuntia macrorhiza</i>	bigroot prickly pear	CNHP	Visual Observation	10/29/2021	Native	3	
Cannabaceae	<i>Celtis reticulata</i>	netleaf hackberry	CNHP	Visual Observation	10/29/2021	Native	6	
Capparaceae	<i>Cleome serrulata</i>	Rocky Mountain beeplant	CNHP	Visual Observation	5/31/2022	Native	2	
Chenopodiaceae	<i>Chenopodium</i> sp.		CNHP	Visual Observation	5/31/2022			
Amaranthaceae	<i>Kochia scoparia</i>	burningbush	CNHP	Visual Observation	6/1/2022	Non-native	0	
Amaranthaceae	<i>Salsola tragus</i>	prickly russian thistle	CNHP	Visual Observation	5/31/2022	Non-native	0	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Commelinaceae	<i>Tradescantia occidentalis</i>	prairie spiderwort	CNHP	Visual Observation	5/31/2022	Native	5	
Convolvulaceae	<i>Evolvulus nuttallianus</i>	shaggy dwarf morning-glory	CNHP	Visual Observation	5/31/2022	Native	6	
Cupressaceae	<i>Juniperus scopulorum</i>	Rocky Mountain juniper	CNHP	Visual Observation	10/29/2021	Native	5	
Cyperaceae	<i>Carex sp.</i>		CNHP	Visual Observation	5/31/2022			
Elaeagnaceae	<i>Elaeagnus angustifolia</i>	Russian olive	CNHP	Visual Observation	10/29/2021	Non-native	0	
Euphorbiaceae	<i>Croton texensis</i>	Texas croton	CNHP	Visual Observation	10/29/2021	Native	2	
Fabaceae	<i>Astragalus sp.</i>		CNHP	Visual Observation	5/31/2022			
Fabaceae	<i>Astragalus plattensis</i>	Platte River Milkvetch	SEINET	Visual observation	6/25/1960	Native	7	GSS1
Fabaceae	<i>Lupinus argenteus</i>	silvery lupine	CNHP	Visual Observation	5/31/2022	Native	5	
Fabaceae	<i>Oxytropis lambertii</i>	Lambert's Locoweed	GBIF	Visual observation		Native	5	
Fabaceae	<i>Lupinus pusillus</i>	Rusty Lupine	GBIF	Visual observation		Native	6	
Fabaceae	<i>Pediomelum hypogaeum hypogaeum</i>	Little Indian Breadroot	GBIF	Visual observation				
Fabaceae	<i>Pomaria jamesii</i>	James rush-pea	CNHP	Visual Observation	5/31/2022	Native	6	
Fabaceae	<i>Psoraleidum lanceolatum</i>	Lemon Scurfpea	GBIF	Visual observation		Native	5	
Fabaceae	<i>Psoraleidum tenuiflorum</i>	Slimflower Scurfpea	GBIF	Visual observation		Native	5	
Lamiaceae	<i>Salvia reflexa</i>	Lanceleaf Sage	SEINET	Visual observation	7/22/1960	Native	2	
Linaceae	<i>Linum lewisii</i>	Lewis flax	CNHP	Visual Observation	10/29/2021	Native	4	
Loasaceae	<i>Mentzelia nuda</i>	bractless blazingstar	CNHP	Visual Observation	5/31/2022	Native	4	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Malvaceae	<i>Sphaeralcea coccinea</i>	scarlet globemallow	CNHP	Visual Observation	6/1/2022	Native	4	
Papaveraceae	<i>Argemone polyanthemos</i>	crested pricklypoppy	CNHP	Visual Observation	10/29/2021	Native	3	
Pinaceae	<i>Pinus sp.</i>	Pine	CNHP	Visual observation	10/29/2021			
Plantaginaceae	<i>Penstemon sp.</i>		CNHP	Visual Observation	5/31/2022			
Plantaginaceae	<i>Penstemon grandiflorus</i>	Large Beard-tongue	GBIF	Visual observation		Native	6	G5?S1
Plantaginaceae	<i>Plantago patagonica</i>	woolly plantain	CNHP	Visual Observation	10/29/2021	Native	2	
Poaceae	<i>Achnatherum hymenoides</i>	Indian ricegrass	CNHP	Visual Observation	5/31/2022	Native	5	
Poaceae	<i>Agropyron cristatum</i>	crested wheatgrass	CNHP	Visual Observation	5/31/2022	Non-native	0	
Poaceae	<i>Andropogon hallii</i>	sand bluestem	CNHP	Visual Observation	10/29/2021	Native	8	
Poaceae	<i>Aristida purpurea</i>	purple threeawn	CNHP	Visual Observation	5/31/2022	Native	3	
Poaceae	<i>Bouteloua gracilis</i>	blue grama	CNHP	Visual Observation	10/29/2021	Native	4	
Poaceae	<i>Bromus arvensis</i>	field brome	CNHP	Visual Observation	10/29/2021			
Poaceae	<i>Bromus tectorum</i>	cheatgrass	CNHP	Visual Observation	5/31/2022	Non-native	0	
Poaceae	<i>Buchloë dactyloides</i>	buffalograss	CNHP	Visual Observation	10/29/2021	Native	4	
Poaceae	<i>Calamovilfa longifolia</i>	prairie sandreed	CNHP	Visual Observation	10/29/2021	Native	7	
Poaceae	<i>Elymus elymoides</i>	squirreltail	CNHP	Visual Observation	10/29/2021	Native	4	
Poaceae	<i>Hesperostipa comata</i>	needle and thread	CNHP	Visual Observation	10/29/2021	Native	6	
Poaceae	<i>Koeleria macrantha</i>	prairie Junegrass	CNHP	Visual Observation	5/31/2022	Native	6	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Poaceae	<i>Muhlenbergia asperifolia</i>	Scratch Grass	GBIF	Visual observation		Native	4	
Poaceae	<i>Muhlenbergia pungens</i>	Sandhill Muhly	SEINET	Visual observation	10/7/1976	Native	6	
Poaceae	<i>Pascopyrum smithii</i>	western wheatgrass	CNHP	Visual Observation	10/29/2021	Native	5	
Poaceae	<i>Sporobolus compositus</i>	tall dropseed	CNHP	Visual Observation	5/31/2022	Native	4	
Poaceae	<i>Sporobolus cryptandrus</i>	sand dropseed	CNHP	Visual Observation	10/29/2021	Native	2	
Poaceae	<i>Vulpia octoflora</i>	six-weeks fescue	CNHP	Visual Observation	5/31/2022	Native	3	
Polemoniaceae	<i>Phlox andicola</i>	moss phlox	CNHP	Visual Observation	5/31/2022	Native	6	
Polygonaceae	<i>Eriogonum annuum</i>	Annual Buckwheat	SEINET	Visual observation	7/19/1957	Native	4	
Ranunculaceae	<i>Delphinium occidentale</i>	Sierra larkspur	CNHP	Visual Observation	5/31/2022	Native	5	
Salicaceae	<i>Populus deltoides</i>	eastern cottonwood	CNHP	Visual Observation	10/29/2021	Native	4	
Solanaceae	<i>Physalis sp.</i>		CNHP	Visual Observation	5/31/2022			
Solanaceae	<i>Solanum sp.</i>		CNHP	Visual Observation	5/31/2022			
Ulmaceae	<i>Ulmus pumila</i>	Siberian elm	CNHP	Visual Observation	10/29/2021	Non-native	0	
Zygophyllaceae	<i>Tribulus terrestris</i>	puncture vine	CNHP	Visual Observation	10/29/2021	Non-native	0	

APPENDIX 6. Animal and plant and fungi species lists compiled from the Mountain Campus.

Table 1. Animal Species List at the Mountain Campus, compiled from research and field visit. Species of Concern are in bold. See Appendix 3 for status code definitions and the [GBIF Registry of Scientific Collections](#) for institution codes for the Source field.

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
ARTHROPOD						
-	Diarnesinae sp.		BioBlitz (2015)	Visual observation	10/10/2015	
-	Oedipodinae sp.	Bandwing Grasshoppers	iNaturalist	Visual observation	7/21/2018	
Achilidae	<i>Cixidia pallida</i>		SCAN	Preserved specimen	8/25/1976	
Acrididae	<i>Aeropedellus clavatus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Arphia conspersa</i>		SCAN	Preserved specimen	8/23/1926	
Acrididae	<i>Aulocara ellioti</i>		CSU	Preserved specimen	7/6/1939	
Acrididae	<i>Camnula pellucida</i>		SCAN	Preserved specimen	8/1/1925	
Acrididae	<i>Chorthippus curtipennis</i>		CSU	Preserved specimen	7/6/1939	
Acrididae	<i>Chorthippus curtipennis curtipennis</i>		SCAN	Preserved specimen	8/1/1924	
Acrididae	<i>Circotettix rabula</i>		SCAN	Preserved specimen	8/2/1924	
Acrididae	<i>Circotettix sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Cratypedes neglectus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Dissosteira carolina</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Melanoplus brunneri</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Melanoplus dodgei</i>		SCAN	Preserved specimen	8/21/1925	
Acrididae	<i>Melanoplus fasciatus</i>		KU	Preserved specimen	8/22/1931	
Acrididae	<i>Melanoplus femurrubrum</i>		SCAN	Preserved specimen	8/21/1925	
Acrididae	<i>Melanoplus occidentalis</i>		CSU	Preserved specimen	8/29/1982	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Acrididae	<i>Melanoplus sanguinipes</i>		CSU	Preserved specimen	9/23/1982	
Acrididae	<i>Melanoplus</i> sp.1		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Orphulella</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Acrididae	<i>Pseudochorthippus curtipennis</i>		BYU	Preserved specimen		
Acrididae	<i>Trachyrhachys kiowa</i>		BYU	Preserved specimen		
Acrididae	<i>Trimerotropus suffusa</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Aeshnidae	<i>Aeshna eremita</i>		SCAN	Preserved specimen	8/15/1924	
Aeshnidae	<i>Aeshna palmata</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Aeshnidae	<i>Aeshna sitchensis</i>		Odonata Central	Preserved specimen	9/6/2010	
Alydidae	<i>Alydus scutellatus</i>		TAMU	Preserved specimen		
Alydidae	<i>Tollius setosus</i>		SCAN	Preserved specimen	8/22/1925	
Alydidae	<i>Tollius</i> sp.		SCAN	Preserved specimen	8/20/1925	
Aphididae	<i>Acyrtosiphon pisum</i>		EMEC	Preserved specimen	8/23/1953	
Aphididae	<i>Aphis argentinaeradicens</i>		USNM	Preserved specimen	8/23/1930	
Aphididae	<i>Aphis ceanothi</i>		SCAN	Preserved specimen	8/18/1933	
Aphididae	<i>Aphis fraseriae</i>		SCAN	Preserved specimen	8/20/1924	
Aphididae	<i>Aphis gossypii</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Aphis helianthi</i>		EMEC	Preserved specimen	8/23/1953	
Aphididae	<i>Aphis medicaginis</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Aphis</i> sp.		SCAN	Preserved specimen	8/23/1953	
Aphididae	<i>Brachycaudus helichrysi</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Capitophorus elaeagni</i>		EMEC	Preserved specimen	8/23/1953	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Aphididae	<i>Chaitophorus populicola</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Chaitophorus populifoliae</i>		SCAN	Preserved specimen	8/20/1926	
Aphididae	<i>Cinara curvipes</i>		SCAN	Preserved specimen	8/20/1931	
Aphididae	<i>Cinara medispinosa</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Essigella knowltoni</i>		USNM	Preserved specimen	8/23/1935	
Aphididae	<i>Lachnus engelmanniensis</i>		SCAN	Preserved specimen	9/3/1924	
Aphididae	<i>Lachnus juniperensis</i>		SCAN	Preserved specimen	8/20/1924	
Aphididae	<i>Macrosiphum thermopsaphis</i>		USNM	Preserved specimen	8/19/1935	
Aphididae	<i>Macrosiphum valerianae</i>		SCAN	Preserved specimen	8/22/1935	
Aphididae	<i>Macrosiphum zionense</i>		SCAN	Preserved specimen	8/19/1936	
Aphididae	<i>Mindarus abietinus</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Myzus alpinus</i>		SCAN	Preserved specimen	8/21/1926	
Aphididae	<i>Nasonovia alpina</i>		SCAN	Preserved specimen	8/20/1935	
Aphididae	<i>Nasonovia collomiaae</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Nearctaphis argentinaeradicens</i>		SCAN	Preserved specimen	8/23/1930	
Aphididae	<i>Pachypappa sacculi</i>		SCAN	Preserved specimen	8/31/1938	
Aphididae	<i>Pleotrichophorus gnaphalodes</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Pleotrichophorus pseudoglandulosus</i>		SCAN	Preserved specimen	8/21/1935	
Aphididae	<i>Pterocomma beulahense</i>		SCAN	Preserved specimen	7/5/1926	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Aphididae	<i>Rhopalosiphum musae</i>		SCAN	Preserved specimen	8/23/1953	
Aphididae	<i>Sitobion avenae</i>		SCAN	Preserved specimen	8/29/1935	
Apidae	<i>Andrena miranda</i>		KU	Preserved specimen	8/6/1949	
Apidae	<i>Andrena sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Apidae	<i>Andrena thaspiae</i>		KU	Preserved specimen	8/6/1949	
Apidae	<i>Andrena w-scripta</i>		SCAN	Preserved specimen	8/23/1926	
Apidae	<i>Anthophora montana</i>		SCAN	Preserved specimen	8/22/1935	
Apidae	<i>Anthophora urbana</i>		SCAN	Preserved specimen	8/1/1924	
Apidae	<i>Anthophora walshii</i>		USDA-ARS	Preserved specimen	8/20/1935	
Apidae	<i>Bombus appositus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus bifarius</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus bifarius bifarius</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus californicus</i>		SCAN	Preserved specimen	8/1/1924	
Apidae	<i>Bombus centralis</i>		SCAN	Preserved specimen	8/20/1935	
Apidae	<i>Bombus fernaldae</i>		INHS	Preserved specimen	8/17/1926	
Apidae	<i>Bombus fervidus</i>		SCAN	Preserved specimen	8/14/1933	
Apidae	<i>Bombus fervidus fervidus</i>		SCAN	Preserved specimen	8/21/1926	
Apidae	<i>Bombus flavifrons</i>		SCAN	Preserved specimen	8/20/1926	
Apidae	<i>Bombus frigidus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus huntii</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus insularis</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus lapponicus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus melanopygus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus mixtus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus nevadensis</i>		KU	Preserved specimen	8/6/1949	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Apidae	<i>Bombus occidentalis</i>		SCAN	Preserved specimen	8/17/1926	G3S3S4, SWAP Tier 2
Apidae	<i>Bombus rufocinctus</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus suckleyi</i>		UCM	Preserved specimen	8/14/1933	G2G3S2, SWAP Tier 2
Apidae	<i>Bombus sylvicola</i>		SCAN	Preserved specimen	8/17/1926	
Apidae	<i>Bombus terricola occidentalis</i>		INHS	Preserved specimen	8/14/1933	
Apidae	<i>Melissodes agilis</i>		KU	Preserved specimen	8/22/1935	
Apidae	<i>Melissodes confusa</i>		SCAN	Preserved specimen	8/1/1924	
Apidae	<i>Melissodes coreopsis</i>		SCAN	Preserved specimen	8/6/1949	
Apidae	<i>Melissodes hymenoxidis</i>		SCAN	Preserved specimen	8/1/1924	
Apidae	<i>Melissodes microsticta</i>		SCAN	Preserved specimen	8/21/1926	
Apidae	<i>Melissodes rivalis</i>		KU	Preserved specimen	8/6/1949	
Apidae	<i>Melissodes tristis</i>		USDA-ARS	Preserved specimen	8/19/1935	
Apidae	<i>Nomada crawfordi</i>		USDA-ARS	Preserved specimen	8/8/1949	
Apidae	<i>Panurginus atriceps</i>		SCAN	Preserved specimen	8/23/1926	
Apidae	<i>Panurginus sp.</i>		SCAN	Preserved specimen	8/1/1924	
Apidae	<i>Protandrena albitarsis porterae</i>		KU	Preserved specimen	8/6/1949	
Apidae	<i>Protandrena bakeri</i>		KU	Preserved specimen	8/22/1935	
Apidae	<i>Svastra obliqua</i>		SCAN	Preserved specimen	8/20/1935	
Apidae	<i>Svastra obliqua expurgata</i>		USDA-ARS	Preserved specimen	8/20/1935	
Apidae	<i>Svastra obliqua obliqua</i>		KU	Preserved specimen	8/22/1935	
Apidae	<i>Triepeolus texanus</i>		KU	Preserved specimen	8/6/1949	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Arctiidae	<i>Gnophaela vermiculata</i>		CSU	Preserved specimen	8/17/1932	
Asellidae	<i>Lirceus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Asilidae	<i>Laphria asackeni</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Bateidae	<i>Baetis bicaudatus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Bateidae	<i>Baetis tricaudatus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Bateidae	<i>Callibaetis</i> sp.		INHS	Preserved specimen	9/3/1989	
Bibionidae	<i>Dilophus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Bombylidae	<i>Bombylius</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Bombylidae	<i>Hemipenthes</i> sp.		iNaturalist	Visual observation	7/27/2019	
Bombylidae	<i>Poecilanthrax</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Bosminidae	<i>Bosmina</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Brachycentridae	<i>Brachycentrus americanus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Braconidae	<i>Bracon</i> sp.		KU	Preserved specimen	7/11/1937	
Braconidae	<i>Chelonus</i> sp.		SCAN	Preserved specimen	8/1/1925	
Braconidae	<i>Cremnops vulgaris</i>		KU	Preserved specimen	8/14/1933	
Braconidae	<i>Dinotrema</i> sp.		INHS	Preserved specimen	8/17/1932	
Braconidae	<i>Microplitis</i> sp.		KU	Preserved specimen	7/11/1937	
Braconidae	<i>Phaenocarpa curvata</i>		KU	Preserved specimen	7/11/1937	
Braconidae	<i>Phaenocarpa</i> sp.		KU	Preserved specimen	8/6/1949	
Brentidae	<i>Apion</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Buprestidae	<i>Buprestis lyrata</i>		TAMU	Preserved specimen	8/16/1930	
Buprestidae	<i>Buprestis rusticorum</i>		UCM	Preserved specimen	8/15/1932	
Buprestidae	<i>Chrysobothris carinipennis</i>		UCM	Preserved specimen	8/16/1933	
Buprestidae	<i>Chrysobothris monticola</i>		UCM	Preserved specimen	8/14/1933	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Buprestidae	<i>Chrysobothris trinervia</i>		SCAN	Preserved specimen	8/21/1925	
Calliphoridae	<i>Calliphoria</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Calliphoridae	<i>Phormia regina</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Cantharidae	<i>Chauliognathus basalis</i>		UCM	Preserved specimen	8/15/1932	
Carabidae	<i>Amara quenseli</i>		SCAN	Preserved specimen	8/16/1932	
Carabidae	<i>Bembidion bifossulatum</i>		CSU	Preserved specimen		
Carabidae	<i>Bembidion coloradense</i>		SCAN	Preserved specimen	6/1/1936	
Carabidae	<i>Bembidion</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Carabidae	<i>Carabus</i> sp.		BYU	Preserved specimen		
Carabidae	<i>Carabus taedatus</i>		SCAN	Preserved specimen	8/18/1926	
Carabidae	<i>Cicindela limbalis</i>		SCAN	Preserved specimen	8/21/1926	
Carabidae	<i>Cicindela longilabris</i>		SCAN	Preserved specimen	8/15/1924	
Carabidae	<i>Cicindela longilabris laurentii</i>		CSU	Preserved specimen	7/5/1992	
Carabidae	<i>Cicindela nebraskana</i>		BYU	Preserved specimen		
Carabidae	<i>Cicindela punctulata</i>		BYU	Preserved specimen		
Carabidae	<i>Cicindela punctulata punctulata</i>		CSU	Preserved specimen	9/5/2004	
Carabidae	<i>Harpalus nigritarsis</i>		SCAN	Preserved specimen	8/21/1925	
Carabidae	<i>Harpalus</i> sp.		BYU	Preserved specimen		
Carabidae	<i>Pterostichus adstrictus</i>		SCAN	Preserved specimen	8/18/1926	
Carabidae	<i>Pterostichus caudicalis</i>		BYU	Preserved specimen		

