Stibnite Gold Project

Social and Economic Conditions Specialist Report

Prepared by:
USDA Forest Service
Payette National Forest

for:
Payette and Boise National Forests

August 2022

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Acronyms

2021 MMP	2021 Modified Mine Plan
ASAOC	Administrative Settlement Agreement and Order on Consent
BNF	Boise National Forest
Boise Forest Plan	Boise National Forest Land and Resource Management Plan
BOR	U.S. Bureau of Reclamation
CCD	Census County Subdivision
CEAA	cumulative effects analysis area
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CR	County Road
DEQ	Department of Environmental Quality
District	Stibnite Historic District
DOI	Department of the Interior
DPS	distinct population segment
DRMP	Development Rock Management Plan
EIS	Environmental Impact Statement
EO	Executive Order
EOY	end of mine year
EPA	U.S. Environmental Protection Agency
Forest Service	U.S. Forest Service
FR	National Forest System Road
FSH	Forest Service Handbook
FSM	Forest Service Manual

FY	fiscal year
ID	Idaho
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDH&HS	Idaho Department of Health and Human Services
IDHW	Idaho Department of Health and Welfare
IDL	Idaho Department of Lands
IDPR	Idaho Department of Parks and Recreation
IMPLAN	A company that specializes in economic impact data and analytical software
IMPROVE	Interagency Monitoring of Protected Visual Environments
IOGLB	Idaho Outfitters and Guides Licensing Board
IPCo	Idaho Power Company
IPDES	Idaho Pollutant Discharge Elimination System
IRA	inventoried roadless area
ISDA	Idaho State Department of Agriculture
ITD	Idaho Transportation Department
IWG	Interagency Working Group
kV	kilovolt
LMF	Landmark Maintenance Facility
LRMP	Land and Resource Management Plan
Midas Gold	Midas Gold Idaho, Inc.
MPG	major population group
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act of 1976
NFS	National Forest System
NFST	National Forest System Trail
NPT	Nez Perce Tribe
NPTL	Nez Perce Tribal Land
NRC	National Research Council

NRCS	National Resources Conservation Service
O&M	Operations and Maintenance
Payette Forest Plan	Payette National Forest Land and Resource Management Plan
Plan	September 2016 Plan of Restoration and Operations
PNF	Payette National Forest
RFFA	Reasonably Foreseeable Future Action
ROW	right-of-way
SCC	Social Cost of Carbon
SCNF	Salmon-Challis National Forest
SEIS	Supplemental Environmental Impact Statement
SFSR	South Fork Salmon River
SGLF	Stibnite Gold Logistics Facility
SGP	Stibnite Gold Project
SH	State Highway
SRS	Service Revenue Sharing
Stantec	Stantec Consulting Services Inc.
SUP	special use permit
TSPQ	Total Sale Program Quantity
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WHO	World Health Organization

1.0 Introduction

The United States (U.S.) Department of Agriculture Forest Service (Forest Service) received the Stibnite Gold Project (SGP) Plan of Restoration and Operations, (Midas Gold Idaho, Inc. 2016) for review and approval in accordance with regulations at 36 Code of Federal Regulations (CFR) 228 Subpart A for the proposed SGP in central Idaho. A revised Plan, also known as ModPRO,[1] was submitted to the Forest Service in 2019 (Brown and Caldwell 2019). A further modified Plan, also known as ModPRO2,[2] was then submitted in October of 2021 (Perpetua 2021). Midas Gold changed their name to Perpetua Resources Idaho Inc. (Perpetua[3]) in February 2021.

The SGP would consist of mining operations, including an open pit hard rock mine and associated processing facilities, located within Valley County in central Idaho on federal, state, and private lands (**Figure 1-1**). The SGP would produce gold and silver doré, and antimony concentrate, for commercial sale by Perpetua. The SGP would have a life (construction, operation, closure, and reclamation), not including post-reclamation monitoring, of approximately 20 years, with active mining and ore processing occurring over approximately 15 years.

This specialist report includes a discussion of existing (baseline) social and economic conditions relevant to the SGP, including population and housing, income and labor, social conditions, public services, recreation use, and government revenues. This report also evaluates the potential effects (Environmental Consequences) that the SGP could have on social and economic conditions.

2.0 Alternatives, Including the Proposed Action

The SGP 2021 Modified Mine Plan (MMP) Alternatives Report (Forest Service 2022a) contains the details of the alternatives that are being considered and fully analyzed in this report. For reader usability, the alternatives are briefly summarized here.

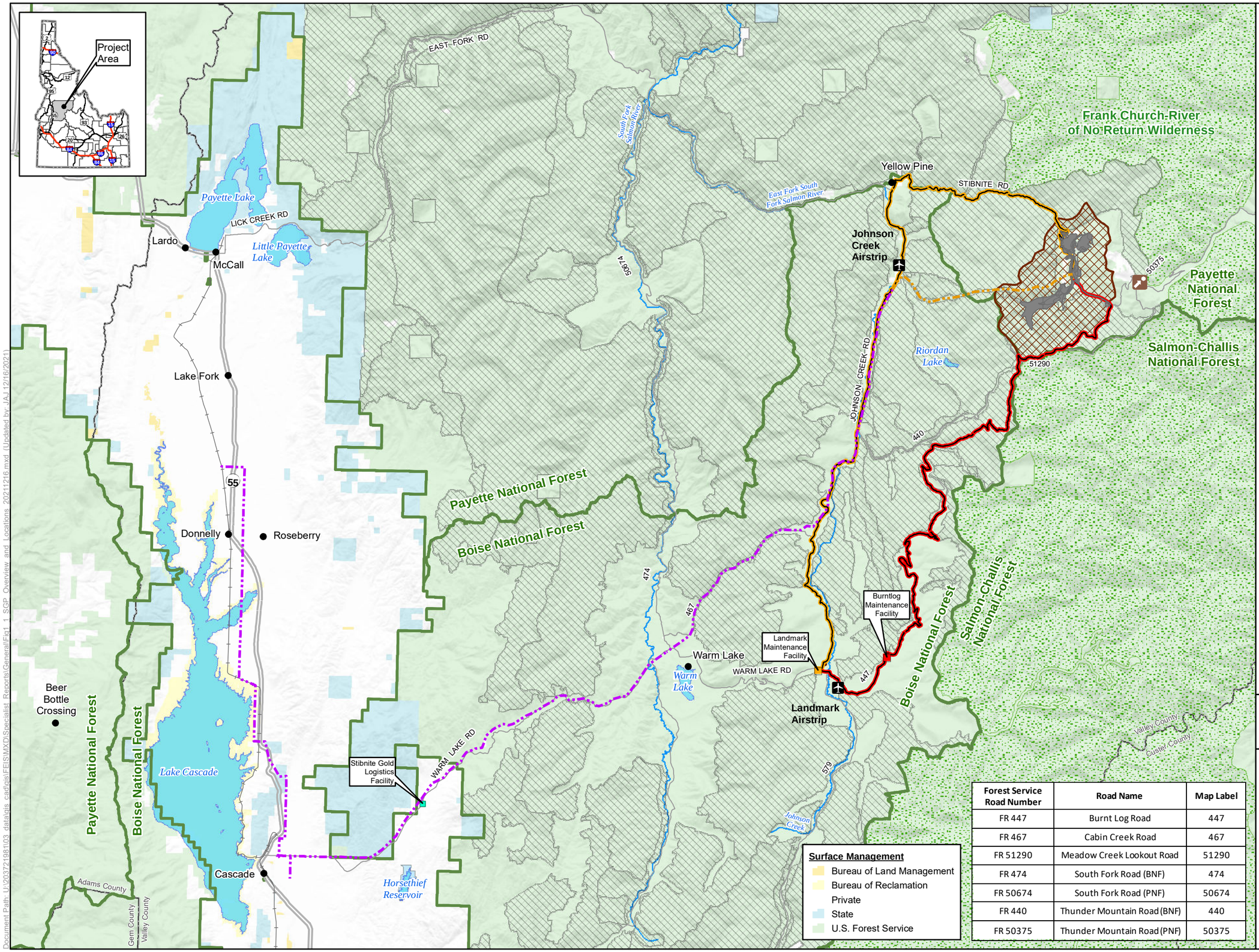
2.1 No Action Alternative

The No Action Alternative provides an environmental baseline for comparison of the action alternatives. Under the No Action Alternative, the mining, ore processing, and related activities under the 2021 MMP or the Johnson Creek Route Alternative would not take place. In addition, certain legacy and existing mining impacts would be addressed as directed in the 2021 Administrative Settlement Agreement and Order on Consent (ASAOC), including installation of stream diversion ditches designed to avoid contact of water with sources of contamination and removal of development rock and tailings currently impacting water quality. However, existing and approved activities (i.e., approved exploration activities and associated reclamation obligations) would continue and Perpetua would not be precluded from subsequently submitting another plan of operations pursuant to the General Mining Law of 1872.

