BIODIVERSITY IMPACT ASSESSMENT for 2022

SIBANYE-STILLWATER

US PGM OPERATIONS

KC HARVEY ENVIRONMENTAL

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US PGM Operations

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EXECUTIVE SUMMARY

Sibanye-Stillwater implemented biodiversity impact assessments (BIA) of its US and South African operations in 2021 using the methodology set forth in the Biological Diversity Protocol (BD Protocol; Endangered Wildlife Trust, 2020). This is part of Sibanye-Stillwater's biodiversity vision which includes a goal of "no net loss" in biodiversity. In the initial BIA report for the US Platinum Group Metals (PGM) Operations (2020 BIA Report; KC Harvey Environmental LLC, 2022) the impacts over time on ecological systems and material species at the East Boulder Mine (EBM), Stillwater Mine (SWM), and Columbus Metallurgical Complex (CMC) were evaluated using the BD Protocol Biodiversity Accounting Framework. Direct impacts on ecological systems and material species within the direct operations value chain boundary were evaluated for baseline, current, and future scenarios and reported in terms of a positive biodiversity footprint for the EBM, SWM, and CMC assessment areas. In the 2020 BIA Report, the EBM and SWM assessment areas were the permitted operating area boundaries for each mine, and the CMC assessment area included the operating facilities in Columbus, MT.

This BIA report (2021 BIA Report) also focuses on direct impacts on ecological systems and material species within the direct operations value chain boundary and builds on the initial analysis in several ways. First, the EBM, SWM, and CMC assessment areas were expanded to include additional properties owned by Stillwater Mining Company (SMC) used for ancillary activities, designated as conservation easements, or leased to private individuals primarily for agricultural use. Second, the methodology for ecological system condition scoring was refined using an ecological integrity assessment (EIA) approach. The refined methodology was used during field assessments in the EBM, SWM, and CMC assessment areas and to validate condition scoring based on remotely sensed data from geographic information systems (GIS).

This 2021 BIA Report presents the refined methodology for ecological system condition scoring, the rationale for its development, and the expanded biodiversity impact inventories for the EBM, SWM, and CMC assessment areas. It also includes Statements of Biodiversity Position and Performance and the positive biodiversity footprint for ecological systems and material species in the EBM, SWM, and CMC assessment areas under the baseline, current, and future scenarios, with recommendations for improving ecological system condition scores.

The EBM assessment area, which included the permitted operating areas and SMC deeded properties, covered 2,690 acres. The number of ecological systems represented increased from eight to fifteen after expanding the biodiversity impact inventory. The positive biodiversity footprint for ecological systems in the EBM assessment area decreased from 88.1 percent in the baseline scenario to 79.3 percent in the current scenario and increased to 84.4 percent in the future scenario.

The SWM assessment area, which included the permitted operating areas and SMC deeded properties, covered 5,558 acres. The number of ecological systems represented increased from thirteen to sixteen after expanding the biodiversity impact inventory. The positive biodiversity footprint for ecological systems in the SWM assessment area decreased from 94.1 percent in the baseline scenario to 83.6 percent in the current scenario and increased to 89.2 percent in the future scenario.

The CMC assessment area, which included the operating facilities and SMC deeded properties, covered 366 acres. The number of ecological systems represented increased from one to four after expanding the biodiversity impact inventory. The positive biodiversity footprint for ecological systems in the CMC assessment area decreased from 57.9 percent in the baseline scenario to 54.6 percent in the current scenario and remained at 54.6 percent in the future scenario.

A decrease in positive biodiversity footprint from baseline to the current scenario was indicated for each assessment area, followed by partial recovery under the future scenario for the EBM and SWM

assessment areas based on planned reclamation and restoration work. Compared to the results from the 2020 BIA Report, the positive biodiversity footprint for ecological systems under the future scenario increased for the EBM, SWM, and CMC assessment areas. These results more accurately represent the net impacts on biodiversity associated with US PGM Operations due to the expanded biodiversity impact inventories.

Material species identified for the EBM and SWM assessment areas were grizzly bear (*Ursus arctos horribilis*), Canada lynx (*Lynx canadensis*), and whitebark pine (*Pinus albicaulis*). Biodiversity impacts for these species were evaluated based on available habitat. Compared to the results from the 2020 BIA Report, the positive biodiversity footprints under the future scenario for material species in the EBM and SWM assessment areas varied, with some increasing and some decreasing; all results remained above 90 percent. In the EBM assessment area, impacts on material species varied similarly from the baseline scenario to the future scenario, with decreases of available habitat for material species under the current scenario followed by a return to approximately baseline conditions under the future scenario. The positive biodiversity footprints for the future scenario were 90.5 percent, 98.7 percent, and 100 percent for grizzly bear, Canada lynx, and whitebark pine, respectively. In the SWM assessment area, the impacts to grizzly bear and Canada lynx followed a similar trend, with a decrease in available habitat under the current scenario followed by a return to approximately baseline conditions. Whitebark pine followed a different trend, with a minimal decrease in available habitat under the current and future scenarios. The positive biodiversity footprints for the future scenario were 96.5 percent, 98.4 percent, and 99.6 percent for grizzly bear, Canada lynx, and whitebark pine, respectively.

The US PGM Operations impact inventory includes large areas historically used for ranching. Many of these areas are still used for grazing or hay production. This land use has affected the assessment areas with issues such as loss of native plant species, encroachment by invasive plants, compaction of soils, and breaks in natural land cover from fencing and roads. Sibanye-Stillwater conducts invasive plant control within its permitted operating boundaries and on SMC deeded properties, and this practice has been effective at preventing encroachment of these plants in many areas. Focused programs to reintroduce native plant species and remove or reduce invasive plants, especially in the areas most impacted by ranching, are recommended to improve the positive biodiversity footprint for ecological systems within the EBM, SWM, and CMC assessment areas. Improvements in ecological system condition improve habitat, which in turn will improve the positive biodiversity footprint for material species.

1.0 INTRODUCTION

Sibanye-Stillwater began conducting BIA using the BD Protocol methodology in 2021 as part of its biodiversity goal of "no net loss" for global operations. Reports were completed in 2022 for the US PGM Operations (KC Harvey Environmental LLC, 2022) and the South African Operations (Houdet and Teren, 2022). The recommendations in these initial reports focused on two topics: expanding the biodiversity impact inventory to incorporate additional property in the direct operations value chain boundary and refining the ecological system condition scoring system used for biodiversity impact accounting. This report addresses those recommendations.

Section 2.0 describes the biodiversity impact inventory development for the US PGM Operations (the EBM, SWM, and CMC), the BIA methodology, and how the ecological system condition scoring system was improved by incorporating the key elements of an EIA adapted to support the BIA.

Section 3.0 describes the properties included in each assessment area within the US PGM Operations and presents the biodiversity impact accounting for these areas. Supporting maps and tables are presented in Appendix A and Appendix B, respectively.

Section 4.0 discusses the conclusions of the BIA, recommendations for improving the positive biodiversity footprint of US PGM Operations, and recommendations for future reports.

The initial BIA completed for US PGM Operations used 2020 as the "current" time period and is referred to in this report as the **2020 BIA Report.** This report uses 2021 as the "current" time period and is referred to as the **2021 BIA Report**.

2.0 METHODOLOGY

The key components of the BIA methodology are to develop a biodiversity impact inventory and to create an accounting system for quantifying biodiversity impacts. Detailed descriptions of the BD Protocol requirements for the BIA methodology are in the 2020 BIA Report.

The 2021 BIA Report uses the methodology described in the 2020 BIA Report, together with several updates to expand the biodiversity impact inventory and refine the approach to ecological system condition scoring. Sections 2.1 and 2.2 and sub-sections describe the methodology for biodiversity impact inventory development and biodiversity impact accounting used for the 2021 BIA Report.

2.1 BIODIVERSITY IMPACT INVENTORY DEVELOPMENT

Section 2.1.1 describes the methods used in the 2021 BIA Report to define organizational and value chain boundaries and Section 2.1.2 describes development of the ecological systems and taxa inventories for the US PGM Operations. Section 2.1.3 defines the biodiversity impact category.

2.1.1 Defining Organizational and Value Chain Boundaries

The organizational boundary for the biodiversity impact inventory includes the Sibanye-Stillwater US PGM Operations located in Montana, USA, and includes the EBM, SWM, and CMC assessment areas. The EBM, SWM, and CMC assessment areas are comprised of multiple assessment units and are evaluated separately in the BIA. The assessment areas for the EBM, SWM, and CMC are presented in Map A - 1.

The biodiversity impact inventory developed for the 2020 BIA Report focused on permitted operating areas within the direct operations value chain boundary. This inventory was expanded for the 2021 BIA Report to include additional assessment units in each assessment area. The permitted operating boundaries for the EBM and the SWM were based on data from Stillwater Mining Company (2016, 2019). The boundaries of SMC deeded properties and conservation easements were based on Montana Cadastral data (Montana State Library, 2021a). Assessment units included in the 2020 BIA Report and 2021 BIA Report for the EBM, SWM, and CMC assessment areas are described in Table 2, Table 16, and Table 30, respectively.

According to the BD Protocol, the direct operations value chain boundary includes “activities over which your business holds ownership or control”. The newly added assessment units include two categories of properties: (1) SMC deeded properties located outside the operating boundaries and used primarily for ancillary activities by US PGM Operations, and (2) SMC deeded properties located outside the operating boundaries and designated as conservation easements. Therefore, the newly added assessment units were determined to be within the direct operations value chain boundary.

The 2020 BIA Report recommended that conservation easements, SMC deeded properties used for ancillary activities, and claims outside the permitted operating boundaries be incorporated into the biodiversity impact inventory as part of the upstream value chain boundary for US PGM Operations. This recommendation was based on the BD Protocol methodology for including “offset areas” in the biodiversity impact inventory. However, as the newly added assessment areas are all SMC deeded properties, it is appropriate to include them in the direct operations value chain boundary. Properties associated with the US PGM Operations not included in the 2021 BIA Report are the patented and unpatented claims outside the permitted operating areas for the EBM and the SWM. If these properties are included in future assessments, they should also be included in the direct operations value chain boundary, because Sibanye-Stillwater owns the land surface on patented claims and controls mineral exploration activities on the unpatented claims. If Sibanye-Stillwater elects in the future to use a “mitigation bank” or a similar system to offset environmental impacts related to US PGM Operations, the

upstream value chain boundary would be appropriate because the offset area would be owned and managed by a third party.

2.1.2 Developing Ecological Systems and Taxa Inventories

Sections 2.1.2.1 and 2.1.2.2 describe the process used to develop inventories of ecological systems and taxa, respectively, within the biodiversity impact inventory boundaries.

2.1.2.1 Ecological Systems

For the 2020 BIA Report, the ecological system inventory within the boundaries of each assessment area (the EBM, SWM, and CMC) used data from the Montana Spatial Data Infrastructure (MSDI) (Montana State Library, 2021b). Additional information related to baseline conditions at the EBM and the SWM was from US PGM Operations reports (refer to the 2020 BIA Report for a complete list of reports).

This 2021 BIA Report used data from MSDI (Montana State Library, 2022) to identify the ecological systems within the added areas. Historic aerial imagery from MSDI was reviewed to verify the pre-development extent of each ecological system (reference conditions) and to determine land use as a basis for ecological system condition scoring under the baseline scenario.

2.1.2.2 Taxa

The 2020 BIA Report developed the inventory of material taxa by identifying taxa (species) with potential to occur within the region of the US PGM Operations. Data sources included the International Union for Conservation of Nature (IUCN) Red List (IUCN, 2022) and the US Fish and Wildlife (USFWS) IPaC map search tool (USFWS, 2022). Data from Montana Field Guides developed by the Montana Natural Heritage Program (MTNHP) and Montana Fish, Wildlife and Parks (MTNHP, 2022) helped identify the associated ecological systems for each species. A materiality assessment was then performed based on the following factors:

- Potential to occur within the boundaries of each assessment area based on the presence and extent of ecological systems commonly or occasionally associated with the species
- Global, Federal, and State conservation status of the species
- Difficulty and cost of monitoring and assessing the species
- Likelihood of impacts to the species
- Severity of impacts to the species

A Total Materiality Score was calculated using the following formula for each species in each assessment area. Species with a score of ten or greater in an assessment area were designated as material species for that assessment area:

Total Materiality Score =
Potential to Occur x (Conservation Status + Ease of Assessment + Likelihood of Impacts + Severity of Impacts)

The 2021 BIA Report reevaluated the inventory of material species to verify that it included species with potential to occur in all added areas and that the conservation status of each species was current for the materiality assessment. Table B - 1 shows the materiality assessment ranking system and lists the species with a Total Materiality Score of six or greater for at least one of the assessment areas within US PGM Operations. The following material species were identified for the US PGM Operations:

- East Boulder Mine
    - Grizzly bear (*Ursus arctos horribilis*)
    - Canada lynx (*Lynx canadensis*)
    - Whitebark pine (*Pinus albicaulis*)

- Stillwater Mine
    - Grizzly bear
    - Canada lynx
    - Whitebark pine

- Columbus Metallurgical Complex
    - No material species

2.1.3 Biodiversity Impact Identification

The BIA in the 2021 BIA Report is based on direct impacts, consistent with the 2020 BIA Report.

2.2 BIODIVERSITY IMPACT ACCOUNTING

The Biodiversity Accounting Framework defined in the BD Protocol was used to summarize and report positive impacts (gains) and negative impacts (losses) within the direct operations value chain boundary. For each assessment area, a Statement of Biodiversity Position and a Statement of Biodiversity Performance were determined, based on the positive and negative impacts on biodiversity over specific timeframes. The following scenarios were evaluated for the EBM, SWM, and CMC assessment areas:

- Reference (pre-development of any kind)
- Baseline (date when operating permits were received or facility development began)
- Current (January 1, 2021, to December 31, 2021)
- Future (date when closure and reclamation obligations are planned to be completed or facility operation is expected to end)

2.2.1 Measuring and Reporting Impacts on Ecological Systems

Ecological system condition scoring for the 2020 BIA Report was based on multiple sources (refer to Section 2.1.2.1). For the baseline scenario, information was obtained from historic aerial photographs and baseline reports for the EBM and the SWM. For the current scenario, information was obtained from current satellite imagery and aerial photographs as well as observations from field visits by KC Harvey to US PGM Operations in September 2021. For the future scenario, information was collected from the Consolidated Operations and Reclamation Plan (CORP) documents for the EBM and the SWM (Stillwater Mining Company, 2016, 2019). For the reference scenario, all areas were assumed to be in a natural, undeveloped condition. Scoring criteria were based on general indicators of surface disturbance, development, and reclamation progress. Scores ranging from five (natural or fully reclaimed) to zero (completely degraded) were assigned to the surface area within each assessment area.

The 2021 BIA Report refined the approach to ecological system condition scoring to include indicators and metrics relevant to the ecological systems within the US PGM Operations assessment areas. The refined approach to ecological system condition scoring follows these objectives:

- Incorporate an EIA that determines condition scores based on indicators and metrics evaluated using remotely sensed data and field observations.
- Provide an ecologically relevant, repeatable, and cost-effective approach to determining condition scores without increasing the monitoring and reporting burden for US PGM Operations.
- Provide a transparent method of condition scoring that supports US PGM Operations biodiversity impact management by identifying and rating stressors that can be addressed by Sibanye-Stillwater.
- Identify reference sites within the EBM, SWM, and CMC assessment areas.

The subsections below discuss the approach used to achieve these objectives, the method for assigning condition scores in the 2021 BIA Report, and the recommended reassessment periodicity.

2.2.1.1 Incorporating Elements of an Ecological Integrity Assessment

An EIA evaluates the condition of an ecological system based on its composition, structure, processes, and connectivity. The NatureServe EIA method (Faber-Langendoen et al. 2016) and the approach to rapid field-based EIA (Rocchio et al. 2020) were adapted for ecological system condition scoring for the US PGM Operations BIA. The following steps were used to develop an EIA for ecological system condition scoring:

1. Identify the ecological system, geographic extent, and time scale for assessment
2. Develop a conceptual model of the key ecological factors and stressors of the ecological system
3. Identify indicators for the key ecological factors and stressors of the ecological system that are appropriate for the level of assessment (for example, remote, rapid field, or intensive field)
4. Select metrics for each indicator
5. Identify scoring thresholds for each metric
6. Develop EIA scorecards

Step 1: The ecological systems and geographic extent of the assessment areas in the US PGM Operations were defined during the development of the biodiversity impact inventories. The time scale for assessment was based on the biodiversity impact accounting scenarios (reference, baseline, current and future).

Step 2: Key ecological factors and stressors were conceptually modelled using an approach that applies across all ecological systems and supports the BIA process.

Primary ecological factors in conceptual models often include landscape context (for example, conditions and development in buffer zones), on-site condition (for example, vegetation, hydrology, and soil), and size. Conceptual models also often include external drivers (for example, climate) and stressors (for example, land-use change). The BIA for US PGM Operations is based on condition scores within distinct property boundaries and evaluates direct impacts within the assessment areas rather than indirect impacts. Therefore, the conceptual model focused on on-site conditions and on-site condition stressors and did not include landscape context, size, or external drivers.

Steps 3 and 4: Indicators were identified, and metrics appropriate for remote assessment or rapid field assessment and relevant for small areas and spatial distributions were selected.

Most areas within the EBM, SWM, and CMC assessment areas can be classified in three groups of ecological systems: *grassland systems*; *forest and woodland systems*; and *shrubland, steppe, and savanna systems*. Areas of *wetland and riparian systems* and *sparse and barren systems* groups are limited. Therefore, land use and development, vegetation, and soil and substrate were selected as the key indicators for on-site condition. Metrics for these indicators that are relevant to all ecological systems present in the US PGM Operations assessment areas were selected.

The land use and development indicator was assigned three metrics. This indicator has the largest impact on ecological system condition scoring and the positive biodiversity footprint in US PGM Operations and was assigned a weighting of 70% in the condition score calculation. Two metrics, “Natural Land Cover” and “Breaks in Natural Land Cover” use a six-category scale. The “Land Use Changes and Development” metric uses a four-category scale.

The vegetation indicator was assigned three metrics, “Native Plant Species Cover”, “Native Plant Species Composition”, and “Invasive Plant Species Cover”. Knowledge of the native plant species cover and composition for each ecological system and the ability to identify invasive plants (including noxious weeds) is required to assess these metrics. However, assessment can be completed by a non-specialist with appropriate training. This indicator was assigned a weighting of 10% in the condition score

calculation. All three metrics use a six-category scale.

The soil and substrate indicator was assigned one metric. This metric defines undisturbed and disturbed soil classes using a four-category scale (Rocchio et al. 2020). This indicator was assigned a weighting of 10% in the condition score calculation.

Anthropogenic stressors to on-site condition, adapted from the Human Stressor Index (Rocchio et al. 2020) were also included. Five categories of anthropogenic stressors were selected as indicators: development, recreation, altered natural disturbance regime, soil, and hydrology. Metrics for each indicator provide insight into the on-site condition scoring and support identification of issues which can be addressed by Sibanye-Stillwater through site management efforts. This stressor category was assigned a weighting of 10% in the condition score calculation. All metrics use a six-category scale based on scope (percentage of area impacted).

Indicators and metrics are in Table 1.

Table 1. Site condition scoring metric categories.

Conceptual Model Component	Indicator	Metric
Major Ecological Factor: On-Site Condition	Land Use and Development	Natural Land Cover
		Breaks in Natural Land Cover
		Land Use Changes and Development
	Vegetation	Native Plant Species Cover
		Native Plant Species Composition
		Invasive Plant Species Cover
	Soil and Substrate	Soil / Substrate Condition
Stressors: Anthropogenic	Development	Buildings and associated pavement
		Utility/powerline corridor
		Roads or Railroads
		Fences
		Hay field - currently managed using cutting / mowing
		Livestock grazing on pastures / native rangeland
		Logging / tree removal part of current management
		Row-crop agriculture, orchard, nursery
		Sports field, golf course, urban parkland, expansive lawns
	Recreation	Low-impact
		High-impact
	Altered Natural Disturbance Regime	Fire or flood control measures
	Soil	Excessive sediment or debris, gullying, excessive erosion, excessive loss of organic matter
		Trash or refuse dumping
		Filling or dumping of sediment
		Substrate removal
		Indirect soil disturbance (compaction, trampling, etc.)
		Direct soil disturbance (grading, compaction, plowing, etc.)
		Physical resource extraction
		Obvious excess salinity
	Hydrology	Point source discharge
		Non-point source discharge
		Large dam or reservoir
		Impoundments, berms, dikes, or levees
		Diversions, ditches, pumps
		Excavation for water retention
		Engineered channels
		Flow control structures
		Ground water extraction wells

Step 5: Thresholds for each metric were defined to develop the scoring system. Scores for each metric are based on qualitative and semi-quantitative observations. The semi-quantitative observations are used to estimate percentage of area impacted for on-site condition metrics and anthropogenic stressors.

Step 6: EIA scorecards were developed for evaluating an assessment unit or a point within an assessment unit. After the scorecard is completed, the scores for each metric are aggregated and weighted into a condition score ranging from five to zero. The EIA scorecard provides a transparent approach to condition scoring that is responsive to multiple metrics. The EIA scorecard is in Table B - 2.

2.2.1.2 Identifying Reference Sites

The EIA method requires knowledge of the reference conditions and natural range of variability (NRV) of ecological systems to identify degraded conditions. External factors such as climate change can also impact on-site conditions at sites which are not otherwise disturbed (for example, by human activities). Candidate reference sites for commonly occurring ecological systems were identified from remotely sensed data showing development and land use changes both within and outside the site boundaries. Field assessments were then conducted at these sites to confirm that they represent "minimally disturbed reference conditions". The conditions observed at the selected reference sites were used to support field assessments at other sites. In addition, photo points were established at the reference sites.