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Carabidae	<i>Pterostichus protractus</i>		SCAN	Preserved specimen	8/18/1926	
Carabidae	<i>Pterostichus</i> sp.		BYU	Preserved specimen	8/17/1932	
Cerambycidae	<i>Monochamus clamator</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Cerambycidae	<i>Monochamus scutellatus</i>		SCAN	Preserved specimen	8/26/1926	
Ceratopogonidae	<i>Atrichopogon</i> sp.		KU	Preserved specimen	7/11/1937	
Ceratopogonidae	<i>Bezzia</i> spp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chironomidae	<i>Orthocladinae</i> spp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chironomidae	<i>Tanytarsini</i> spp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chloroperlidae	<i>Alloperla pilosa</i>		SCAN	Preserved specimen	8/1/1924	G3S2
Chloroperlidae	<i>Plumiperla diversa</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Chloroperlidae	<i>Suwallia starki</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Chloroperlidae	<i>Sweltsa borealis</i>		SCAN	Preserved specimen	8/1/1924	
Chloroperlidae	<i>Sweltsa lamba</i>		SCAN	Preserved specimen	8/1/1924	
Chloroperlidae	<i>Sweltsa</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chloropidae	<i>Phora stictica</i>		LACM	Preserved specimen		
Chrysididae	<i>Chrysidini</i> sp.		iNaturalist	Visual observation	6/3/2019	
Chrysididae	<i>Chrysis</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chrysididae	<i>Philoctetes variatus</i>		EMEC	Preserved specimen	8/6/1949	
Chrysomelidae	<i>Altica</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Chrysomelidae	<i>Trirhabda canadensis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Chrysopidae	<i>Chrysoperla</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Cicadellidae	<i>Agallia sanguinolenta</i>		SCAN	Preserved specimen	8/20/1923	
Cicadellidae	<i>Amblysellus acuerus</i>		SCAN	Preserved specimen	8/19/1930	
Cicadellidae	<i>Amblysellus grex</i>		SCAN	Preserved specimen	8/18/1931	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Cicadellidae	<i>Athysanella acuticauda</i>		INHS	Preserved specimen		
Cicadellidae	<i>Athysanella lunata</i>		INHS	Preserved specimen		
Cicadellidae	<i>Auridius auratus</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Balclutha</i> sp.		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Ceratagallia uhleri</i>		SCAN	Preserved specimen	8/20/1923	
Cicadellidae	<i>Cicadula ciliata</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Cicadula decipiens</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Cicadula longiseta</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Colladonus belli</i>		SCAN	Preserved specimen	8/20/1923	
Cicadellidae	<i>Cuernia alpina</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Cicadellidae	<i>Deltocephalus nigriverter</i>		SCAN	Preserved specimen	8/19/1932	
Cicadellidae	<i>Diplocolenus abdominalis</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Draeculacephala angulifera</i>		SCAN	Preserved specimen	8/18/1932	
Cicadellidae	<i>Draeculacephala</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Cicadellidae	<i>Empoasca clypeata</i>		SCAN	Preserved specimen	8/24/1922	
Cicadellidae	<i>Empoasca coccinea</i>		SCAN	Preserved specimen	8/20/1929	
Cicadellidae	<i>Empoasca livingstonii</i>		SCAN	Preserved specimen	8/20/1929	
Cicadellidae	<i>Empoasca obtusa</i>		SCAN	Preserved specimen	8/24/1923	
Cicadellidae	<i>Empoasca smaragdula</i>		SCAN	Preserved specimen	1/1/1925	
Cicadellidae	<i>Empoasca</i> sp.		SCAN	Preserved specimen	8/20/1929	
Cicadellidae	<i>Endria inimica</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Errastunus ocellaris</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Errhomus lineatus</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Exitianus exitiosus</i>		SCAN	Preserved specimen	8/20/1923	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Cicadellidae	<i>Idiocerus pallidus</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Idiocerus productus</i>		SCAN	Preserved specimen	8/20/1923	
Cicadellidae	<i>Idiocerus vagus</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Idiodonus cockerelli</i>		SCAN	Preserved specimen	8/18/1931	
Cicadellidae	<i>Kybos adunca</i>		SCAN	Preserved specimen	8/1/1924	
Cicadellidae	<i>Kybos clypeata</i>		SCAN	Preserved specimen	8/1/1924	
Cicadellidae	<i>Kybos gelbata</i>		SCAN	Preserved specimen	8/22/1931	
Cicadellidae	<i>Kybos obtusa</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Laevicephalus bidentata</i>		SCAN	Preserved specimen	6/20/1929	
Cicadellidae	<i>Latalus histrionicus</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Lemellus bimaculatus</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Macropsis basalis</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Macropsis bifasciata</i>		SCAN	Preserved specimen	8/15/1924	
Cicadellidae	<i>Macrosteles</i> sp.		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Nealiturus tenellus</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Pasaremus concentricus</i>		SCAN	Preserved specimen	8/14/1963	
Cicadellidae	<i>Polyamia compacta</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Psammotettix alienus</i>		SCAN	Preserved specimen		
Cicadellidae	<i>Psammotettix lividella</i>		SCAN	Preserved specimen	8/20/1929	
Cicadellidae	<i>Scaphytopius acutus</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Sonronius arcuatus</i>		SCAN	Preserved specimen	8/18/1932	
Cicadellidae	<i>Sorhoanus debilis</i>		SCAN	Preserved specimen	8/20/1925	
Cicadellidae	<i>Verdanus abdominalis</i>		SCAN	Preserved specimen	8/20/1925	
Cleridae	<i>Enoclerus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Cleridae	<i>Trichodes ornatus ornatus</i>		UCM	Preserved specimen	8/16/1933	
Coccinellidae	<i>Coccinella transversoguttata richardsoni</i>		SCAN	Preserved specimen	8/1/1925	
Coccinellidae	<i>Coccinellidae</i> sp.		SCAN	Preserved specimen	8/23/1926	
Coccinellidae	<i>Hippodamia convergens</i>		SCAN	Preserved specimen	8/23/1926	
Coccinellidae	<i>Hippodamia parenthesis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Colletidae	<i>Colletes consors consors</i>		SCAN	Preserved specimen	6/20/1929	
Colletidae	<i>Colletes trigonatus</i>		USDA-ARS	Preserved specimen	8/15/1932	
Colletidae	<i>Hylaeus basalis</i>		KU	Preserved specimen	8/6/1949	
Colletidae	<i>Hylaeus modestus citrinifrons</i>		KU	Preserved specimen	8/22/1935	
Colletidae	<i>Hylaeus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Colletidae	<i>Hylaeus wootoni</i>		KU	Preserved specimen	8/6/1949	
Corimelaenidae	<i>Allocoris nigra</i>		SCAN	Preserved specimen	8/20/1925	
Corixidae	<i>Arctocorisa lawsoni</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Arctocorisa</i> sp.		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Arctocorisa sutilis</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Callicorixa audeni</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Cenocorixa utahensis</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Hesperocorixa atopodonta</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Hesperocorixa laevigata</i>		SCAN	Preserved specimen	8/21/1926	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Corixidae	<i>Hesperocorixa vulgaris</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Sigara alternata</i>		SCAN	Preserved specimen	8/1/1925	
Corixidae	<i>Sigara</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Corixidae	<i>Trichocorixa borealis</i>		SCAN	Preserved specimen	8/20/1923	
Crabronidae	<i>Ectemnius borealis</i>		UCM	Preserved specimen	8/15/1932	
Crabronidae	<i>Ectemnius rufifemur</i>		UCM	Preserved specimen	8/15/1932	
Crabronidae	<i>Podalonia</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Crabronidae	<i>Philanthus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Crabronidae	<i>Podalonia luctuosa</i>		UCM	Preserved specimen	8/14/1934	
Crabronidae	<i>Podalonia occidentalis</i>		UCM	Preserved specimen	8/16/1933	
Culicidae	<i>Aedes communis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Curculionidae	<i>Dendroctonus ponderosae</i>		SCAN	Preserved specimen	8/24/1995	
Curculionidae	<i>Dendroctonus rufipennis</i>		CSU	Preserved specimen	10/9/1976	
Curculionidae	<i>Gnathotrichus denticulatus</i>		CSU	Preserved specimen	8/30/1995	
Curculionidae	<i>Magdalis</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Curculionidae	<i>Otiorhynchus ovatus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Delphacidae	<i>Megamelus flavus</i>		SCAN	Preserved specimen	8/15/1924	
Dolichopodidae	<i>Dolichopus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Dolichopodidae	<i>Rhaphium colutis</i>		USNM	Preserved specimen	7/11/1937	
Dytiscidae	<i>Acilius</i> sp.		SCAN	Preserved specimen	8/1/1924	
Dytiscidae	<i>Agabus obliteratedus</i>		SCAN	Preserved specimen	8/1/1925	
Dytiscidae	<i>Agabus</i> sp.		SCAN	Preserved specimen	8/2/1925	
Dytiscidae	<i>Ilybius angustior</i>		SCAN	Preserved specimen	8/3/1925	
Dytiscidae	<i>Ilybius subaeneus</i>		SCAN	Preserved specimen	8/4/1925	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Dytiscidae	<i>Neoporus dimidiatus</i>		SCAN	Preserved specimen	8/17/1925	
Elmidae	<i>Heterlimnius corpulentus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Empididae	<i>Hemerodromia</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Entomobryidae	<i>Entomobrya comparata</i>		INHS	Preserved specimen	8/20/1924	
Ephemerellidae	<i>Drunella coloradensis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Ephemerellidae	<i>Drunella doddsii</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Ephemerellidae	<i>Ephemerella dorthea infrequens</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Ephydriidae	<i>Notiphila</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Ephydriidae	<i>Scatella</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Eremaeidae	<i>Eremaeus oblongus</i>		NRM	Preserved specimen	8/14/1954	
Eresidae	<i>Scoliopteryx libatrix</i>		CSU	Preserved specimen	9/12/2015	
Erotylidae	<i>Cypherotylus californicus</i>		iNaturalist	Visual observation	6/15/2017	
Eumenidae	<i>Ancistrocerus adiabatus</i>		SCAN	Preserved specimen	8/23/1923	
Eumenidae	<i>Eumenes crucifera nearcticus</i>		UCM	Preserved specimen	8/17/1933	
Eumenidae	<i>Euodynerus annulatus</i>		UCM	Preserved specimen	8/17/1932	
Eumenidae	<i>Euodynerus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Eumenidae	<i>Pseudepipona herrichii aldrichi</i>		UCM	Preserved specimen	8/16/1933	
Eumenidae	<i>Pterocheilus quinquefasciatus</i>		UCM	Preserved specimen	8/17/1932	
Eumenidae	<i>Symmorphus cristatus</i>		UCM	Preserved specimen	8/17/1933	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Eumenidae	<i>Vespula consobrina</i>		UCM	Preserved specimen	8/17/1932	
Formicidae	<i>Camponotus herculeanus</i>		BYU	Preserved specimen	6/12/1940	
Formicidae	<i>Camponotus</i> sp.	Carpenter and Sugar Ants	iNaturalist	Visual observation	7/28/2021	
Formicidae	<i>Formica fusca</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Formica rufa</i>	rufa-group Wood Ants	iNaturalist	Visual observation	7/19/2021	
Formicidae	<i>Formica</i> sp.		BYU	Preserved specimen		
Formicidae	<i>Formica</i> sp.1		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Formica</i> sp. 2		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Lasius</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Leptothorax</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Myrmica incompleta</i>		SCAN	Preserved specimen	8/1/1924	
Formicidae	<i>Myrmica</i> sp.1		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Myrmica</i> sp.2		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Myrmica</i> sp.3		BioBlitz (2015)	Visual observation	10/10/2015	
Formicidae	<i>Myrmicinae</i> sp.	Myrmicine Ants	iNaturalist	Visual observation	6/3/2019	
Formicidae	<i>Tapinoma sessile</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Geometridae	<i>Caripeta aequaliaria</i>	Western Conifer Looper	iNaturalist	Visual observation	7/15/2018	
Geometridae	<i>Ennomine</i> sp.		iNaturalist	Visual observation	7/21/2018	
Geometridae	<i>Eulithis destinata schistacea</i>		CSU	Preserved specimen	8/18/1932	
Gerridae	<i>Gerris notabilis</i>		USNM	Preserved specimen		
Gerridae	<i>Gerris pingreensis</i>		SCAN	Preserved specimen	8/20/1925	
Gerridae	<i>Gerris remigis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Gerridae	<i>Limnporus nebularis</i>		SCAN	Preserved specimen	4/18/1924	
Gerridae	<i>Limnporus notabilis</i>		SCAN	Preserved specimen	8/18/1924	