[1] Associated project documents may reference the Revised Plan as the ModPRO.

[2] Associated project documents may reference the Modified Plan as the ModPRO2.

[3] Documents provided by Perpetua prior to the February 2021 name change will still be cited and referenced as Midas Gold.



LEGEND

Project Components
- SGP Features
- Operations Area Boundary

Access Roads and Trail System
- Burntlog Route *
- Johnson Creek Route

Utilities
- Upgraded Transmission Line
- New Transmission Line

Offsite Facilities
- Burntlog Maintenance Facility *
- Landmark Maintenance Facility **
- Stibnite Gold Logistics Facility

Other Features
- U.S. Forest Service
- Wilderness
- IRA and/or Forest Plan Special Area
- County
- City/Town
- Monumental Summit
- Airport/Landing Strip
- Railroad
- Highway
- Road
- Stream/River
- Lake/Reservoir

Surface Management
- Bureau of Land Management
- Bureau of Reclamation
- Private
- State
- U.S. Forest Service

Forest Service Road Number	Road Name	Map Label
FR 447	Burnt Log Road	447
FR 467	Cabin Creek Road	467
FR 51290	Meadow Creek Lookout Road	51290
FR 474	South Fork Road (BNF)	474
FR 50674	South Fork Road (PNF)	50674
FR 440	Thunder Mountain Road (BNF)	440
FR 50375	Thunder Mountain Road (PNF)	50375

* Associated with 2021 MMP only
** Associated with Johnson Creek Route Alternative only
Note:
The McCall – Stibnite Road (CR 50-412) consists of Lick Creek Road, East Fork South Fork Salmon River Road (East Fork Road) and Stibnite Road.

0 2 4 Miles
1 inch = 4 miles when printed at 11x17

Figure 1-1
SGP Overview and Location
Stibnite Gold Project
Stibnite, ID

Base Layer:
Other Data Sources: Perpetua; State of Idaho Geospatial Gateway (INSIDE Idaho); Boise National Forest; Payette National Forest

Document Path: U:\20372\198\03_data\gis_cad\gis\FEIS\MXD\Specialist_Reports\General\Fig1_1_SGP_Overview_and_Locations_20211216.mxd (Updated by: JAJ 12/16/2021)

2.2 2021 MMP

The 2021 MMP is based upon Perpetua's Revised Plan (ModPRO2) and is considered the Proposed Action. The description of this alternative has been updated per the Revised Plan submitted in 2021 (Perpetua 2021). The SGP operations footprint has been modified but would still be within the previously identified Operations Area Boundary (**Figure 2-1**).

The following mine components would be common to the action alternatives:

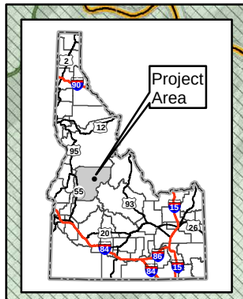
- Mine pit locations, areal extents, and mining and backfilling methods
- Transportation management on existing and proposed roads
- Pit dewatering, surface water management, and water treatment
- Ore processing
- Lime generation
- Tailing storage facility (TSF) construction and operation methods
- TSF Buttress construction methods
- Water supply needs and uses
- Management of mine impacted water and stormwater runoff
- Stibnite Gold Logistics Facility (SGLF)
- A road maintenance facility
- Surface and underground exploration
- Stibnite Gold Project worker housing facility

For access, the 2021 MMP would utilize Warm Lake Road, Johnson Creek Road, and Stibnite Road during construction of the Burntlog Route; then once constructed, the Burntlog Route would be utilized during operations and reclamation. The actions proposed under the 2021 MMP would take place over a period of approximately 20 years, not including the long-term, post-closure environmental monitoring or potential long-term water treatment.

2.3 Johnson Creek Route Alternative

The Johnson Creek Route Alternative was developed to evaluate potential reductions in impacts to various resources. The mining portion of this alternative would be the same as under the 2021 MMP. Therefore, the primary focus of the Johnson Creek Route Alternative would be using an existing road for mine access through operations and reclamation instead of the Burntlog Route that under the 2021 MMP requires new road construction in Inventoried Roadless Areas. The Johnson Creek Route Alternative would require extensive upgrades to both Johnson Creek Road and Stibnite Road. Construction schedule for upgrading the roads and construction of the SGP would increase from 3 years to 5 years.

The action alternatives are summarized in **Table 2-1**.



Surface Land Management

Private

U.S. Forest Service

North Security Gate
Stibnite Lake
West End Pit
Yellow Pine Pit & Backfill
Midnight Backfill
Midnight Pond
Growth Media Stockpile
Crusher ROM Stockpile Area
Scout ROM Stockpile Area
Process Plant Area
Substation
Explosives Facility
Cell Tower
Transmission Line
Water Treatment Plant
Laydown
Hangar Flats Pit Backfill, & Stockpiles
Truck Shop Area
TSF Embankment
TSF Buttress
TSF Impoundment
SODA Pond
Radio Communications Tower
Main Gate
Growth Media Stockpile
Worker Housing Facility
Radio Communications Tower

East Fork South Fork Salmon River
Stibnite Rd
Sugar Creek
West End Creek
Hennessy Creek
Midnight Creek
Fiddle Creek
Garnet Creek
Robbin Creek
East Fork South Fork Salmon River
Blowout Creek
Meadow Creek

T19NR09E
T18NR09E
T19NR10E
T18NR10E

Frank Church-River of No Return Wilderness

Boise National Forest
Payette National Forest
Payette National Forest
Salmon-Challis National Forest

LEGEND

Project Components *

SGP Features

- Pit Backfill
- Growth Media Stockpile
- Mining Pit
- Laydown
- Plant Site
- TSF Buttress
- TSF Liner
- Alluvial Stockpile
- Workers Housing
- Stockpile
- Explosive Facility
- Operations Area Boundary
- Patented Claim Boundary
- Tailings Pipeline
- Clean Water Diversion **
- Clean Water Diversion - Piped **
- East Fork South Fork Salmon River Tunnel ***
- Stream ****
- Pond
- Stibnite Lake
- Light Vehicle Road
- Haul Road
- Helicopter Pad

Access Roads

- Burntlog Route
- Johnson Creek Route
- Cell Tower Access Road
- Public Access Road *****

Utilities

- Transmission Line
- Substation ******
- New Cell Tower
- Existing Communication Tower

Other Features

- U.S. Forest Service
- Wilderness
- IRA and Forest Plan Special Areas
- Monumental Summit
- Road

* Project Components are associated with all Alternatives
** Some surface clean water diversions are not discernible at this figure scale (e.g., the diversions associated with the TSF/buttress north, Fiddle culvert, Midnight Outfall, Scout ROM). Please refer to Figures 2.4-14 and 2.4-15 which provide greater detail regarding the Water Management Plan and its facility/diversion locations.
*** The East Fork South Fork Salmon River Tunnel would only be utilized as a contingency to manage high flows upon completion of the restoration of the East Fork SFSR across the backfill in the Yellow Pine Pit.
**** Perennial streams are not depicted for the entire map area. Only perennial streams within the Operations Area Boundary are depicted.
***** Public Access Road associated with 2021 MMP
****** Substation locations are approximate.