2.2.1.3 Method for Assigning Condition Scores for the 2021 BIA Report

The following describes the approach to assigning condition scores for assessment units previously evaluated and those added in the 2021 BIA Report.

Assessment units previously evaluated in the 2020 BIA Report:

- Scores for the reference, baseline, and future scenarios were reviewed using the new EIA scorecards to verify that no changes to previously assigned scores were required.
- Scores for the current scenarios were reviewed using the new EIA scorecards and information provided by Sibanye-Stillwater regarding reclamation and restoration activities and site development in 2021. The following reports were referenced:
    - East Boulder Mine 2021 Annual Report for Operating Permit #00149
    - Stillwater Mine 2021 Annual Report for Operating Permit #00118
- Field observations were collected during site visits in September 2022 to ground-truth the scores previously assigned based on remotely sensed data and baseline reports.

Assessment units added in the 2021 BIA Report:

- Scores for the reference and baseline scenarios were determined using the new EIA scorecards and information from historic aerial photographs and baseline reports.
- Scores for the current scenario were determined using the new EIA scorecards and information provided by Sibanye-Stillwater regarding reclamation and restoration activities and site development in 2021.
- Scores for the future scenario were determined using the new EIA scorecards and information from the CORP documents for the EBM and the SWM (Stillwater Mining Company, 2016, 2019). The scores for the future scenario for assessment units not addressed in the CORP documents was determined based on the planned long-term management of the land (for example, remaining as a conservation easement or a commercial property).
- Field observations were collected during site visits in September 2022 to ground-truth the scores initially assigned based on remotely sensed data, baseline reports, and the 2021 Annual Reports for the EBM and the SWM.

After review and validation, the scores were used to calculate condition-adjusted surface areas according to the following formula:

Condition Adjusted Acres (ac eq) =
(Nominal surface area (ac) x Condition Score) / Maximum Possible Condition Score

Ecological system surface area was measured in acres (ac) and condition-adjusted surface area was reported in acre equivalents (ac eq).

2.2.1.4 Reassessment Periodicity

The condition scores for the reference and baseline scenarios in the assessment units addressed in the 2020 and 2021 BIA Reports are not anticipated to change and will not require frequent reassessment unless the approach to condition scoring is changed. The condition scores for the future scenario are not anticipated to change unless the approach to condition scoring is changed or there are significant changes in future land management in any assessment units.

The condition scores for the current scenario will require periodic reassessment, based on land use and management:

- Areas currently in use for operations, including process and support facilities, buildings, roads, and infrastructure, *which have already been evaluated and assigned condition scores reflecting current use*, will not require reassessment unless the approach to condition scoring is changed.
- Areas where land use changed after the most recent BIA will require reassessment. Land use changes include new development for operations or new reclamation and restoration work.

The current condition scores of reference sites should be reassessed periodically to characterize the NRV.

2.2.2 Measuring and Reporting Impacts on Material Species

The habitat-based approach developed for the 2020 BIA Report was used for the 2021 BIA Report to assess impacts on material species within the biodiversity impact inventory boundaries. Comparing data from the Montana Field Guides (MTNHP, 2022) identifying ecological systems associated with each material species against the ecological systems present in each assessment area at reference conditions helped to estimate the target habitat area.

Where an area of an ecological system had a condition score equal to three or greater, it was classified as available habitat. Where an area had a condition score equal to two or less, it was classified as unavailable habitat. Impacts to material species were evaluated through comparison of actual habitat area against target habitat area for the assessment period.

3.0 RESULTS

Results of the biodiversity impact accounting for the EBM, SWM, and CMC assessment areas are in Sections 3.1, 3.2, and 3.3, respectively. The biodiversity impact inventory, changes in biodiversity over the accounting period, Statements of Biodiversity Position and Performance, and the positive biodiversity footprint are described for each assessment area. Results are reported as rounded values for clarity.

All ecological systems and material species for each assessment area were included in the analysis, as required by the BD Protocol.

3.1 NET IMPACTS ON BIODIVERSITY: EAST BOULDER MINE

Section 3.1.1 and subsections describe the biodiversity impact inventory for the EBM assessment area. Section 3.1.2 and subsections describe the changes in biodiversity. Statements of Biodiversity Position and Performance are presented in Section 3.1.3 and subsections.

3.1.1 Biodiversity Impact Inventory

The boundary of the biodiversity impact inventory for the EBM assessment area included permitted operating areas and SMC deeded properties. The permitted operating areas included the mine, the Boe Ranch facility (excluding the pipeline corridor and access road), and the East Boulder Plateau. The SMC deeded properties included areas designated as conservation easements at Boe Ranch and Yates, and properties adjacent to the mine and in Big Timber, MT. All areas are within the direct operations value chain boundary.

Table 2 lists the assessment units in the EBM assessment area that were included in the 2020 BIA Report and that were added to the biodiversity impact inventory in the 2021 BIA Report. Field assessment sites in the EBM assessment area are also listed with reference sites noted. Unpatented mill site claims, unpatented lode claims, and patented lode claims outside the EBM permitted operating areas were not included due to limited availability of current ecological system condition data. This data gap is noted in Section 3.4. Map A - 1 provides an overview of all properties included in the 2021 BIA Report and Map A - 2 provides an overview of all properties included in the EBM assessment area.

Table 2. Overview of the East Boulder Mine assessment area.

Assessment Unit	Direct Operations			Assessed in 2020 BIA Report	Assessed in 2021 BIA Report	Field Assessment in 2022	Assessment Site ID
	Mine - Within Permitted Operating Area	Mine - Outside Permitted Operating Area	Deeded Properties				
East Boulder Mine site (includes unpatented claims within this permitted operating area)	X	--	--	X	X	X	EBM15, EBM16, EBM17, EBM18, & EBM19[2]
Boe Ranch Facility (area inside permitted operating area, excluding the pipeline corridor and access road)	X[1]	--	--	X	X	--	--
East Boulder Plateau (includes Frog Pond Adit, vent raises, secondary escape ways, and patented claims within this permitted operating area)	X	--	--	--	X	--	--
Conservation Easement: Boe Ranch (area outside permitted operating area)	--	--	X	--	X	X	EBM04[2], EBM05[2], EBM06[2], EBM07[2], EBM08[2], EBM09, EBM10, EBM11, EBM12, & EBM13
Conservation Easement: Yates	--	--	X	--	X	X	EBM14
SMC deeded properties adjacent to East Boulder Mine	--	--	X	--	X	X	EBM20 & EBM21[2]
SMC office and parking lot in Big Timber, MT (ancillary property)	--	--	X	--	X	X	EBM01, EBM02, & EBM03
Unpatented mill site claims, unpatented lode claims, and patented lode claims outside permitted operating areas	--	X	X	--	--	--	--

[1]LAD pond and irrigation pivots proposed for future development in this assessment unit.
[2]Reference site for ecological system condition scoring.

3.1.1.1 Ecological Systems

The EBM assessment area is on US Forest Service (USFS)-managed lands and SMC deeded properties in Sweet Grass County, MT. Adding the new assessment units increased the acreage from 1,029.66 acres in the 2020 BIA Report to 2,689.59 acres and increased the number of ecological systems from eight to fifteen.

Table 3 summarizes the surface area and condition score for the reference, baseline, current, and future scenarios for ecological systems in the EBM assessment area. These data are also presented in Map A - 2, Map A - 3, Map A - 4, and Map A - 5, respectively. Condition scoring for the field assessment sites is in Table B - 3.

Table 3. Summary of ecological systems information for reference, baseline, current, and future scenarios at the EBM.

Ecological System	Total Extent (ac)	Condition Score	Condition Extent (ac)			
			Reference	Baseline	Current (2021)	Future
Rocky Mountain Lower Montane, Foothill, and Valley Grassland	1338.28	5	1338.28	733.79	723.16	723.16
		4	--	1.61	1.78	1.61
		3	--	365.30	363.22	372.69
		2	--	233.19	235.15	236.18
		0	--	4.40	14.98	4.65
Montane Sagebrush Steppe	405.91	5	405.91	405.91	405.86	405.86
		0	--	--	0.05	0.05
Rocky Mountain Montane Douglas-fir Forest and Woodland	299.98	5	299.98	296.96	275.28	275.28
		3	--	--	0.47	20.02
		2	--	--	4.25	--
		1	--	--	1.56	--
		0	--	3.02	18.41	4.67
Rocky Mountain Lodgepole Pine Forest	298.02	5	298.02	293.25	72.86	72.86
		3	--	--	5.73	220.84
		2	--	--	27.93	--
		1	--	--	1.19	--
		0	--	4.77	190.31	4.33
Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	61.72	5	61.72	41.15	40.90	40.90
		4	--	10.33	10.33	10.33
		3	--	6.15	6.03	6.57
		2	--	1.04	1.04	1.04
		0	--	3.04	3.41	2.87
Aspen Forest and Woodland	56.35	5	56.35	44.66	44.61	44.61
		4	--	3.73	3.73	3.73
		3	--	6.77	6.77	6.82
		2	--	1.09	1.09	1.09
		0	--	0.10	0.15	0.10
Big Sagebrush Steppe	55.04	5	55.04	49.23	49.23	49.23
		3	--	5.49	5.49	5.49
		2	--	0.32	0.32	0.32

Ecological System	Total Extent (ac)	Condition Score	Condition Extent (ac)			
			Reference	Baseline	Current (2021)	Future
Rocky Mountain Subalpine Woodland and Parkland	50.79	5	50.79	49.98	49.73	49.73
		4	--	--	--	1.06
		0	--	0.82	1.06	--
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	27.98	5	27.98	27.98	27.83	27.83
		4	--	--	--	0.15
		0	--	--	0.15	--
Rocky Mountain Foothill Limber Pine - Juniper Woodland	27.24	5	27.24	27.24	27.24	27.24
Rocky Mountain Subalpine-Upper Montane Grassland	23.58	5	23.58	23.58	23.58	23.58
Rocky Mountain Montane-Foothill Deciduous Shrubland	22.32	5	22.32	22.32	22.32	22.32
Rocky Mountain Cliff, Canyon, and Massive Bedrock	11.25	5	11.25	9.66	9.05	9.05
		4	--	--	--	2.20
		0	--	1.58	2.20	--
Alpine-Montane Wet Meadow	7.12	5	7.12	7.12	7.12	7.12
Great Plains Mixedgrass Prairie	4.03	5	4.03	--	--	--
		1	--	--	0.32	0.32
		0	--	4.03	3.71	3.71

Note: Acre values are rounded to the nearest hundredth.

3.1.1.2 Material Species and Habitat

The results of the species materiality assessment for US PGM Operations are in Table B - 1. Grizzly bear, Canada lynx, and whitebark pine ranked above the materiality threshold value of ten for the EBM assessment area. Whitebark pine was added as a material species due to the presence of Rocky Mountain Subalpine Woodland and Parkland and Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland in the added areas around the Graham Creek, Simpson Creek and Brownlee Vent Raises and the Frog Pond Adit. As of 2021, these species are designated as Montana Species of Concern. Grizzly bear and Canada lynx are listed as threatened in the conterminous United States under the Endangered Species Act of 1973 (ESA), and whitebark pine is listed as proposed threatened under the ESA.

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the EBM assessment area as commonly or occasionally associated with grizzly bear (listed in order of abundance):

- Rocky Mountain Lower Montane, Foothill, and Valley Grassland
- Montane Sagebrush Steppe
- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Rocky Mountain Lodgepole Pine Forest
- Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
- Aspen Forest and Woodland
- Big Sagebrush Steppe
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Foothill Limber Pine - Juniper Woodland
- Rocky Mountain Subalpine-Upper Montane Grassland
- Rocky Mountain Montane-Foothill Deciduous Shrubland

- Alpine-Montane Wet Meadow
- Great Plains Mixedgrass Prairie

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the EBM assessment area as commonly or occasionally associated with Canada lynx (listed in order of abundance):

- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Rocky Mountain Lodgepole Pine Forest
- Aspen Forest and Woodland
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Montane-Foothill Deciduous Shrubland

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the EBM assessment area as commonly associated with whitebark pine (listed in order of abundance):

- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland

3.1.2 Changes in Biodiversity

Changes in ecological systems and available habitat for material species in the EBM assessment area are described in Sections 3.1.2.1 and 3.1.2.2, respectively.

3.1.2.1 Ecological Systems

Under the reference scenario, prior to development and impacts related to forestry, mining, ranching, and urban development, the conditions were natural with minimal development. The assessment units were assigned maximum scores of five.

Under the baseline scenario, prior to the approval of the EBM Plan of Operations in 1993, the condition scores were impacted by ranching (for example, at Boe Ranch), mining development by previous operators (for example, at the Brownlee Vent Raise and Frog Pond Adit areas), and urban development (for example, in the Big Timber, MT area). Existing access roads and mining and urban areas were assigned a minimum score. Ranching areas were typically assigned scores from two to four depending on the extent of impacts. The Boe Ranch facility area had been assigned a baseline condition score of four in the 2020 BIA Report, based on information from baseline reports noting the presence of noxious weeds. However, the field assessment in September 2022 determined that noxious weeds are rare in the area, and the baseline condition score was increased to the maximum score of five. The added areas of Boe Ranch outside the permitted operating boundary were assigned baseline condition scores ranging from five to two depending on the extent of historic ranching development. Baseline condition scores of five were assigned to the undeveloped areas at the mine site, adjacent to the mine site, and at undeveloped vent raise areas. Historic aerial imagery and baseline environmental assessments supported the condition scoring.

Under the current scenario (2021 conditions), the permitted operating areas of the mine developed for operations were assigned scores ranging from zero to two, considering the site development and reclamation that had been completed. A small area of mining development on the East Boulder Plateau was assigned a score of zero. Undeveloped areas within the permitted operating boundary retained their baseline condition scores. The area adjacent to the mine is planned for future development but is currently undeveloped and condition scores were unchanged from baseline. Current condition scores at Boe Ranch (within the permitted operating area) remained unchanged from baseline. Land application disposal (LAD) of treated adit and tailings water from the mine is permitted at Boe Ranch, but as of 2021 the site development for LAD had not been implemented. Condition scores on the SMC deeded properties

designated as conservation easements at Boe Ranch (outside the permitted operating boundary) and the Yates property were typically unchanged from baseline, except for the area developed with a gravel pit and injection well infrastructure at Yates. A small area of the Big Timber, MT property which was converted to a grass lawn was assigned a higher score to reflect this change from baseline. The remaining area within this assessment unit is fully developed with buildings and parking areas and retained the minimum score.

Information collected in September 2022 during field assessments at twenty-one locations in the EBM assessment area supported current condition scoring. Table B - 3 presents condition scoring for the EBM field assessment sites.

The future scenario for the permitted operating areas of the mine site and East Boulder Plateau assumed that concurrent and final reclamation and restoration will be completed according to the approved reclamation plans, with site regrading, placement of stockpiled soil to support revegetation, seeding with the approved low-elevation or high-elevation seed mixes, and additional planting of shrubs and trees during final reclamation and restoration. Areas planned for reclamation and restoration were assigned a score of three or four, and areas with no disturbance or reclamation planned retained their current score. The small area of roads to remain post reclamation was assigned a minimum score. The future scenario condition scores for the Boe Ranch facility and the assessment area adjacent to the mine assumed that the site conditions are unchanged, with no future development and no reclamation or restoration activity. The future scenario for the Big Timber, MT property also assumed no changes from the current scenario. Condition scores on the SMC deeded properties designated as conservation easements at Boe Ranch (outside the permitted operating boundary) and Yates were typically unchanged from the current scenario, except for the developed area at Yates, which was assigned a higher condition score of three.

3.1.2.2 Material Species and Habitat

Available habitat in terms of acres for grizzly bear, Canada lynx, and whitebark pine is shown in Figure 1. Available habitat was estimated as the total area within those ecological systems commonly (or occasionally, for grizzly bear and Canada lynx) associated with the species which had a condition score of three or more. The 4.03 acre area of Great Plains Mixedgrass Prairie in the town of Big Timber, MT was not included in the estimate of target habitat for grizzly bear as it is surrounded by urban development and was not available habitat for grizzly bear at the time of the reference scenario.

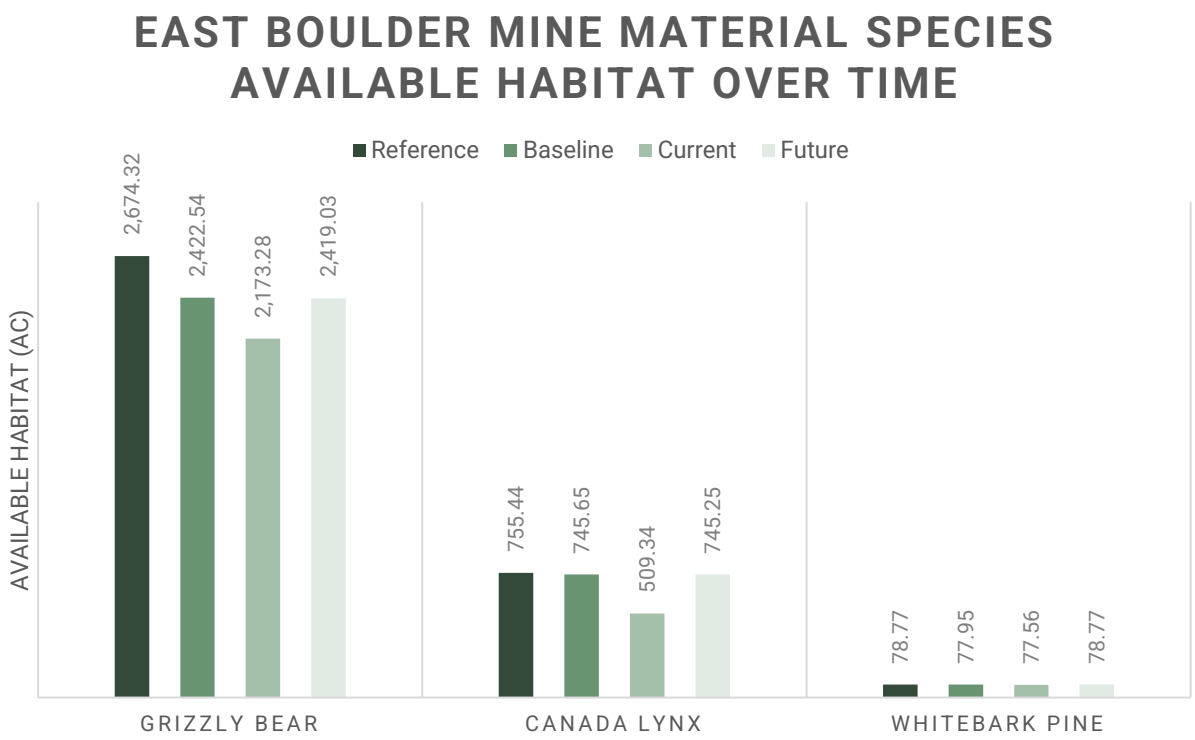

Figure 1. Material species habitat availability over time at East Boulder Mine.

3.1.3 Statements of Biodiversity Position and Performance

The Statements of Biodiversity Position and Performance and biodiversity footprint for ecological systems and material species habitat in the EBM assessment area are in Sections 3.1.3.1 and 3.1.3.2, respectively. Results in acres and acre equivalents are presented as values rounded to the nearest hundredth.

3.1.3.1 Ecological Systems

Table B - 10 presents the ecological system accounting for the EBM assessment area. Table 4 summarizes the Statement of Biodiversity Position for ecological systems for each accounting period. Table 5 summarizes the Statement of Biodiversity Performance for each accounting period.

For the EBM assessment area, the biodiversity impact accounting indicated a net loss of biodiversity (negative net impacts) from baseline to current conditions. Assuming reclamation and restoration work is completed according to the current plans, the analysis indicated partial recovery with an overall decrease in positive impacts over the operational period.

Table 4. Statement of Biodiversity Position for ecological systems at the EBM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	2,689.59	2,369.84	319.75
Current	2,689.59	2,132.60	557.00
Future	2,689.59	2,269.01	420.59

Table 5. Statement of Biodiversity Performance for ecological systems at the EBM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	3,026.61	656.77	2,369.84
Current	18.13	255.37	(237.25)
Future	149.97	13.56	136.41

Notes: Parentheses denote negative values. Baseline performance accounts for reference ecological systems.

The ecological system assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 6 in terms of the biodiversity footprint. The positive biodiversity footprint (the percentage of total ecological system assets that are positively impacted) is presented for each scenario.

Table 6. EBM ecological systems biodiversity footprint for the baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (A)	2,689.59	2,689.59	2,689.59
Positive Footprint (B)	2,369.84	2,132.60	2,269.01
Negative Footprint (C)	319.75	557.00	420.59
Percent Positive Footprint (B/A)	88.1%	79.3%	84.4%

The results of the biodiversity impact accounting for the EBM assessment area indicated that the net impact is negative, with a decrease from 88.1% to 84.4% positive biodiversity footprint from the baseline scenario to the future scenario. The positive footprint for the future scenario (equal to the sum of net impacts from baseline to future) was 2,269.01 equivalent acres, and the negative footprint was 420.59 equivalent acres. These results were driven by the lower condition score assigned to reclaimed and restored areas and the minimum condition scores assigned to the properties in Big Timber, MT.

Recommendations for increasing the positive biodiversity footprint of the EBM assessment area are in Section 4.0.

3.1.3.2 Material Species and Habitat

Table B - 7, Table B - 8, and Table B - 9 present the material species habitat accounting for the EBM assessment area. The impacts to grizzly bear, Canada lynx, and whitebark pine (measured in terms of available habitat in the EBM assessment area) varied similarly from the baseline scenario to the future scenario, with decreases of available habitat for all material species under the current scenario followed by a return to approximately baseline conditions under the future scenario. The positive biodiversity footprints for the future scenario were 90.5%, 98.7%, and 100% for the grizzly bear, Canada lynx, and whitebark pine, respectively.