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Gyrinidae	<i>Gyrinus picipes</i>		SCAN	Preserved specimen	8/1/1924	
Halictidae	<i>Agapostemon angelica</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Halictidae	<i>Agapostemon angelicus</i>		USDA-ARS	Preserved specimen	8/19/1935	
Halictidae	<i>Agapostemon femoratus</i>		KU	Preserved specimen	8/22/1935	
Halictidae	<i>Agapostemon texanus</i>		KU	Preserved specimen	8/6/1949	
Halictidae	<i>Augochlora</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Halictidae	<i>Dufourea harveyi</i>		USDA-ARS	Preserved specimen	7/14/1933	
Halictidae	<i>Dufourea maura</i>		SCAN	Preserved specimen	8/6/1949	
Halictidae	<i>Dufourea</i> sp.		SCAN	Preserved specimen	7/14/1933	
Halictidae	<i>Halictus rubicundus</i>		EMEC	Preserved specimen	8/22/1935	
Halictidae	<i>Halictus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Halictidae	<i>Lasioglossum egregium</i>		SCAN	Preserved specimen	8/6/1949	
Halictidae	<i>Lasioglossum</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Halictidae	<i>Sphecodes</i> sp.		KU	Preserved specimen	8/1/1924	
Halictidae	<i>Sphecodium</i> sp.		KU	Preserved specimen	8/1/1924	
Hemerobiidae	<i>Hemerobius alpestris</i>		MCZ	Preserved specimen	14/08/1874	
Hemerobiidae	<i>Hemerobius stigmaterus</i>		MCZ	Preserved specimen	8/14/1934	
Hemerobiidae	<i>Hemerobius subacutus</i>		TAMU	Preserved specimen	8/16/1934	
Hemerobiidae	<i>Symphorobius distinctus</i>		MCZ	Preserved specimen		
Hemerobiidae	<i>Wesmaelius subnebulosus</i>		SCAN	Preserved specimen	8/18/1926	
Heptageniidae	<i>Epeorus deceptivus</i>		BioBlitz (2015)	Visual observation	10/10/2015	

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Heptageniidae	<i>Rhithrogena hageni</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Hydrophilidae	<i>Berosus sayi</i>		SCAN	Preserved specimen	8/1/1924	
Hydropsychidae	<i>Arctopsyche grandis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Hydroptilidae	<i>Agraylea saltesea</i>		CSU	Preserved specimen	7/29/1995	
Hydroptilidae	<i>Agraylea</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Ichneumonidae	<i>Dolichomitus imperator</i>		SCAN	Preserved specimen	8/16/1932	
Ichneumonidae	<i>Ichneumon canadensis</i>		SCAN	Preserved specimen	8/16/1932	
Ichneumonidae	<i>Ichneumonidae</i>		C.A. Triplehorn Insect Collection, Ohio State University, Columbus, OH (OSUC)	Preserved specimen	8/25/1953	
Ichneumonidae	<i>Spilichneumon nubivagus</i>		SCAN	Preserved specimen	8/16/1932	
Ichneumonidae	<i>Woldstedtius flavolineatus</i>		SCAN	Preserved specimen	8/17/1926	
Isotomidae	<i>Isotoma</i> sp.		INHS	Preserved specimen	8/20/1924	
Ixodidae	<i>Dermacentor</i> sp.	Dog Ticks	iNaturalist	Visual observation	6/8/2016	
Lasiocampidae	<i>Malacosoma californica</i>		iNaturalist	Visual observation	6/15/2017	
Lepidostomatidae	<i>Lepidostoma roafi</i>		CSU	Preserved specimen	7/29/1995	
Leptophlebiidae	<i>Paraleptophlebia</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Lestidae	<i>Lestes disjunctus</i>		SCAN	Preserved specimen	8/21/1924	
Lestidae	<i>Lestes</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	

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Libellulidae	<i>Sympetrum danae</i>		USNM	Preserved specimen	8/23/1929	
Limnephilidae	<i>Chyrandra centralis</i>		SCAN	Preserved specimen	8/15/1924	
Limnephilidae	<i>Dicosmoecus atripes</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Limnephilidae	<i>Grammotaulius lorettae</i>		SCAN	Preserved specimen	8/15/1924	
Limnephilidae	<i>Limnephilidae</i> sp.		SCAN	Preserved specimen	8/1/1924	
Limnephilidae	<i>Limnephilus abbreviatus</i>		SCAN	Preserved specimen	8/20/1925	
Limnephilidae	<i>Limnephilus coloradensis</i>		SCAN	Preserved specimen	8/1/1925	
Limnephilidae	<i>Limnephilus externus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Limnephilidae	<i>Limnephilus hyalinus</i>		CSU	Preserved specimen	8/14/1934	
Limnephilidae	<i>Limnephilus indivisus</i>		SCAN	Preserved specimen	8/20/1923	
Limnephilidae	<i>Limnephilus janus</i>		SCAN	Preserved specimen	8/15/1924	
Limnephilidae	<i>Limnephilus picturatus</i>		SCAN	Preserved specimen	8/1/1929	
Limnephilidae	<i>Limnephilus sublunatus</i>		SCAN	Preserved specimen	8/1/1924	
Limnephilidae	<i>Onocosmoecus unicolor</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Lycaenidae	<i>Plebejus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Lygaeidae	<i>Nysius ericae</i>		SCAN	Preserved specimen	8/21/1935	
Lygaeidae	<i>Nysius raphanus</i>		SCAN	Preserved specimen	8/21/1935	
Lygaeidae	<i>Nysius</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Megachilidae	<i>Anthidium atrifrons</i>		SCAN	Preserved specimen	8/1/1949	
Megachilidae	<i>Ashmeadiella californica florissantensis</i>		KU	Preserved specimen	8/22/1935	
Megachilidae	<i>Atoposmia copelandica</i>		SCAN	Preserved specimen	6/20/1929	

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Megachilidae	<i>Coelioxys porterae</i>		SCAN	Preserved specimen	8/23/1926	
Megachilidae	<i>Dianthidium</i> sp.		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Hoplitis albifrons argentifrons</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Hoplitis fulgida</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Hoplitis fulgida fulgida</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Hoplitis producta interior</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Hoplitis robusta</i>		KU	Preserved specimen	8/22/1935	
Megachilidae	<i>Megachile agustini</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Megachile dentitarsus</i>		KU	Preserved specimen	8/22/1935	
Megachilidae	<i>Megachile frigida</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Megachile gemula</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Megachile giliae</i>		KU	Preserved specimen	8/23/1926	
Megachilidae	<i>Megachile inermis</i>		KU	Preserved specimen	7/6/1949	
Megachilidae	<i>Megachile melanophaea</i>		KU	Preserved specimen	7/11/1937	
Megachilidae	<i>Megachile montivaga</i>		SCAN	Preserved specimen	8/1/1949	
Megachilidae	<i>Megachile perihirta</i>		KU	Preserved specimen	8/22/1935	
Megachilidae	<i>Megachile pugnata</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Megachile relativa</i>		SCAN	Preserved specimen	8/22/1926	
Megachilidae	<i>Osmia bella</i>		USDA-ARS	Preserved specimen	8/6/1949	
Megachilidae	<i>Osmia bucephala</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Osmia coloradensis</i>		KU	Preserved specimen	8/6/1949	
Megachilidae	<i>Osmia juxta juxta</i>		KU	Preserved specimen	8/14/1935	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Megachilidae	<i>Osmia montana montana</i>		SCAN	Preserved specimen	8/1/1923	
Megachilidae	<i>Osmia pentstemonis</i>		USDA-ARS	Preserved specimen	8/6/1949	
Megachilidae	<i>Osmia pingreeana</i>		KU	Preserved specimen	8/14/1933	
Megachilidae	<i>Osmia subaustralis</i>		SCAN	Preserved specimen	8/6/1949	
Megachilidae	<i>Osmia subpurpurea jamesi</i>		USNM	Preserved specimen	8/19/1935	
Melitidae	<i>Ameletus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Meloidae	<i>Meloe</i> sp.	Oil Beetles	iNaturalist	Visual observation	6/3/2019	
Melyridae	<i>Amecocerus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Membracidae	<i>Spissistilus borealis</i>		SCAN	Preserved specimen	8/16/1924	
Miridae	<i>Aoploneura rubrum</i>		SCAN	Preserved specimen	7/14/1986	
Miridae	<i>Atractotomus balli</i>		SCAN	Preserved specimen	7/14/1986	
Miridae	<i>Ceratocapsus apicatus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Ceratocapsus bififormis</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Ceratocapsus geminatus</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Ceratocapsus pilosulus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Collaria</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Miridae	<i>Compsidolon pumilum</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Dacota hesperia</i>		SCAN	Preserved specimen	8/1/1925	
Miridae	<i>Deraeocoris piceicola</i>		USNM	Preserved specimen	8/20/1925	
Miridae	<i>Dichaetocoris piceicola</i>		SCAN	Preserved specimen	8/8/1925	
Miridae	<i>Dichaetocoris spinosus</i>		SCAN	Preserved specimen	9/3/1972	

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Miridae	<i>Dichrooscytus angustifrons</i>		USNM	Preserved specimen	8/22/1925	
Miridae	<i>Dichrooscytus latifrons</i>		USNM	Preserved specimen	8/20/1925	
Miridae	<i>Dichrooscytus ruberellus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Dichrooscytus</i> sp.		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Dichrooscytus suspectus</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Europiella</i> sp.		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Hadronema militare</i>		SCAN	Preserved specimen	8/23/1923	
Miridae	<i>Hadronema</i> sp.		SCAN	Preserved specimen	8/20/1935	
Miridae	<i>Halticus intermedius</i>		SCAN	Preserved specimen	8/20/1923	
Miridae	<i>Ilacora chloris</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Ilacora malina</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Knightomiroides nigrovirgatus</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Labopidea simplex nigriventris</i>		USNM	Preserved specimen	8/15/1924	
Miridae	<i>Labops hirtus</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Labops</i> sp.		SCAN	Preserved specimen	8/14/1933	
Miridae	<i>Lepidopsallus longirostris</i>		USNM	Preserved specimen	8/20/1925	
Miridae	<i>Lopidea balli</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Lopidea cuneata</i>		SCAN	Preserved specimen	8/21/1923	
Miridae	<i>Lopidea nigridia</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Lygidea ceanothi</i>		USNM	Preserved specimen	8/20/1925	
Miridae	<i>Lygidea varius</i>		USNM	Preserved specimen	8/22/1925	
Miridae	<i>Lygocoris pabulinus</i>		TAMU	Preserved specimen	8/16/1930	

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Miridae	<i>Lygus elisus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Lygus potentillae</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Lygus punctatus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Lygus shulli</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Lygus</i> sp.1		BioBlitz (2015)	Visual observation	10/10/2015	
Miridae	<i>Lygus</i> sp.2		BioBlitz (2015)	Visual observation	10/10/2015	
Miridae	<i>Lygus</i> sp.3		BioBlitz (2015)	Visual observation	10/10/2015	
Miridae	<i>Lygus varius</i>		USNM	Preserved specimen	8/22/1925	
Miridae	<i>Mecomma angustata</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Oncerometopus impictus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Orectoderus obliquus</i>		SCAN	Preserved specimen	7/14/1986	
Miridae	<i>Orthotylus candidatus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Orthotylus coagulatus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Orthotylus katmai</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Parthenicus ribesi</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Parthenicus</i> sp.		SCAN	Preserved specimen	7/14/1986	
Miridae	<i>Phoenicocoris longirostris</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Phytocoris comulus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Phytocoris heidemanni</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Phytocoris</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Miridae	<i>Phytocoris stellatus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Pilophorus americanus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Pilophorus crassipes</i>		SCAN	Preserved specimen	8/22/1925	