0 0.35 0.7 Miles

1 inch = 0.7 miles when printed at 11x17

Figure 2-1
Mine Site Layout
Stibnite Gold Project
Stibnite, ID

Base Layer: Hillshade derived from LiDAR supplied by Midas Gold
Other Data Sources: Perpetua; State of Idaho Geospatial Gateway (INSIDE Idaho); Boise National Forest; Payette National Forest

Document Path: U:\2037\216\103_data\gis_cad\gis\FEIS\MXD\Specialist Reports\General\Fig2_4-2_SGP_MineSite_Layout_20220407.mxd (Updated by JAJ 4/6/2022)

Table 2-1 Action Alternatives Summary

SGP Phase	Component/ Subcomponent	2021 MMP	Johnson Creek Route Alternative
All Phases	SGP timeline	• Construction: Approximately3 years. • Operations: Approximately 15 years. • Exploration: Approximately 17 years (during construction and operations). • Reclamation: Approximately 5 years (except for the TSF which would require an additional 9 years for tailings dewatering and consolidation). • Closure/Post-Closure Water Treatment: Approximately through Mine Year 40. • Environmental Monitoring: As long as needed.	Same as 2021 MMP except: • Construction: Approximately 5 years (upgrading the existing Johnson Creek and Stibnite Roads to provide permanent mine access).
All Phases	Access Roads	Construction/Operations: • Warm lake road from State Highway (SH) 55 to Johnson Creek Route intersection (34 miles). • Johnson Creek Route for SGP access during early construction with minor improvements within the road prism. • Burntlog Route (38 miles) for SGP access during last year of construction, mining and ore processing operations, and closure and reclamation. Includes improvements of existing segments (23 miles) and road construction for new segments (15 miles). • Up to eight borrow areas developed along Burntlog Route for materials needed for road improvements and maintenance. • Access route around the Yellow Pine pit for public access. Closure and Reclamation: • New sections of Burntlog Route to be reclaimed after the closure and reclamation period.	• Warm lake road from SH 55 to Johnson Creek Route intersection (34 miles). • Johnson Creek Route (39 miles: Johnson Creek Road 25 miles, Stibnite Road 14 miles) upgraded and used for access throughout life of mine (LOM) instead of the Burntlog Route. • Access route around the Yellow Pine pit for public access, employee access, and deliveries of supplies and equipment to the processing, warehouse, worker housing facility, and administration areas. • No improvements or construction of new segments for Burntlog Route. • Up to seven borrow sources developed along the Johnson Creek Route for materials needed for road improvements and maintenance. Closure and Reclamation: • Improved Johnson Creek and Stibnite roads would not be reclaimed to pre-existing conditions.

SGP Phase	Component/ Subcomponent	2021 MMP	Johnson Creek Route Alternative
All Phases	Public Access	Construction: • Temporary groomed over-snow vehicle (OSV) trail on the west side of Johnson Creek from Trout Creek to Landmark while Burntlog Route is constructed (8 miles). • OSV trail on west side of Johnson Creek from Wapiti Meadows to Trout Creek campground closed during construction (9 miles). • OSV trail from Warm Lake to Landmark closed during construction through operations (8.5 miles). • Cabin Creek Road Groomed OSV trail (11 miles). • Public roads remain open through the SGP with temporary closures as needed to accommodate construction. Operations: • Groomed OSV trail moves from west side of Johnson Creek Road to Johnson Creek Road from Landmark to Wapiti Meadows (16.7 miles). • Stibnite Road (County Road [CR] 50-412) / Thunder Mountain Road (FR 50375) closed through the SGP. • Seasonal public access through the Operations Area Boundary provided by constructing new road through Yellow Pine pit and below mine haul road to link Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375). • Public access allowed on Burntlog Route to Thunder Mountain Road (FR 50375). Closure and Reclamation: • New road constructed over the Yellow Pine Backfill (backfilled Yellow Pine pit) connecting Stibnite Road (FR 50412) to Thunder Mountain Road (FR 50375).	Construction and Operations: Same as 2021 MMP except: • OSV trail on the west side of Johnson Creek from Wapiti Meadows to Trout Creek campground would be closed from construction through mine closure (9 miles). • Groomed OSV trail on the west side of Johnson Creek from Trout Creek to Landmark lasting from construction through mine closure. Closure and Reclamation: Same as 2021 MMP.

SGP Phase	Component/ Subcomponent	2021 MMP	Johnson Creek Route Alternative
Operations	Utilities – Transmission Lines	• Upgrade approximately63 miles of the existing 12.5 kilovolt (kV) and 69 kV transmission lines. • New approximate 9-mile, 138 kV line would be constructed from the Johnson Creek substation to a new substation at the mine site. • Upgrade the substations located at Oxbow Dam, Horse Flat, McCall, Lake Fork, and Warm Lake. • Reroute approximately 5.4 miles of transmission line to avoid the Thunder Mountain Estates subdivision. • Reroute approximately 0.9 miles of transmission line between Cascade and Donnelly to use an old railroad grade on private property. • Installation of approximately 3 miles of new underground distribution line along Johnson Creek Road from the Johnson Creek substation south to Wapiti Meadows.	Same as 2021 MMP.
Operations	Utilities - Communication Towers and Repeater Sites	• One cell tower located north of the Hangar Flats pit. • Locations along Burntlog Route for very high frequency (VHF) repeater sites. • Use existing access roads to repeater site locations along Burntlog Route. • Communication site at the SGLF. • Upgrades to existing communication site.	Same as 2021 MMP except: • Cell tower sites constructed and maintained using helicopter (instead of constructing access roads) for sites within IRAs managed for Backcountry/Restoration. • Locations along Johnson Creek route for repeater sites.
Operations	Off-site Maintenance Facility	• SGLF located along Warm Lake Road. • Burntlog Maintenance Facility located at one of the borrow source locations 4.4 miles east of the junction of Johnson Creek Road and Warm Lake Road along the proposed Burntlog Route.	• SGLF same as 2021 MMP • Landmark Maintenance Facility located at junction of Warm Lake Road at Johnson Creek Road.

SGP Phase	Component/ Subcomponent	2021 MMP	Johnson Creek Route Alternative
Closure and Reclamation	Access road segments	• Removal and reclamation of new road segments constructed for Burntlog Route. • Return of previously existing road segments to pre-construction width and condition.	• No removal or reclamation of pre-existing access routes.

Source: Perpetua 2021

2.4 Applicable Environmental Design Features

The SGP must comply with all laws and regulations that apply to the proposed activities (Forest Service 2022a). Standards and guidelines in the Payette and Boise National Forest Land and Resource Management Plans (Forest Service 2003, 2010) that are designed to reduce or prevent undesirable impacts resulting from proposed management activities are incorporated into all the action alternatives by reference. In addition, best management practices outlined in the Best Management Practices for Mining in Idaho (Idaho Department of Lands, 1992) would be implemented where appropriate and applicable for operations to minimize site disturbance from mining and drilling activities.

In the design of the 2021 MMP, Perpetua has already considered many of the potential environmental impacts that might be caused by the SGP. This has led to an internal evaluation of project design features and operational characteristics that may have the effect of reducing and/or eliminating potential environmental impacts of the SGP. Such project-specific measures intended by a proponent to inherently reduce and/or avoid potential environmental impacts of a proposed action are referred to as environmental "design features". While the SGP and its design features have socioeconomic implications included in this analysis, there are no specific to social and economic indicators exclusively associated with design features.

3.0 Relevant Laws, Regulations, and Policy

3.1 Land and Resource Management Plan

The 2003 Payette National Forest Land and Resource Management Plan (Payette Forest Plan) and the 2010 Boise National Forest Land and Resource Management Plan (Boise Forest Plan) regulate the use of National Forest System (NFS) lands for the benefit of the nation. The Payette Forest Plan and the Boise Forest Plan both have the following goals and objectives for social and economic resources:

Goals:

SEGO01: Promote collaboration among federal, state, county, and tribal governments in land management planning, implementation, and monitoring efforts to coordinate activities and improve the effectiveness in delivery of government services.

SEGO02: Promote cooperation among stakeholders by involving them in planning, implementing, and monitoring Forest land management activities to better understand the trade-offs needed to make informed decisions.

SEGO03: Develop sustainable land uses and management strategies that contribute to economic development goals.

Objectives:

SEOB01: Provide a predictable supply of Forest goods and services within sustainable limits of the ecosystem that help meet public demand.

SEOB02: Provide opportunities for cooperation by enhancing public involvement efforts in Forest activities through the media, stakeholder workshops, personal contacts, and other methods.

These goals and objectives provide direction on procedural approaches and outcomes for management of NFS social and economic resources and conditions. However, they do not prescribe any specific guidance applicable for assessing socioeconomic impacts.

3.2 Federal Laws, Regulations and Policy

3.2.1 General Mining Act of 1872 (The 1872 Mining Law)

The 1872 Mining Law (30 United States Code, Chapter 2) and subsequent amendments established the statutory right to locate, develop, and extract mineral deposits on federal lands open to mineral entry. The Forest Service regulates locatable mineral operations on the surface of the NFS lands under regulations codified at 36 Code of Federal Regulations (CFR) 228A.

3.2.2 Mining and Mineral Policy Act of 1970

Through the Mining and Mineral Policy Act of 1970 (30 U.S.C. 21a.), Congress has stated that it is the continuing policy of the federal government, in the national interest, to foster and encourage private enterprise in:

- The development of economically sound and stable domestic mining, minerals, and metal and mineral reclamation industries; and
- The orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help ensure satisfaction of industrial, security, and environmental needs.

3.2.3 Forest Service Manual 1970 and Forest Service Handbook 1909.17

The Forest Service Manual 1970 directs how economic and social analyses should be conducted to aid Forest Service decision making. Forest Service guidelines for socioeconomic analyses are outlined in Forest Service Handbook 1909.17, "Economic and Social Analysis Handbook." The handbook provides guidelines to be used to evaluate socioeconomic impacts that may result from policy, program, plan, or project decisions on NFS lands.