The Statement of Biodiversity Position for grizzly bear habitat for each accounting period is in Table 7. The Statement of Biodiversity Performance for each accounting period is in Table 7.

Table 7. Statement of Biodiversity Position for grizzly bear habitat at the EBM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	2,674.32	2,422.54	251.78
Current	2,674.32	2,173.28	501.04
Future	2,674.32	2,419.03	255.29

Table 8. Statement of Biodiversity Performance for grizzly bear habitat at the EBM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	2,674.32	251.78	2,422.54
Current	--	249.26	(249.26)
Future	245.75	--	245.75

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The grizzly bear habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 9 in terms of the biodiversity footprint. The positive biodiversity footprint (the percentage of total grizzly bear habitat assets that are positively impacted) is presented for each scenario.

Table 9. EBM grizzly bear habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	2,674.32	2,674.32	2,674.32
Positive Footprint (ac) (B)	2,422.54	2,173.28	2,419.03
Negative Footprint (ac) (C)	251.78	501.04	255.29
Percent Positive Footprint (B/A)	90.6%	81.3%	90.5%

The Statement of Biodiversity Position for Canada lynx habitat for each accounting period is in Table 10. The Statement of Biodiversity Performance for each accounting period is in Table 11.

Table 10. Statement of Biodiversity Position for Canada lynx habitat at the EBM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	755.44	745.65	9.79
Current	755.44	509.34	246.10
Future	755.44	745.25	10.19

Table 11. Statement of Biodiversity Performance for Canada lynx habitat at the EBM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	755.44	9.79	745.65
Current	--	236.31	(236.31)
Future	235.91	--	235.91

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The Canada lynx habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 12 in terms of the biodiversity footprint. The positive biodiversity footprint (the percentage of total Canada lynx habitat assets that are positively impacted) is presented for each scenario.

Table 12. EBM Canada lynx habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	755.44	755.44	755.44
Positive Footprint (ac) (B)	745.65	509.34	745.25
Negative Footprint (ac) (C)	9.79	246.10	10.19
Percent Positive Footprint (B/A)	98.7%	67.4%	98.7%

Table 13 summarizes the Statement of Biodiversity Position for whitebark pine habitat for each accounting period. Table 14 summarizes the Statement of Biodiversity Performance for each accounting period.

Table 13. Statement of Biodiversity Position for whitebark pine habitat at the EBM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	78.77	77.95	0.82
Current	78.77	77.56	1.21
Future	78.77	78.77	--

Table 14. Statement of Biodiversity Performance for whitebark pine habitat at the EBM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	78.77	0.82	77.95
Current	--	0.39	(0.39)
Future	1.21	--	1.21

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The whitebark pine habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 15 in terms of the biodiversity footprint. The positive biodiversity footprint (the percentage of total whitebark pine habitat assets that are positively impacted) is presented for each scenario.

Table 15. EBM whitebark pine habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	78.77	78.77	78.77
Positive Footprint (ac) (B)	77.95	77.56	78.77
Negative Footprint (ac) (C)	0.82	1.21	--
Percent Positive Footprint (B/A)	99.0%	98.5%	100.0%

3.2 NET IMPACTS ON BIODIVERSITY: STILLWATER MINE

Section 3.2.1 and subsections describe the biodiversity impact inventory for the SWM assessment area. Section 3.2.2 and subsections describe the changes in biodiversity. Statements of Biodiversity Position and Performance are presented in Section 3.2.3 and subsections.

3.2.1 Biodiversity Impact Inventory

The boundary of the biodiversity impact inventory for the SWM assessment area included permitted operating areas and SMC deeded properties. The permitted operating areas included the mine and vent raises, Hertzler Ranch facility (excluding the pipeline corridor), Stratton Ranch facility, and Benbow Portal. The SMC deeded properties included areas designated as conservation easements at Stratton Ranch, Beartooth Ranch, Magpie Ranch, and Ekwortzel Ranch, and properties at Cathedral Mountain Ranch, adjacent to Hertzler Ranch, and northeast of Benbow Portal. All areas are within the direct operations value chain boundary.

Table 16 lists the assessment units in the SWM assessment area that were included in the 2020 BIA Report and that were added to the biodiversity impact inventory in the 2021 BIA Report. Field assessment sites in the SWM assessment area are also listed with reference sites noted. Unpatented mill site and tunnel claims, unpatented lode and placer claims, and patented lode and placer claims outside the SWM permitted operating areas were not included due to limited availability of current ecological system condition data. This data gap is noted in Section 3.4. Map A - 1 provides an overview of all properties included in the 2021 BIA Report and Map A - 6 provides an overview of all properties included in the SWM assessment area.

Table 16. Overview of the Stillwater Mine assessment area.

Assessment Unit	Direct Operations			Assessed in 2020 BIA Report	Assessed in 2021 BIA Report	Field Assessment in 2022	Assessment Site ID
	Mine - Within Permitted Operating Area	Mine - Outside Permitted Operating Area	Deeded Properties				
Stillwater Mine site (includes patented and unpatented claims and leased property within this permitted operating area)	X	--	--	X	X	--	--
Vent Raises (includes patented claims)	X	--	--	--	X	--	--
Hertzler Ranch Facility (excluding the pipeline corridor)	X	--	--	X	X	X	SWM14[1], SWM15, SWM17, SWM18 SWM19, & SWM20
Stratton Ranch Facility (area inside permitted operating area)	X[2]	--	--	X	X	X	SWM05, SWM06[1], SWM07[1], SWM08, & SWM09[1]
Benbow Portal (includes unpatented claims within this permitted operating area)	X[2]	--	--	X	X	X	SWM27, SWM28, SWM29[1], SWM30[1], SWM31[1], & SWM32[1]
Conservation Easement: Stratton Ranch	n/a[3]	n/a[3]	n/a[3]	n/a[3]	n/a[3]	n/a[3]	n/a[3]
Conservation Easement: Beartooth Ranch	--	--	X	--	X	X	SWM01, SWM02, SWM03[1], & SWM04[1]
Conservation Easement: Magpie Ranch	--	--	X	--	X	--	--
Conservation Easement: Ekwortzel Ranch	--	--	X	--	X	X	SWM16[1]
SMC deeded property at Cathedral Mountain Ranch	--	--	X	--	X	X	SWM10[1], SWM11, SWM12[1], & SWM13[1]
SMC deeded property adjacent to Hertzler Ranch	--	--	X	--	X	X	SWM21, SWM22, SWM23[1], & SWM24[1]
SMC deeded property northeast of Benbow Portal	--	--	X	--	X	X	SWM25 & SWM26[1]
Unpatented mill site and tunnel claims, unpatented lode and placer claims, and patented lode and placer claims outside permitted operating areas	--	X	X	--	--	--	--

[1]Reference site for ecological system condition scoring.
[2]LAD pond and irrigation pivots proposed for future development in this assessment unit.
[3]Analyzed under "Stratton Ranch Facility" because all conservation easement area is inside permitted operating area.

3.2.1.1 Ecological Systems

The SWM assessment area is on USFS-managed lands, Sibanye-Stillwater leased fee properties, and SMC deeded properties in Stillwater and Sweet Grass Counties, MT. Adding the new assessment units increased the acreage from 3,202.55 acres in the 2020 BIA Report to 5,557.83 acres and increased the number of ecological systems from thirteen to sixteen.

Table 17 summarizes the surface area and condition score for the reference, baseline, current, and future scenarios for ecological systems in the SWM assessment area. These data are also presented in Map A - 6, Map A - 7, Map A - 8, and Map A - 9, respectively. Condition scoring for the field assessment sites is in Table B - 4.

Table 17. Summary of ecological systems information for reference, baseline, current, and future scenarios at the SWM.

Ecological System	Total Extent (ac)	Condition Score	Condition Extent (ac)			
			Reference	Baseline	Current (2021)	Future
Rocky Mountain Lower Montane, Foothill, and Valley Grassland	2140.90	5	2140.90	1591.15	800.64	802.03
		4	--	15.55	345.23	349.60
		3	--	428.57	159.64	847.06
		2	--	1.01	406.67	80.13
		1	--	50.87	7.88	--
		0	--	53.76	420.84	62.09
Rocky Mountain Montane Douglas-fir Forest and Woodland	1469.03	5	1469.03	1432.06	1354.05	1354.05
		4	--	--	37.15	37.17
		3	--	12.90	12.93	50.94
		2	--	--	13.47	--
		1	--	0.20	--	--
		0	--	23.88	51.43	26.87
Big Sagebrush Steppe	847.16	5	847.16	833.98	831.71	831.71
		3	--	5.66	5.66	7.93
		2	--	3.73	6.01	3.73
		0	--	3.78	3.78	3.78
Montane Sagebrush Steppe	204.03	5	204.03	196.39	194.96	194.96
		4	--	--	2.55	2.57
		3	--	2.97	--	2.03
		2	--	--	0.77	--
		1	--	0.12	--	--
		0	--	4.55	5.76	4.47
Rocky Mountain Lodgepole Pine Forest	177.06	5	177.06	176.03	175.51	175.51
		4	--	--	0.02	0.02
		3	--	0.02	--	0.52
		2	--	--	0.12	--
		0	--	1.01	1.41	1.01

Ecological System	Total Extent (ac)	Condition Score	Condition Extent (ac)			
			Reference	Baseline	Current (2021)	Future
Rocky Mountain Montane-Foothill Deciduous Shrubland	171.82	5	171.82	163.40	161.96	161.96
		4	--	--	4.84	4.92
		3	--	5.86	0.67	2.87
		2	--	--	0.57	--
		0	--	2.57	3.78	2.08
Aspen Forest and Woodland	135.86	5	135.86	131.46	130.52	130.52
		4	--	--	2.40	2.40
		3	--	2.25	0.15	0.77
		0	--	2.15	2.79	2.17
Rocky Mountain Foothill Limber Pine - Juniper Woodland	124.59	5	124.59	124.54	122.84	122.84
		3	--	--	--	1.71
		2	--	--	1.61	--
		0	--	0.05	0.15	0.05
Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	104.94	5	104.94	103.39	102.05	102.05
		4	--	0.20	0.89	0.89
		3	--	0.25	--	0.87
		1	--	0.20	--	--
		0	--	0.91	2.00	1.14
Rocky Mountain Cliff, Canyon, and Massive Bedrock	64.01	5	64.01	63.03	61.17	61.20
		4	--	--	0.27	0.27
		3	--	0.25	0.22	1.75
		2	--	--	0.54	--
		0	--	0.74	1.80	0.79
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	43.72	5	43.72	43.52	43.52	43.52
		3	--	0.02	0.02	0.02
		0	--	0.17	0.17	0.17
Open Water	34.08	5	34.08	34.08	34.06	34.06
		4	--	--	0.02	0.02
Rocky Mountain Subalpine-Upper Montane Grassland	23.60	5	23.60	22.57	22.57	22.57
		0	--	1.04	1.04	1.04
Alpine-Montane Wet Meadow	14.93	5	14.93	14.93	14.93	14.93
Rocky Mountain Subalpine Woodland and Parkland	1.63	5	1.63	1.63	1.63	1.63
Rocky Mountain Subalpine-Montane Mesic Meadow	0.44	5	0.44	0.44	0.44	0.44

Note: Acre values are rounded to the nearest hundredth.

3.2.1.2 Material Species and Habitat

The results of the species materiality assessment for US PGM Operations are presented in Table B - 1. Grizzly bear, Canada lynx, and whitebark pine ranked above the materiality threshold value of ten for the SWM assessment area. As of 2021, these species are designated as Montana Species of Concern. Grizzly bear and Canada lynx are listed as threatened in the conterminous United States under the ESA, and whitebark pine is listed as proposed threatened under the ESA.

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the SWM assessment area as commonly or occasionally associated with grizzly bear (in order of abundance):

- Rocky Mountain Lower Montane, Foothill, and Valley Grassland
- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Big Sagebrush Steppe
- Montane Sagebrush Steppe
- Rocky Mountain Lodgepole Pine Forest
- Rocky Mountain Montane-Foothill Deciduous Shrubland
- Aspen Forest and Woodland
- Rocky Mountain Foothill Limber Pine - Juniper Woodland
- Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine-Upper Montane Grassland
- Alpine-Montane Wet Meadow
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine-Montane Mesic Meadow

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the SWM assessment area as commonly or occasionally associated with Canada lynx (in order of abundance):

- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Rocky Mountain Lodgepole Pine Forest
- Rocky Mountain Montane-Foothill Deciduous Shrubland
- Aspen Forest and Woodland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine-Montane Mesic Meadow

The Montana Field Guide (MTNHP, 2022) identifies the following ecological systems in the SWM assessment area as commonly associated with whitebark pine (in order of abundance):

- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine Woodland and Parkland

3.2.2 Changes in Biodiversity

Changes in ecological systems and available habitat for material species in the SWM assessment area are described in Sections 3.2.2.1 and 3.2.2.2, respectively.

3.2.2.1 Ecological Systems

Under the reference scenario, prior to development and impacts related to forestry, mining, and ranching, the conditions were natural with minimal development. The assessment units were assigned maximum scores of five.

Under the baseline scenario, prior to the approval of the SWM Plan of Operations in 1986, the condition scores were impacted by ranching (for example, at Hertzler Ranch) and mining development by previous

operators (for example, at the mine site and Benbow Portal). Existing access roads and structures were assigned a minimum score, and mining areas were assigned a score ranging from zero to three, depending on the extent of reclamation. Ranching areas and the newly added SMC deeded properties (including the conservation easements at Magpie Ranch, Ekwortzel Ranch, Beartooth Ranch, and Stratton Ranch) were typically assigned a score of three to a maximum score of five, depending on the extent of impacts. Historic aerial imagery and baseline environmental assessments supported the condition scoring.

Under the current scenario (2021 conditions), the permitted operating areas of the mine, Benbow Portal and Hertzler Ranch developed for operations were assigned scores ranging from zero to three, depending on the extent of development and reclamation. The condition scores for areas which have not been developed, including the conservation easements, were typically unchanged from the baseline scenario except for small areas of disturbance at Stratton Ranch. LAD is permitted at Stratton Ranch and Benbow Portal, but as of 2021 site development for LAD had not been implemented at these locations.

Information collected in September 2022 during field assessments at thirty-two locations in the SWM assessment area supported the current condition scoring. Table B - 4 presents condition scoring for the SWM field assessment sites.

The assumption that concurrent and final reclamation and restoration will be completed according to the approved reclamation plans (used for assigning future scenario condition scores in the EBM assessment area) was also used for the SWM assessment area. Areas planned for reclamation after operations were typically assigned a condition score of three except where reclamation has already been initiated and is unlikely to be disturbed. In these areas (for example, where reclamation has already been initiated at Benbow Portal), a future condition score of four was assigned. Areas with roads, structures, and infrastructure to remain post reclamation were assigned a minimum score.

3.2.2.2 Material Species and Habitat

Available habitat in terms of acres for grizzly bear, Canada lynx, and whitebark pine is shown in Figure 2. Available habitat was estimated as the total area within those ecological systems commonly (or occasionally, for grizzly bear and Canada lynx) associated with the species which had a condition score of three or more.

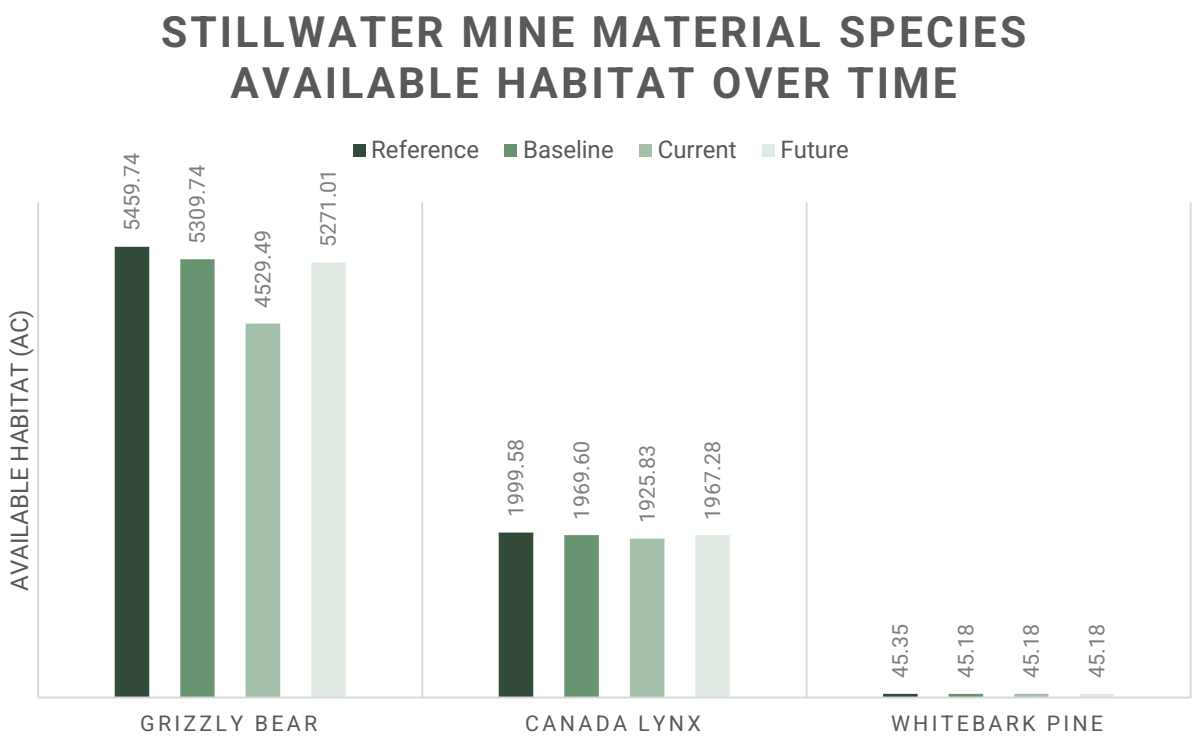

Figure 2. Material species habitat availability over time at Stillwater Mine.

3.2.3 Statements of Biodiversity Position and Performance

The Statements of Biodiversity Position and Performance and biodiversity footprint for ecological systems and material species habitat in the SWM assessment area are in Sections 3.2.3.1 and 3.2.3.2, respectively. Results in acres and acre equivalents are presented as values rounded to the nearest hundredth.

3.2.3.1 Ecological Systems

Table B - 10 presents the ecological system accounting for the SWM assessment area. Table 18 summarizes the Statement of Biodiversity Position for ecological systems for each accounting period. Table 19 summarizes the Statement of Biodiversity Performance for each accounting period.

For the SWM assessment area, the biodiversity impact accounting indicated a net loss of biodiversity from baseline to current conditions. Assuming reclamation and restoration work is completed according to the current plans, the analysis indicated partial recovery with an overall decrease in positive impacts over the operational period.

Table 18. Statement of Biodiversity Position for ecological systems at the SWM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	5,557.83	5,232.62	325.22
Current	5,557.83	4,648.32	909.51
Future	5,557.83	4,955.70	602.14

Table 19. Statement of Biodiversity Performance for ecological systems at the SWM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	5,857.85	625.23	5,232.62
Current	472.13	1,056.42	(584.30)
Future	447.31	139.94	307.38

Notes: Parentheses denote negative values. Baseline performance accounts for reference ecological systems.

The ecological system assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 20 in terms of the biodiversity footprint. The positive biodiversity footprint is presented for each scenario.

Table 20. SWM ecological systems biodiversity footprint for the baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (A)	5,557.83	5,557.83	5,557.83
Positive Footprint (B)	5,232.62	4,648.32	4,955.70
Negative Footprint (C)	325.22	909.51	602.14
Percent Positive Footprint (B/A)	94.1%	83.6%	89.2%

The results of the biodiversity impact accounting for the SWM assessment area indicated that the net impact is negative, with a decrease from 94.1% to 89.2% positive biodiversity footprint from the baseline scenario to the future scenario. The positive footprint for the future scenario was 4,955.70 equivalent acres, and the negative footprint was 602.14 equivalent acres. As reported for the EBM assessment area, these results were driven by the lower condition score assigned to reclaimed and restored areas.

Recommendations for increasing the positive biodiversity footprint of the SWM assessment area are in Section 4.0.

3.2.3.2 Material Species and Habitat

Table B - 11, Table B - 12, and Table B - 13 present the material species habitat accounting for the SWM assessment area. The impacts to grizzly bear and Canada lynx followed a trend like that evaluated for the EBM assessment area, with a decrease in available habitat under the current scenario followed by a return to approximately baseline conditions. Whitebark pine followed a different trend, with a minimal decrease in available habitat under the current and future scenarios. The positive biodiversity footprints for the future scenario were 96.5%, 98.4%, and 99.6% for the grizzly bear, Canada lynx, and whitebark pine, respectively.

The Statement of Biodiversity Position for grizzly bear habitat for each accounting period is in Table 21. The Statement of Biodiversity Performance for each accounting period is in Table 22.

Table 21. Statement of Biodiversity Position for grizzly bear habitat at the SWM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	5,459.74	5,309.74	150.00
Current	5,459.74	4,529.49	930.25
Future	5,459.74	5,271.01	188.73

Table 22. Statement of Biodiversity Performance for grizzly bear habitat at the SWM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	5,459.74	150.00	5,309.74
Current	--	780.25	(780.25)
Future	741.52	--	741.52

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The grizzly bear habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 23 in terms of the biodiversity footprint. The positive biodiversity footprint is presented for each scenario.