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Miridae	<i>Pilophorus diffusus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Pilophorus dislocatus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Pilophorus tibialis</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Pinalitus</i> sp.		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Plagiognathus brunneus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Plagiognathus longipennis</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Plagiognathus</i> sp.		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Platylygus luridus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Platylygus rubripes</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Platylygus</i> sp.		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Polymerus basivittus</i>		SCAN	Preserved specimen	8/18/1924	
Miridae	<i>Polymerus rubroornatus</i>		SCAN	Preserved specimen	8/22/1925	
Miridae	<i>Pseudatomoscelis seriatus</i>		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Sericophanes</i> sp.		TAMU	Preserved specimen	8/16/1930	
Miridae	<i>Sixeonotus scabrosus</i>		SCAN	Preserved specimen	8/20/1925	
Miridae	<i>Slaterocoris pallidicornis</i>		SCAN	Preserved specimen	9/3/1972	
Miridae	<i>Stenodema vicinum</i>		SCAN	Preserved specimen	8/20/1923	
Miridae	<i>Teleorhinus cyaneus</i>		SCAN	Preserved specimen	7/14/1986	
Miridae	<i>Teratocoris saundersi</i>		SCAN	Preserved specimen	8/15/1924	
Miridae	<i>Tingini</i> sp.		iNaturalist	Visual observation	7/20/2021	
Nabidae	<i>Nabicula</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Nabidae	<i>Nabis alternata</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Nabidae	<i>Nabis alternatus</i>		SCAN	Preserved specimen	8/20/1923	
Nabidae	<i>Nabis inscriptus</i>		SCAN	Preserved specimen	8/20/1925	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Nabidae	<i>Nabis</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Nemouridae	<i>Amphinemura banksi</i>		SCAN	Preserved specimen	8/1/1924	
Nemouridae	<i>Malenka californica</i>		SCAN	Preserved specimen	8/23/1926	
Nemouridae	<i>Malenka coloradensis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Nemouridae	<i>Zapada oregonensis</i>	Oregon Forestfly	BioBlitz (2015)	Visual observation	10/10/2015	
Noctuidae	<i>Euxoa auxiliaris</i>		CSU	Preserved specimen	9/12/2015	
Noctuidae	<i>Hydraecia medialis</i>		CSU	Preserved specimen	9/12/2015	
Noctuidae	<i>Richia praefixa</i>		CSU	Preserved specimen	9/12/2015	
Notonectidae	<i>Notonecta kirbyi</i>		SCAN	Preserved specimen	8/1/1925	
Notonectidae	<i>Notonecta undulata</i>		SCAN	Preserved specimen	8/1/1925	
Nymphalidae	<i>Boloria</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Nymphalidae	<i>Limenitis weidemeyerii</i>		iNaturalist	Visual observation	7/22/2019	
Nymphalidae	<i>Polygonia gracilis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Nymphalidae	<i>Speyeria edwardsii</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Nymphalidae	<i>Speyeria</i> sp.1		BioBlitz (2015)	Visual observation	10/10/2015	
Papilionidae	<i>Parnassius smintheus subsp.sayii</i>		SCAN	Preserved specimen	6/23/1974	
Pentatomidae	<i>Carpocoris remotus</i>		SCAN	Preserved specimen	8/18/1935	
Pentatomidae	<i>Chlorochroa congrua</i>		SCAN	Preserved specimen	8/18/1935	
Pentatomidae	<i>Chlorochroa ligata</i>		SCAN	Preserved specimen	8/18/1935	
Pentatomidae	<i>Chlorochroa sayi</i>		SCAN	Preserved specimen	8/18/1935	
Pentatomidae	<i>Holcostethus limbolarius</i>		SCAN	Preserved specimen	8/20/1927	
Pentatomidae	<i>Peribalus limbolarius</i>		SCAN	Preserved specimen	8/18/1935	
Pentatomidae	<i>Perillus lunatus</i>		USNM	Preserved specimen	8/25/1922	
Pentatomidae	<i>Thyanta custator</i>		BYU	Preserved specimen		

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Pentatomidae	<i>Thyanta pallidovirens spinosa</i>		SCAN	Preserved specimen	8/18/1935	
Perlidae	<i>Claassenia sabulosa</i>		KU	Preserved specimen	8/22/1931	
Perlidae	<i>Hesperoperla pacifica</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Perlodidae	<i>Isoperla fulva</i>		SCAN	Preserved specimen	1/1/1923	
Perlodidae	<i>Isoperla sobria</i>		SCAN	Preserved specimen	8/23/1926	
Perlodidae	<i>Kogotus modesta</i>		SCAN	Preserved specimen	1/1/1924	
Perlodidae	<i>Kogotus modestus</i>		SCAN	Preserved specimen	8/23/1926	
Perlodidae	<i>Kogotus mudestus</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Perlodidae	<i>Megarcys signata</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Perlodidae	<i>Skwala americana</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Pieridae	<i>Colias alexandra</i>		YPM	Preserved specimen	8/16/1932	
Pieridae	<i>Colias eurytheme</i>		CSU	Preserved specimen	8/17/1932	
Pieridae	<i>Colias meadii</i>		CSU	Preserved specimen	8/18/1932	
Pieridae	<i>Neophasia menapia</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Pieridae	<i>Neophasia menapia magnamenapia</i>		CSU	Preserved specimen	9/12/2015	
Pilumnidae	<i>Malacosoma</i> sp.	Tent Caterpillar Moths	iNaturalist	Visual observation	7/21/2018	
Piophilidae	<i>Evagetes hyacinthinus</i>		UCM	Preserved specimen	8/15/1933	
Psychodidae	<i>Pericoma</i> sp.		MSU	Preserved specimen	8/13/1934	
Rhopalidae	<i>Arhyssus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Rhyacophilidae	<i>Rhyacophila brunnea</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Rhyacophilidae	<i>Rhyacophila verrula</i>		SCAN	Preserved specimen	8/1/1925	
Scathophagidae	<i>Scathophaga stercoraria</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Scutelleridae	<i>Eurygaster alternatus</i>		BioBlitz (2015)	Visual observation	10/10/2015	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Scutelleridae	<i>Homaemus aeneifrons</i>		BYU	Preserved specimen		
Scutelleridae	<i>Homaemus aeneifrons consors</i>		TAMU	Preserved specimen	8/16/1930	
Scutelleridae	<i>Homaemus bijugis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Silphidae	<i>Nicrophorus orbicollis</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Silphidae	<i>Thanatophilus lapponicus</i>		SCAN	Preserved specimen	8/14/1933	
Simuliidae	<i>Prosimulium onychodactylum</i>		SCAN	Preserved specimen	8/21/1926	
Simuliidae	<i>Prosimulium</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Simuliidae	<i>Simulium</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Simuliidae	<i>Simulium vittatum</i>		KU	Preserved specimen	7/11/1967	
Sphingidae	<i>Smerinthus cerisyi</i>		GMNH	Preserved specimen	6/29/1972	
Sphingidae	<i>Smerinthus</i> sp.	Eyed Hawkmoths	iNaturalist	Visual observation	6/8/2018	
Staphylinidae	<i>Lordithon thoracicus</i>		KU	Preserved specimen	7/11/1937	
Staphylinidae	<i>Stenus</i> sp.		BioBlitz (2015)	Visual observation	10/10/2015	
Syrphidae	<i>Allograpta obligua</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Syrphidae	<i>Cheilosia lucta</i>		SCAN	Preserved specimen	8/1/1925	
Syrphidae	<i>Eristalis hirta</i>		SCAN	Preserved specimen	8/23/1924	
Syrphidae	<i>Eupeodes volucris</i>		SCAN	Preserved specimen	8/23/1924	
Syrphidae	<i>Helophilus groenlandicus</i>		SCAN	Preserved specimen	8/1/1925	
Syrphidae	<i>Helophilus latifrons</i>		SCAN	Preserved specimen	8/1/1925	
Syrphidae	<i>Helophilus obscurus</i>		SCAN	Preserved specimen	8/1/1925	
Syrphidae	<i>Melanostoma stegnum</i>		SCAN	Preserved specimen	8/23/1924	
Syrphidae	<i>Paragus borbonicus</i>		NMSA	Preserved specimen	8/23/1924	
Syrphidae	<i>Paragus punctatus</i>		NMSA	Preserved specimen	8/20/1924	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Syrphidae	<i>Platycheirus stegnus</i>		SCAN	Preserved specimen	8/1/1925	
Syrphidae	<i>Sericomyia militaris</i>		SCAN	Preserved specimen	8/22/1924	
Syrphidae	<i>Sphaerophoria contigua</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Syrphidae	<i>Sphaerophoria nigratarsi</i>		SCAN	Preserved specimen	8/1/1935	
Syrphidae	<i>Syrphus sp.</i>		SCAN	Preserved specimen	8/21/1924	
Syrphidae	<i>Temnostoma sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Syrphidae	<i>Toxomerus sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Syrphidae	<i>Xylota sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tabanidae	<i>Haematopota sp.</i>	Clegs	iNaturalist	Visual observation	7/23/2021	
Tachinidae	<i>Archytas sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tachinidae	<i>Gonia sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Taeniopterygidae	<i>Taenionema pallidum</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tenebrionidae	<i>Corticeus sp.</i>		CSU	Preserved specimen	8/30/1995	
Tenebrionidae	<i>Eleodes nigrina</i>		CSU	Preserved specimen	9/5/2004	
Tenthredinidae	<i>Euura sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tenthredinidae	<i>Neodiprion abbotii</i>		SCAN	Preserved specimen		
Tenthredinidae	<i>Pristiphora sp.</i>		INHS	Preserved specimen	7/11/1937	
Tenthredinidae	<i>Tenthredo ungava</i>		SCAN	Preserved specimen	8/15/1924	
Tenthredinidae	<i>Tenthredo sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tenuipalpidae	<i>Acari sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tetrigidae	<i>Tetrix sp.</i>		UMMZ	Preserved specimen	7/9/1938	
Tettigoniidae	<i>Anabrus simplex</i>		SCAN	Preserved specimen	8/1/1924	
Thyreocoridae	<i>Corimelaena sp.</i>		BioBlitz (2015)	Visual observation	10/10/2015	
Tingidae	<i>Corythucha distincta</i>		SCAN	Preserved specimen		
Tingidae	<i>Hesperotingis occidentalis</i>		SCAN	Preserved specimen	8/15/1924	