3.3 State and Local Policy

3.3.1 Valley County and Adams County Comprehensive Plans

Both the Valley County and Adams County comprehensive plans reaffirm the importance of natural resources to their communities' economies (Adams County 2006; Valley County 2018a).

The Valley County Comprehensive Plan includes the following goals and objectives pertinent to the SGP:

- Natural Resources Goal 5: To assure mining remains a viable element in Valley County's economy.
- Economic Development Goal 1-Objective 2: Consider the long-term impacts and benefits on the local economy and environment of each proposed new commercial and industrial activity.
- Economic Development Goal 1-Objective 3: Maintain the important role of the timber industry, tourism, outdoor recreation, mining, and agriculture in the local economy.

The Adams County Comprehensive Plan includes the following goal pertinent to the SGP:

- Economic Goal 4: Provide an economically viable environment that builds and maintains a diverse base of business.

4.0 Issues and Resource Indicators

4.1 Significant Issues

Significant issues are those which are used to formulate alternatives to the Proposed Action and to develop mitigation measures. No significant issues were identified for social and economic conditions.

4.2 Resources Issues and Indicators

Although social and economic conditions were not identified as a significant issue, they were identified by the public, the Forest Service, and cooperating agencies as a relevant consideration. The analysis of effects to social and economic conditions includes the following issue and indicators:

Issue: The SGP may impact the socioeconomics of Valley and Adams counties and the State of Idaho.

Indicators:

- Contributions to employment levels (total, State of Idaho, and Valley and Adams counties).
- Estimated value of projected mineral extraction.
- Estimated value of local income contributions.
- Estimated value of goods and services procured in Valley and Adams counties.
- Change in populations of Valley and Adams counties.
- Impacts to housing demand and affordability in Valley and Adams counties.
- Estimated tax revenue contributions.
- Changes in tourism and recreational based businesses.
- Changes in transportation, public services, and infrastructure.
- Effects on fisheries restoration programs

Other effects on tribes are described in the Tribal Treaty Rights & Interests Specialist Report (Forest Service 2022b).

5.0 Methodology

5.1 Analysis Area

The analysis area for social and economic conditions includes the area where effects (direct, indirect, and cumulative) may be caused by the SGP activities (FSH.1909.15, 15.2a).

5.1.1 Direct/Indirect Effects Boundaries

The direct and indirect effects analysis area for social and economic conditions consists of the counties (and associated communities) with the potential to be directly economically affected by the SGP. Both Valley and Adams counties are included in this analysis area (**Figure 5-1**). Valley County, which contains the entire SGP area, and the associated communities of Cascade, Donnelly, McCall, and Yellow Pine, has the potential to be economically affected by the SGP. Adams County and the associated towns of New Meadows, Meadow Valley, Council, and Tamarack also are included in the analysis area because of their proximity to the SGP.

Evaluation of the potential effect generally includes four components of impact: magnitude or intensity, duration, geographic extent, and context. These impacts are quantitatively analyzed when sufficient information is available, otherwise they are evaluated qualitatively.

The magnitude or intensity of an impact refers to its severity (e.g., the level of impact compared to established metrics, thresholds, etc.). The duration and geographic extent assess the impact's temporal and physical span respectively. Context refers to the implication of an action within a setting, such as society as a whole (human, national), the affected region, the affected interests, and the locality.

5.1.2 Cumulative Effects Boundaries

In addition, given its size and scope, the SGP also could have social and economic effects in combination with other economic activities beyond the analysis area. As a result, this socioeconomic analysis also considers the SGP's expected impacts from a statewide perspective when appropriate.

Locations outside the analysis area that may be impacted by the SGP include travel corridors potentially used as travel routes for mine products and mine employees. The communities along the Idaho State Highway (SH) 55 and U.S. 95 travel corridors from Boise, Idaho, in the south to Coeur d'Alene, Idaho, in the north could potentially be affected by the SGP. In addition, the SGP also could affect communities with high populations of residents with technical mining expertise and/or businesses offering input materials, goods, and/or support services. Finally, because many of the local communities have mixed cash-subsistence economies, there also could be SGP-related socioeconomic impacts on the tribal populations, including members of the Nez Perce Tribe, Shoshone-Bannock Tribes of the Fort Hall Reservation, and Shoshone-Paiute Tribes of the Duck Valley Reservation, that have traditional hunting, fishing, and other rights to lands near SGP-related components. The Nez Perce Reservation encompasses portions of Nez Perce, Clearwater, Lewis, and Idaho counties in Idaho. Nez Perce Census County Subdivision (CCD) is a census-recognized subdivision within the Reservation that includes the community of Lapwai, which is the seat of the Nez Perce tribal government and has the highest proportion of tribal members as residents. In addition, the tribal headquarters, school, and casino are in the Nez Perce CCD. As a result, the Nez Perce CCD, Fort Hall Reservation, and Duck Valley Reservation also are recognized as communities that could potentially experience SGP-related socioeconomic impacts (**Figure 5-2**).

5.2 Analysis Area Methodology

The U.S. Census Bureau's (Census') 2014-2018 American Community Survey was used to identify the population and housing characteristics of all the communities within the analysis area. American Community Survey data also was used to evaluate the three tribal communities located outside the analysis area with strong cultural associations and traditional use of the analysis area and surroundings.

American Community Survey data are generally "period" estimates that provide data collected and averaged over a period of time to represent a population's characteristics. As such, it can differ from "point-in-time" data estimates (e.g., the decennial census data) that represents the population's characteristics for a specific date. The primary rationale for using multi-year estimates in this analysis of population and housing is its greater statistical reliability for less populated areas and small population subgroups. Furthermore, 5-year estimates were used to evaluate the analysis area's communities because 1-year estimates are only available for geographies with more than 65,000 people (Census 2018a).

Social and economic conditions were analyzed using the Economic Impact Analysis of the SGP (Highland Economics 2018), Populations at Risk profiles (Headwaters Economics 2019a,b,c), Midas Gold Idaho, Inc. (Midas Gold) Socioeconomics Baseline Study (Drage and Richins 2017), state and local tax and revenue data, U.S. Census Bureau (Census) data, geographic information system spatial analyses, scientific literature reviews, and other information and analysis documented in reports prepared for the SGP. Additional analysis also was performed when necessary to assess the validity of the data and analyses provided by Midas Gold to confirm their findings.

Assumptions used for this analysis include:

- The SGP is expected to employ both local and non-local area residents that commute in and out of the area on a bi-weekly basis. The nature and magnitude of the SGP's socioeconomic effects on the local analysis area economy are associated with the SGP-related employment impacts and potential population growth.
- There is uncertainty regarding the type and extent of local employment and in-migration resulting from the SGP. Due to the mine site's remote location and bi-weekly shift staffing, it is difficult to project the actual extent and location of SGP-related in-migration to the local area. Because most workers would be housed on-site during their bi-weekly shifts, there is limited need or incentive for relocation to the local area. Idaho residents (particularly those living in rural areas) regularly commute or travel long distances, as do many workers in the mining industry. In the absence of benefits inducing workers to live locally, Perpetua employees can choose from a wide variety of housing locations and base their housing decisions on factors including housing availability/affordability, local amenities, and social conditions, among others. As a result, most Perpetua employees are expected to continue living in their current locations or choose to relocate to other larger non-local communities outside of the analysis area.
- Results from Economic Impact Analysis of the SGP (Highland Economics 2018) analysis of economic impacts are presented for each alternative and each phase of the SGP. The impact analysis presented in this environmental impact statement uses the Highland Economics' projected mid-range values of the local employment effects to discuss and evaluate the expected socioeconomic impacts to the local area.

- Valley County's labor force availability is limited, as current county unemployment levels are comparable with the state average. As a result, a high percentage of non-local employees would be expected to be attracted to the SGP due to local labor market constraints.

There is limited available information on use of the analysis area both by recreational visitors and Native American tribal members. As a result, the type, frequency, magnitude, and location of these users' activities are largely unknown, making it difficult to quantify their SGP-related socioeconomic impacts. Although adequate for the purposes of the socioeconomic impact analysis, limited fiscal information on Adams County's government services and revenues was available. Neither Perpetua nor this socioeconomic analysis has been able to quantify direct revenue transfers to Valley and Adams counties resulting from the SGP's expected future mineral license fee payments to the state of Idaho.

The SGP would result in direct and indirect socioeconomic effects on residents, workers, and communities within the local analysis area (i.e., Valley and Adams counties and associated communities of Cascade, Council, Donnelly, McCall, New Meadows and Yellow Pine). For the purposes of the socioeconomic analysis, the indirect impacts also include induced socioeconomic effects that are attributable to the SGP activities.