Table 23. SWM grizzly bear habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	5,459.74	5,459.74	5,459.74
Positive Footprint (ac) (B)	5,309.74	4,529.49	5,271.01
Negative Footprint (ac) (C)	150.00	930.25	188.73
Percent Positive Footprint (B/A)	97.3%	83.0%	96.5%

The Statement of Biodiversity Position for Canada lynx habitat for each accounting period is in Table 24. The Statement of Biodiversity Performance for each accounting period is in Table 25.

Table 24. Statement of Biodiversity Position for Canada lynx habitat at the SWM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	1,999.58	1,969.60	29.98
Current	1,999.58	1,925.83	73.75
Future	1,999.58	1,967.28	32.30

Table 25. Statement of Biodiversity Performance for Canada lynx habitat at the SWM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	1,999.58	29.98	1,969.60
Current	--	43.77	(43.77)
Future	41.45	--	41.45

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The Canada lynx habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 26 in terms of the biodiversity footprint. The positive biodiversity footprint is presented for each scenario.

Table 26. SWM Canada lynx habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	1,999.58	1,999.58	1,999.58
Positive Footprint (ac) (B)	1,969.60	1,925.83	1,967.28
Negative Footprint (ac) (C)	29.98	73.75	32.30
Percent Positive Footprint (B/A)	98.5%	96.3%	98.4%

Table 27 summarizes the Statement of Biodiversity Position for whitebark pine habitat for each accounting period. Table 28 summarizes the Statement of Biodiversity Performance for each accounting period.

Table 27. Statement of Biodiversity Position for whitebark pine habitat at the SWM.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	45.35	45.18	0.17
Current	45.35	45.18	0.17
Future	45.35	45.18	0.17

Table 28. Statement of Biodiversity Performance for whitebark pine habitat at the SWM.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	45.35	0.17	45.18
Current	--	--	--
Future	--	--	--

Notes: Parentheses denote negative values. Baseline performance accounts for reference habitat.

The whitebark pine habitat assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 29 in terms of the biodiversity footprint. The positive biodiversity footprint is presented for each scenario.

Table 29. SWM whitebark pine habitat biodiversity footprint for baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (ac) (A)	45.35	45.35	45.35
Positive Footprint (ac) (B)	45.18	45.18	45.18
Negative Footprint (ac) (C)	0.17	0.17	0.17
Percent Positive Footprint (B/A)	99.6%	99.6%	99.6%

3.3 NET IMPACTS ON BIODIVERSITY: COLUMBUS METALLURGICAL COMPLEX

Section 3.3.1 and subsections describe the biodiversity impact inventory for the CMC assessment area. Section 3.3.2 and subsections describe the changes in biodiversity. Statements of Biodiversity Position and Performance are presented in Section 3.3.3 and subsections.

3.3.1 Biodiversity Impact Inventory

The boundary of the biodiversity impact inventory for the CMC assessment area included the operating facilities (smelting facility, base metals refinery, catalytic converter recycling facility, and core complex); SMC deeded properties to the east, northeast, northwest and west of the operating facilities; and SMC deeded property designated as a conservation easement to the east of the operating facilities. All areas are within the direct operations value chain boundary.

Table 30 lists the assessment units in the CMC assessment area that were included in the 2020 BIA Report and that were added to the biodiversity impact inventory in the 2021 BIA Report. Field assessment sites are also listed. The CMC biodiversity impact boundary includes all properties within the direct operations value chain boundary for the CMC; no data gaps have been identified for this assessment area. Map A - 1 provides an overview of all properties included in the 2021 BIA Report and Map A - 10 provides an overview of all properties included in the CMC assessment area.

Table 30. Overview of the Columbus Metallurgical Complex assessment area.

Assessment Unit	Direct Operations			Assessed in 2020 BIA Report	Assessed in 2021 BIA Report	Field Assess. in 2022	Assessment Site ID
	Within Operating Area	Outside Operating Area	Deeded Properties				
Columbus Metallurgical Complex operating facilities	X	--	--	X	X	X	CMC05
Conservation easement adjacent to CMC operating facilities	--	--	X	--	X	X	CMC06, CMC07, CMC08, & CMC09
SMC property east of CMC operating facilities	--	--	X	--	X	--	--
SMC property west of CMC operating facilities	--	X	--	--	X	X	CMC03 & CMC04
SMC property northeast of CMC operating facilities	--	X	--	--	X	X	CMC01
SMC property northwest of CMC operating facilities	--	X	--	--	X	X	CMC02

3.3.1.1 Ecological Systems

The CMC assessment area is located on SMC deeded properties and BNSF property (used by Sibanye-Stillwater under an easement agreement) in Columbus, MT. Adding the new assessment units increased the acreage from 40.26 acres in the 2020 BIA Report to 366.31 acres and increased the number of ecological systems from one to four.

Table 31 summarizes the surface area and condition score for the reference, baseline, current, and future scenarios for ecological systems in the CMC assessment area. These data are also presented in Map A - 10. Condition scoring for the field assessment sites is in Table B - 5.

Table 31. Summary of ecological systems information for reference, baseline, current, and future scenarios at the CMC.

Ecological System	Total Ecosystem Extent (ac)	Condition Score	Condition Extent (ac)			
			Reference	Baseline	Current (2021)	Future
Big Sagebrush Steppe	158.95	5	158.95	3.41	3.41	3.41
		2	--	155.54	155.54	155.54
Great Plains Mixedgrass Prairie	124.05	5	124.05	28.84	12.53	12.53
		4	--	16.07	19.33	19.33
		3	--	47.73	47.73	47.73
		2	--	3.76	8.75	8.75
		1	--	5.51	1.85	1.85
		0	--	22.15	33.86	33.86
Great Plains Floodplain	43.35	5	43.35	--	--	--
		4	--	39.08	39.47	39.47
		3	--	3.88	3.88	3.88
		0	--	0.40	--	--
Great Plains Riparian	39.97	5	39.97	39.97	39.97	39.97

Note: Acre values are rounded to the nearest hundredth.

3.3.1.2 Material Species and Habitat

The results of the species materiality assessment for US PGM Operations are presented in Table B - 1. No material species were identified for the CMC assessment area.

3.3.2 Changes in Biodiversity

Changes in the CMC ecological systems are described in Section 3.3.2.1. No material species were identified for the CMC assessment area.

3.3.2.1 Ecological Systems

Under the reference scenario, prior to development and impacts related to urban development and ranching, the conditions were natural with minimal development. The assessment units were assigned maximum scores of five.

Under the baseline scenario (before the late 1980s when entities now owned by Sibanye-Stillwater purchased the property for construction of the smelter), undeveloped areas within the current boundary of the CMC operating facilities, the SMC deeded properties designated as a conservation easement, and area to the east of the CMC operating facilities were assigned maximum condition scores. Portions of the SMC deeded properties designated as a conservation easement were assigned lower baseline condition scores due to impacts from historic ranching. The SMC deeded property to the northeast of the CMC operating facilities was assigned a baseline condition score of two across most of the surface area due to the loss of Big Sagebrush Steppe after conversion to a cultivated hay field. The area in the northwest corner of this property was not cultivated due to its topography and was assigned a maximum baseline condition score of five. SMC deeded properties to the west of the CMC operating facilities were assigned baseline condition scores of two due to development of these properties by previous operators with loss of native plant species cover. Areas within the current boundary of the CMC operating facilities and to the

east of the CMC operating facilities which had been developed for mineral processing by previous operators were assigned minimum condition scores or condition scores of one for baseline. The SMC deeded property to the northwest of the CMC operating facilities was also assigned a minimum condition score due to urban development on the property.

Under the current scenario (2021 conditions), the developed areas within the current boundary of the CMC operating facilities were assigned minimum condition scores. Some areas within this boundary which had been developed by previous operators but have been restored through reclamation and revegetation efforts by Sibanye-Stillwater were assigned higher condition scores of one or two. Within this boundary and at the warehouse, Sibanye-Stillwater manages stormwater for zero discharge using engineered channels and ponds. These site management practices have created areas of dense vegetation cover, and early re-establishment of native vegetation characteristic of the Great Plains Floodplain ecological system was observed during field assessments.

Current condition scores for the SMC deeded properties designated as a conservation easement were unchanged from baseline condition scores. The impacts of historic ranching (livestock grazing and hay cultivation) are evident in the western portion of the conservation easement, with decreased abundance and diversity of native plant species and encroachment by invasive plant species such as Russian olive (*Elaeagnus angustifolia*) and nonnative plant species such as creeping saltbush (*Atriplex prostrata*) observed during field assessments. However, the eastern portion of the conservation easement and the SMC deeded property to the east of the conservation easement boundary have not been significantly impacted by historic ranching, and these areas maintained the maximum condition score under the current scenario. Incidental observations of sandhill cranes (*Antigone canadensis*) and an American white pelican (*Pelecanus erythrorhynchos*) were noted during the field assessments in the conservation easement, and Sibanye-Stillwater personnel reported common sightings of these, and other bird species associated with the Great Plains Riparian and Great Plains Floodplain ecological systems.

Under the current scenario, condition scores for the SMC deeded property to the northeast of the CMC operating facilities were unchanged from baseline, because land use has not changed. The larger SMC deeded property to the west of the CMC operating facilities is currently used as a warehouse to support US PGM Operations, whereas there has been no building or parking area construction in the smaller adjacent property. Therefore, the larger property was assigned a minimum current condition score and the current condition score of the smaller property was unchanged from baseline. The SMC deeded property to the northwest of the CMC operating facilities in downtown Columbus, MT is used for administrative offices and the current condition score was unchanged from baseline.

Information collected in September 2022 during field assessments at nine locations in the CMC assessment area was used to support current condition scoring. Table B - 5 presents condition scoring for the CMC field assessment sites.

Under the future scenario, condition scores for all CMC assessment areas were assumed to be unchanged. Unlike the EBM and the SWM which require specific reclamation activities to restore developed areas following the operations phase, the CMC operating facilities are in a commercialized and industrialized zone and the properties do not require reclamation after operations. Current land use on the other SMC deeded properties within the CMC assessment area is assumed to remain unchanged under the future scenario.

3.3.2.2 Material Species and Habitat

No material species were identified for the CMC assessment area.

3.3.3 Statements of Biodiversity Position and Performance

The Statements of Biodiversity Position and Performance and biodiversity footprint for ecological systems in the CMC assessment area are in Section 3.3.3.1. No material species were identified for the CMC assessment area. Results in acres and acre equivalents are presented as values rounded to the nearest hundredth.

3.3.3.1 Ecological Systems

Table B - 14 presents the ecological system accounting for the CMC assessment area. Table 32 summarizes the Statement of Biodiversity Position for ecological systems for each accounting period. Table 33 summarizes the Statement of Biodiversity Performance for each accounting period.

For the CMC assessment area, the biodiversity impact accounting for ecological systems indicated a net loss of biodiversity from baseline to current conditions. Assuming no changes from current to future conditions, the analysis indicated a decrease in positive impacts over the operational period.

Table 32. Statement of Biodiversity Position for ecological systems at the CMC.

Scenario	Ecosystem Assets (A accounts; ac)	Accumulated Positive Impacts (B accounts; ac eq)	Accumulated Negative Impacts (C accounts; ac eq)
Baseline	366.31	212.12	154.20
Current	366.31	200.00	166.32
Future	366.31	200.00	166.32

Table 33. Statement of Biodiversity Performance for ecological systems at the CMC.

Scenario	Periodic Gains (Y accounts; ac eq)	Periodic Losses (Z accounts; ac eq)	Net Impacts (X accounts; ac eq)
Baseline	506.21	294.09	212.12
Current	4.92	17.04	(12.12)
Future	-	-	-

Notes: Parentheses denote negative values. Baseline performance accounts for reference ecological systems.

The ecological system assets, accumulated positive impacts, and accumulated negative impacts are summarized in Table 34 in terms of the biodiversity footprint. The positive biodiversity footprint is presented for each scenario.

Table 34. CMC ecological systems biodiversity footprint for the baseline, current, and future scenarios.

	Baseline	Current	Future
Total Area (A)	366.31	366.31	366.31
Positive Footprint (B)	212.12	200.00	200.00
Negative Footprint (C)	154.20	166.32	166.32
Percent Positive Footprint (B/A)	57.9%	54.6%	54.6%

The results of the biodiversity impact accounting for the CMC assessment area indicated that the net impact is negative, with a decrease from 57.9% to 54.6% positive biodiversity footprint from the baseline scenario to the future scenario. The positive footprint for the future scenario was 200.00 equivalent acres, and the negative footprint was 166.32 equivalent acres. These results were primarily due to the low condition scores related to historic ranching and urban and industrial development which already existed under the baseline scenario for SMC deeded properties, rather than a direct result of land use changes implemented by Sibanye-Stillwater for operations. In addition, because there are no requirements or formal plans for reclamation or restoration in the CMC assessment area, it was assumed that condition scores will not improve under the future scenario.

Recommendations for increasing the positive biodiversity footprint of the CMC assessment area are in Section 4.0.

3.4 DATA VALIDATION AND DATA GAPS

Sibanye-Stillwater implemented an additional standardized field assessment component to support ecological system condition scoring for the 2021 BIA Report. Field assessments were conducted by KC Harvey at twenty-one field sites in the EBM assessment area, thirty-two field sites in the SWM assessment area, and nine field sites in the CMC assessment area. The field assessments supported current condition scoring for added areas and provided ground-truthing for the remote approach to current condition scoring developed in the 2020 BIA Report.

By expanding the assessment areas in the 2021 BIA Report, Sibanye-Stillwater has made significant progress towards including all areas within the direct operations value chain boundaries for US PGM Operations. The only areas which are not included in the 2021 BIA Report are as follows:

- East Boulder Mine
    - Unpatented mill site claims, unpatented lode claims, and patented lode claims outside the EBM permitted operating areas
- Stillwater Mine
    - Unpatented mill site and tunnel claims, unpatented lode and placer claims, and patented lode and placer claims outside the SWM permitted operating areas

These areas were not included due to the limited availability of current ecological system condition data. However, the condition within these areas is expected to be unchanged from reference conditions due to their remote, often inaccessible, locations and limited land use. As shown in Map A - 1, these areas (depicted within the claim perimeter) are located primarily on USFS lands with minimal development. Therefore, the overall effect of including these lands in future biodiversity impact accounts will be to increase the positive biodiversity footprint for the EBM and SWM assessment areas.

3.5 ACCOUNTING AND REPORTING PRINCIPLES

This Report was developed using the accounting and reporting principles defined in the BD Protocol. Table 35 presents a summary of each principle and how it was applied. The application is consistent with the 2020 BIA Report, with updates regarding completeness and transparency principles noted.

Table 35. Application of BD Protocol reporting and accounting principles.

Principle	Definition	Application in US PGM Operations Biodiversity Impact Assessment
Relevance	Ensure the biodiversity impact inventory appropriately reflects the biodiversity impacts of the company and its value chain.	The value chain boundary for the US PGM Operations biodiversity impact inventory includes Direct Operations, which is indicated to be the part of the value chain with the largest relative magnitude of expected biodiversity impacts for the mining industry. Assessment of impacts within this value chain boundary supports selection of potential biodiversity impact mitigation strategies on property owned and managed by Sibanye-Stillwater.
Equivalency	Ensure the notion of equality in the type of biodiversity (ecological equivalency or like-for-like principle) is integral to biodiversity impact inventory development and accounting.	The biodiversity impact inventory for the US PGM Operations is composed of individual accounts of ecologically equivalent biodiversity features, and net impact accounting is based on equivalent biodiversity gains and losses. Ecological system accounts are aggregated, while material taxa accounts are kept separate.
Completeness	Account for, and report on, all impacts on ecological systems but only impacts on material taxa, within the chosen organizational and value chain boundaries. Disclose and justify any exclusion.	The biodiversity impact inventory and accounting for the US PGM Operations includes all ecological systems and material taxa within the direct operations value chain boundary. The biodiversity impact inventory boundaries were expanded to include SMC deeded properties, and the remaining data gaps are clearly explained.
Consistency	Use consistent methods to allow for meaningful comparisons of biodiversity impacts over time.	The biodiversity impact inventory and accounting for the US PGM Operations includes all ecological systems and material taxa within the direct operations value chain boundary under reference, baseline, current, and future scenarios. The same assessment method was applied to each area. Habitat is used as a proxy for material taxa populations in all cases.
Transparency	Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the data collection and estimation methods used.	The biodiversity impact inventory for the US PGM Operations was developed using Sibanye-Stillwater documentation and publicly accessible primary data sources, and all methodologies including assumptions are clearly described in this Report. The ecological system condition scoring method was refined to include more metrics and improve the transparency of the scoring process.
Accuracy	Ensure the measurement of biodiversity impacts is systematically accurate, as far as can be judged, notably by reducing uncertainties as far as is practicable.	The use of primary data sources in developing the biodiversity impact inventory for the US PGM Operations, including baseline resource reports, annual operations reports, and reclamation plans support an accurate assessment. Report data is further verified by an annual field assessment.
Time period assumptions	Account for biodiversity impacts consistently across business reporting periods.	Sibanye-Stillwater will periodically update the BIA for the US PGM Operations at intervals which align with major operational changes and/or reclamation phases.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Sibanye-Stillwater followed the recommendation from the 2020 BIA Report and from Houdet and Teren (2022) to include additional areas within the direct operations value chain boundary. The 2021 BIA Report presents an expanded biodiversity impact inventory including properties both within and outside the permitted operating boundaries. These properties are owned and managed by Sibanye-Stillwater and are within the direct operations value chain boundary for US PGM Operations. Including additional areas in the biodiversity impact inventory for the EBM, SWM, and CMC assessment areas improved the positive biodiversity footprint for each assessment area. By adding more areas that are within the direct operations value chain boundary but outside active operating areas, the BIA resulted in a more representative account of the impact of US PGM Operations on biodiversity.

Sibanye-Stillwater also followed the recommendation from the 2020 BIA Report and from Houdet and Teren (2022) to implement a refined condition scoring system using metrics for the ecological systems present in the EBM, SWM, and CMC assessment areas. The refined condition scoring system with multiple metrics was used for field assessments at the EBM, SWM, and CMC assessment areas. Reference sites were identified during field assessments at the EBM and SWM assessment areas which represent the major ecological systems present in the US PGM Operations. The refined condition scoring system also validated condition scoring based on remotely sensed data. With this improved method, the basis for condition scoring is more robust and transparent, and the drivers of changes in condition score can be readily identified to support management decisions.

The positive biodiversity footprint results for the EBM and SWM assessment areas improved compared to the 2020 BIA Report, indicating a lower negative net impact on biodiversity. This improvement was driven by the addition of ancillary properties and conservation easements in the EBM and SWM assessment area biodiversity impact inventories. By including these properties in the 2021 BIA Report, a more accurate assessment of the net impacts on biodiversity was achieved.

For the EBM assessment area, the biodiversity impact accounting indicated a decrease in positive biodiversity footprint for ecological systems from 88.1% to 84.4% from the baseline scenario to the future scenario. To increase the positive biodiversity footprint, Sibanye-Stillwater should continue its current management practices to control invasive plants. Invasive plant control is conducted twice per year at the mine site and in the Boe Ranch area, and based on field observations in September 2022, this practice is highly effective at preventing encroachment of invasive plant species and should be continued. Where feasible, seeding with native species to increase abundance and diversity will improve current scenario condition scores in the Boe Ranch area. Revegetation and invasive plant control efforts conducted during 2022 will also improve the current scenario condition scores at the mine site and the Yates property in future BIA. Areas of USFS lands adjacent to the mine site (outside the permitted operating boundary) which have recently been clear-cut were observed to contain widespread cover of Montana noxious weeds, including Canada thistle (*Cirsium arvense*). Sibanye-Stillwater should notify USFS of these noxious weeds and request that USFS eradicate these infestations to minimize the risk of encroachment on the mine site.

For the SWM assessment area, the biodiversity impact accounting indicated a decrease in positive biodiversity footprint for ecological systems from 94.1% to 89.2% from the baseline scenario to the future scenario. Recommended management actions to increase the positive biodiversity footprint include continued invasive plant control at all properties, reclamation of the former shooting range at Hertzler Ranch and the laydown yard at Cathedral Mountain Ranch, and supplemental seeding with native species to reduce introduced and invasive species cover at Hertzler Ranch. The shooting range at Hertzler Ranch and the laydown yard at Cathedral Mountain Ranch were recently closed and are prepared for seeding.

Initiation of reclamation will improve the current scenario condition scoring in these areas. The grassland communities surrounding the irrigation pivots and LAD ponds at Hertzler Ranch contain widespread cover of introduced and invasive plants, including cheatgrass (*Bromus tectorum*). Rehabilitation of these areas to increase native plant species cover will improve current scenario condition scores.

The material species identified for the EBM and SWM assessment areas were grizzly bear, Canada lynx, and whitebark pine. No material species were identified for the CMC. For the EBM assessment area, the positive biodiversity footprints for the future scenario were 90.5%, 98.7%, and 100% for the grizzly bear, Canada lynx, and whitebark pine, respectively. The results from the 2020 BIA Report indicated a positive biodiversity footprint of 99.2% and 98.0% for grizzly bear and Canada lynx, respectively, at the EBM (whitebark pine was not a material species for the EBM in the 2020 BIA Report). For the SWM assessment area, the positive biodiversity footprints for the future scenario for grizzly bear, Canada lynx, and whitebark pine were 96.5%, 98.4%, and 99.6%, respectively. The results from the 2020 BIA Report indicated a positive biodiversity footprint of 97.4%, 97.9%, and 99.7% for the grizzly bear, Canada lynx, and whitebark pine, respectively. Thus, the positive biodiversity footprint under the future scenario remained above 90% for all material species in the EBM and SWM assessment areas. These results are based on habitat condition scoring, and the recommendations for improving the positive biodiversity footprint for ecological systems are applicable for improving the positive biodiversity footprint for material species.