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Triophidae	<i>Aceria dispar</i>		iNaturalist	Visual observation	7/27/2019	
Triophidae	<i>Aculus tetanothrix</i>	Willow Bead Gall Mite	iNaturalist	Visual observation	7/19/2021	
FISH						
Salmonidae	<i>Oncorhynchus clarkii</i>	Cutthroat Trout	CPW	Modeled		
Salmonidae	<i>Salmo trutta</i>	Brown Trout	iNaturalist	Visual observation	7/22/2021	
Salmonidae	<i>Salvelinus fontinalis</i>	Brook Trout	iNaturalist	Visual observation	7/22/2021	
BIRD						
Accipitridae	<i>Accipiter cooperii</i>	Cooper's Hawk	CLO	Visual observation	7/13/2019	
Accipitridae	<i>Accipiter gentilis</i>	Northern Goshawk	CLO	Visual observation	4/16/2005	G5S3B, BLM, SWAP Tier 2, USFS
Accipitridae	<i>Accipiter striatus</i>	Sharp-shinned Hawk	CLO	Visual observation	7/20/2015	
Accipitridae	<i>Aquila chrysaetos</i>	Golden Eagle	CLO	Visual observation	7/24/2012	G5S3S4B, S4N, SWAP Tier 1
Accipitridae	<i>Buteo jamaicensis</i>	Red-tailed Hawk	CLO	Visual observation	9/29/2020	
Accipitridae	<i>Circus hudsonius</i>	Northern Harrier	CLO	Visual observation	9/15/2007	G5S3B, SWAP Tier 2
Accipitridae	<i>Haliaeetus leucocephalus</i>	Bald Eagle	CLO	Visual observation	7/23/2019	G5S3B, S3N, BLM, SWAP Tier 2, USFS, SC
Alcedinidae	<i>Megaceryle alcyon</i>	Belted Kingfisher	CLO	Visual observation	9/6/2018	
Anatidae	<i>Anas acuta</i>	Northern Pintail	CLO	Visual observation	9/28/2018	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Anatidae	<i>Anas crecca</i>	Green-winged Teal	CNHP	Visual observation, Acoustic recording	4/28/2022	
Anatidae	<i>Anas platyrhynchos</i>	Mallard	CNHP	Visual observation, acoustic recording	4/28/2022	
Anatidae	<i>Aythya collaris</i>	Ring-necked Duck	CLO	Visual observation	6/20/1989	
Anatidae	<i>Branta canadensis</i>	Canada Goose	CLO	Visual observation	6/8/2015	
Anatidae	<i>Spatula cyanoptera</i>	Cinnamon Teal	DMNS	Preserved specimen	9/26/1978	
Anatidae	<i>Spatula discors</i>	Blue-winged Teal	DMNS	Preserved specimen	9/26/1978	
Apodidae	<i>Aeronautes saxatalis</i>	White-throated Swift	CLO	Visual observation	6/20/1989	
Apodidae	<i>Cypseloides niger</i>	Black Swift	CLO	Visual observation	7/2/2019	G4S3B,SWAP Tier 2
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	CLO	Visual observation	9/28/2018	
Bombycillidae	<i>Bombycilla garrulus</i>	Bohemian Waxwing	DMNS	Preserved specimen	1/30/1969	
Caprimulgidae	<i>Chordeiles minor</i>	Common Nighthawk	CLO	Visual observation	7/23/2019	
Cardinalidae	<i>Passerina amoena</i>	Lazuli Bunting	CLO	Visual observation	8/17/2014	
Cardinalidae	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	DMNS	Preserved specimen	10/11/1983	
Cardinalidae	<i>Pheucticus melanocephalus</i>	Black-Headed Grosbeak	CLO	Visual observation	7/22/2019	
Cardinalidae	<i>Piranga ludoviciana</i>	Western Tanager	CLO	Visual observation	7/23/2019	
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	CLO	Visual observation	7/15/2017	
Certhiidae	<i>Certhia americana</i>	Brown Creeper	CLO	Visual observation	10/14/1994	
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	CLO	Visual observation	6/18/1999	
Cinclidae	<i>Cinclus mexicanus</i>	American Dipper	CLO	Visual observation	10/14/1994	
Columbidae	<i>Patagioenas fasciata</i>	Band-tailed Pigeon	CLO	Visual observation	7/13/2016	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Columbidae	<i>Streptopelia decaocto</i>	Eurasian Collared Dove	CLO	Visual observation	8/17/2014	
Columbidae	<i>Zenaida macroura</i>	Mourning Dove	CLO	Visual observation	6/26/1999	
Corvidae	<i>Aphelocoma woodhouseii</i>	Woodhouse's Scrub Jay	CLO	Visual observation	8/8/2017	
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	CLO	Visual observation	6/29/1999	
Corvidae	<i>Corvus corax</i>	Common Raven	CNHP	Visual observation	4/28/2022	
Corvidae	<i>Cyanocitta stelleri</i>	Steller's Jay	CNHP	Visual observation	4/28/2022	
Corvidae	<i>Nucifraga columbiana</i>	Clark's Nutcracker	CLO	Visual observation	7/1/2004	
Corvidae	<i>Perisoreus canadensis</i>	Canada Jay	CLO	Visual observation	9/29/2020	
Corvidae	<i>Pica hudsonia</i>	Black-billed Magpie	CLO	Visual observation	7/13/2019	
Emberizidae	<i>Calamospiza melanocorys</i>	Lark Bunting	CLO	Visual observation	6/16/2015	
Emberizidae	<i>Chondestes grammacus</i>	Lark Sparrow	CLO	Visual observation	8/5/2016	
Emberizidae	<i>Junco hyemalis</i>	Dark-eyed Junco	CNHP	Visual observation	4/22/2022	
Emberizidae	<i>Melospiza lincolnii</i>	Lincoln's Sparrow	CLO	Visual observation	7/22/2019	
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	CLO	Visual observation	7/22/2019	
Emberizidae	<i>Pipilo chlorurus</i>	Green-tailed Towhee	CLO	Visual observation	7/23/2019	
Emberizidae	<i>Pipilo maculatus</i>	Spotted Towhee	CLO	Visual observation	7/1/2004	
Emberizidae	<i>Pooecetes gramineus</i>	Vesper Sparrow	CLO	Visual observation	9/29/2020	
Emberizidae	<i>Spizella breweri</i>	Brewer's Sparrow	CLO	Visual observation	7/24/2012	G5S4B, SWAP Tier 2
Emberizidae	<i>Spizella passerina</i>	Chipping Sparrow	CLO	Visual observation	7/7/2019	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Emberizidae	<i>Spizelloides arborea</i>	American Tree Sparrow	CLO	Visual observation	10/24/1998	
Emberizidae	<i>Spizelloides sp.</i>	Sparrow sp.	eBird	Modeled habitat		
Emberizidae	<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	CLO	Visual observation	7/1/2004	
Falconidae	<i>Falco mexicanus</i>	Prairie Falcon	CLO	Visual observation	4/22/2017	G5S4B, S4, SWAP Tier 2
Falconidae	<i>Falco peregrinus</i>	Peregrine Falcon	CLO	Visual observation	7/10/2017	G4T4, S2B, SWAP Tier 2
Falconidae	<i>Falco sparverius</i>	American Kestrel	CLO	Visual observation	6/19/1992	
Fringillidae	<i>Carduelis pinus</i>	Pine Siskins	BioBlitz (2015)	Visual observation	10/10/2015	
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	DMNS	Preserved specimen	4/29/2002	
Fringillidae	<i>Coccothraustes vespertinus</i>	Evening Grosbeak	CLO	Visual observation	7/16/2016	
Fringillidae	<i>Haemorhous cassinii</i>	Cassin's Finch	CLO	Visual observation	10/14/1994	
Fringillidae	<i>Haemorhous mexicanus</i>	House Finch	CLO	Visual observation	6/21/2018	
Fringillidae	<i>Leucosticte australis</i>	Brown-capped Rosy Finch	CLO	Visual observation	8/1/2010	G4S3B, S4N, SWAP Tier 1
Fringillidae	<i>Loxia curvirostra</i>	Red Crossbill	CLO	Visual observation	7/1/2004	
Fringillidae	<i>Pinicola enucleator</i>	Pine Grosbeak	iNaturalist	Visual observation	7/21/2015	
Fringillidae	<i>Spinus pinus</i>	Pine Siskin	CLO	Visual observation	7/1/2004	
Fringillidae	<i>Spinus psaltria</i>	Lesser Goldfinch	CLO	Visual observation	7/13/2019	
Fringillidae	<i>Spinus tristis</i>	American Goldfinch	CLO	Visual observation	7/13/2019	
Hirundinidae	<i>Hirundo rustica</i>	Barn Swallow	CLO	Visual observation	7/13/2019	
Hirundinidae	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	CLO	Visual observation	7/15/2017	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Hirundinidae	<i>Riparia riparia</i>	Sand Martin	CLO	Visual observation	7/9/2017	
Hirundinidae	<i>Tachycineta bicolor</i>	Tree Swallow	iNaturalist	Visual observation	7/22/2019	
Hirundinidae	<i>Tachycineta thalassina</i>	Violet-green Swallow	CLO	Visual observation	6/21/1999	
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	CLO	Visual observation	7/1/2004	
Icteridae	<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	CLO	Visual observation	6/19/1999	
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	CLO	Visual observation	7/17/2016	
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle	CLO	Visual observation	7/2/1999	
Icteridae	<i>Sturnella neglecta</i>	Western Meadowlark	CLO	Visual observation	6/19/1992	
Laridae	<i>Larus californicus</i>	California Gull	CLO	Visual observation	7/15/2017	
Motacillidae	<i>Anthus rubescens</i>	American Pipit	CLO	Visual observation	7/1/2004	
Pandionidae	<i>Pandion haliaetus</i>	Osprey	CNHP	Visual observation	4/28/2022	
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	CLO	Visual observation	7/2/1999	
Paridae	<i>Poecile gambeli</i>	Mountain Chickadee	CNHP	Visual observation	4/28/2022	
Parulidae	<i>Cardellina pusilla</i>	Wilson's Warbler	CLO	Visual observation	7/13/2019	
Parulidae	<i>Dendroica coronata auduboni</i>	Audubon's Yellow-rumped Warbler	BioBlitz (2015)	Visual observation	10/10/2015	
Parulidae	<i>Geothlypis tolmiei</i>	MacGillivray's Warbler	CLO	Visual observation	7/2/2019	
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	CLO	Visual observation	6/18/1999	
Parulidae	<i>Leiothlypis virginiae</i>	Virginia Warbler	CPW	Modeled breeding range		

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Parulidae	<i>Setophaga coronata</i>	Yellow-rumped Warbler	CLO	Visual observation	7/22/2019	
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	CLO	Visual observation	7/14/2002	
Parulidae	<i>Setophaga townsendi</i>	Townsend's Warbler	CLO	Visual observation	8/17/2014	
Pelecanidae	<i>Pelecanus erythrorhynchos</i>	American White Pelican	CLO	Visual observation	6/15/2015	G4S1B, BLM, SWAP Tier 2
Phasianidae	<i>Dendragapus obscurus</i>	Dusky Grouse	CLO	Visual observation	10/3/2009	
Phasianidae	<i>Meleagris gallopavo</i>	Wild Turkey	CLO	Visual observation	8/17/2014	
Picidae	<i>Colaptes auratus</i>	Northern Flicker	CLO	Visual observation	7/23/2019	
Picidae	<i>Dryobates pubescens</i>	Downy Woodpecker	CLO	Visual observation	6/16/1999	
Picidae	<i>Dryobates villosus</i>	Hairy Woodpecker	CNHP	Visual observation	4/28/2022	
Picidae	<i>Melanerpes lewis</i>	Lewis Woodpecker	CPW	Modeled breeding range		G4S4, SWAP Tier 2, USFS
Picidae	<i>Picoides dorsalis</i>	American Three-toed Woodpecker	iNaturalist	Visual observation	7/18/2010	
Picidae	<i>Picoides pubescens</i>	Downy Woodpecker	BioBlitz (2015)	Visual observation	10/10/2015	
Picidae	<i>Sphyrapicus nuchalis</i>	Red-naped Sapsucker	CLO	Visual observation	7/23/2019	
Picidae	<i>Sphyrapicus thyroideus</i>	Williamson's Sapsucker	CLO	Visual observation	8/8/1988	
Rallidae	<i>Porzana carolina</i>	Sora	CLO	Visual observation	7/1/2004	
Regulidae	<i>Regulus calendula</i>	Ruby-crowned Kinglet	CNHP	Visual observation	4/28/2022	
Regulidae	<i>Regulus satrapa</i>	Golden-crowned Kinglet	CLO	Visual observation	7/13/2019	
Scolopacidae	<i>Actitis macularius</i>	Spotted Sandpiper	CLO	Visual observation	5/26/2017	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Scolopacidae	<i>Gallinago delicata</i>	Wilson's Snipe	CNHP	Acoustic Recording	4/10/2022	
Sittidae	<i>Sitta canadensis</i>	Red-breasted Nuthatch	CLO	Visual observation	7/13/2019	
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch	CLO	Visual observation	8/17/2014	
Sittidae	<i>Sitta pygmaea</i>	Pygmy Nuthatch	CLO	Visual observation	9/28/2018	
Sittidae	<i>Sitta sp.</i>	Nuthatch sp.	eBird	Modeled habitat		
Strigidae	<i>Bubo virginianus</i>	Great Horned Owl	CNHP	Acoustic Recording	4/10/2022	
Strigidae	<i>Psiloscops flammeolus</i>	Flammulated Owl	CLO	Visual observation	7/24/2012	
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	CLO	Visual observation	6/29/1999	
Trochilidae	<i>Calypte costae</i>	Costa's Hummingbird	CLO	Visual observation	8/4/2003	
Trochilidae	<i>Selasphorus calliope</i>	Calliope Hummingbird	CLO	Visual observation	8/8/2017	
Trochilidae	<i>Selasphorus platycercus</i>	Broad-tailed Hummingbird	CNHP	Visual observation	4/28/2022	
Trochilidae	<i>Selasphorus rufus</i>	Rufous Hummingbird	CLO	Visual observation	7/22/2019	
Troglodytidae	<i>Salpinctes obsoletus</i>	Rock Wren	CLO	Visual observation	7/14/2002	
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	CLO	Visual observation	7/13/2019	
Turdidae	<i>Catharus guttatus</i>	Hermit Thrush	CLO	Visual observation	7/13/2019	
Turdidae	<i>Catharus ustulatus</i>	Swainson's Thrush	CLO	Visual observation	7/13/2019	
Turdidae	<i>Myadestes townsendi</i>	Townsend's Solitaire	CLO	Visual observation	7/2/2019	
Turdidae	<i>Sialia currucoides</i>	Mountain Bluebird	CNHP	Visual observation	4/28/2022	
Turdidae	<i>Sialia mexicana</i>	Western Bluebird	CLO	Visual observation	4/25/2019	
Turdidae	<i>Turdus migratorius</i>	American Robin	CNHP	Visual observation, Acoustic Recording	4/10/2022	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Tyrannidae	<i>Contopus cooperi</i>	Olive-sided Flycatcher	CLO	Visual observation	6/30/1999	G4S3S4B, SWAP Tier 2
Tyrannidae	<i>Contopus sordidulus</i>	Western Wood-Pewee	CLO	Visual observation	7/23/2019	
Tyrannidae	<i>Empidonax alnorum</i>	Alder Flycatcher	DMNS	Preserved specimen	6/9/1980	
Tyrannidae	<i>Empidonax hammondii</i>	Hammond's Flycatcher	CLO	Visual observation	7/2/2019	
Tyrannidae	<i>Empidonax oberholseri</i>	Dusky Flycatcher	CLO	Visual observation	7/3/2019	
Tyrannidae	<i>Empidonax occidentalis</i>	Cordilleran Flycatcher	CLO	Visual observation	7/23/2019	
Tyrannidae	<i>Empidonax sp.</i>	Flycatcher sp.	eBird	Modeled habitat		
Vireonidae	<i>Vireo gilvus</i>	Warbling Vireo	CLO	Visual observation	7/3/2019	
Vireonidae	<i>Vireo plumbeus</i>	Plumbeous Vireo	CLO	Visual observation	6/4/2005	
MAMMAL						
Canidae	<i>Canis latrans</i>	Coyote	BioBlitz (2015)	Visual observation	10/10/2015	
Cervidae	<i>Alces alces</i>	Moose	iNaturalist	Visual observation	7/21/2021	
Cervidae	<i>Cervus canadensis</i>	Elk	CPW	Modeled summer range, production area, migration corridors, overall range		
Cervidae	<i>Odocoileus hemionus</i>	Mule Deer	iNaturalist	Visual observation	7/20/2021	
Cricetidae	<i>Myodes gapperi</i>	Southern Red-backed Vole	CPW	Modeled overall range		
Cricetidae	<i>Phenacomys intermedius intermedius</i>	Western Heather Vole	KU	Preserved specimen	7/30/1959	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Felidae	<i>Lynx canadensis</i>	Lynx	CPW	Modeled potential habitat, predictive map summer, predictive map winter		G5S1, SWAP Tier 1, ESA LT, SE
Felidae	<i>Marmota flaviventris</i>	Yellow-bellied Marmot	iNaturalist	Visual observation	7/29/2021	
Felidae	<i>Puma concolor</i>	Mountain Lion	CPW	Modeled overall range		
Geomyidae	<i>Thomomys talpoides</i>	Smooth-toothed Pocket Gopher	BYU	Preserved specimen	8/15/1933	
Leporidae	<i>Lepus americanus</i>	Snowshoe Hare	iNaturalist	Visual observation	7/22/2019	
Leporidae	<i>Lepus americanus bairdii</i>	Baird's Snowshoe (subspecies)	MSB	Preserved specimen	8/26/1981	
Leporidae	<i>Sylvilagus nuttallii</i>	Cottontail Rabbit	BioBlitz (2015)	Visual observation	10/10/2015	
Mustelidae	<i>Gulo gulo</i>	Wolverine	CPW	Modeled potential habitat		G4S1, SWAP Tier 1, SE
Mustelidae	<i>Lepus townsendii</i>	White-tailed Jackrabbit	CPW	Modeled overall range		
Ochotonidae	<i>Ochotona princeps</i>	Pika	CPW	Modeled overall range		
Sciuridae	<i>Callospermophilus lateralis</i>	Gold-mantled Ground Squirrel	iNaturalist	Visual observation	7/18/2021	
Sciuridae	<i>Eutamias minimus</i>	Least Chipmunk	NMU	Preserved specimen	7/3/1961	
Sciuridae	<i>Neotamias quadrivittatus</i>	Colorado Chipmunk	ASU	Preserved specimen	11/3/1963	G5S5
Sciuridae	<i>Tamias minimus</i>	Least Chipmunk	BioBlitz (2015)	Visual observation	10/10/2015	
Sciuridae	<i>Tamias umbrinus montanus</i>	Uinta Chipmunk	KU	Preserved specimen	7/24/1959	