Direct impacts are defined as those that would occur directly from the SGP activities at the same time and place. For example, direct employment includes not only Perpetua employees but also other on-site construction workers that are employees of contractors hired for on-site construction or operational tasks. Indirect and induced impacts are defined as those that would be caused by an action but would occur later in time or would be farther removed in distance from the SGP activities. For example, indirect employment includes people who work for businesses that provide goods and services in support of the SGP. Induced effects are items that result from the direct and indirect effects. For example, induced employment includes people who would be employed by businesses that obtain their revenues as a result of spending by direct and indirect employees and businesses.

The following analysis of effects associated with social and economic conditions is considered within the overall context of the local analysis area and economy consisting of Valley and Adams counties and associated communities. Given the remote locations of the SGP area and rural surrounding environment, most of the direct socioeconomics impacts are likely to occur within Valley County and the New Meadows area in Adams County. In addition, analysis of statewide socioeconomic impacts from the SGP also are provided when appropriate.

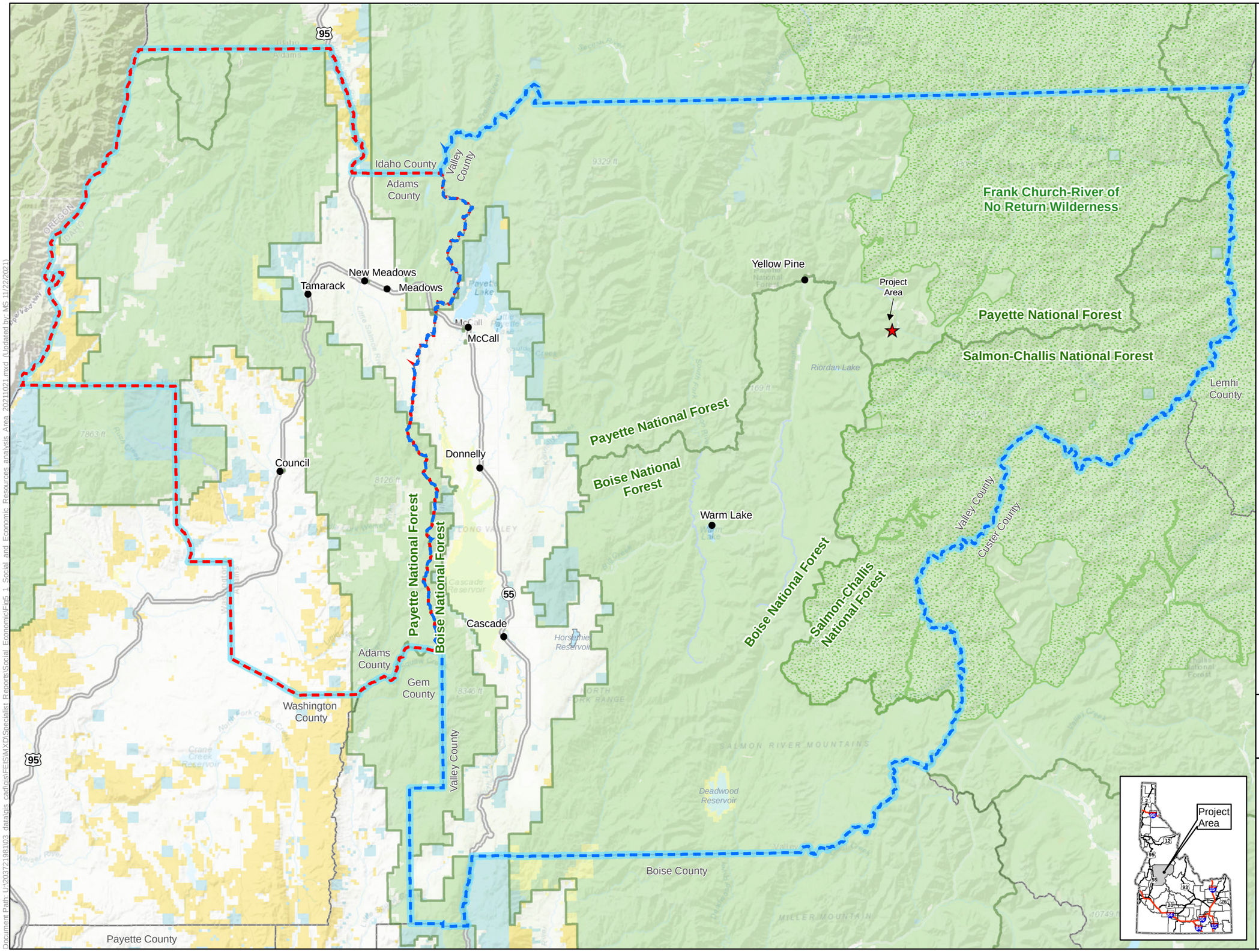
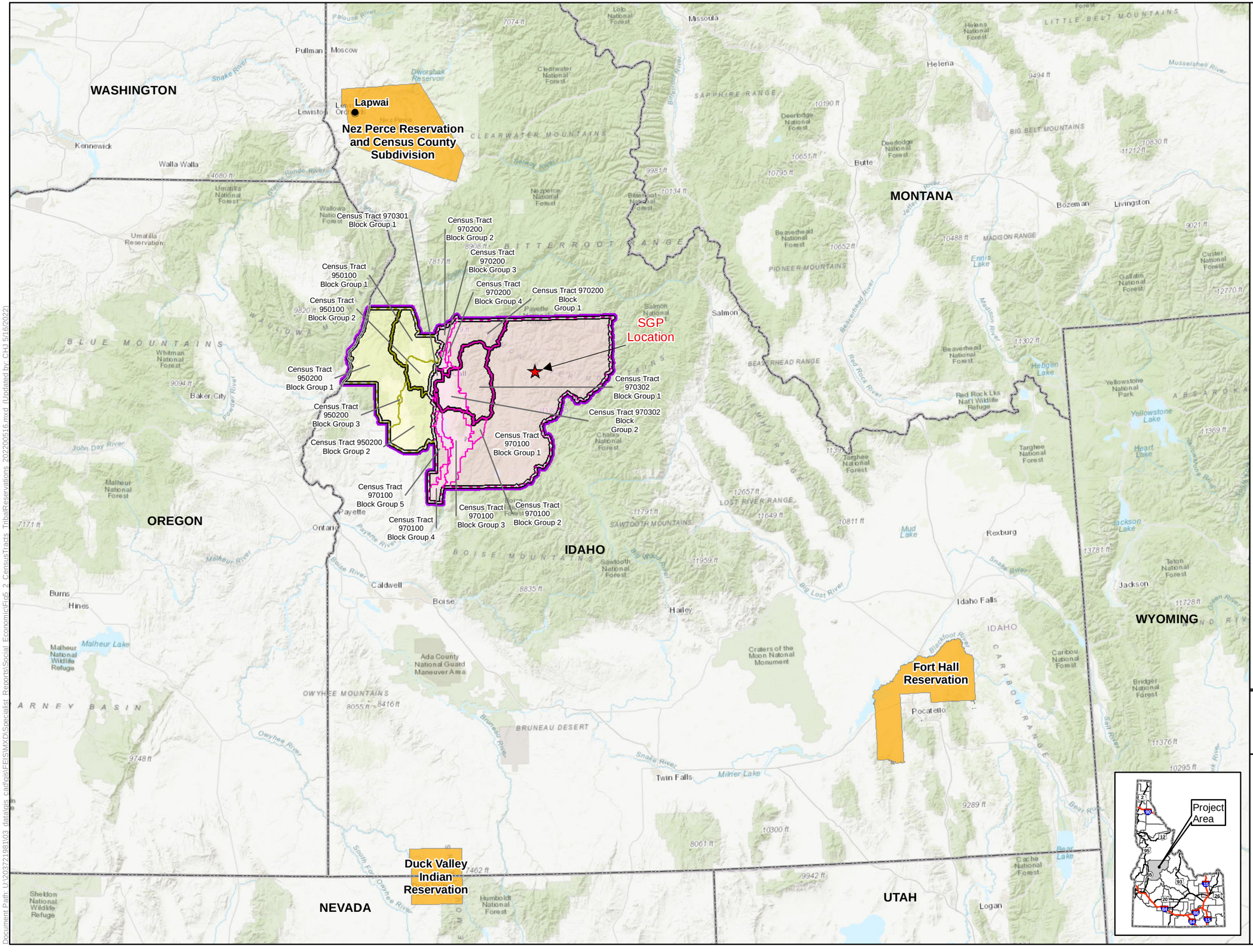