For the CMC assessment area, the biodiversity impact accounting indicated a decrease in positive biodiversity footprint for ecological systems from 57.9% to 54.6% from the baseline scenario to the future scenario. The net impact was more negative than that of the EBM and SWM assessment areas, due to the differences in closure and reclamation requirements for this area compared to those for the mine sites. These results are significantly improved when compared to the results from the 2020 BIA Report, which concluded that the positive biodiversity footprint would decrease from 47.1% to 8.8% from the baseline scenario to the future scenario. As observed for the EBM and SWM assessment areas, this change was driven by the addition of the ancillary properties and the conservation easement in the CMC assessment area biodiversity impact inventory, and the updated BIA provides a more accurate assessment of the net impacts on biodiversity associated with the CMC and its associated properties. To increase the positive biodiversity footprint of the CMC assessment area, it is recommended that Sibanye-Stillwater address the impacts of historic ranching in the areas to the east of the CMC operating facilities. Scarification on compacted areas, revegetation with native grasses, forbs, and shrubs, and targeted control efforts to reduce or remove invasive plant species, will support reestablishment of native species, and improve condition scores in these areas.

Future BIA should include updates to the biodiversity impact boundaries in each assessment area (to reflect property ownership changes after the previous BIA) and updates to current scenario ecological system condition scores (in areas where development or reclamation occurred after the previous assessment). The current condition scores of ecological system reference sites should be reassessed periodically to develop a long-term dataset of observations and photos characterizing the NRV of ecological systems occurring in the US PGM Operations assessment areas.

5.0 REFERENCES

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6.0 APPENDIX A - MAPS

Map A-1

Big Timber Area Map

Columbus Area Map

Boe Ranch

Yates Property

East Boulder Mine

Graham Creek Vent Raise

Frog Pond Adit and Brownlee Vent Raise

Simpson Creek Vent Raise

Park County

Sweet Grass County

Stillwater County

Hertzler Ranch

Ekwortzel Ranch

Magpie Ranch

Cathedral Mountain Ranch

Stratton Ranch

6600W Vent Raise

66 West Fork Breakout

Stillwater Mine

Benbow Portal

Beartooth Ranch

Columbus Metallurgical Complex

Montana

Big Timber

Billings

Columbus

East Boulder Mine

Stillwater Mine

Map Extent

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 1 2 Miles

2021 BIA Assessment Areas

Permitted Mine Areas

Claim Perimeter

Conservation Easements

US Forest Service

Bureau of Land Management

State of Montana

Local Government

Sibanye-Stillwater

Project Area Overview Map

October 2022

Map A-1

Map A-2

East Boulder Mine
Ecological Systems

Boe Ranch

Yates Property

East Boulder Mine

Graham Creek Vent Raise

Simpson Creek Vent Raise

Frog Pond Adit and Brownlee Vent Raise

Big Timber Area

Great Plains Mixedgrass Prairie

KC HARVEY ENVIRONMENTAL LLC

Mi
0 0.5 1

- Alpine-Montane Wet Meadow
- Aspen Forest and Woodland
- Big Sagebrush Steppe
- Montane Sagebrush Steppe
- Rocky Mountain Cliff, Canyon and Massive Bedrock
- Rocky Mountain Foothill Limber Pine - Juniper Woodland
- Rocky Mountain Lodgepole Pine Forest
- Rocky Mountain Lower Montane, Foothill, and Valley Grassland
- Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Rocky Mountain Montane-Foothill Deciduous Shrubland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine-Upper Montane Grassland

Sibanye-Stillwater

East Boulder Mine
Ecological Systems

October 2022 | Map A-2

Map A-3

East Boulder Mine
Ecological System Condition Score (Baseline)

Boe Ranch

Yates Property

East Boulder Mine

Graham Creek Vent Raise

Frog Pond Adit and Brownlee Vent Raise

Simpson Creek Vent Raise

Big Timber Area

Mason Ditch
McLeod Ditch
Craft Ditch
Enos Creek
Elk Creek
Horse Creek
Boulder River
East Boulder River
West Sheep Creek
Tepee Mountain
Contact Mountain
Graham Creek
Blakely Creek
Brownlee Creek
Canyon Creek
Chrome
Dry Fork Cre
Lost Cab
E BOULDER RD
298
5000
5250
5500
5750
6000
6250
6500
6750
7000
7250
7500
7750
8000
8500
9000
9250
9750

Sweet Grass County Courthouse
W 1ST AVE
HART ST
STOCK ST
191
Mi
0
0.25
0.5
N
W
E
S

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 0.5 1 Mi

Condition Score 0
Condition Score 1
Condition Score 2
Condition Score 3
Condition Score 4
Condition Score 5

Sibanye-Stillwater

East Boulder Mine
Ecological System Condition Score (Baseline)

October 2022 | Map A-3

Map A-4

East Boulder Mine
Ecological System Condition Score
(Current)

EBM13
EBM12
EBM09
EBM11
EBM10
EBM08
EBM07

Boe Ranch

Yates Property

EBM04
EBM06
EBM05
EBM14

East Boulder Mine

EBM19
EBM18
EBM21
EBM20
EBM16
EBM17
EBM15

Graham Creek Vent Raise

Frog Pond Adit and Brownlee Vent Raise

Simpson Creek Vent Raise

Big Timber Area

EBM01
EBM03
EBM02

Mason Ditch
McLeod Ditch
Craft Ditch
Enos Creek
Elk Creek
Horse Creek
Boulder River
East Boulder River
West Sheep Creek
Dry Fork Cre
Lost Cab
Tepee Mountain
Contact Mountain
Canyon Creek
Graham Creek
Blakely Creek
Brownlee Creek
MAIN BOULDER
Chrome
E BOULDER RD
Sweet Grass County Courthouse
W 1ST AVE
HAY ST
191

KC HARVEY ENVIRONMENTAL LLC

N W E S
0 0.5 1 Mi

Condition Score 0
Condition Score 1
Condition Score 2
Condition Score 3
Condition Score 4
Condition Score 5
Field Observation Point

Sibanye-Stillwater

East Boulder Mine
Ecological System Condition Score
(Current)

October 2022 | Map A-4

Map A-5

East Boulder Mine
Ecological System Condition Score (Future)

Boe Ranch

Yates Property

East Boulder Mine

Graham Creek Vent Raise

Frog Pond Adit and Brownlee Vent Raise

Simpson Creek Vent Raise

Big Timber Area

Mason Ditch
McLeod Ditch
Craft Ditch
Enos Creek
Elk Creek
Horse Creek
Boulder River
East Boulder River
West Sheep Creek
Tepee Mountain
Contact Mountain
Graham Creek
Canyon Creek
Blakely Creek
Brownlee Creek
Dry Fork Cre
Lost Cab
Chrome
E BOULDER RD
298
191
Sweet Grass County Courthouse
W 1ST AVE
HART ST
STOCK ST
FAIRGROUNDS RD

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 0.5 1 Mi

Condition Score 0
Condition Score 1
Condition Score 2
Condition Score 3
Condition Score 4
Condition Score 5

Sibanye-Stillwater

East Boulder Mine
Ecological System Condition Score (Future)

October 2022 | Map A-5

Map A-6

Stillwater Mine Ecological Systems

Ekwortzel Ranch

Hertzler Ranch

Magpie Ranch

Cathedral Mountain Ranch

Stratton Ranch

6600W Vent Raise

66 West Fork Breakout

Stillwater Mine

Beartooth Ranch

Benbow Portal

Meyer Mountain
Pass Creek
Castle Creek
Limestone Butte
Sheep Creek
Limestone Creek
LIMESTONE RD
PICKET PIN RD
Bear Pen Creek
Picket Pin Creek
Horseman Creek
NAT FOR DEV RD ROAD 419
NYE CEMETERY RD
SPREADING WINGE LN
Midnight Creek
Burnt Creek
PISHKUN RD
SUNDANCE TRL
Stillwater River
NATL FOREST DEVELOP ROAD 846 RD
CUSTER NATIONAL FRST
West Fork Stillwater
Cathedral Creek
Initial Creek
OLD NYE FISHING ACC
Dale Creek
Fishtail Butte
BENBOW RD
NATL FOREST DEVELOP ROAD 1414 RD
Meadow Creek
Mount Waldstein
Prairie Creek
Verdigris Creek
Nye Creek
Little Rocky Creek
Black Butte
East Fishtail Creek
Flume Creek

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 1 2 Mi

- Alpine-Montane Wet Meadow
- Aspen Forest and Woodland
- Big Sagebrush Steppe
- Montane Sagebrush Steppe
- Open Water
- Rocky Mountain Cliff, Canyon and Massive Bedrock
- Rocky Mountain Foothill Limber Pine - Juniper Woodland
- Rocky Mountain Lodgepole Pine Forest
- Rocky Mountain Lower Montane, Foothill, and Valley Grassland
- Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland
- Rocky Mountain Montane Douglas-fir Forest and Woodland
- Rocky Mountain Montane-Foothill Deciduous Shrubland
- Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
- Rocky Mountain Subalpine Woodland and Parkland
- Rocky Mountain Subalpine-Montane Mesic Meadow
- Rocky Mountain Subalpine-Upper Montane Grassland

Sibanye-Stillwater

Stillwater Mine
Ecological Systems

October 2022 | Map A-6

Map A-7

Stillwater Mine
Ecological System Condition Scores
(Baseline)

Ekwortzel Ranch

Hertzler Ranch

Magpie Ranch

Cathedral Mountain Ranch

Stratton Ranch

6600W Vent Raise

66 West Fork Breakout

Stillwater Mine

Beartooth Ranch

Benbow Portal

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 1 2 Mi

Condition Score 0
Condition Score 1
Condition Score 2
Condition Score 3
Condition Score 4
Condition Score 5

Sibanye-Stillwater

Stillwater Mine
Ecological System Condition Score
(Baseline)

October 2022 | Map A-7

Map A-8

Stillwater Mine
Ecological System Condition Score
(Current)

Ekwortzel Ranch
Hertzler Ranch
Magpie Ranch
Cathedral Mountain Ranch
Stratton Ranch
Benbow Portal
6600W Vent Raise
66 West Fork Breakout
Stillwater Mine
Beartooth Ranch

SWM01
SWM02
SWM03
SWM04
SWM05
SWM06
SWM07
SWM08
SWM09
SWM10
SWM11
SWM12
SWM13
SWM14
SWM15
SWM16
SWM17
SWM18
SWM19
SWM20
SWM21
SWM22
SWM23
SWM24
SWM25
SWM26
SWM27
SWM28
SWM29
SWM30
SWM31
SWM32

Meyer Mountain
Pass Creek
Castle Creek
Limestone Butte
Limestone Creek
LIMESTONE RD
PICKET PIN RD
Bear Pen Creek
Picket Pin Creek
Horseman Creek
Burnt Creek
PISHKUN RD
SPREADING WINGE LN
NAT FOR DEV RD ROAD 419
NYE CEMETERY RD
Magpie Creek
Midnight Creek
Sheep Creek
Stillwater River
NATL FOREST DEVELOP ROAD 846 RD
CUSTER NATIONAL FRST
West Fork Stillwater River
Cathedral Creek
Initial Creek
Verdigris Creek
Mount Waldstein
Nye Creek
Prairie Creek
Little Rocky Creek
Black Butte
Elume Creek
Dale Creek
Fishtail Butte
BENBOW RD
NATL FOREST DEVELOP ROAD 1414 RD
Meadow Creek
East Fishtail Creek

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 1 2 Mi

Condition Score 0
Condition Score 1
Condition Score 2
Condition Score 3
Condition Score 4
Condition Score 5
Field Observation Point

Sibanye-Stillwater

Stillwater Mine
Ecological System Condition Score
(Current)

October 2022 | Map A-8

Map A-9

Stillwater Mine
Ecological System Condition Score
(Future)

Ekwortzel Ranch
Hertzler Ranch
Magpie Ranch
Cathedral Mountain Ranch
Stratton Ranch
Benbow Portal
6600W Vent Raise
66 West Fork Breakout
Stillwater Mine
Beartooth Ranch

Meyer Mountain
Limestone Butte
Castle Creek
Limestone Creek
LIMESTONE RD
PICKET PIN RD
Bear Pen Creek
Picket Pin Creek
Horseman Creek
Pass Creek
Magpie Creek
SPREADING WINGE LN
NAT FOR DEV RD ROAD 419
NYE CEMETERY RD
Burnt Creek
PISHKUN RD
SUNDANCE TRL
Stillwater River
NATL FOREST DEVELOP ROAD 846 RD
CUSTER NATIONAL FRST
West Fork Stillwater River
Initial Creek
Cathedral Creek
Verdigris Creek
Mount Waldstein
Prairie Creek
Dale Creek
Fishtail Butte
BENBOW RD
NATL FOREST DEVELOP ROAD 7414 RD
Meadow Creek
Nye Creek
Little Rocky Creek
Black Butte
East Fishtail Creek
Sheep Creek
Midnight Creek

KC HARVEY ENVIRONMENTAL LLC

N W E S

0 1 2 Mi

- Condition Score 0
- Condition Score 1
- Condition Score 2
- Condition Score 3
- Condition Score 4
- Condition Score 5

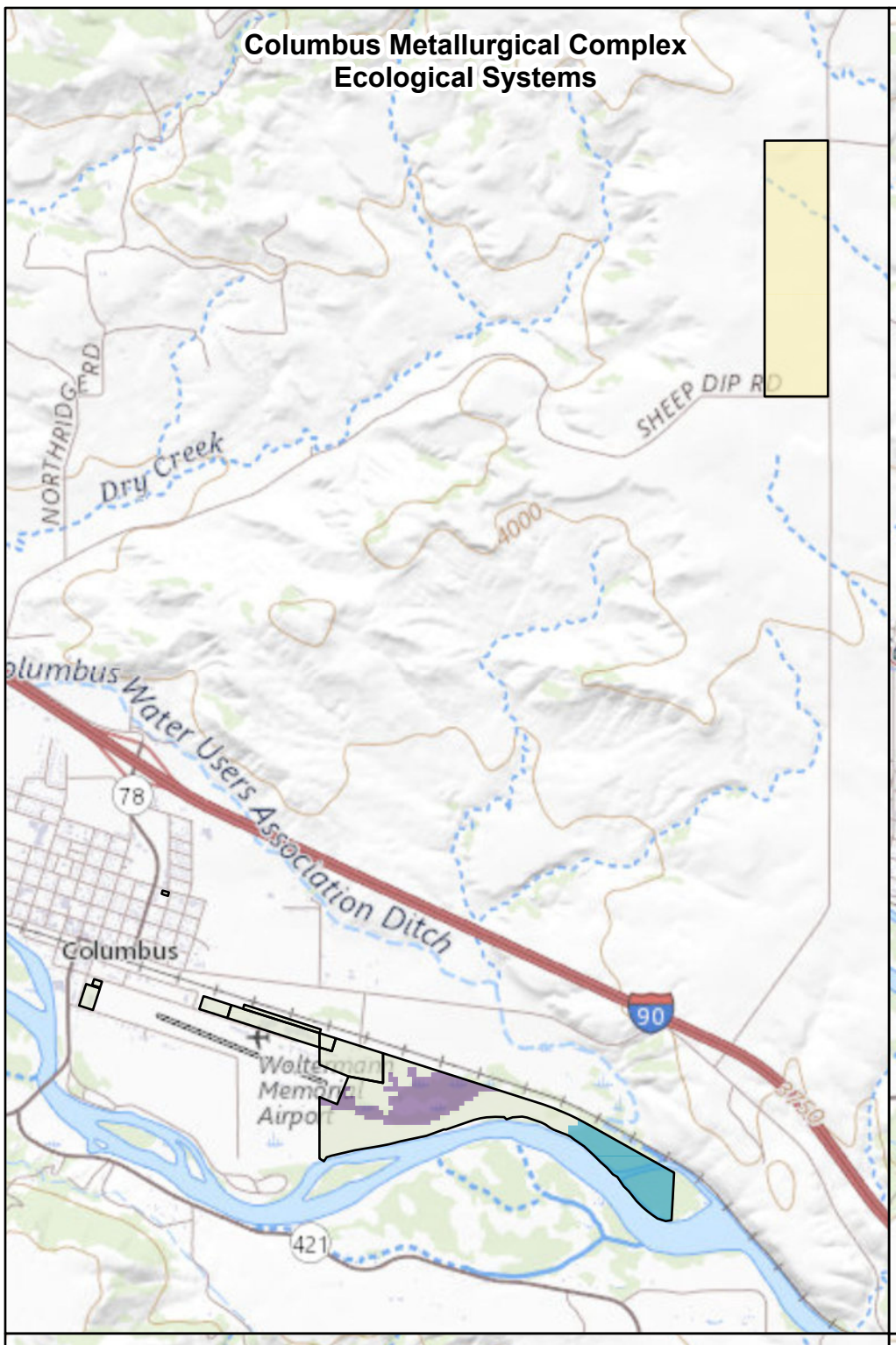
Sibanye-Stillwater

Stillwater Mine
Ecological System Condition Score
(Future)

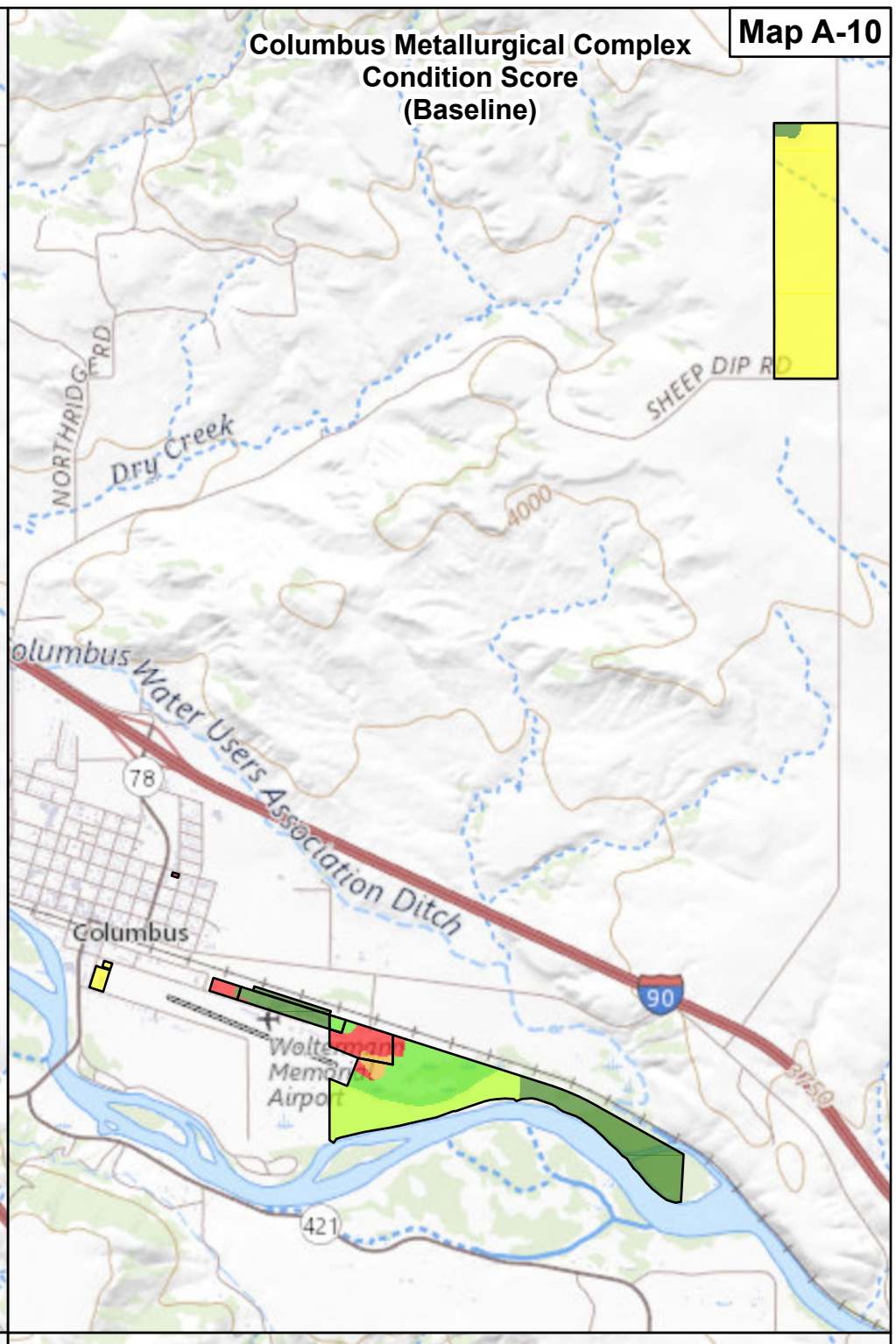
October 2022 | Map A-9

Map A-10

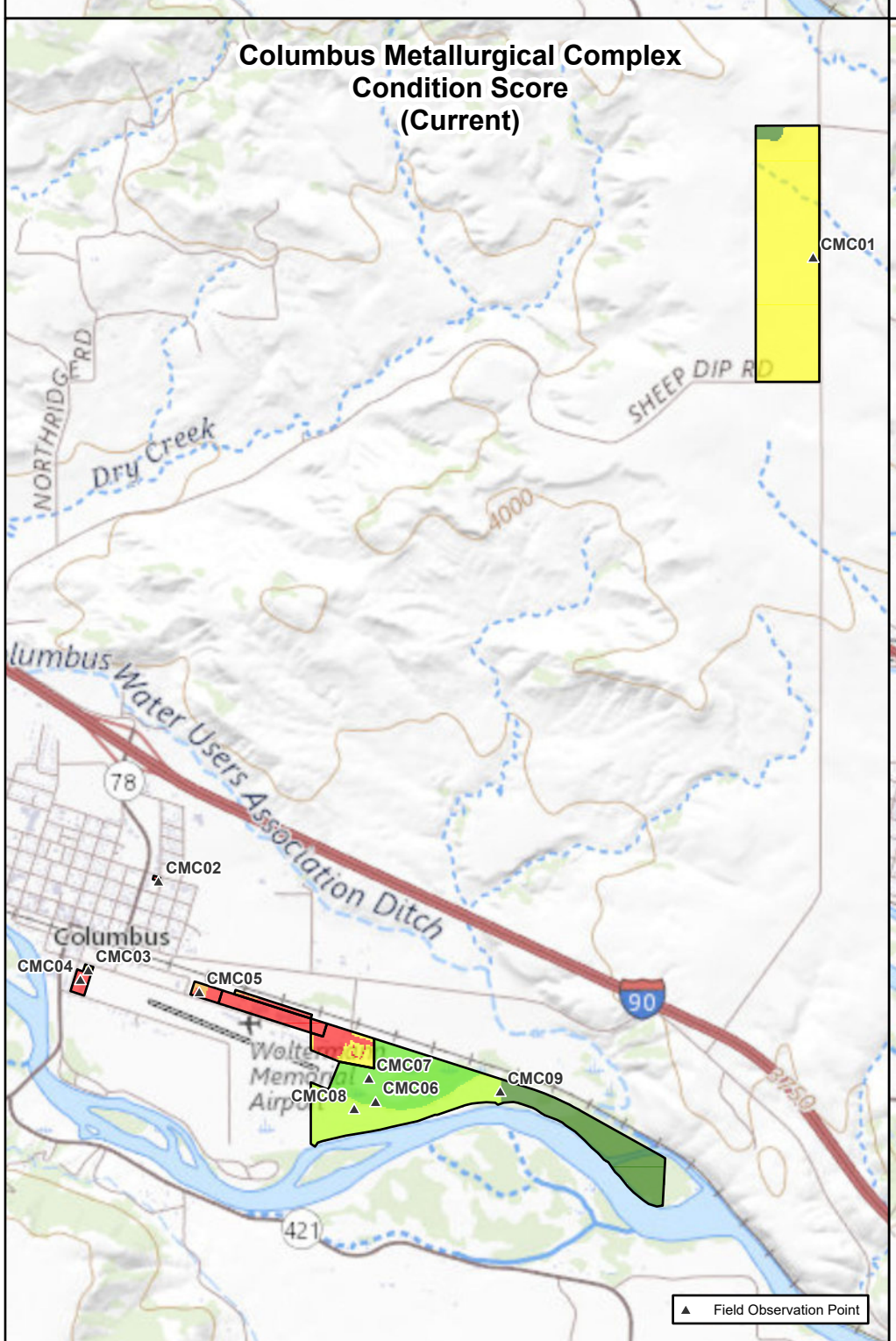
Columbus Metallurgical Complex Ecological Systems