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Sciuridae	<i>Tamiasciurus fremonti</i>	Southwestern Red Squirrel	iNaturalist	Visual observation	7/21/2018	
Sciuridae	<i>Tamiasciurus hudsonicus</i>	Pine squirrels	BioBlitz (2015)	Visual observation	10/10/2015	
Sciuridae	<i>Urocitellus elegans</i>	Wyoming Ground Squirrel	iNaturalist	Visual observation	6/13/2019	
Soricidae	<i>Sorex cinereus</i>	Cinereus Shrew	NMU	Preserved specimen	7/3/1961	
Soricidae	<i>Sorex hoyi</i>	Pygmy Shrew	CPW	Modeled overall range		
Soricidae	<i>Sorex nanus</i>	Dwarf Shrew	CPW	Modeled overall range		G4S2, SWAP Tier 2
Ursidae	<i>Ursus americanus</i>	Black Bear	CPW	Modeled fall concentration, Visual conflict area, summer concentration, overall range		
Vespertilionidae	<i>Aerostes cinereus</i>	Hoary Bat	CNHP	Ultrasonic Recording	4/18/2022	G3S3S4B, SWAP Tier 2, USFS
Vespertilionidae	<i>Corynorhinus townsendii</i>	Townsend Big-eared Bat	CPW	Modeled overall range		
Vespertilionidae	<i>Eptesicus fuscus</i>	Big Brown Bat	CPW	Modeled overall range		
Vespertilionidae	<i>Lasionycteris noctivagans</i>	Silver-haired Bat	CNHP	Ultrasonic Recording	4/18/2022	G3G4S3S4
Vespertilionidae	<i>Myotis ciliolabrum</i>	Western Small-footed Myotis	CPW	Modeled overall range		
Vespertilionidae	<i>Myotis evotis</i>	Long-eared Myotis	CPW	Modeled overall range		

Family	Scientific Name	Common Name	Source	Observed/ Preserved/ Modeled	Observation Date	CNHP Ranks
Vespertilionidae	<i>Myotis lucifugus</i>	Little Brown Myotis	CPW	Modeled overall range		
Vespertilionidae	<i>Myotis thysanodes</i>	Fringed Myotis	CPW	Modeled overall range		G4S3, BLM, SWAP Tier 1, USFS
Vespertilionidae	<i>Myotis volans</i>	Long-legged Myotis	CPW	Modeled overall range		
REPTILE						
Colubridae	<i>Pituophis catenifer sayi</i>	Bullsnake	CPW	Modeled overall range		
Colubridae	<i>Thamnophis elegans</i>	Terrestrial Gartersnake	CPW	Modeled overall range		
Colubridae	<i>Thamnophis radix</i>	Plains Gartersnake	CPW	Modeled overall range		
MOLLUSC						
Pupillidae	<i>Pupilla blandi</i>	Rocky Mountain Column	ANSP	Preserved specimen		
Succineidae	<i>Succinea avara</i>	<i>No common name land snail</i>	ANSP	Preserved specimen		
Vetulinidae	<i>Vertigo modesta</i>	<i>No common name land snail</i>	ANSP	Preserved specimen		
AMPHIBIAN						
Hylidae	<i>Pseudacris triserata</i>	Western Chorus Frog	CNHP	Aural observation	4/28/2022	

Table 2. Plant Species List at the Mountain Campus, compiled from research and field visit. Species of Concern are in bold. See Appendix 3 for status code definitions and the [GBIF Registry of Scientific Collections](#) for institution codes for the Source field.

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Aceraceae	<i>Acer glabrum</i>	Rocky Mountain Maple	BioBlitz (2015)	Visual observation	10/10/2015	Native	7	
Adoxaceae	<i>Sambucus racemosa</i>	Red Elderberry	SEINET	Preserved specimen	7/7/1896	Native	6	
Adoxaceae	<i>Viburnum edule</i>	Squashberry	CS	Preserved specimen		Native	6	
Alliaceae	<i>Allium cernuum</i>	Nodding Onion	iNaturalist	Visual observation	7/8/2018	Native	5	
Amaranthaceae	<i>Blitum capitatum</i>	Beetberry	iNaturalist	Visual observation	8/28/2021			
Apiaceae	<i>Angelica grayi</i>	Gray's Angelica	SEINET	Preserved specimen	08/01/1892	Native	10	
Apiaceae	<i>Conium maculatum</i>	Water Hemlock	BioBlitz (2015)	Visual observation	10/10/2015	Non-native	0	
Apiaceae	<i>Heracleum maximum</i>	Common Cowparsnip	iNaturalist	Visual observation	7/22/2021	Native	6	
Apiaceae	<i>Lomatium</i> sp.	Biscuitroots	iNaturalist	Visual observation	6/5/2017			
Apiaceae	<i>Oenantheae</i> sp.	Water Dropworts	iNaturalist	Visual observation	7/28/2021			
Apiaceae	<i>Oreoxis alpina</i>	Tundra Alpine-Parsley	SEINET	Preserved specimen	7/7/1896			
Apiaceae	<i>Osmorhiza depauperata</i>	Blunt-fruited Sweet-cicely	SEINET	Preserved specimen	7/7/1896	Native	7	
Apiaceae	<i>Pseudocymopterus montanus</i>	Alpine False Springparsley	SEINET	Preserved specimen	7/7/1896			
Apocynaceae	<i>Apocynum androsaemifolium</i>	Spreading Dogbane	iNaturalist	Visual observation	7/22/2021	Native	1	
Asteraceae	<i>Achillea lanulosa</i>	Mountain Yarrow	SEINET	Preserved specimen	7/3/1968			
Asteraceae	<i>Achillea millefolium</i>	Western Yarrow	BioBlitz (2015)	Visual observation	10/10/2015	Native	4	
Asteraceae	<i>Anaphalis margaritacea</i>	Pearly Everlasting	iNaturalist	Visual observation	9/5/2021	Native	4	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Asteraceae	<i>Antennaria parvifolia</i>	Rocky Mountain Pussytoes	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Asteraceae	<i>Antennaria rosea</i>	Rosy Pussytoes	iNaturalist	Visual observation	6/15/2017	Native	5	
Asteraceae	<i>Antennaria</i> sp.	Pussytoes	iNaturalist	Visual observation	7/27/2021			
Asteraceae	<i>Arnica cordifolia</i>	Heartleaf Arnica	SEINET	Preserved specimen	6/25/1968	Native	7	
Asteraceae	<i>Artemisia arctica</i> subsp. <i>saxatilis</i>	Mountain sage	SEINET	Preserved specimen	08/01/1892			
Asteraceae	<i>Artemisia campestris</i>	Field Sagewort	CS	Preserved specimen		Native	5	
Asteraceae	<i>Artemisia campestris borealis</i>	Northern Wormwood	CS	Preserved specimen				
Asteraceae	<i>Artemisia campestris caudata</i>	Beach Wormwood	iNaturalist	Visual observation	9/4/2017			
Asteraceae	<i>Artemisia frigida</i>	Fringed Sagebrush	iNaturalist	Visual observation	7/27/2021	Native	4	
Asteraceae	<i>Artemisia ludoviciana</i>	Silver Wormwood	iNaturalist	Visual observation	10/1/2017	Native	4	
Asteraceae	<i>Aster foliaceus apricus</i>	Leafy Aster	CS	Preserved specimen				
Asteraceae	<i>Carduus nutans macrolapis</i>	Bristle Thistle	BioBlitz (2015)	Visual observation	10/10/2015			
Asteraceae	<i>Chrysopsis villosa</i>	Hairy Golden Aster	BioBlitz (2015)	Visual observation	10/10/2015			
Asteraceae	<i>Chrysothamnus</i> sp.	Rabbitbrush	BioBlitz (2015)	Visual observation	10/10/2015			
Asteraceae	<i>Cirsium clavatum</i>	Fish Lake Thistle	CS	Preserved specimen		Native	6	
Asteraceae	<i>Cirsium scariosum</i>	Elk Thistle	iNaturalist	Visual observation	7/23/2021	Native	6	
Asteraceae	<i>Cirsium vulgare</i>	Bull Thistle	BioBlitz (2015)	Visual observation	10/10/2015	Non-native, B	0	
Asteraceae	<i>Dieteria canescens</i>	Hoary Tansyaster	iNaturalist	Visual observation	7/27/2021	Native	4	
Asteraceae	<i>Ericameria nauseosa</i>	Rubber Rabbitbrush	iNaturalist	Visual observation	10/27/2018	Native	3	
Asteraceae	<i>Erigeron acris</i>	Bitter Fleabane	CS	Preserved specimen		Native	8	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Asteraceae	<i>Erigeron compositus</i>	Cutleaf Daisy	SEINET	Preserved specimen	7/7/1896	Native	6	
Asteraceae	<i>Erigeron glacialis</i>	Glacial Daisy	SEINET	Preserved specimen	7/7/1896	Native	7	
Asteraceae	<i>Erigeron lonchophyllus</i>	Short-Ray Fleabane	CS	Preserved specimen		Native	5	
Asteraceae	<i>Erigeron pinnatisectus</i>	Feather Leaf Fleabane	SEINET	Preserved specimen	7/7/1896	Native	8	
Asteraceae	<i>Erigeron speciosus</i>	Aspen Fleabane	SEINET	Preserved specimen	6/19/1968	Native	5	
Asteraceae	<i>Erigeron</i> spp.	Daisy	BioBlitz (2015)	Visual observation	10/10/2015			
Asteraceae	<i>Erigeron vetensis</i>	Early Blue-top Fleabane	CS	Preserved specimen		Native	6	
Asteraceae	<i>Helianthella parryi</i>	Parry's Dwarf Sunflower	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Asteraceae	<i>Helianthella quinquenervis</i>	Little Sunflower	CS	Preserved specimen				
Asteraceae	<i>Heterotheca villosa</i>	Hairy False Goldenaster	iNaturalist	Visual observation	7/27/2021	Native	3	
Asteraceae	<i>Hieracium triste</i>	Wooly Hawkweed	SEINET	Preserved specimen	7/7/1896	Native	6	
Asteraceae	<i>Hymenoxys acaulis</i>	Sol Dancer	SEINET	Preserved specimen	11/12/1968			
Asteraceae	<i>Hymenoxys grandiflora</i>	Old Man of the Mountains	SEINET	Preserved specimen	1/30/1968	Native	8	
Asteraceae	<i>Oreochrysum parryi</i>	Parry's Goldenrod	iNaturalist	Visual observation	9/16/2017	Native	8	
Asteraceae	<i>Packera fendleri</i>	Fendler's Ragwort	SEINET	Preserved specimen	7/7/1896	Native	4	
Asteraceae	<i>Senecio bigelovii hallii</i>	Nodding Ragwort (subspecies)	CS	Preserved specimen				
Asteraceae	<i>Senecio eremophilus</i>	Cutleaf Groundsel	SEINET	Preserved specimen	12/11/1968	Native	4	
Asteraceae	<i>Senecio</i> sp.	Ragwort sp.	BioBlitz (2015)	Visual observation	10/10/2015			
Asteraceae	<i>Solidago parryi</i>	Parry's Goldenweed	CS	Preserved specimen				
Asteraceae	<i>Solidago simplex</i>	Sticky Goldenrod	iNaturalist	Visual observation	7/17/2021	Native	6	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Asteraceae	<i>Solidago simplex simplex</i>	Sticky Goldenrod (subspecies)	CS	Preserved specimen		Native	6	
Asteraceae	<i>Solidago sp.</i>	Goldenrods	iNaturalist	Visual observation	7/28/2021	Native	6	
Asteraceae	<i>Tanacetum vulgare</i>	Tansy	iNaturalist	Visual observation	6/3/2019	Non-native, B	0	
Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion	iNaturalist	Visual observation	6/3/2019	Non-native	0	
Berberidaceae	<i>Berberis repens</i>	Creeping Mahonia	iNaturalist	Visual observation	6/8/2016	Native	5	
Betulaceae	<i>Betula glandulosa</i>	Bog Birch	BioBlitz (2015)	Visual observation	10/10/2015	Native	9	
Betulaceae	<i>Betula nana</i>	Dwarf Birch	CS	Preserved specimen				
Boraginaceae	<i>Mertensia ciliata</i>	Mountain Bluebells	SEINET	Preserved specimen	7/7/1896	Native	7	
Boraginaceae	<i>Mertensia sp.</i>	Bluebells sp.	iNaturalist	Visual observation	7/22/2021			
Brassicaceae	<i>Cardamine cordifolia</i>	Heartleaf Bittercress	SEINET	Preserved specimen	07/16/1898	Native	8	
Brassicaceae	<i>Erysimum capitatum</i>	Western Wallflower	iNaturalist	Visual observation	9/5/2021	Native	5	
Brassicaceae	<i>Erysimum capitatum subsp.capitatum</i>	Sand-dune Wallflower (subspecies)	SEINET	Preserved specimen	6/17/1971			
Brassicaceae	<i>Turritis glabra</i>	Tower Mustard	CS	Preserved specimen		Native	4	
Campanulaceae	<i>Campanula rotundifolia</i>	Harebell	iNaturalist	Visual observation	7/14/2018	Native	5	
Caprifoliaceae	<i>Distegia involucrata</i>	Twinberry Honeysuckle	SEINET	Preserved specimen	7/9/1938			
Caprifoliaceae	<i>Lonicera involucrata</i>	Bush Honeysuckle	BioBlitz (2015)	Visual observation	10/10/2015	Native	7	
Caprifoliaceae	<i>Symphoricarpos albus</i>	Snowberry	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Caprifoliaceae	<i>Valeriana edulis edulis</i>	Edible Valerian	CS	Preserved specimen				