Figure 5-1
Social and Economic Resources Analysis Area
Stibnite Gold Project
Stibnite, ID

Base Layer: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Other Data Sources: Midas Gold; State of Idaho Geospatial Gateway (INSIDE Idaho); USGS; Boise National Forest; Payette National Forest; US Census Bureau

Document Path: U:\2023\21981103_data\gis_cad\gis\EIS\MXD\Specialist Reports\Social_Economic\Fig5_1_Social_and_Economic_Resources_analysis_Area_20211021.mxd (Updated by: MS 11/2/2021)



LEGEND

- SGP Location

Other Features

- Tribal Reservation
- Adams County Census Block Group
- Valley County Census Block Group
- Census Tract
- County Boundaries/Analysis Area
- City/Town
- County
- State

0 20 40 Miles

1 inch = 36 miles
when printed at 11x17

Figure 5-2
Tribal Reservations and Census Tracts
Stibnite Gold Project
Stibnite, ID

Base Layer: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Other Data Sources: Perpetua; State of Idaho Geospatial Gateway (INSIDE Idaho); USGS; Boise National Forest; Payette National Forest; US Census Bureau

6.0 Affected Environment

The following section provides historic and current population and housing data, income and labor force trends, and government revenues based on the most recent data year available, as well as describes social conditions and public services in the analysis area. Due to the uncertainties related to the ongoing changes in regional economic and social conditions, the data below may be inexact as it is based on prior economic conditions data and trends.

There is limited available information on use of the analysis area both by recreational visitors and Native American tribal members. As a result, the type, frequency, magnitude, and location of these users' activities are largely unknown, making it difficult to quantify their SGP-related socioeconomic impacts. Although adequate for the purposes of the socioeconomic impact analysis, limited fiscal information on Adams County's government services and revenues was available. Neither Midas Gold nor this socioeconomic analysis has been able to quantify direct revenue transfers to Valley and Adams counties resulting from the SGP's expected future mineral license fee payments to the state of Idaho.

At the time of this reporting, some 2020 census data remains unavailable due to delays associated with the COVID-19 response. Therefore, the analysis relies on the previously complete census datasets prior to 2020.

6.1 Population

Valley and Adams counties are both rural areas located in central Idaho with low population densities of 3.2 people per square mile for both counties (Census 2020). Valley County is Idaho's fifth largest county by area (3,664 square miles) but is the 27th most populated (year-round) of the state's 44 counties. Adams County is the 22nd largest county in Idaho by area (1,363 square miles) and one of the state's least populated (year-round) counties (39th out of 44) (Census 2020). Valley County experiences an influx of seasonal residents, recreationists, and vacationers during both the summer and winter months which may not be accounted for in the available data (Valley County 2018a).

In 2020, Valley County had a total population of 11,746 with a median age of 49, and Adams County had a total population of 4,379 with a median age of 54. By comparison, Idaho's corresponding total population was 1,839,106 with a median age of 36. Compared to the statewide population, both counties have a lower percentage of residents under 18 years old and a greater percentage of residents over 18 years old.

Table 6-1 shows the populations of both counties and Idaho in 2010 and 2020. **Table 6-2** shows the age characteristics of both counties and Idaho in 2020. Idaho was the second-fastest growing state, by population between 2010 and 2020.

The communities closest to the SGP area include Council, New Meadows, McCall, Donnelly, Cascade, and Yellow Pine (**Figure 1-1**). The largest of these communities is McCall, with a 2019 population of 3,347, and Council, with a 2019 population of 747. Cascade had a population of 745, and New Meadows had a population of 430 in 2019 (Census 2019). Yellow Pine and Donnelly are very small communities with only 246 and 72 residents in 2019, respectively (Census 2019). Altogether, approximately half of Valley and Adams counties' total year-round populations reside in these six communities.

Table 6-1 Valley County, Adams County, and Idaho Population Demographics

Year	Valley County	Adams County	Idaho
Population (2020)	11,746	4,379	1,839,106
Population (2010)	9,854	3,978	1,567,657
Percent of Population Increase (2010 to 2020)	19.2%	10.1%	17.3%

Source: Census 2010, 2020

Table 6-2 Valley County, Adams County, and Idaho Age Characteristics

Population Description	Valley County	Adams County	Idaho
Percent of population under 5 years old (2019)	4.7%	3.9%	6.5%
Percent of population under 18 years old (2020)	18.6%	17.4%	25.2%
Percent of population from 18 and older (2020)	81.4%	82.6%	74.8%
Percent of population 65 years and older (2019)	25.9%	29.9%	16.3%

Source: Census 2010, 2020

6.2 Housing

During the 1990s and early 2000s, Valley County experienced considerable growth in new housing units. However, since the 2008 recession, new housing construction has been relatively limited. In 2010, Valley County had an estimated total of 11,789 housing units, which increased by only 439 additional housing units by 2018 (3.7% increase). Similarly, from 2010 to 2018, Adams County added only 47 additional housing units (1.8% increase) (**Table 6-3**).

Table 6-3 Valley County, Adams County, and Idaho Housing Units (2010 and 2019)

Housing Data	Valley County	Adams County	Idaho
Housing units (2020)	12,710	2,705	751,859
Housing units (2010)	11,789	2,636	667,796
Percent increase in housing units (2010 to 2020)	7.8%	2.6%	12.6%

Source: Census 2010, 2020

The majority of Valley County's housing inventory consists of vacation/seasonal second homes for out-of-county residents (Census 2010, 2018b) (**Table 6-4**). Of Valley County's 12,228 housing units in 2018, nearly 72 percent (8,767 units) were occasionally vacant. A total of 8,423 vacant units were reported for seasonal, recreational, or occasional use (i.e., generally second homes) with 225 non-seasonal vacant units for sale, rent, or otherwise vacant (Census 2018b). Adams County reports a much lower vacancy rate of 38 percent; however, like Valley County, most vacant units are reported for seasonal, recreational, or occasional use (897 units), with 96 units available for sale, rent, or otherwise vacant.

Table 6-4 Valley County, Adams County, and Idaho Occupancy Status (2018)

Housing Data	Valley County	Adams County	Idaho
Occupied housing units	3,461	1,675	618,331
Owner-occupied	78.7%	80.6%	69.3%
Renter-occupied	21.3%	19.4%	30.7%
Vacant housing units	8,767	1,008	93,400
Vacant, for sale	104	34	7,621
Vacant, for rent	84	7	10,911
Sold or rented, not occupied	119	15	6,937
Vacant, occasional use[1]	8,423	897	49,311
Other vacant[2]	37	55	17,836
Vacant, for migrant workers	0	0	784
Vacancy rate	71.7%	37.6%	10.1%

Source: Census 2018b

[1] Occasional use is defined by the Census as vacant homes used for weekend or occasional use throughout the year and are generally second homes.

[2] Other vacant is defined by the Census as year-round units which were vacant for reasons, such as foreclosures, held for settlement of an estate, held for personal reasons, or held for repairs.

Residential communities within the analysis area are well-established and stable. Most residents own their homes, with over a quarter and a third having lived in their current place of residence for 20 years or more in Valley and Adams counties, respectively (**Table 6-5**).

Table 6-5 Valley County, Adams County, and Idaho Years of Living in the Same House (2018)

Years of Living in the Same House	Valley County	Adams County	Idaho
Over the last year	97.2%	97.2%	94.5%
Less than 3 years	11.8%	15.9%	19.2%
Over 10 years	58.3%	65.4%	51.1%
Over 20 years	26.6%	33.5%	22.3%
Over 30 years	9.3%	17.4%	10.2%

Source: Census 2018b

The data suggest much of the housing formerly available to permanent residents has been sold to second home buyers, increasing the number of occasional housing units and decreasing the availability of housing to local residents (Highland Economics 2018). Census data on housing prices in Valley and Adams counties do not show an increase in sale price resulting from a relatively low availability of housing, as median owner-occupied housing prices for both counties have fluctuated but generally not risen since 2010 (Census 2010, 2018b; Highland Economics 2018; **Table 6-6**). Valley County's median owner-occupied property value in 2018 ($283,000) was approximately 1.4 percent lower than its 2010 value of $287,100 (Census 2010, 2018b). Similarly, Adams County's 2018 median owner-occupied property value ($173,100) decreased by nearly 15.1 percent from its 2010 value of $205,100 (Census 2018b). However, in Idaho as a whole, owner-occupied property value increased 11 percent over the same time period ($172,700 to $192,300).