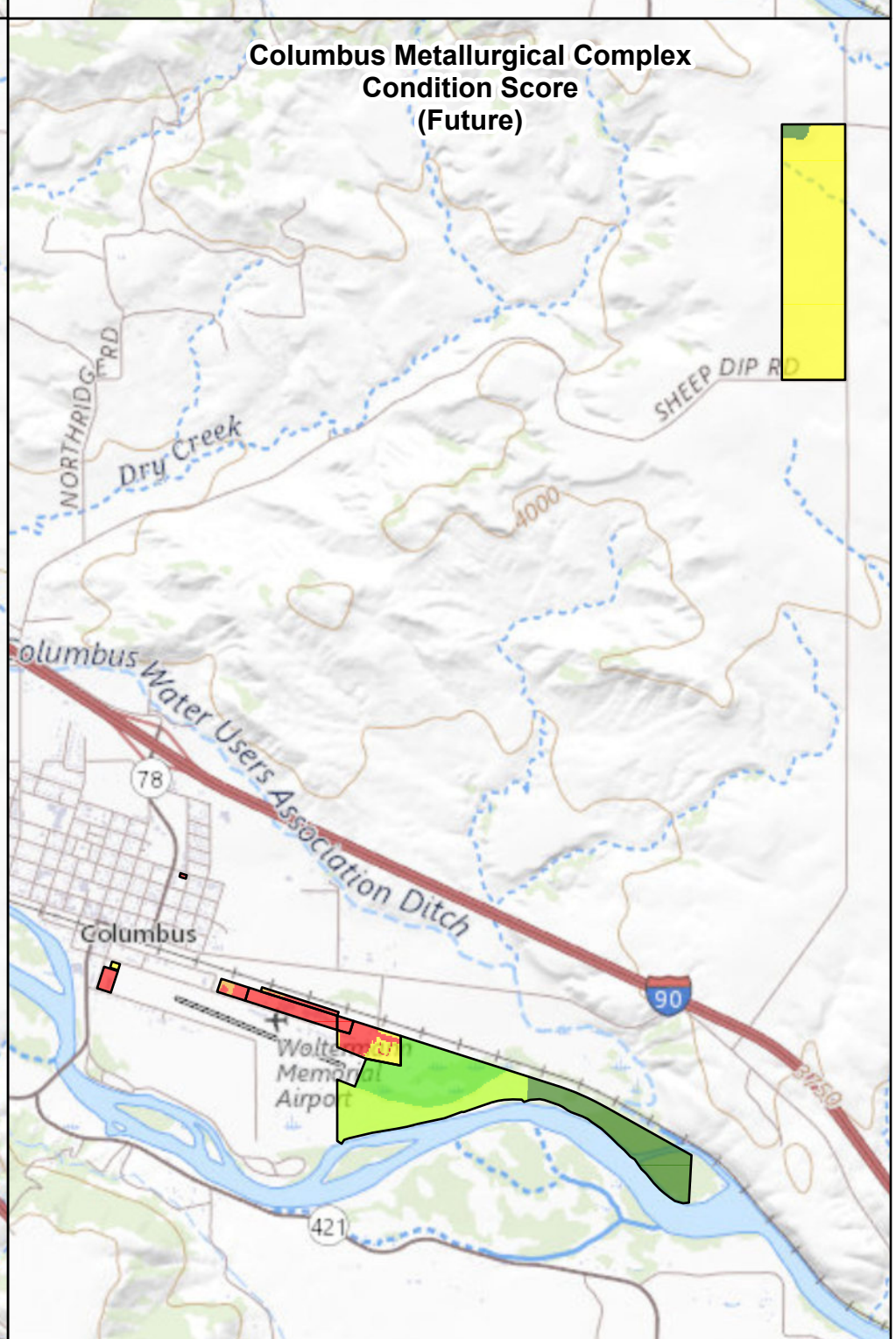
Columbus Metallurgical Complex Condition Score (Baseline)



Columbus Metallurgical Complex Condition Score (Current)



Columbus Metallurgical Complex Condition Score (Future)



KC HARVEY ENVIRONMENTAL LLC

N W E S

0 0.5 1 Mi

Ecological Systems

- Big Sagebrush Steppe
- Great Plains Floodplain
- Great Plains Mixedgrass Prairie
- Great Plains Riparian

Condition Scores

- Condition Score 0
- Condition Score 1
- Condition Score 2
- Condition Score 3
- Condition Score 4
- Condition Score 5

Sibanye-Stillwater

Columbus Metallurgical Complex Ecological Systems and Ecological System Condition Scores

October 2022 | Map A-10

7.0 APPENDIX B - TABLES

Table B - 1. Species materiality assessment for US PGM Operations.

Common Name (*Scientific Name*)	Taxa Type	Conservation Status Scores			East Boulder Mine					Stillwater Mine					Columbus Metallurgical Complex				
		IUCN Red List Score	ESA Status Score	State Rank Score	Potential to Occur	Ease of Assessment	Likelihood of Impacts	Severity of Impacts	*Total Score*	Potential to Occur	Ease of Assessment	Likelihood of Impacts	Severity of Impacts	*Total Score*	Potential to Occur	Ease of Assessment	Likelihood of Impacts	Severity of Impacts	*Total Score*
Alpine Meadowrue (*Thalictrum alpinum*)	Vascular Plant	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	0	1	1	1	***0***
Bald Eagle (*Haliaeetus leucocephalus*)	Bird	0	0	1	1	2	2	1	***6***	1	2	2	1	***6***	1	2	2	1	***6***
Bighorn sheep (*Ovis canadensis*)	Mammal	0	0	1	1	3	3	1	***8***	1	3	3	1	***8***	0	3	3	1	***0***
Black-tailed prairie dog (*Cynomys ludovicianus*)	Mammal	0	0	2	0	1	1	1	***0***	0	1	1	1	***0***	1	2	1	1	***6***
California False Hellebore (*Veratrum californicum*)	Vascular Plant	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	0	1	1	1	***0***
Canada Lynx (*Lynx canadensis*)	Mammal	0	2	2	1	3	3	1	***11***	1	3	3	1	***11***	0	3	3	1	***0***
Dwarf Purple Monkeyflower (*Mimulus nanus*)	Vascular Plant	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	0	1	1	1	***0***
Golden eagle (*Aquila chrysaetos*)	Bird	0	0	2	1	2	1	1	***6***	1	2	1	1	***6***	1	2	1	1	***6***
Gray wolf (*Canis lupus*)	Mammal	0	0	1	1	3	1	1	***6***	1	3	1	1	***6***	1	3	1	1	***6***
Great Plains Toad (*Anaxyrus cognatus*)	Amphibian	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	1	1	1	1	***6***
Greater sage-grouse (*Centrocercus urophasianus*)	Bird	1	0	3	0	2	1	1	***0***	0	2	1	1	***0***	1	2	1	1	***8***
Grizzly Bear (*Ursus arctos horribilis*)	Mammal	0	2	3	1	3	3	1	***12***	1	3	3	1	***12***	0	3	3	1	***0***
Loggerhead shrike (*Lanius ludovicianus*)	Bird	1	0	2	1	1	1	1	***6***	1	1	1	1	***6***	1	1	1	1	***6***
Long-eared myotis (*Myotis evotis*)	Mammal	0	0	2	1	1	2	1	***6***	1	1	2	1	***6***	1	1	2	1	***6***
Long-legged myotis (*Myotis volans*)	Mammal	0	0	2	1	1	2	1	***6***	1	1	2	1	***6***	0	1	2	1	***0***
Milksnake (*Lampropeltis triangulum*)	Reptile	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	1	1	1	1	***6***
Northern Leopard Frog (*Lithobates pipiens*)	Amphibian	0	0	4	1	1	1	1	***7***	1	1	1	1	***7***	1	1	1	1	***7***
Short-styled Columbine (*Aquilegia brevistyla*)	Vascular Plant	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	1	1	1	1	***6***
Western bumble bee (*Bombus occidentalis*)	Insect	2	0	0	1	1	2	1	***6***	1	1	2	1	***6***	1	1	2	1	***6***
Western toad (*Anaxyrus boreas*)	Amphibian	0	0	3	1	1	1	1	***6***	1	1	1	1	***6***	1	1	1	1	***6***
Whitebark Pine (*Pinus albicaulis*)	Vascular Plant	3	1	2	1	2	2	1	***11***	1	2	2	1	***11***	0	2	2	1	***0***
Wolverine (*Gulo gulo*)	Mammal	0	0	2	1	3	3	1	***9***	1	3	3	1	***9***	0	3	3	1	***0***
Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*)	Fish	0	0	3	1	1	1	2	***7***	1	1	1	2	***7***	0	1	1	2	***0***

Table B - 2. Ecological Condition Assessment (EIA) scorecard for the 2020 and 2021 BIA reports.

2020 BIA Report Scoring System:					
Score 5: Natural, or prior changes have been fully reclaimed/restored with late seral/climax species.	Score 4: Predominantly natural, or prior changes have been reclaimed/restored with mid/late-seral species.	Score 3: Moderately natural, or prior changes have been reclaimed/restored with early/mid-seral species.	Score 2: Predominantly altered, or reclamation/restoration is in progress with early/mid-seral species.	Score 1: Completely altered, or reclamation/restoration is in progress with nurse/cover crops and early seral species.	Score 0: Completely lost, with reclamation/restoration not initiated. Early seral species not present.

2021 BIA Report Scoring System:						
Indicator/Metric						**Indicator/Metric Weighting**
Land Use and Development Metrics						**70%**
Natural Land Cover: This metric is an indicator of natural land cover in the assessment unit. Natural land cover may include natural or ruderal plant communities, native or naturalized rangeland, previously cultivated fields, and open water. Natural land cover does NOT include planted hayfields, planted pastures, clearcut forest, intensive agriculture or dryland farming areas, roads, railroads, commercial and private developments. Measurement is based on GIS data, aerial photographs, satellite imagery, and field observations.						**27%**
Score 5: 90 - 100% natural land cover	**Score 4: 70 - 90% natural land cover**	**Score 3: 50 - 70% natural land cover**	**Score 2: 30 - 50% natural land cover**	**Score 1: 10 - 30% natural land cover**	**Score 0: <10% natural land cover**	
Breaks in Natural Land Cover: Cover types which break natural land cover also include trails, bridges, culverts, and fences that interfere with species movement or other critical functions. A cover type that "breaks" natural land cover must be at least 5 meters wide.						**16%**
Score 5: Not observed	**Score 4: Impacting minimal (<10%) area**	**Score 3: Impacting minor (<25%) area**	**Score 2: Impacting moderate (<50%) area**	**Score 1: Impacting major (50-75%) area**	**Score 0: Impacting majority (>75%) of area**	
Land Use Changes and Development: This metric is an indicator of intensity of human-dominated land use within the assessment unit and identifies the predominant land uses within the AU. Measurement is based on GIS data, aerial photographs, satellite imagery, and field observations.						**27%**
Score 5: Undeveloped	**--**	**Score 3: Predominantly undeveloped**	**--**	**Score 1: Predominantly developed**	**Score 0: Completely developed**	
Vegetation Metrics						**10%**
Native Plant Species Cover: This metric is an indicator of the relative percent cover of native plant species (vs nonnative) in the assessment unit. Native plant species in all strata (trees & shrub/herb) observed at the point are assessed.						**4%**
Score 5: 90 - 100%	**Score 4: 70-90 %**	**Score 3: 50-70 %**	**Score 2: 30 - 50 %**	**Score 1: 10 - 30 %**	**Score 0: <10%**	
Native Plant Species Composition: This metric is an indicator of overall species composition and diversity of native characteristic species in the assessment unit. Native plant species in all strata (trees & shrub/herb) observed at the point are assessed.						**3%**
Score 5: Typical range of native characteristic species present. Typical diversity of native species present.	**Score 4: Typical range of native characteristic species present. Slightly reduced diversity of native species present.**	**Score 3: Some native characteristic species absent or uncommon. Slightly reduced diversity of native species present.**	**Score 2: Some native characteristic species absent or uncommon. Native species richness substantially reduced.**	**Score 1: Many native characteristic species absent or uncommon. Native species richness substantially reduced.**	**Score 0: Most or all native characteristic species absent or uncommon. Native species richness extremely low.**	
Invasive Plant Species Cover: This metric is an indicator of the absolute percent cover of invasive plant species in the assessment unit. Invasive plant species observed at the point are assessed.						**3%**
Score 5: <10%	**Score 4: 10 - 20 %**	**Score 3: 20 - 30 %**	**Score 2: 30 - 50%**	**Score 1: 50 - 70 %**	**Score 0: >70%**	
Soil and Substrate Metrics						**10%**
Soil / Substrate Condition: This metric is an indicator of soil / substrate condition based on stressors that increase the potential for erosion or sedimentation.						**10%**
Score 5: Undisturbed, with little bare soil OR bare soil is limited to naturally caused disturbances such as frost heaving, blowouts, burrowing, or game trails OR substrate is naturally bare (balds, sand dunes, etc.). On naturally unstable substrates, slope movements have not been altered directly by human activities. Natural water erosion may occur on slopes. No disturbances are evident from human- or livestock-induced trampling, erosion, soil compaction, ruts, or sedimentation. Soil layers are intact and there are no management-created platy soils. No changes in soil moisture availability due to anthropogenic impacts (e.g. raised water table due to tree removal in mesic/subhydric sites, lowered water table due to downcutting of streams by grazing animals, decreased soil moisture due to overgrazing, excess water from irrigation seepage, logging roads diverting water, soil compaction reducing infiltration).		**Score 3: Small amounts of bare or disturbed soil from anthropogenic activities are present, with minimal extent and impact. Examples include disturbance from cattle (trampling or heavy grazing that leads to erosion), compaction by machinery or particularly heavy foot traffic, or ruts or other disturbances from ATV or other vehicular activity. The depth of disturbance is limited to only a few inches (several centimeters) and does not show evidence of active displaced litter, pedestals, and/or terracettes. Soil layers are generally intact, though soil structure may be discontinuously changed to platy (soil pedestals wider than tall) or massive (essentially structure-less) in places. On naturally unstable substrates, slope movements have been minimally altered by human activities (< 10% of area). Nearly natural pattern of water movement and infiltration, minor erosion on slopes. Minor impacts to evaporative processes and/or water table levels have occurred due to anthropogenic causes.**	**Score 1: Moderate amounts of bare or disturbed soil from anthropogenic activities are present and the extent and impact is moderate. Examples include disturbance from cattle (trampling or heavy grazing that leads to erosion), compaction by machinery or particularly heavy foot traffic, or ruts or other disturbances from ATV or other vehicular activity. The depth of disturbance may extend 5-10 cm (2-4 in), with localized deeper ruts. Moderate evidence of exposed roots, displaced litter, pedestals and/or terracettes. On naturally unstable substrates, slope movements have been moderately altered directly by human activities (10-25% of area). Apparent changes in natural pattern of water movement and infiltration, with occasional erosion on slopes. Forest-floor duff and litter layers are partially missing. Surface soil is partially intact and maybe mixed with subsoil; structure may be changed from undisturbed conditions and may be platy or massive. Moderate impacts to evaporative processes and/or water table levels have occurred due to anthropogenic causes.**	**Score 0: Substantial amounts of bare or disturbed soil from anthropogenic activities are present, with extensive and long lasting impacts to natural processes. Examples include disturbance from cattle (trampling or heavy grazing that leads to erosion), compaction or trampling by machinery, or deep ruts or other disturbances from ATV or other vehicular activity. The depth of disturbance or compaction is persistent and extends > 10 cm (4 in). Common evidence of exposed roots, displaced litter, pedestals and/or terracettes. On naturally unstable substrates, slope movements have been severely altered by human activities (> 25% of area). Obvious changes in natural pattern of water movement and infiltration, active erosion on slopes, water is channeled or ponded. Forest-floor duff and litter layers are missing. Surface soil is removed through gouging or piling by machinery and overall structure may be platy or massive throughout. Significant impacts to evaporative processes and/or water table levels have occurred due to anthropogenic causes have pushed soil moisture well outside of NRV. Altered soil moisture is resulting in mortality of numerous species and plant community composition change.**	

Indicator/Metric	Indicator/Metric Weighting
Anthropogenic Stressor Metrics	**10%**
Development	
Buildings and associated pavement	**0.3%**
Utility/powerline corridor	**0.3%**
Roads or Railroads	**0.3%**
Fences	**0.3%**
Hay field - currently managed using cutting / mowing	**0.3%**
Livestock grazing on pastures / native rangeland	**0.3%**
Logging / tree removal part of current management	**0.3%**
Row-crop agriculture, orchard, nursery	**0.3%**
Sports field, golf course, urban parkland, expansive lawns	**0.3%**
Recreation	
Low-Impact	**0.3%**
High-impact	**0.3%**
Altered natural disturbance regime	
Fire or flood control measures	**0.3%**
Soil	
Excessive sediment or debris, gullying, excessive erosion, excessive loss of organic matter	**0.3%**
Trash or refuse dumping	**0.3%**
Filling or dumping of sediment	**0.3%**
Substrate removal	**0.3%**
Indirect soil disturbance (compaction, trampling, etc.)	**0.3%**
Direct soil disturbance (grading, compaction, plowing, etc.)	**0.3%**
Physical resource extraction	**0.3%**
Obvious excess salinity	**0.3%**
Hydrology	
Point source discharge	**0.3%**
Non-point source discharge	**0.3%**
Large dam or reservoir	**0.3%**
Impoundments, berms, dikes, or levees	**0.3%**
Diversions, ditches, pumps	**0.3%**
Excavation for water retention	**0.3%**
Engineered channels	**0.3%**
Flow control structures	**0.3%**
Ground water extraction wells	**0.3%**

Score 5: Not observed	Score 4: Impacting minimal (<10%) area	Score 3: Impacting minor (<25%) area	Score 2: Impacting moderate (<50%) area	Score 1: Impacting major (50 – 75%) area	Score 0: Impacting majority (>75%) of area

Table B - 3. East Boulder Mine ecological system condition scoring for field observation points.