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Caprifoliaceae	<i>Viburnum</i> sp.	Viburnum sp.	BioBlitz (2015)	Visual observation	10/10/2015			
Caryophyllaceae	<i>Arenaria fendleri</i>	Fendler's Sandwort	CS	Preserved specimen				
Caryophyllaceae	<i>Cerastium arvense</i>	Field Chickweed	iNaturalist	Visual observation	7/20/2018	Native	5	
Caryophyllaceae	<i>Silene acaulis</i>	Bladder Champion	SEINET	Preserved specimen	7/7/1896	Native	7	
Caryophyllaceae	<i>Silene scouleri hallii</i>	Simple Champion	CS	Preserved specimen				
Caryophyllaceae	<i>Stellaria longipes</i>	Longstalk Starwort	SEINET	Preserved specimen	7/7/1896	Native	8	
Caryophyllaceae	<i>Stellaria</i> sp.	Chickweeds	iNaturalist	Visual observation	7/22/2021			
Caryophyllaceae	<i>Stellaria umbellata</i>	Umbrella Starwort	SEINET	Preserved specimen	7/7/1896	Native	8	
Chenopodiaceae	<i>Chenopodium capitatum</i>	Strawberry Blite	SEINET	Preserved specimen	7/21/1968	Native	4	
Chenopodiaceae	<i>Chenopodium fremontii</i>	Fremont's Goosefoot	SEINET	Preserved specimen	8/20/1941	Native	6	
Crassulaceae	<i>Clementsia rhodantha</i>	Redpod Stonecrop	SEINET	Preserved specimen	7/9/1938			
Crassulaceae	<i>Rhodiola rhodantha</i>	Queen's Crown	iNaturalist	Visual observation	7/22/2021	Native	8	
Crassulaceae	<i>Sedum lanceolatum</i>	Stonecrop	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Crassulaceae	<i>Sedum</i> sp.	Stonecrops	iNaturalist	Visual observation	6/15/2017			
Cupressaceae	<i>Juniperus communis</i>	Common Juniper	iNaturalist	Visual observation	7/28/2021	Native	6	
Cyperaceae	<i>Carex aquatilis</i>	Water Sedge	iNaturalist	Visual observation	7/22/2021	Native	6	
Cyperaceae	<i>Carex canescens canescens</i>	Hoary Sedge	CS	Preserved specimen				
Cyperaceae	<i>Carex</i> sp.	True Sedges	iNaturalist	Visual observation	7/22/2021			
Cyperaceae	<i>Carex</i> spp.	Sedge species	BioBlitz (2015)	Visual observation	10/10/2015			
Elaeagnaceae	<i>Shepherdia canadensis</i>	Canadian Buffalo-berry	iNaturalist	Visual observation	7/21/2018	Native	7	
Ericaceae	<i>Arctostaphylos uva-ursi</i>	Bearberry	iNaturalist	Visual observation	8/16/2020	Native	6	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Ericaceae	<i>Arctostaphylos uva-ursi</i> var. <i>adenotricha</i>	Bearberry (variety)	SEINET	Preserved specimen	6/17/1969			
Ericaceae	<i>Moneses uniflora</i>	Wood Nymph	SEINET	Preserved specimen	7/7/1896	Native	9	
Ericaceae	<i>Moneses uniflora</i> var. <i>uniflora</i>	Wood Nymph (variety)	SEINET	Preserved specimen	7/30/1938			
Ericaceae	<i>Orthilia secunda</i>	One-sided Shineleaf	SEINET	Preserved specimen	7/30/1938	Native	8	
Ericaceae	<i>Pterospora andromedea</i>	Woodland Pinedrops	iNaturalist	Visual observation	7/26/2020	Native	7	
Ericaceae	<i>Pyrola asarifolia</i>	Pink Shineleaf	SEINET	Preserved specimen	7/7/1896	Native	8	
Ericaceae	<i>Pyrola chlorantha</i>	Green-flowered Wintergreen	SEINET	Preserved specimen	7/11/1960	Native	8	
Ericaceae	<i>Pyrola chlorantha</i> var. <i>chlorantha</i>	Green-flowered Wintergreen (subspecies)	SEINET	Preserved specimen	7/30/1938			
Ericaceae	<i>Pyrola elliptica</i>	Elliptic Shineleaf	SEINET	Preserved specimen	7/30/1938			
Ericaceae	<i>Pyrola</i> sp.	Wintergreen sp.	BioBlitz (2015)	Visual observation	10/10/2015			
Ericaceae	<i>Vaccinium scoparium</i>	Grouse Whortleberry	SEINET	Preserved specimen	7/7/1896	Native	7	
Ericaceae	<i>Vaccinium</i> sp.	Blueberries,	iNaturalist	Visual observation	7/28/2021			
Ericaceae	<i>Vaccinium</i> spp.	Blueberry	BioBlitz (2015)	Visual observation	10/10/2015			
Fabaceae	<i>Astragalus alpinus alpinus</i>	Alpine Milkvetch	CS	Preserved specimen				
Fabaceae	<i>Lotus corniculatus</i>	Bird's-foot Trefoil	iNaturalist	Visual observation	7/17/2021	Non-native	0	
Fabaceae	<i>Lupinus argenteus argenteus</i>	Silvery Lupine	iNaturalist	Visual observation	9/4/2017			
Fabaceae	<i>Oxytropis lambertii</i>	Purple Locoweed	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Fabaceae	<i>Oxytropis lambertii sericea</i>	Purple Locoweed (subspecies)	CS	Preserved specimen				
Fabaceae	<i>Oxytropis sericea</i>	Silky Locoweed	SEINET	Preserved specimen	7/9/1938	Native	5	
Fabaceae	<i>Oxytropis sericea sericea</i>	Silky Locoweed (subspecies)	CS	Preserved specimen				
Fabaceae	<i>Thermopsis divaricarpa</i>	Spreadfruit Goldenbanner	iNaturalist	Visual observation	6/18/2019			
Fabaceae	<i>Thermopsis montana</i>	Mountain Goldenbean	iNaturalist	Visual observation	6/15/2017			
Fabaceae	<i>Trifolium dasyphyllum</i>	Alpine Clover	SEINET	Preserved specimen	7/7/1896	Native	8	
Fabaceae	<i>Trifolium repens</i>	White Clover	BioBlitz (2015)	Visual observation	10/10/2015	Non-native	0	
Fumariaceae	<i>Corydalis aurea</i>	Scrambled Eggs	SEINET	Preserved specimen	7/7/1896	Native	5	
Gentianaceae	<i>Gentiana parryi</i>	Parry's Gentian	iNaturalist	Visual observation	8/17/2020	Native	9	
Gentianaceae	<i>Gentianopsis</i> sp.	Fringed Gentians	iNaturalist	Visual observation	8/6/2018			
Gentianaceae	<i>Gentianopsis thermalis</i>	Meadow Fringed Gentian	CS	Preserved specimen				
Geraniaceae	<i>Geranium richardsonii</i>	Richardson's Geranium	iNaturalist	Visual observation	7/26/2012	Native	6	
Geraniaceae	<i>Geranium</i> sp.	Geranium	BioBlitz (2015)	Visual observation	10/10/2015			
Grossulariaceae	<i>Ribes cereum</i>	Wax Currant	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Grossulariaceae	<i>Ribes inerme</i>	Whitestem Gooseberry	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Grossulariaceae	<i>Ribes lacustre</i>	Black Gooseberry	SEINET	Preserved specimen	7/10/1938	Native	7	
Grossulariaceae	<i>Ribes laxiflorum</i>	Trailing Black Currant	SEINET	Preserved specimen	08/01/1892			
Hydrophyllaceae	<i>Phacelia sericea</i>	Silky Phacelia	iNaturalist	Visual observation	6/20/2019	Native	6	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Juncaceae	<i>Juncus arcticus</i>	Arctic Rush	BioBlitz (2015)	Visual observation	10/10/2015	Native	4	
Juncaceae	<i>Juncus confusus</i>	Colorado Rush	SEINET	Preserved specimen	7/30/1946	Native	5	
Juncaceae	<i>Luzula parviflora</i>	Small-flowered Wood Rush	SEINET	Preserved specimen	7/7/1896	Native	7	
Lamiaceae	<i>Dracocephalum parviflorum</i>	American Dragonhead	SEINET	Preserved specimen	7/7/1896	Native	3	
Liceaceae	<i>Linnaea borealis</i> var. <i>longiflora</i>	Twinflower	SEINET	Preserved specimen	7/7/1896	Native	9	
Liliaceae	<i>Calochortus gunnisonii</i>	Gunnison's Mariposa Lily	iNaturalist	Visual observation	7/20/2021	Native	7	
Liliaceae	<i>Streptopus amplexifolius</i>	Scotberry	SEINET	Preserved specimen	7/7/1896	Native	7	
Lycopodiaceae	<i>Lycopodium annotinum</i>	Interrupted Club-moss	SEINET	Preserved specimen	7/7/1896	Native	7	
Melanthiaceae	<i>Anticlea elegans</i>	Mountain Death Camas	SEINET	Preserved specimen	7/7/1896			
Onagraceae	<i>Chamaenerion angustifolium</i>	Fireweed	iNaturalist	Visual observation	7/28/2021			
Onagraceae	<i>Epilobium angustifolium</i>	Fireweed	BioBlitz (2015)	Visual observation	10/10/2015			
Onagraceae	<i>Epilobium hornemannii</i>	Hornemann's Willow-herb	SEINET	Preserved specimen	7/7/1896	Native	6	
Onagraceae	<i>Gayophytum</i> sp.	Groundsmoke	iNaturalist	Visual observation	7/19/2021	Native	5	
Orchidaceae	<i>Calypso bulbosa americana</i>	Eastern Fairy-slipper	iNaturalist	Visual observation	6/6/2020			
Orchidaceae	<i>Corallorhiza maculata</i>	Spotted Coral Root	SEINET	Preserved specimen	6/15/1959	Native	7	
Orchidaceae	<i>Listera cordata</i> subsp. <i>nephrophylla</i>	Western Heart-leaved Twayblade	SEINET	Preserved specimen	7/10/1938			

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Orchidaceae	<i>Neottia cordata</i>	Heart-leaved Twayblade	SEINET	Preserved specimen	8/1/1892			
Orchidaceae	<i>Platanthera dilatata</i>	Tall White Bog Orchid	SEINET	Preserved specimen	6/24/1972	Native	8	
Orchidaceae	<i>Platanthera huronensis</i>	Green Bog Orchid	iNaturalist	Visual observation	7/22/2021	Native	7	
Orchidaceae	<i>Platanthera hyperborea hyperborea</i>	Green-flowered Bog Orchid	CS	Preserved specimen				
Orchidaceae	<i>Platanthera obtusata</i>	Blunt-leaved Bog Orchid	CS	Preserved specimen		Native	10	
Orchidaceae	<i>Spiranthes romanzoffiana</i>	Hooded Ladies' Tresses	CS	Preserved specimen		Native	7	
Orobanchaceae	<i>Castilleja integra</i>	Wholeleaf Paintbrush	iNaturalist	Visual observation	6/15/2017	Native	6	
Orobanchaceae	<i>Castilleja linariifolia</i>	Wyoming Paintbrush	iNaturalist	Visual observation	7/18/2021	Native	6	
Orobanchaceae	<i>Castilleja miniata miniata</i>	Scarlet Paintbrush	CS	Preserved specimen				
Orobanchaceae	<i>Castilleja rhexiifolia</i>	Rosy Paintbrush	SEINET	Preserved specimen	7/7/1896	Native	8	
Orobanchaceae	<i>Castilleja</i> sp.	Paintbrush sp.	iNaturalist	Visual observation	9/16/2017			
Orobanchaceae	<i>Castilleja sulphurea</i>	Sulphur Paintbrush	SEINET	Preserved specimen	7/9/1938	Native	7	
Orobanchaceae	<i>Collinsia parviflora</i>	Small-flowered Blue-eyed Mary	SEINET	Preserved specimen	7/7/1896	Native	4	
Orobanchaceae	<i>Pedicularis bracteosa</i> var. <i>paysoniana</i>	Bracted Lousewort	SEINET	Preserved specimen	7/7/1896	Native	7	
Orobanchaceae	<i>Pedicularis groenlandica</i>	Elephant Heads	SEINET	Preserved specimen	7/7/1896	Native	8	
Orobanchaceae	<i>Pedicularis procera</i>	Towering Lousewort	SEINET	Preserved specimen	7/9/1939	Native	8	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Pinaceae	<i>Abies lasiocarpa</i>	Subalpine Fir	SEINET	Preserved specimen	6/24/1937			
Pinaceae	<i>Picea engelmannii</i>	Engelmann Spruce	SEINET	Preserved specimen	6/18/1937	Native	5	
Pinaceae	<i>Picea pungens</i>	Colorado Blue Spruce	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Pinaceae	<i>Pinus contorta</i>	Lodgepole Pine	iNaturalist	Visual observation	6/8/2016	Native	5	
Pinaceae	<i>Pinus contorta</i> var. <i>latifolia</i>	Rocky Mountain Lodgepole Pine	SEINET	Preserved specimen	6/24/1937	Native	5	
Pinaceae	<i>Pinus flexilis</i>	Limber Pine	SEINET	Preserved specimen	6/30/1937	Native	7	
Pinaceae	<i>Pinus ponderosa</i>	Ponderosa Pine	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Pinaceae	<i>Pinus ponderosa</i> var. <i>scopulorum</i>	Rocky Mountain Ponderosa Pine	SEINET	Preserved specimen	6/27/1937	Native	5	
Pinaceae	<i>Pseudotsuga menziesii</i>	Douglas Fir	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	
Pinaceae	<i>Pseudotsuga menziesii glauca</i>	Rocky Mountain Douglas Fir (variety)	CS	Preserved specimen				
Plantaginaceae	<i>Chionophila jamesii</i>	Snowlover	SEINET	Preserved specimen	7/7/1896	Native	9	G4?S3S 4
Plantaginaceae	<i>Penstemon hallii</i>	Hall's Penstemon	CS	Preserved specimen		Native	8	
Plantaginaceae	<i>Penstemon humilis</i>	Low Beardtongue	iNaturalist	Visual observation	6/15/2017	Native	7	
Plantaginaceae	<i>Penstemon procerus</i>	Small-flowered Beardtongue	iNaturalist	Visual observation	7/17/2021	Native	6	
Plantaginaceae	<i>Penstemon procerus formosus</i>	Small-flowered Penstemon (subspecies)	iNaturalist	Visual observation	6/15/2017			
Plantaginaceae	<i>Penstemon procerus procerus</i>	Small-flowered Penstemon (subspecies)	CS	Preserved specimen				