Conversely, median rental rates increased in Valley County by 4.5 percent ($727 in 2010 to $760 in 2018) and in Adams County by 22.8 percent ($504 in 2010 to $619 in 2018; Census 2010, 2018b). Between 2010 and 2018, the percentage of Valley County households paying more than 30 percent of their household income on rent grew from 33.5 percent to 59.1 percent (Census 2010, 2018b). This increase indicates that the local rental market is becoming less affordable. However, the percentage of households paying more than 30 percent of their household income on rent decreased from approximately 50 percent to 39.9 percent in Adams County indicating that its local rental market has become slightly more affordable (Census 2010, 2018b).

Table 6-6 Valley County, Adams County, and Idaho Years of Living in the Same House (2018)

Housing Data	Valley County	Adams County	Idaho
Median value of owner-occupied housing units (2010)	$287,100	$205,100	$172,700
Median value of owner-occupied housing units (2018)	$283,000	$173,100	$192,300
Percent change of median value of owner-occupied housing units	-1.4%	-15.1%	11.3%
Median rental rates of renter-occupied housing units (2010)	$727	$504	$689
Median rental rates of renter-occupied housing units (2018)	$760	$619	$825
Percent change of median rental rates of renter-occupied housing units	4.5%	22.8%	19.7%

Source: Census 2010, 2018b

Median rental rates in Valley and Adams counties were less than the State's median rental rate of $825 in 2018. In 2018, the median rental rate in Valley County was $760 and as a result was 7.9 percent less than the State's median rate, and the median rental rate in Adams County of $619 remained less than the State (25.0 percent less). The percentage of households in the State paying more than 30 percent of their household income on rent increased marginally by approximately 0.4 percent between 2010 (46.2 percent) and 2018 (46.4 percent) (Census 2010, 2018b).

6.3 Income and Labor

Valley County's economy is relatively strong with a 2019 unemployment rate of 4.2 percent which is slightly greater than the 2.9 percent Idaho statewide unemployment rate (Idaho Department of Labor 2021). Median household and per capita incomes in Valley County were slightly higher than the statewide averages. The percentage of people not in the labor force in Valley County (50.5 percent) also was higher than the statewide average (37.6 percent) (**Table 6-7**).

Adams County has a comparatively weaker economy than neighboring Valley County, with a 2019 unemployment rate of 6.0 percent (Idaho Department of Labor 2021). Median household and per capita incomes for Adams County were lower than the statewide average, while its unemployment rate was nearly twice the statewide rate (**Table 6-7**).

Table 6-7 Valley County, Adams County, and Idaho Income and Employment

Income Parameter	Valley County	Adams County	Idaho
Median Household Income (2018)	$55,299	$45,318	$53,089
Per Capita Income (2018)	$30,838	$25,143	$26,772
Percentage of People Below Poverty Level (2018)	10.0%	11.4%	13.8%
Percentage of Population 16 Years and Over – Not in Labor Force (2018)	50.5%	49.6%	37.6%
Percentage of Population 16 Years and Over – Unemployed (2019)	3.8%	6.6%	3.3%

Source: Census 2018b; Idaho Department of Labor 2020b, 2020c

The U.S. Census American Community Survey provides the most recent 2018 data for the population not in the labor force. The Idaho Department of Labor provides total unemployment for 2019; however, the Department does not provide data for the percentage of the population not in the labor force.

The Idaho Department of Labor collects data on current employment by industry in each county and projects employment growth by economic region over a 10-year period (2016-2026). Both Valley and Adams counties are identified by the Idaho Department of Labor as part of the Southwestern Region. Future employment growth in the region's professional and business services (e.g., trade, utilities, and transportation), as well as educational and health services sectors are expected to substantially increase by 2026. No employment growth from other new major mining operations in the region's mining and manufacturing sector over the 10-year period was forecasted (Idaho Department of Labor 2019).

Valley County was greatly affected by the 2008 recession, but in recent years its economy has subsequently recovered. Historically, Valley County's economy was dependent on timber extraction, but the county's last major mill closed in 2001, and the resulting loss of 70 jobs has continued to impact the area (IDEQ 2019). Today, tourism is a primary driver of the Valley County economy. As shown in **Table 6-8**, in 2018 the tourism-related (e.g., leisure and hospitality) sector and the government sector provided the most Valley County jobs, while the mining and information services sectors employed the fewest workers (Idaho Department of Labor 2020b). Currently, Valley County's highest paying jobs are in mining followed by information services, government, and education/health service sectors, while the lowest paying jobs include leisure and hospitality and other services (Idaho Department of Labor 2020b).

Adams County's economy has recovered more slowly since the 2008 recession but has benefited from an increase in retirees relocating to the area. During that period the county's unemployment rate decreased significantly from its 2010 rate of 18.5 percent to 6.6 percent in 2019 (Idaho Department of Labor 2020c). As shown in **Table 6-8**, in 2018 the government sector jobs accounted for the largest share (31 percent) of Adams County employment. The County's other major employment sectors are manufacturing and the trade, utilities, and transportation sectors which each account for approximately 15.5 percent of county's jobs. Unlike Valley County, Adams County remains more dependent on natural resources, including farming, ranching, and the timber industry (Idaho Department of Labor 2020b, 2020c). Lumber mills employed approximately 150 people, and logging employed approximately 40 people in 2018 (Idaho Department of Labor 2020c). There are currently no active metal mines operating in Adams County (Idaho Department of Labor 2020c). The information sector provides Adams County's highest paying jobs, while the tourism-industry (i.e., leisure and hospitality sector) has the lowest paying jobs (Idaho Department of Labor 2020c).

Table 6-8 Employment and Wages by Industry in Valley and Adams County (2018 Dollars)

Labor Sector	Valley County Employment	Valley County Wages per Employee	Adams County Employment	Adams County Wages per Employee
Agriculture	53	$34,550	60	$45,886
Mining	38	$79,834	0	$0
Construction	506	$39,106	66	$36,587
Manufacturing	44	$33,686	157	$42,044
Trade, utilities, and transportation	755	$32,179	162	$32,595
Information services	58	$66,747	12	$94,832
Financial	207	$41,409	23	$48,704
Professional and business services	183	$37,504	50	$34,355
Educational and health services	457	$51,758	68	$38,919
Leisure and hospitality	1,382	$21,864	95	$13,244
Other services	111	$21,507	16	$26,724
Government	957	$46,808	318	$41,256
Total covered wages	**4,751**	**$35,948**	**1,027**	**$37,465**

Source: Idaho Department of Labor 2020b, 2020c

Table 6-9 shows the average commute times for both Valley and Adams counties residents, as well as the statewide average. Over three quarters of Valley County workers commute less than 20 minutes to work. However, Adams County residents generally have much longer average commutes than Valley County or the state. Approximately 18 percent of Adams County workers commute more than 45 minutes to work – a proportion that is nearly twice the statewide rate.

Table 6-9 Travel Time to Work for Valley County, Adams County, and Idaho

Travel Time to Work	Valley County	Adams County	Idaho
Less than 20 Minutes	79.9%	38.1%	56.4%
20-45 Minutes	14.9%	43.6%	34.3%
More than 45 Minutes	5.2%	18.3%	9.3%

Source: Census 2018b

The Forest Service supports local economies within the analysis area through recreation, timber, energy, minerals, and livestock grazing. In addition, counties with national forests receive funds to support schools, road maintenance, and stewardship projects. The Forest Service also contributes through its construction and maintenance of infrastructure, environmental restoration, and forest health management activities.

In 2016, Forest Service's management and stewardship activities for the Payette National Forest (PNF) supported approximately 2,010 local jobs and $73.2 million in local labor income (Forest Service 2016a). The agency's activities for the Boise National Forest (BNF) supported approximately 2,580 local jobs and $113.0 million in local labor income in 2016 (Forest Service 2016b).

6.4 Social Conditions

The central Idaho region provides residents and visitors a natural and rural setting with a remote character, outdoor recreation opportunities, natural beauty, and scenic quality of public lands. Many area residents value these characteristics. The "sense of place" experienced and valued by central Idaho communities is based on the region's remote and rural setting, natural and undeveloped landscape, along with topography and vegetation, and the presence of cultural and traditional uses (e.g., open rangelands). "Sense of place," can be described as an unquantifiable value that attracts people to specific locations, generates a community identity, and ultimately contributes to the overall quality of life for residents (Williams 2014).

In addition, many of these communities have mixed cash-subsistence economies, providing both wage-based employment and subsistence lifestyle opportunities, which contribute to residents' quality of life and sense of place. Some of the cultural attributes of this traditional value structure include appreciation of open space and rural living, access to undeveloped and scenic land for recreational uses (e.g., hunting and fishing), and maintenance of traditional rural and public lands as well as natural landscapes (AECOM 2018).