Field Observation Point		Land Use and Development			Vegetation Metrics			Soil/ Substrate Condition	Anthropogenic Stressors	OVERALL CONDITION SCORE
		Natural Land Cover	Breaks in Natural Land Cover	Land Use Changes and Development	Native Plant Species Cover	Native Plant Species Composition	Invasive Plant Species Cover			
Score Weight		**27%**	**16%**	**27%**	**4%**	**3%**	**3%**	**10%**	**10%**	
EBM01	Baseline	0	0	0	0	0	1	0	4.6	**0**
	Current	0	0	0	0	0	1	0	4.6	**0**
	Future	0	0	0	0	0	1	0	4.6	**0**
EBM02	Baseline	0	0	0	0	0	2	0	4.2	**0**
	Current	1	0	1	1	1	3	0	4.6	**1**
	Future	1	0	1	1	1	3	0	4.6	**1**
EBM03	Baseline	0	0	0	0	0	1	0	4.9	**0**
	Current	0	0	0	0	0	1	0	4.5	**0**
	Future	0	0	0	0	0	1	0	4.5	**0**
EBM04	Baseline	5	5	5	4	5	5	5	4.9	**5**
	Current	5	5	5	4	5	5	5	4.7	**5**
	Future	5	5	5	4	5	5	5	4.7	**5**
EBM05	Baseline	5	5	5	4	5	5	5	4.8	**5**
	Current	5	5	5	4	5	5	5	4.8	**5**
	Future	5	5	5	4	5	5	5	4.8	**5**
EBM06	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
EBM07	Baseline	5	4	5	4	4	4	5	5	**5**
	Current	5	4	5	4	4	4	5	5	**5**
	Future	5	4	5	4	4	4	5	5	**5**
EBM08	Baseline	5	5	5	4	4	4	5	5	**5**
	Current	5	5	5	4	4	4	5	5	**5**
	Future	5	5	5	4	4	4	5	5	**5**
EBM09	Baseline	1	4	1	2	2	5	5	4.7	**2**
	Current	1	4	1	2	2	5	5	4.7	**2**
	Future	1	4	1	2	2	5	5	4.7	**2**
EBM10	Baseline	2	4	3	3	3	5	5	4.7	**3**
	Current	2	4	3	3	3	5	5	4.7	**3**
	Future	2	4	3	3	3	5	5	4.7	**3**
EBM11	Baseline	1	4	1	2	2	5	5	4.7	**2**
	Current	1	4	1	2	2	5	5	4.7	**2**
	Future	1	4	1	2	2	5	5	4.7	**2**
EBM12	Baseline	1	4	3	3	3	5	5	4.6	**3**
	Current	1	4	3	3	3	5	5	4.6	**3**
	Future	1	4	3	3	3	5	5	4.6	**3**
EBM13	Baseline	1	4	3	3	3	5	5	4.6	**3**
	Current	1	4	3	3	3	5	5	4.6	**3**
	Future	1	4	3	3	3	5	5	4.6	**3**
EBM14	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	0	0	0	0	0	0	0	4.3	**0**
	Future	3	2	3	3	2	5	3	5	**3**
EBM15	Baseline	5	5	5	5	4	5	5	4.9	**5**
	Current	0	0	0	0	0	5	0	3.4	**0**
	Future	1	4	3	3	1	5	3	5	**3**
EBM16	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
EBM17	Baseline	5	5	5	5	4	5	5	4.9	**5**
	Current	5	5	5	5	4	5	5	4.8	**5**
	Future	5	5	5	5	4	5	5	4.9	**5**
EBM18	Baseline	5	5	5	5	4	5	5	5	**5**
	Current	5	4	4	1	1	5	3	5	**3**
	Future	5	3	3	3	1	5	3	5	**3**
EBM19	Baseline	5	5	5	5	4	5	5	5	**5**
	Current	5	5	5	5	4	5	5	5	**5**
	Future	5	5	5	5	4	5	5	5	**5**
EBM20	Baseline	5	5	5	5	4	5	5	5	**5**
	Current	5	5	5	5	4	5	5	5	**5**
	Future	5	5	5	5	4	5	5	5	**5**
EBM21	Baseline	5	5	5	5	4	5	5	5	**5**
	Current	5	5	5	5	4	5	5	5	**5**
	Future	5	5	5	5	4	5	5	5	**5**

Table B - 4. Stillwater Mine ecological system condition scoring for field observation points.

Field Observation Point		Land Use and Development			Vegetation Metrics			Soil/ Substrate Condition	Anthropogenic Stressors	OVERALL CONDITION SCORE
		Natural Land Cover	Breaks in Natural Land Cover	Land Use Changes and Development	Native Plant Species Cover	Native Plant Species Composition	Invasive Plant Species Cover			
Score Weight		**27%**	**16%**	**27%**	**4%**	**3%**	**3%**	**10%**	**10%**	
SWM01	Baseline	0	4	1	2	2	5	5	4.7	**2**
	Current	0	4	1	2	2	5	5	4.7	**2**
	Future	0	4	1	2	2	5	5	4.7	**2**
SWM02	Baseline	1	4	1	4	2	5	5	4.7	**3**
	Current	1	4	1	4	2	5	5	4.7	**3**
	Future	1	4	1	4	2	5	5	4.7	**3**
SWM03	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
SWM04	Baseline	5	4	5	4	4	5	5	4.7	**5**
	Current	5	4	5	4	4	5	5	4.9	**5**
	Future	5	4	5	4	4	5	5	4.9	**5**
SWM05	Baseline	5	4	5	5	5	5	5	4.8	**5**
	Current	5	4	3	5	5	5	5	4.8	**4**
	Future	5	4	3	5	5	5	5	4.8	**4**
SWM06	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM07	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM08	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	4	1	2	2	5	3	4.8	**3**
	Future	5	4	1	2	2	5	3	4.8	**3**
SWM09	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM10	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	3	3	4	5	4.9	**5**
	Future	5	5	5	3	3	4	5	4.9	**5**
SWM11	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	0	0	0	0	0	4	0	4.6	**1**
	Future	4	4	3	3	3	4	3	5	**4**
SWM12	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	4	4	4	5	5	**5**
	Future	5	5	5	4	4	4	5	5	**5**
SWM13	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM14	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM15	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	0	0	0	0	0	0	0	4.2	**0**
	Future	4	3	3	4	3	3	3	4.9	**3**
SWM16	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM17	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	2	3	5	2	3	5	4.9	**4**
	Future	5	4	3	5	4	3	5	4.9	**4**
SWM18	Baseline	2	4	3	2	2	5	3	4.7	**3**
	Current	1	4	1	1	1	5	3	4.5	**2**
	Future	2	4	3	2	2	5	3	4.7	**3**
SWM19	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	4	2	3	2	2	5	3	4.9	**3**
	Future	4	2	3	3	2	5	3	4.9	**3**
SWM20	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	0	0	0	0	0	2	0	4.1	**0**
	Future	4	3	3	2	2	5	3	4.9	**3**
SWM21	Baseline	2	4	3	2	2	5	3	4.7	**3**
	Current	0	4	0	0	0	5	3	4.2	**2**
	Future	0	4	0	0	0	5	3	4.2	**2**
SWM22	Baseline	2	4	3	2	2	5	3	4.7	**3**
	Current	4	4	5	2	3	4	5	4.8	**4**
	Future	4	4	5	2	3	4	5	4.8	**4**
SWM23	Baseline	5	5	5	3	4	5	5	4.9	**5**
	Current	5	5	5	3	4	5	5	4.8	**5**
	Future	5	5	5	3	4	5	5	4.8	**5**
SWM24	Baseline	5	4	5	3	3	5	5	4.8	**5**
	Current	5	4	5	3	3	5	5	4.8	**5**
	Future	5	4	5	3	3	5	5	4.8	**5**

Field Observation Point		Land Use and Development			Vegetation Metrics			Soil/ Substrate Condition	Anthropogenic Stressors	OVERALL CONDITION SCORE
		Natural Land Cover	Breaks in Natural Land Cover	Land Use Changes and Development	Native Plant Species Cover	Native Plant Species Composition	Invasive Plant Species Cover			
Score Weight		27%	16%	27%	4%	3%	3%	10%	10%	
SWM25	Baseline	5	4	3	4	3	5	5	4.8	**4**
	Current	5	4	3	4	3	5	5	4.8	**4**
	Future	5	4	3	4	3	5	5	4.8	**4**
SWM26	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
SWM27	Baseline	3	3	3	3	3	5	3	4.7	**3**
	Current	5	3	3	5	4	5	3	4.7	**4**
	Future	5	3	3	5	4	5	3	4.7	**4**
SWM28	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	2	3	3	2	1	5	3	4.8	**3**
	Future	2	3	3	2	1	5	3	4.8	**3**
SWM29	Baseline	5	5	5	5	5	5	5	5	**5**
	Current	5	5	5	5	5	5	5	5	**5**
	Future	5	5	5	5	5	5	5	5	**5**
SWM30	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
SWM31	Baseline	5	5	5	5	5	5	5	4.9	**5**
	Current	5	5	5	5	5	5	5	4.9	**5**
	Future	5	5	5	5	5	5	5	4.9	**5**
SWM32	Baseline	5	5	5	4	4	5	5	4.9	**5**
	Current	5	5	5	4	4	5	5	4.9	**5**
	Future	5	5	5	4	4	5	5	4.9	**5**

Table B - 5. Columbus Metallurgical Complex ecological system condition scoring for field observation points.

Field Observation Point		Land Use and Development			Vegetation Metrics			Soil/ Substrate Condition	Anthropogenic Stressors	OVERALL CONDITION SCORE
		Natural Land Cover	Breaks in Natural Land Cover	Land Use Changes and Development	Native Plant Species Cover	Native Plant Species Composition	Invasive Plant Species Cover			
Score Weight		27%	16%	27%	4%	3%	3%	10%	10%	
CMC01	Baseline	1	4	0	2	1	5	3	4.7	**2**
	Current	1	4	0	2	1	5	3	4.7	**2**
	Future	1	4	0	2	1	5	3	4.7	**2**
CMC02	Baseline	0	0	0	0	0	1	0	4.4	**0**
	Current	0	0	0	0	0	1	0	4.4	**0**
	Future	0	0	0	0	0	1	0	4.4	**0**
CMC03	Baseline	1	2	3	1	1	1	3	5	**2**
	Current	1	2	3	1	1	1	3	5	**2**
	Future	1	2	3	1	1	1	3	5	**2**
CMC04	Baseline	1	4	0	2	1	5	3	4.7	**2**
	Current	0	0	0	0	0	1	0	4.7	**0**
	Future	0	0	0	0	0	1	0	4.7	**0**
CMC05	Baseline	0	0	0	0	0	1	0	4.4	**0**
	Current	1	0	1	0	0	1	1	4.4	**1**
	Future	1	0	1	0	0	1	1	4.4	**1**
CMC06	Baseline	5	4	3	4	4	4	5	4.8	**4**
	Current	5	4	3	4	4	4	5	4.8	**4**
	Future	5	4	3	4	4	4	5	4.8	**4**
CMC07	Baseline	4	4	3	4	3	4	5	4.8	**4**
	Current	4	4	3	4	3	4	5	4.8	**4**
	Future	4	4	3	4	3	4	5	4.8	**4**
CMC08	Baseline	3	3	3	3	3	2	5	4.8	**3**
	Current	3	3	3	3	3	2	5	4.9	**3**
	Future	3	3	3	3	3	2	5	4.9	**3**
CMC09	Baseline	3	3	3	3	3	2	5	4.8	**3**
	Current	3	3	3	3	3	2	5	4.9	**3**
	Future	3	3	3	3	3	2	5	4.9	**3**

Table B - 6. East Boulder Mine ecological system accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for reference condition of ecological system assets	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	1338.28	
			Montane Sagebrush Steppe	**5**	405.91	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	299.98	
			Rocky Mountain Lodgepole Pine Forest	**5**	298.02	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	61.72	
			Aspen Forest and Woodland	**5**	56.35	
			Big Sagebrush Steppe	**5**	55.04	
			Rocky Mountain Subalpine Woodland and Parkland	**5**	50.79	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**	27.98	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**	27.24	
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**	23.58	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**	22.32	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	11.25	
			Alpine-Montane Wet Meadow	**5**	7.12	
			Great Plains Mixedgrass Prairie	**5**	4.03	
Accounting for reference condition of ecological system assets	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		1338.28
			Montane Sagebrush Steppe	**5**		405.91
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		299.98
			Rocky Mountain Lodgepole Pine Forest	**5**		298.02
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		61.72
			Aspen Forest and Woodland	**5**		56.35
			Big Sagebrush Steppe	**5**		55.04
			Rocky Mountain Subalpine Woodland and Parkland	**5**		50.79
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**		27.98
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**		27.24
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**		23.58
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**		22.32
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		11.25
			Alpine-Montane Wet Meadow	**5**		7.12
			Great Plains Mixedgrass Prairie	**5**		4.03

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Baseline Scenario						
Recording ecological system assets according to baseline condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	4.40	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	233.19	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	365.30	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	1.61	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		604.50
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	3.02	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		3.02
			Rocky Mountain Lodgepole Pine Forest	**0**	4.77	
			Rocky Mountain Lodgepole Pine Forest	**5**		4.77
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	3.04	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**2**	1.04	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	6.15	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**	10.33	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		20.56
			Aspen Forest and Woodland	**0**	0.10	
			Aspen Forest and Woodland	**2**	1.09	
			Aspen Forest and Woodland	**3**	6.77	
			Aspen Forest and Woodland	**4**	3.73	
			Aspen Forest and Woodland	**5**		11.69
			Big Sagebrush Steppe	**2**	0.32	
			Big Sagebrush Steppe	**3**	5.49	
			Big Sagebrush Steppe	**5**		5.81
			Rocky Mountain Subalpine Woodland and Parkland	**0**	0.82	
			Rocky Mountain Subalpine Woodland and Parkland	**5**		0.82
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	1.58	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		1.58
			Great Plains Mixedgrass Prairie	**0**	4.03	
			Great Plains Mixedgrass Prairie	**5**		4.03
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	604.50	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	3.02	
			Rocky Mountain Lodgepole Pine Forest	**5**	4.77	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	20.56	
			Aspen Forest and Woodland	**5**	11.69	
			Big Sagebrush Steppe	**5**	5.81	
			Rocky Mountain Subalpine Woodland and Parkland	**5**	0.82	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	1.58	
			Great Plains Mixedgrass Prairie	**5**	4.03	
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		4.40
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		139.92
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		146.12
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		0.32
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		3.02
			Rocky Mountain Lodgepole Pine Forest	**0**		4.77
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		3.04
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**2**		0.62
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		2.46
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		2.07

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Baseline Scenario						
			Aspen Forest and Woodland	**0**		0.10
			Aspen Forest and Woodland	**2**		0.65
			Aspen Forest and Woodland	**3**		2.71
			Aspen Forest and Woodland	**4**		0.75
			Big Sagebrush Steppe	**2**		0.19
			Big Sagebrush Steppe	**3**		2.19
			Rocky Mountain Subalpine Woodland and Parkland	**0**		0.82
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		1.58
			Great Plains Mixedgrass Prairie	**0**		4.03
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		93.28
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		219.18
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		1.29
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**2**		0.42
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		3.69
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		8.26
			Aspen Forest and Woodland	**2**		0.43
			Aspen Forest and Woodland	**3**		4.06
			Aspen Forest and Woodland	**4**		2.99
			Big Sagebrush Steppe	**2**		0.13
			Big Sagebrush Steppe	**3**		3.29

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Current Scenario						
Recording ecological system assets according to current condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	10.58	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	1.95	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		2.08
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	0.17	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		10.63
			Montane Sagebrush Steppe	**0**	0.05	
			Montane Sagebrush Steppe	**5**		0.05
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	15.40	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	1.56	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	4.25	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**	0.47	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		21.68
			Rocky Mountain Lodgepole Pine Forest	**0**	185.54	
			Rocky Mountain Lodgepole Pine Forest	**1**	1.19	
			Rocky Mountain Lodgepole Pine Forest	**2**	27.93	
			Rocky Mountain Lodgepole Pine Forest	**3**	5.73	
			Rocky Mountain Lodgepole Pine Forest	**5**		220.39
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	0.37	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.12
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		0.25
			Aspen Forest and Woodland	**0**	0.05	
			Aspen Forest and Woodland	**5**		0.05
			Rocky Mountain Subalpine Woodland and Parkland	**0**	0.25	
			Rocky Mountain Subalpine Woodland and Parkland	**5**		0.25
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**	0.15	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**		0.15
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	0.62	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		0.62
			Great Plains Mixedgrass Prairie	**0**		0.32
			Great Plains Mixedgrass Prairie	**1**	0.32	
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	1.25	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	10.63	
			Montane Sagebrush Steppe	**5**	0.05	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	21.68	
			Rocky Mountain Lodgepole Pine Forest	**5**	220.39	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.07	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	0.25	
			Aspen Forest and Woodland	**5**	0.05	
			Rocky Mountain Subalpine Woodland and Parkland	**5**	0.25	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**	0.15	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	0.62	
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		10.58
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		1.17
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	0.83	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		0.03
			Montane Sagebrush Steppe	**0**		0.05
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		15.40
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		1.25
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		2.55
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		0.19
			Rocky Mountain Lodgepole Pine Forest	**0**		185.54
			Rocky Mountain Lodgepole Pine Forest	**1**		0.95
			Rocky Mountain Lodgepole Pine Forest	**2**		16.76
			Rocky Mountain Lodgepole Pine Forest	**3**		2.29
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		0.37

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Current Scenario						
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.05	
			Aspen Forest and Woodland	**0**		0.05
			Rocky Mountain Subalpine Woodland and Parkland	**0**		0.25
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**		0.15
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		0.62
			Great Plains Mixedgrass Prairie	**0**	0.32	
			Great Plains Mixedgrass Prairie	**1**		0.26
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		0.78
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		0.14
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		0.31
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		1.70
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		0.28
			Rocky Mountain Lodgepole Pine Forest	**1**		0.24
			Rocky Mountain Lodgepole Pine Forest	**2**		11.17
			Rocky Mountain Lodgepole Pine Forest	**3**		3.44
			Great Plains Mixedgrass Prairie	**1**		0.06

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Future Scenario						
Recording ecological system assets according to future condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		10.33
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	1.04	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	9.47	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		0.17
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		13.74
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		1.56
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		4.25
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**	19.55	
			Rocky Mountain Lodgepole Pine Forest	**0**		185.99
			Rocky Mountain Lodgepole Pine Forest	**1**		1.19
			Rocky Mountain Lodgepole Pine Forest	**2**		27.93
			Rocky Mountain Lodgepole Pine Forest	**3**	215.10	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		0.54
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.54	
			Aspen Forest and Woodland	**0**		0.05
			Aspen Forest and Woodland	**3**	0.05	
			Rocky Mountain Subalpine Woodland and Parkland	**0**		1.06
			Rocky Mountain Subalpine Woodland and Parkland	**4**	1.06	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**		0.15
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**4**	0.15	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		2.20
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**	2.20	
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	0.14	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	0.31	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	1.70	
			Rocky Mountain Lodgepole Pine Forest	**1**	0.24	
			Rocky Mountain Lodgepole Pine Forest	**2**	11.17	
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	10.33	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		0.62
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		3.79
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	0.03	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	13.74	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	1.25	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	2.55	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		7.82
			Rocky Mountain Lodgepole Pine Forest	**0**	185.99	
			Rocky Mountain Lodgepole Pine Forest	**1**	0.95	
			Rocky Mountain Lodgepole Pine Forest	**2**	16.76	
			Rocky Mountain Lodgepole Pine Forest	**3**		86.04
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	0.54	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.22
			Aspen Forest and Woodland	**0**	0.05	
			Aspen Forest and Woodland	**3**		0.02
			Rocky Mountain Subalpine Woodland and Parkland	**0**	1.06	
			Rocky Mountain Subalpine Woodland and Parkland	**4**		0.21
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**	0.15	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**4**		0.03
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	2.20	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		0.44
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		0.42
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		5.68
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		11.73
			Rocky Mountain Lodgepole Pine Forest	**3**		129.06
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.33
			Aspen Forest and Woodland	**3**		0.03
			Rocky Mountain Subalpine Woodland and Parkland	**4**		0.85
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**4**		0.12
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		1.76

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Closing Statements						
Closing the Statements of Biodiversity Performance and Position for Ecological Systems	Net Impacts (ac eq)	X (Statement of Biodiversity Performance)	Net surface areas adjusted for condition	**n/a**	490.24	
	Acc. pos. impacts (ac eq)	B (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		94.47
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		223.61
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		1.29
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		12.01
			Rocky Mountain Lodgepole Pine Forest	**3**		132.50
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**2**		0.42
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		3.94
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		8.26
			Aspen Forest and Woodland	**2**		0.43
			Aspen Forest and Woodland	**3**		4.09
			Aspen Forest and Woodland	**4**		2.99
			Big Sagebrush Steppe	**2**		0.13
			Big Sagebrush Steppe	**3**		3.29
			Rocky Mountain Subalpine Woodland and Parkland	**4**		0.85
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**4**		0.12
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		1.76
			Great Plains Mixedgrass Prairie	**1**		0.06