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Plantaginaceae	<i>Penstemon rydbergii</i>	Rydberg Penstemon	iNaturalist	Visual observation	7/22/2021	Native	7	
Plantaginaceae	<i>Penstemon</i> sp.	Beardtongue sp.	iNaturalist	Visual observation	7/28/2021			
Poaceae	<i>Agrostis exarata</i>	Spike Bentgrass	CS	Preserved specimen		Native	7	
Poaceae	<i>Agrostis hyemalis</i>	Rough Bentgrass	SEINET	Preserved specimen	8/1/1927			
Poaceae	<i>Agrostis</i> sp.	Bentgrass sp.	iNaturalist	Visual observation	7/17/2021			
Poaceae	<i>Alopecurus aequalis</i>	Short-awned Foxtail	SEINET	Preserved specimen	8/24/1926	Native	4	
Poaceae	<i>Beckmannia syzigachne</i>	American Slough Grass	SEINET	Preserved specimen	8/24/1927	Native	4	
Poaceae	<i>Bromus inermis</i>	Smooth Brome	iNaturalist	Visual observation	8/6/2018	Non-native	0	
Poaceae	<i>Bromus tectorum</i>	Cheatgrass	BioBlitz (2015)	Visual observation	10/10/2015	Non-native, C	0	
Poaceae	<i>Calamagrostis purpurascens</i>	Purple Reedgrass	SEINET	Preserved specimen	07/30/1899	Native	7	
Poaceae	<i>Danthonia parryi</i>	Parry's Oatgrass	BioBlitz (2015)	Visual observation	10/10/2015	Native	8	
Poaceae	<i>Elymus elymoides</i>	Squirreltail	iNaturalist	Visual observation	8/27/2021	Native	4	
Poaceae	<i>Elymus elymoides</i> subsp. <i>brevifolius</i>	Squirreltail (subspecies)	SEINET	Preserved specimen	8/25/1927			
Poaceae	<i>Elymus lanceolatus</i> subsp. <i>lanceolatus</i>	Thickspike Wheatgrass (subspecies)	SEINET	Preserved specimen	8/25/1927			
Poaceae	<i>Elymus smithii</i>	Western Wheatgrass	iNaturalist	Visual observation	7/22/2021			
Poaceae	<i>Elymus trachycaulus trachycaulus</i>	Slender Wheatgrass	CS	Preserved specimen				
Poaceae	<i>Festuca idahoensis</i>	Idaho Fescue	BioBlitz (2015)	Visual observation	10/10/2015	Native	7	
Poaceae	<i>Festuca ovina</i>	Sheep's Fescue	CS	Preserved specimen				

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Poaceae	<i>Koeleria macrantha</i>	June Grass	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Poaceae	<i>Muhlenbergia montana</i>	Mountain Muhly	BioBlitz (2015)	Visual observation	10/10/2015	Native	7	
Poaceae	<i>Phleum pratense</i>	Timothy Grass	iNaturalist	Visual observation	7/28/2021	Non-native	0	
Poaceae	<i>Poa compressa</i>	Canada Bluegrass	iNaturalist	Visual observation	7/19/2021	Non-native	0	
Poaceae	<i>Poa cusickii</i> subsp. <i>epilis</i>	Cusick's Bluegrass	SEINET	Preserved specimen	07/04/1896			
Poaceae	<i>Poa secunda</i>	Pine Bluegrass	iNaturalist	Visual observation	7/23/2020			
Poaceae	<i>Poa</i> spp.	Bluegrass	BioBlitz (2015)	Visual observation	10/10/2015			
Polemoniaceae	<i>Collomia linearis</i>	Narrow-leaved Mountain-trumpet	CS	Preserved specimen		Native	4	
Polemoniaceae	<i>Polemonium pulcherrimum</i> subsp. <i>delicatum</i>	Jacob's-ladder	SEINET	Preserved specimen	7/7/1896			
Polygonaceae	<i>Eriogonum alatum</i> var. <i>alatum</i>	Winged Buckwheat	SEINET	Preserved specimen	8/29/1936			
Polygonaceae	<i>Eriogonum</i> sp.	Wild Buckwheats	iNaturalist	Visual observation	7/27/2021			
Polygonaceae	<i>Eriogonum umbellatum</i>	Sulphur Flower	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Polygonaceae	<i>Oligogonum</i> sp.	Buckwheat sp.	iNaturalist	Visual observation	7/25/2020			
Polygonaceae	<i>Polygonum bistortoides</i>	American Bistort	SEINET	Preserved specimen	7/17/1961			
Polygonaceae	<i>Polygonum viviparum</i>	Alpine Bistort	CS	Preserved specimen				
Polygonaceae	<i>Rumex acetosella</i>	Red Sorrel	CS	Preserved specimen		Non-native	0	
Polygonaceae	<i>Rumex</i> sp.	Docks sp.	iNaturalist	Visual observation	7/22/2021			
Potamogetonaceae	<i>Potamogeton epihydrus</i>	Ribbon-leaved Pondweed	CS	Preserved specimen		Native	5	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Potamogetonaceae	<i>Potamogeton gramineus</i>	Grassy Pondweed	CS	Preserved specimen		Native	4	
Primulaceae	<i>Androsace septentrionalis</i>	Northern Androsace	SEINET	Preserved specimen	07/07/1895	Native	6	
Primulaceae	<i>Dodecatheon pulchellum pulchellum</i>	Dark Throat Shooting Star	CS	Preserved specimen				
Primulaceae	<i>Primula parryi</i>	American Primrose	SEINET	Preserved specimen	7/4/1996	Native	8	
Primulaceae	<i>Primula pauciflora</i>	Dark-throated Shooting Star	iNaturalist	Visual observation	7/22/2021			
Ranunculaceae	<i>Aconitum columbianum</i>	Columbian Monkshood	iNaturalist	Visual observation	7/22/2021	Native	8	
Ranunculaceae	<i>Aconitum columbianum</i> var. <i>columbianum</i>	Columbian Monkshood (variety)	SEINET	Preserved specimen	7/9/1938			
Ranunculaceae	<i>Anemone multifida hudsoniana</i>	Pacific Anemone	CS	Preserved specimen				
Ranunculaceae	<i>Aquilegia coerulea</i>	Rocky Mountain Columbine	SEINET	Preserved specimen	7/7/1896	Native	8	
Ranunculaceae	<i>Aquilegia</i> sp.	Columbines	iNaturalist	Visual observation	7/22/2019			
Ranunculaceae	<i>Caltha leptosepala</i>	White Marsh Marigold	iNaturalist	Visual observation	5/27/2019	Native	7	G4S4
Ranunculaceae	<i>Clematis occidentalis</i>	Purple Clematis	iNaturalist	Visual observation	6/26/2019			
Ranunculaceae	<i>Delphinium ramosum</i>	Colorado Larkspur	CS	Preserved specimen		Native	5	
Ranunculaceae	<i>Psychrophila leptosepala</i>	White Marsh Marigold	SEINET	Preserved specimen	7/10/1938			
Ranunculaceae	<i>Pulsatilla nuttalliana</i>	Prairie Pasqueflower	iNaturalist	Visual observation	8/30/2018			
Ranunculaceae	<i>Ranunculus cardiophyllus</i>	Heart-leaved Buttercup	CS	Preserved specimen		Native	8	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Ranunculaceae	<i>Ranunculus inamoenus</i>	Graceful Buttercup	SEINET	Preserved specimen	08/01/1892	Native	7	
Ranunculaceae	<i>Trollius albiflorus</i>	White Globe-flower	SEINET	Preserved specimen	7/10/1938	Native	8	
Rhamnaceae	<i>Ceanothus velutinus</i>	Snowbrush Ceanothus	iNaturalist	Visual observation	7/22/2021	Native	7	
Rosaceae	<i>Dasiphora fruticosa</i>	Shrubby Cinquefoil	iNaturalist	Visual observation	7/28/2021			
Rosaceae	<i>Drymocallis fissa</i>	Big-flower Cinquefoil	iNaturalist	Visual observation	7/18/2021			
Rosaceae	<i>Fragaria ovalis</i>	Strawberry	BioBlitz (2015)	Visual observation	10/10/2015			
Rosaceae	<i>Fragaria sp.</i>	Strawberry	iNaturalist	Visual observation	7/27/2021			
Rosaceae	<i>Fragaria vesca</i>	Wild Strawberry	iNaturalist	Visual observation	6/3/2019	Native	5	
Rosaceae	<i>Fragaria virginiana</i>	Virginia Strawberry	iNaturalist	Visual observation	7/28/2021	Native	5	
Rosaceae	<i>Geum aleppicum</i>	Yellow Avens	CS	Preserved specimen		Native	6	
Rosaceae	<i>Geum macrophyllum</i>	Large-leaf Avens	SEINET	Preserved specimen	7/9/1938	Native	6	
Rosaceae	<i>Geum triflorum</i>	Prairie Smoke	CS	Preserved specimen		Native	7	
Rosaceae	<i>Pentaphylloides floribunda</i>	Shrubby Cinquefoil	CS	Preserved specimen				
Rosaceae	<i>Potentilla fruticosa</i>	Shrubby Cinquefoil	BioBlitz (2015)	Visual observation	10/10/2015	Native	4	
Rosaceae	<i>Potentilla gracilis</i>	Slender Cinquefoil	iNaturalist	Visual observation	7/27/2021	Native	5	
Rosaceae	<i>Potentilla pulcherrima</i>	Soft Cinquefoil	SEINET	Preserved specimen	7/7/1896	Native	5	
Rosaceae	<i>Potentilla sp.</i>	Cinquefoil sp.	iNaturalist	Visual observation	7/28/2021			
Rosaceae	<i>Potentilla spp.</i>	Cinquefoil species	BioBlitz (2015)	Visual observation	10/10/2015			
Rosaceae	<i>Rosa acicularis</i> subsp. <i>sayi</i>	Prickly Wild Rose	SEINET	Preserved specimen	7/7/1896			
Rosaceae	<i>Rosa woodsii</i>	Wood's Rose	BioBlitz (2015)	Visual observation	10/10/2015	Native	5	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Rosaceae	<i>Rosa woodsii ultramontana</i>	Wood's Rose (variety)	CS	Preserved specimen				
Rosaceae	<i>Rubus strigosus</i>	Wild Red Raspberry	BioBlitz (2015)	Visual observation	10/10/2015			
Rosaceae	<i>Sibbaldia procumbens</i>	Creeping Sibbaldia	SEINET	Preserved specimen	04/09/1898	Native	6	
Rubiaceae	<i>Galium boreale</i>	Bedstraw	BioBlitz (2015)	Visual observation	10/10/2015	Native	6	
Salicaceae	<i>Populus tremuloides</i>	Trembling Aspen	iNaturalist	Visual observation	6/3/2019	Native	5	
Salicaceae	<i>Salix brachycarpa</i>	Barren-ground Willow	SEINET	Preserved specimen	7/9/1938	Native	8	
Salicaceae	<i>Salix geeyeriana</i>	Geyer's Willow	SEINET	Preserved specimen	7/9/1938	Native	6	
Salicaceae	<i>Salix planifolia</i>	Tea-leaved Willow	CS	Preserved specimen		Native	7	
Salicaceae	<i>Salix</i> sp.	Willows sp.	iNaturalist	Visual observation	5/23/2016			
Salicaceae	<i>Salix</i> spp.	Willows species	BioBlitz (2015)	Visual observation	10/10/2015			
Salicaceae	<i>Salix wolfii</i>	Wolf Willow	SEINET	Preserved specimen	7/8/1932	Native	8	
Saxifragaceae	<i>Heuchera bracteata</i>	Bracted Alumroot	SEINET	Preserved specimen	6/30/1946	Native	8	
Saxifragaceae	<i>Micranthes rhomboidea</i>	Snowball Saxifrage	SEINET	Preserved specimen	7/7/1896	Native	8	
Saxifragaceae	<i>Mitella pentandra</i>	Alpine Mitrewort	SEINET	Preserved specimen	7/7/1896	Native	9	
Scrophulariaceae	<i>Castelija miniata</i>	Scarlet Paintbrush	BioBlitz (2015)	Visual observation	10/10/2015			
Scrophulariaceae	<i>Penstemon</i> spp.	Penstemon species	BioBlitz (2015)	Visual observation	10/10/2015			
Scrophulariaceae	<i>Veronica peregrina</i> subsp. <i>xalapensis</i>	Purslane Speedwell	SEINET	Preserved specimen	7/9/1938			
Valerianaceae	<i>Valeriana acutiloba</i>	Subalpine Valerian	SEINET	Preserved specimen	7/7/1896	Native	8	
Valerianaceae	<i>Valeriana edulis</i>	Edible Valerian	SEINET	Preserved specimen	7/9/1938	Native	7	
Valerianaceae	<i>Valeriana occidentalis</i>	Western Valerian	CS	Preserved specimen		Native	7	

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	Nativity, CO Noxious Weed Status	C value	CHNP Ranks
Viscaceae	<i>Arceuthobium</i> sp.	Dwarf Mistletoe	BioBlitz (2015)	Visual observation	10/10/2015			
	Bryophyta	Mosses	iNaturalist	Visual observation	7/22/2021			

Table 3. Fungi Species List at the Mountain Campus, compiled from research and field visit. Species of Concern are in bold. See the [GBIF Registry of Scientific Collections](#) for institution codes for the Source field.

Family	Scientific Name	Common Name	Source	Observed/Preserved	Observation Date	CNHP Ranks
Acanthaceae	<i>Amanita muscaria</i>		iNaturalist	Visual observation	7/17/2021	
Acanthaceae	<i>Amanita muscaria flavivolvata</i>		iNaturalist	Visual observation	7/18/2021	
Acanthaceae	<i>Amanita</i> sp.	Amanita mushrooms	iNaturalist	Visual observation	7/18/2021	
Agaricaceae	<i>Calvatia booniana</i>	Western Giant Puffball	iNaturalist	Visual observation	8/6/2018	
Boletaceae	<i>Boletaceae</i> sp.	Boletes	iNaturalist	Visual observation	7/17/2021	
Cladoniaceae	<i>Cladonia fimbriata</i>	Trumpet lichen	iNaturalist	Visual observation	7/28/2021	
Hymenogasteraceae	<i>Gymnopilus</i> sp.	rustgills and gyms	iNaturalist	Visual observation	7/18/2021	
Icmadophilaceae	<i>Thamnolia</i> sp.	Whiteworm Lichens	iNaturalist	Visual observation	7/4/2021	
Morchellaceae	<i>Morchella sextelata</i>		DBG	Preserved specimen	7/30/1995	
Parmeliaceae	<i>Xanthoparmelia</i> sp.	Rock shield lichens	iNaturalist	Visual observation	7/4/2021	
Peltigeraceae	<i>Peltigera</i> sp.	elt lichens	iNaturalist	Visual observation	7/28/2021	
Physalacriaceae	<i>Armillaria</i> sp.	honey mushrooms	iNaturalist	Visual observation	9/3/2021	
Polyporaceae	<i>Trametes</i> sp.		iNaturalist	Visual observation	7/28/2021	
Rhizinaceae	<i>Rhizina undulata</i>		DBG	Preserved specimen	7/30/1995	
Rhytismataceae	<i>Lophodermella concolor</i>		NY	Preserved specimen	8/6/1964	
Suillaceae	<i>Suillus brevipes</i>	Short-stalked Suillus	iNaturalist	Visual observation	7/28/2021	
Suillaceae	<i>Suillus granulatus</i>	Dotted-stalked Suillus	iNaturalist	Visual observation	7/21/2018	