Table B - 7. East Boulder Mine grizzly bear habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available	2674.32	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Grizzly Bear	Available		2674.32
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable	251.78	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available		251.78
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Grizzly Bear	Available	251.78	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable		251.78
Current Scenario						
Recording current habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable	249.26	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available		249.26
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Grizzly Bear	Available	249.26	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable		249.26
Future Scenario						
Recording future habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable		245.75
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available	245.75	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable	245.75	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Grizzly Bear	Available		245.75
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Grizzly Bear	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Grizzly Bear	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Grizzly Bear	Available		2419.03[b]
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Grizzly Bear	Available	2419.03[b]	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 8. East Boulder Mine Canada lynx habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available	755.44	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Canada Lynx	Available		755.44
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable	9.79	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available		9.79
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Canada Lynx	Available	9.79	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable		9.79
Current Scenario						
Recording current habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable	236.31	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available		236.31
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Canada Lynx	Available	236.31	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable		236.31
Future Scenario						
Recording future habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable		235.91
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available	235.91	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable	235.91	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Canada Lynx	Available		235.91
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Canada Lynx	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Canada Lynx	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Canada Lynx	Available		745.25[b]
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Canada Lynx	Available	745.25[b]	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 9. East Boulder Mine whitebark pine habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available	78.77	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Whitebark Pine	Available		78.77
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Unavailable	0.82	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available		0.82
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Whitebark Pine	Available	0.82	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Whitebark Pine	Unavailable		0.82
Current Scenario						
Recording current habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Unavailable	0.39	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available		0.39
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Whitebark Pine	Available	0.39	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Whitebark Pine	Unavailable		0.39
Future Scenario						
Recording future habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Unavailable		1.21
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available	1.21	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Whitebark Pine	Unavailable	1.21	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Whitebark Pine	Available		1.21
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Whitebark Pine	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Whitebark Pine	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Whitebark Pine	Available		78.77
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Whitebark Pine	Available	78.77	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 10. Stillwater Mine ecological system accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for reference condition of ecological system assets	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	2140.90	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	1469.03	
			Big Sagebrush Steppe	**5**	847.16	
			Montane Sagebrush Steppe	**5**	204.03	
			Rocky Mountain Lodgepole Pine Forest	**5**	177.06	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**	171.82	
			Aspen Forest and Woodland	**5**	135.86	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**	124.59	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	104.94	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	64.01	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**	43.72	
			Open Water	**5**	34.08	
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**	23.60	
			Alpine-Montane Wet Meadow	**5**	14.93	
			Rocky Mountain Subalpine Woodland and Parkland	**5**	1.63	
			Rocky Mountain Subalpine-Montane Mesic Meadow	**5**	0.44	
Accounting for reference condition of ecological system assets	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		2140.90
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		1469.03
			Big Sagebrush Steppe	**5**		847.16
			Montane Sagebrush Steppe	**5**		204.03
			Rocky Mountain Lodgepole Pine Forest	**5**		177.06
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**		171.82
			Aspen Forest and Woodland	**5**		135.86
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**		124.59
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		104.94
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		64.01
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**		43.72
			Open Water	**5**		34.08
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**		23.60
			Alpine-Montane Wet Meadow	**5**		14.93
			Rocky Mountain Subalpine Woodland and Parkland	**5**		1.63
			Rocky Mountain Subalpine-Montane Mesic Meadow	**5**		0.44

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Baseline Scenario						
Recording ecological system assets according to baseline condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	53.76	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**	50.87	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	1.01	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	428.57	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	15.55	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		549.75
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	23.88	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	0.20	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**	12.90	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		36.97
			Big Sagebrush Steppe	**0**	3.78	
			Big Sagebrush Steppe	**2**	3.73	
			Big Sagebrush Steppe	**3**	5.66	
			Big Sagebrush Steppe	**5**		13.17
			Montane Sagebrush Steppe	**0**	4.55	
			Montane Sagebrush Steppe	**1**	0.12	

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Baseline Scenario						
			Montane Sagebrush Steppe	**3**	2.97	
			Montane Sagebrush Steppe	**5**		7.64
			Rocky Mountain Lodgepole Pine Forest	**0**	1.01	
			Rocky Mountain Lodgepole Pine Forest	**3**	0.02	
			Rocky Mountain Lodgepole Pine Forest	**5**		1.04
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**	2.57	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**	5.86	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**		8.43
			Aspen Forest and Woodland	**0**	2.15	
			Aspen Forest and Woodland	**3**	2.25	
			Aspen Forest and Woodland	**5**		4.40
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**	0.05	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**		0.05
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	0.91	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**	0.20	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.25	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**	0.20	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		1.56
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	0.74	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**	0.25	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		0.99
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**	0.17	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**3**	0.02	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**		0.20
			Rocky Mountain Subalpine-Upper Montane Grassland	**0**	1.04	
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**		1.04
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	549.75	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	36.97	
			Big Sagebrush Steppe	**5**	13.17	
			Montane Sagebrush Steppe	**5**	7.64	
			Rocky Mountain Lodgepole Pine Forest	**5**	1.04	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**	8.43	
			Aspen Forest and Woodland	**5**	4.40	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**	0.05	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	1.56	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	0.99	
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**5**	0.20	
			Rocky Mountain Subalpine-Upper Montane Grassland	**5**	1.04	
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		53.76
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**		40.69
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		0.61
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		171.43
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		3.11
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		23.88
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		0.16
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		5.16
			Big Sagebrush Steppe	**0**		3.78
			Big Sagebrush Steppe	**2**		2.24
			Big Sagebrush Steppe	**3**		2.26
			Montane Sagebrush Steppe	**0**		4.55
			Montane Sagebrush Steppe	**1**		0.10
			Montane Sagebrush Steppe	**3**		1.19
			Rocky Mountain Lodgepole Pine Forest	**0**		1.01
			Rocky Mountain Lodgepole Pine Forest	**3**		0.01
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**		2.57
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		2.34
			Aspen Forest and Woodland	**0**		2.15
			Aspen Forest and Woodland	**3**		0.90
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**		0.05
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		0.91
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**		0.16
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.10
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		0.04
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		0.74
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		0.10
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**0**		0.17
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**3**		0.01
			Rocky Mountain Subalpine-Upper Montane Grassland	**0**		1.04
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**		10.17
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		0.41
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		257.14
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		12.44
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		0.04
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		7.74
			Big Sagebrush Steppe	**2**		1.49
			Big Sagebrush Steppe	**3**		3.40
			Montane Sagebrush Steppe	**1**		0.02
			Montane Sagebrush Steppe	**3**		1.78
			Rocky Mountain Lodgepole Pine Forest	**3**		0.01
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		3.51
			Aspen Forest and Woodland	**3**		1.35
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**		0.04

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Baseline Scenario						
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.15
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		0.16
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		0.15
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**3**		0.01

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Current Scenario						
Recording ecological system assets according to current condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	367.08	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**		42.98
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	405.66	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		268.93
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	329.68	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		790.51
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	27.56	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**		0.20
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	13.47	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**	0.02	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**	37.15	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**		78.00
			Big Sagebrush Steppe	**2**	2.27	
			Big Sagebrush Steppe	**5**		2.27
			Montane Sagebrush Steppe	**0**	1.21	
			Montane Sagebrush Steppe	**1**		0.12
			Montane Sagebrush Steppe	**2**	0.77	
			Montane Sagebrush Steppe	**3**		2.97
			Montane Sagebrush Steppe	**4**	2.55	
			Montane Sagebrush Steppe	**5**		1.43
			Rocky Mountain Lodgepole Pine Forest	**0**	0.40	
			Rocky Mountain Lodgepole Pine Forest	**2**	0.12	
			Rocky Mountain Lodgepole Pine Forest	**3**		0.02
			Rocky Mountain Lodgepole Pine Forest	**4**	0.02	
			Rocky Mountain Lodgepole Pine Forest	**5**		0.52
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**	1.21	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**	0.57	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		5.19
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**	4.84	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**		1.43
			Aspen Forest and Woodland	**0**	0.64	
			Aspen Forest and Woodland	**3**		2.10
			Aspen Forest and Woodland	**4**	2.40	
			Aspen Forest and Woodland	**5**		0.94
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**	0.10	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**	1.61	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**		1.71
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	1.09	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**		0.20
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.25
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**	0.69	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**		1.33
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	1.06	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**	0.54	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		0.02
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**	0.27	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		1.85
			Open Water	**4**	0.02	
			Open Water	**5**		0.02
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**	8.60	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	161.36	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	790.51	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	0.04	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**5**	78.00	
			Big Sagebrush Steppe	**5**	2.27	
			Montane Sagebrush Steppe	**1**	0.02	
			Montane Sagebrush Steppe	**3**	1.78	
			Montane Sagebrush Steppe	**5**	1.43	
			Rocky Mountain Lodgepole Pine Forest	**3**	0.01	
			Rocky Mountain Lodgepole Pine Forest	**5**	0.52	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**	3.11	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**5**	1.43	
			Aspen Forest and Woodland	**3**	1.26	
			Aspen Forest and Woodland	**5**	0.94	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**5**	1.71	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**	0.04	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.15	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**5**	1.33	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**	0.01	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	1.85	
			Open Water	**5**	0.02	
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		367.08
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**	34.38	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		243.40
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	107.57	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		65.94
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		27.56
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**1**	0.16	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		8.08
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		0.01

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Current Scenario						
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**		7.43
			Big Sagebrush Steppe	**2**		1.36
			Montane Sagebrush Steppe	**0**		1.21
			Montane Sagebrush Steppe	**1**	0.10	
			Montane Sagebrush Steppe	**2**		0.46
			Montane Sagebrush Steppe	**3**	1.19	
			Montane Sagebrush Steppe	**4**		0.51
			Rocky Mountain Lodgepole Pine Forest	**0**		0.40
			Rocky Mountain Lodgepole Pine Forest	**2**		0.07
			Rocky Mountain Lodgepole Pine Forest	**3**	0.01	
			Rocky Mountain Lodgepole Pine Forest	**4**		0.005
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**		1.21
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**		0.34
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**	2.08	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**		0.97
			Aspen Forest and Woodland	**0**		0.64
			Aspen Forest and Woodland	**3**	0.84	
			Aspen Forest and Woodland	**4**		0.48
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**		0.10
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**		0.96
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		1.09
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**1**	0.16	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.10	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		0.14
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		1.06
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**		0.33
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**	0.01	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		0.05
			Open Water	**4**		0.005
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		162.26
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		263.75
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		5.39
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		0.01
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**		29.72
			Big Sagebrush Steppe	**2**		0.91
			Montane Sagebrush Steppe	**2**		0.31
			Montane Sagebrush Steppe	**4**		2.04
			Rocky Mountain Lodgepole Pine Forest	**2**		0.05
			Rocky Mountain Lodgepole Pine Forest	**4**		0.02
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**		0.23
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**		3.88
			Aspen Forest and Woodland	**4**		1.92
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**		0.64
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		0.55
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**		0.22
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		0.22
			Open Water	**4**		0.02

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Future Scenario						
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**		358.75
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**		7.88
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		326.54
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**	687.42	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**	4.37	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**	1.38	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**		24.57
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**		13.47
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**	38.01	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**	0.02	
			Big Sagebrush Steppe	**2**		2.27
			Big Sagebrush Steppe	**3**	2.27	
			Montane Sagebrush Steppe	**0**		1.29
			Montane Sagebrush Steppe	**2**		0.77
			Montane Sagebrush Steppe	**3**	2.03	
			Montane Sagebrush Steppe	**4**	0.02	
Recording ecological system assets according to future condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Rocky Mountain Lodgepole Pine Forest	**0**		0.40
			Rocky Mountain Lodgepole Pine Forest	**2**		0.12
			Rocky Mountain Lodgepole Pine Forest	**3**	0.52	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**		1.71
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**		0.57
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**	2.20	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**	0.07	
			Aspen Forest and Woodland	**0**		0.62
			Aspen Forest and Woodland	**3**	0.62	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**		0.10
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**		1.61
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**3**	1.71	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**		0.87
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**	0.87	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**		1.01
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**		0.54
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**	1.53	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**	0.02	

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Future Scenario						
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**	1.58	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	130.62	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	5.39	
			Big Sagebrush Steppe	**2**	0.91	
			Montane Sagebrush Steppe	**2**	0.31	
			Rocky Mountain Lodgepole Pine Forest	**2**	0.05	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**	0.23	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**	0.64	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**	0.22	
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**0**	358.75	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**1**	6.31	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**	195.93	
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		274.97
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		0.87
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**0**	24.57	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**2**	8.08	
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		15.21
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**		0.005
			Big Sagebrush Steppe	**2**	1.36	
			Big Sagebrush Steppe	**3**		0.91
			Montane Sagebrush Steppe	**0**	1.29	
			Montane Sagebrush Steppe	**2**	0.46	
			Montane Sagebrush Steppe	**3**		0.81
			Montane Sagebrush Steppe	**4**		0.005
			Rocky Mountain Lodgepole Pine Forest	**0**	0.40	
			Rocky Mountain Lodgepole Pine Forest	**2**	0.07	
			Rocky Mountain Lodgepole Pine Forest	**3**		0.21
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**0**	1.71	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**2**	0.34	
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		0.88
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**		0.01
			Aspen Forest and Woodland	**0**	0.62	
			Aspen Forest and Woodland	**3**		0.25
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**0**	0.10	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**2**	0.96	
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**3**		0.68
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**0**	0.87	
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.35
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**0**	1.01	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**2**	0.33	
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		0.61
Recording condition-adjusted losses and gains associated with future ecological system asset condition scores	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		412.45
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		3.50
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**5**		1.38
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		22.81
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**		0.02
			Big Sagebrush Steppe	**3**		1.36
			Montane Sagebrush Steppe	**3**		1.22
			Montane Sagebrush Steppe	**4**		0.02
			Rocky Mountain Lodgepole Pine Forest	**3**		0.31
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		1.32
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**		0.06
			Aspen Forest and Woodland	**3**		0.37
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**3**		1.02
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.52
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		0.92
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**5**		0.02

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Closing Statements						
Closing the Statements of Biodiversity Performance and Position for Ecological Systems	Net Impacts (ac eq)	X (Statement of Biodiversity Performance)	Net surface areas adjusted for condition	**n/a**	901.72	
	Acc. pos. impacts (ac eq)	B (Statement of Biodiversity Position)	Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**2**		32.05
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**3**		508.24
			Rocky Mountain Lower Montane, Foothill, and Valley Grassland	**4**		279.68
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**3**		30.56
			Rocky Mountain Montane Douglas-fir Forest and Woodland	**4**		29.74
			Big Sagebrush Steppe	**2**		1.49
			Big Sagebrush Steppe	**3**		4.76
			Montane Sagebrush Steppe	**3**		1.22
			Montane Sagebrush Steppe	**4**		2.06
			Rocky Mountain Lodgepole Pine Forest	**3**		0.31
			Rocky Mountain Lodgepole Pine Forest	**4**		0.02
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**3**		1.72
			Rocky Mountain Montane-Foothill Deciduous Shrubland	**4**		3.93
			Aspen Forest and Woodland	**3**		0.46
			Aspen Forest and Woodland	**4**		1.92
			Rocky Mountain Foothill Limber Pine - Juniper Woodland	**3**		1.02
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**3**		0.52
			Rocky Mountain Lower Montane-Foothill Riparian Woodland and Shrubland	**4**		0.71
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**3**		1.05
			Rocky Mountain Cliff, Canyon, and Massive Bedrock	**4**		0.22
			Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	**3**		0.01
			Open Water	**4**		0.02

Table B - 11. Stillwater Mine grizzly bear habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available	5459.74	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Grizzly Bear	Available		5459.74
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable	15	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available		15
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Grizzly Bear	Available	15	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable		15
Current Scenario						
Recording current habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable	780.25	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available		780.25
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Grizzly Bear	Available	780.25	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable		780.25
Future Scenario						
Recording future habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Unavailable		741.52
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Grizzly Bear	Available	741.52	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Grizzly Bear	Unavailable	741.52	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Grizzly Bear	Available		741.52
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Grizzly Bear	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Grizzly Bear	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Grizzly Bear	Available		5271.01
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Grizzly Bear	Available	5271.01	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 12. Stillwater Mine Canada lynx habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available	1999.58	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Canada Lynx	Available		1999.58
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable	29.98	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available		29.98
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Canada Lynx	Available	29.98	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable		29.98
Current Scenario						
Recording current habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable	43.77	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available		43.77
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Canada Lynx	Available	43.77	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable		43.77
Future Scenario						
Recording future habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Unavailable		41.45
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Canada Lynx	Available	41.45	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Canada Lynx	Unavailable	41.45	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Canada Lynx	Available		41.45
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Canada Lynx	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Canada Lynx	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Canada Lynx	Available		1967.28
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Canada Lynx	Available	1967.28	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 13. Stillwater Mine whitebark pine habitat accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for target habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available	45.35	
	Periodic gain (habitat in ac)	Y (Statement of Taxon Performance)	Whitebark Pine	Available		45.35
Baseline Scenario						
Recording baseline habitat size of taxon	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Unavailable	0.17	
	Taxon asset (habitat in ac)	A (Statement of Taxon Position)	Whitebark Pine	Available		0.17
	Periodic loss (habitat in ac)	Z (Statement of Taxon Performance)	Whitebark Pine	Available	0.17	
	Acc. neg. impacts (habitat in ac)	C (Statement of Taxon Position)	Whitebark Pine	Unavailable		0.17
Current Scenario						
No change from baseline scenario.						
Future Scenario						
No change from baseline/current scenario.						
Closing Statements						
Closing the Statements of Taxon Performance and Position	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Whitebark Pine	Available	--[a]	
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Whitebark Pine	Available		--[a]
	Net impacts (habitat in ac)	X (Statement of Taxon Performance)	Whitebark Pine	Available		45.18
	Acc. pos. impacts (habitat in ac)	B (Statement of Taxon Position)	Whitebark Pine	Available	45.18	

[a]Per BD Protocol accounting conventions for ecological systems, only DR X (decrease in net impacts) and CR B (increase in positive impacts) values are included in the Closing Statements. Across the entire accounting period for this account of available habitat, the X value is a CR and the B value is a DR; therefore, no entries are listed here.

[b]Per the modified BD Protocol accounting conventions for taxa, the net available habitat size is reported in the Closing Statements; these values are presented here.

Table B - 14. Columbus Metallurgical Complex ecological system accounting journal.

Accounting Event	Account Type (Unit)	Account Category	Account Detail	Score	DR	CR
Reference Scenario						
Accounting for reference condition of ecological system assets	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Big Sagebrush Steppe	**5**	158.95	
			Great Plains Mixedgrass Prairie	**5**	124.05	
			Great Plains Floodplain	**5**	43.351	
			Great Plains Riparian	**5**	39.965	
	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Big Sagebrush Steppe	**5**		158.95
			Great Plains Mixedgrass Prairie	**5**		124.05
			Great Plains Floodplain	**5**		43.351
			Great Plains Riparian	**5**		39.965
Baseline Scenario						
Recording ecological system assets according to baseline condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Big Sagebrush Steppe	**2**	155.54	
			Big Sagebrush Steppe	**5**		155.54
			Great Plains Mixedgrass Prairie	**0**	22.145	
			Great Plains Mixedgrass Prairie	**1**	5.5116	
			Great Plains Mixedgrass Prairie	**2**	3.7568	
			Great Plains Mixedgrass Prairie	**3**	47.726	
			Great Plains Mixedgrass Prairie	**4**	16.065	
			Great Plains Mixedgrass Prairie	**5**		95.205
			Great Plains Floodplain	**0**	0.3955	
			Great Plains Floodplain	**3**	3.8804	
			Great Plains Floodplain	**4**	39.076	
			Great Plains Floodplain	**5**		43.351
Recording condition-adjusted losses and gains associated with baseline ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Big Sagebrush Steppe	**5**	155.54	
			Great Plains Mixedgrass Prairie	**5**	95.205	
			Great Plains Floodplain	**5**	43.351	
	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Big Sagebrush Steppe	**2**		93.322
			Great Plains Mixedgrass Prairie	**0**		22.145
			Great Plains Mixedgrass Prairie	**1**		4.4093
			Great Plains Mixedgrass Prairie	**2**		2.2541
			Great Plains Mixedgrass Prairie	**3**		19.09
			Great Plains Mixedgrass Prairie	**4**		3.213
			Great Plains Floodplain	**0**		0.3955
			Great Plains Floodplain	**3**		1.5522
			Great Plains Floodplain	**4**		7.8151
	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Big Sagebrush Steppe	**2**		62.215
			Great Plains Mixedgrass Prairie	**1**		1.1023
			Great Plains Mixedgrass Prairie	**2**		1.5027
			Great Plains Mixedgrass Prairie	**3**		28.636
			Great Plains Mixedgrass Prairie	**4**		12.852
			Great Plains Floodplain	**3**		2.3282
			Great Plains Floodplain	**4**		31.261
Current Scenario						
Recording ecological system assets according to current condition scores	Ecological system asset (ac)	A (Statement of Biodiversity Position)	Great Plains Mixedgrass Prairie	**0**	11.715	
			Great Plains Mixedgrass Prairie	**1**		3.6579
			Great Plains Mixedgrass Prairie	**2**	4.9926	
			Great Plains Mixedgrass Prairie	**4**	3.2625	
			Great Plains Mixedgrass Prairie	**5**		16.312
			Great Plains Floodplain	**0**		0.3955
			Great Plains Floodplain	**4**	0.3955	
Recording condition-adjusted losses and gains associated with current ecological system asset condition scores	Periodic loss (ac eq)	Z (Statement of Biodiversity Performance)	Great Plains Mixedgrass Prairie	**1**	0.7316	
			Great Plains Mixedgrass Prairie	**5**	16.312	
	Acc. neg. impacts (ac eq)	C (Statement of Biodiversity Position)	Great Plains Mixedgrass Prairie	**0**		11.715
			Great Plains Mixedgrass Prairie	**1**	2.9263	
			Great Plains Mixedgrass Prairie	**2**		2.9956
			Great Plains Mixedgrass Prairie	**4**		0.6525
			Great Plains Floodplain	**0**	0.3955	
			Great Plains Floodplain	**4**		0.0791
	Periodic gain (ac eq)	Y (Statement of Biodiversity Performance)	Great Plains Mixedgrass Prairie	**2**		1.997
			Great Plains Mixedgrass Prairie	**4**		2.61
			Great Plains Floodplain	**4**		0.3164
Future Scenario						
No change from current scenario						
Closing Statements						
Closing the Statements of Biodiversity Performance and Position for Ecological Systems	Net Impacts (ac eq)	X (Statement of Biodiversity Performance)	Net surface areas adjusted for condition	**n/a**	144.09	
	Acc. pos. impacts (ac eq)	B (Statement of Biodiversity Position)	Big Sagebrush Steppe	**2**		62.215
			Great Plains Mixedgrass Prairie	**1**		0.3707
			Great Plains Mixedgrass Prairie	**2**		3.4998
			Great Plains Mixedgrass Prairie	**3**		28.636
			Great Plains Mixedgrass Prairie	**4**		15.462
			Great Plains Floodplain	**3**		2.3282
			Great Plains Floodplain	**4**		31.577