Valley County has a history of mining dating back over 100 years since the Thunder Mountain gold rush in the early 1900s. The Thunder Mountain mining boom was short lived, as initial reports of the gold deposits were highly exaggerated. However, years later mining resumed in the area with substantial mining occurring in the Stibnite-Yellow Pine Mining District in the 1920s to 1950s, when over 1,500 people resided at Stibnite and at the nearby Cinnabar mine. Mining resumed in the 1980s at Stibnite, with two active operations within the district. Work continued intermittently until 1997 under several different mining companies. Mining work did not occur again until 2009 when affiliates of Perpetua began exploration work in the Hangar Flats area. See the Heritage Resources Specialist Report (Forest Service 2022c) for a detailed discussion of the Stibnite-Yellow Pine Mining District history.

Both Valley and Adams counties include large areas of federally administered lands. These federally managed lands, as well as the private lands surrounding them, are prized for their remoteness and natural beauty. In recent years, both counties have attracted new residents including recreationists and retirees looking for small towns, natural beauty, and wide-open areas and landscapes.

6.5 Native American Tribes

Traditional Native American land use occurs throughout the analysis area. The regional tribes include the Nez Perce Tribe, the Shoshone-Bannock Tribes, and the Shoshone-Paiute Tribes. The socioeconomic conditions of each of these tribes are discussed below based on the most current data available at the time of writing. **Figure 5-2** shows the location of these tribe's primary communities and the SGP analysis area. However, significant populations of tribal members also live outside those communities elsewhere within the region that also could be affected by the SGP.

6.5.1 Nez Perce Tribe

The Nez Perce Reservation encompasses portions of Nez Perce, Clearwater, Lewis, and Idaho counties in Idaho. Nez Perce CCD is a Census recognized subdivision within the Reservation that includes the community of Lapwai, which is the seat of the Nez Perce Tribal government and has the highest proportion of tribal members as residents (**Figure 5-2**). In addition, the Tribal headquarters, school, and casino also are located in the Nez Perce CCD. Therefore, the Nez Perce CCD was selected to represent the population of the Nez Perce Tribe for the social and economic conditions analysis.

Based on available Census data for the Nez Perce Census CCD, the Nez Perce Tribe's largest economic sector is educational and health care services, which employs 25 percent of the local workforce (Census 2018b). Public administration employs 13 percent of the local workforce, while its natural resources sector (e.g., agriculture, forestry, fishing, hunting, and mining) and recreation and service sector (e.g., arts, entertainment, recreation, accommodation, and food services) each provide around 11 percent and 8 percent of residents' jobs, respectively (Census 2018b). Important tribal enterprises include its fisheries restoration program, fish hatchery operations, and casino. Other tribal enterprises include a convenience store, recreational vehicle park, and forestry products company (Nez Perce Tribe 2006).

6.5.2 Shoshone-Bannock Tribes of the Fort Hall Reservation

The Fort Hall Reservation is in southeast Idaho (**Figure 5-2**). Fort Hall Reservation's largest source of employment is the recreation and service sector (e.g., arts, entertainment, recreation, accommodation, and food services), which employs 21 percent of the local workforce (Census 2018b). The reservation's education, health care, and public administration sectors provide jobs for another 16 percent of the local workforce (Census 2018b). The Tribe also operates a casino, hotel, wildlife and fisheries restoration programs, and the Famous Potatoes farming businesses.

6.5.3 Shoshone-Paiute Tribes of the Duck Valley Reservation

The Duck Valley Reservation is located in southern Idaho/northern Nevada (**Figure 5-2**). The Duck Valley Reservation's largest economic sectors are public administration, which employs 41 percent of the local workforce, and educational and health care services, which provides jobs for another 32 percent of the workforce (Census 2018b). The Tribe manages three trout fisheries, several camping areas, a solid waste transfer station, and a recycling center.

6.6 Public Services

Valley and Adams counties, along with their municipalities, provide police, fire, utilities, schools, and libraries for residents and workers. Because new residents relocating to the region for work at the SGP could result in population growth that would generate greater demand for public services in the local area, the following sections focus on the communities within the analysis area where any SGP-related population growth would likely occur.

6.6.1 Police

Police services are provided by the Valley County Sheriff's Department, the Adams County Sheriff's Department, the Idaho State Police, and the McCall City Police. The Valley County Sheriff's Department patrols the unincorporated portions of Valley County in the analysis area and the communities of Donnelly and Cascade. The Adams County Sheriff's Department provides police services for New Meadows and Council.

McCall has its own local police department, which cooperates with the Valley County Sheriff's Department, the Idaho State Police, and other agencies including the Forest Service and the Idaho Department of Fish and Game.

Reported crime in Valley County decreased slightly between 2014 (283 reported incidents) and 2018 (279 reported incidents), which represented a decrease in crime by 1.4 percent over the 5-year period (Idaho State Police 2018). During that same period, reported crime in Adams County increased from 113 to 232 reported incidents, which represented a 51 percent increase over the 5-year period (Idaho State Police

2018). In both Valley and Adams counties, most of these offenses consisted of drug/narcotic violations (Idaho State Police 2018).

Forest Service Uniformed Law Enforcement Officers and Forest Protection Officers provide year-round enforcement of federal laws governing the National Forests. In addition, the Forest Service contracts with the Valley County Sheriff's Department to patrol National Forest areas from May through September. The U.S. Bureau of Reclamation also contracts Valley County to patrol their lands, campgrounds, and waterways over the same summer period.

6.6.2 Fire Protection

There are four major structural fire-fighting agencies and districts in Valley County serving the communities of Cascade, Donnelly, McCall, and Yellow Pine, and their surrounding rural areas. There also are two small fire-fighting agencies in Adams County that serve New Meadows and Council. These fire-fighting agencies provide 24-hour fire protection for businesses and residents in their service areas and are mostly staffed by volunteers (**Table 6-10**). All the fire-fighting districts within Valley County, the PNF, and the BNF comprise the Valley County Fire Working Group Collaborative (Wildfire Prevention Associates 2018). This group is responsible for the continued update of the Valley County Wildfire Protection Plan. The Valley County Fire Working Group Collaborative emphasizes prevention of wildland-urban interface fires using a proactive, cooperative approach; ensures that the land development ordinances and building codes in Valley County support mitigation of wildland-urban interface fire danger; and promotes effective fuel reduction programs in all wildland-urban interface areas in Valley County (Wildfire Prevention Associates 2018).

Table 6-10 Fire Protection for Communities in the Analysis Area

Station Details	Cascade Rural Fire Protection District	Donnelly Rural Fire Department	McCall Fire Protection District	Yellow Pine Fire District	Meadows Valley Fire District	Council Valley Fire Department
Number of Stations	4	1	1	1	1	1
Full-time paid fire fighters	3	2	4	0	0	0
Part-time paid fire fighters	0	0	25	1	0	0
Volunteer fire fighters	36	26	0	10	15	16
Non-firefighting paid staff	0	0	3	0	0	4
Non-firefighting volunteer staff	0	0	12	0	4	0

Source: Midas Gold 2017

6.6.3 Utilities

In Valley County the communities of Cascade, Donnelly, McCall, and Yellow Pine, each operate their own community water and sewer systems. In addition, there are several condominium complexes, subdivisions, and church camps with central water systems and a few subdivisions that have central sewer systems. Some outlying areas have formed districts (such as the Northlake Recreational Sewer and Water District), but most of Valley County's rural homes rely on individual water wells and septic systems.

In Adams County, New Meadows and the county operate their own water and sewer systems. Both Adams and Valley counties contract with Lakeshore Disposal for trash hauling services and operation of two materials recovery facilities located in New Meadows and Donnelly. These facilities serve as transfer stations, and the collected solid waste is hauled for processing and disposal at recycling centers and landfills outside the county. Residents can haul their own refuse to the materials recovery facilities for a nominal dumping and processing fee. Residents also can drop off recyclables in New Meadows, Council, McCall, Cascade, and Donnelly.

Utilities and communications are readily available to Valley and Adams counties residents. Idaho Power Company provides electric service to the region. Natural gas is not available in the area; therefore, homes are heated with electricity, propane, fuel oil, wood, and/or pellets.

6.6.4 Education

Valley County has a slightly higher percentage of individuals with a high school degree or higher (94 percent) than the state average of 90 percent. Approximately 32 percent of Valley County residents have a bachelor's degree or higher (Census 2018b). Valley County has two public school systems, McCall/Donnelly School District No. 421 (which includes Yellow Pine) and Cascade School District No. 422.

McCall/Donnelly School District No. 421 serves the northern part of Valley County and includes the following schools:

- Donnelly Elementary School in Donnelly;
- Barbara R. Morgan Elementary School in McCall;
- Payette Lakes Middle School in McCall;
- McCall/Donnelly High School in McCall; and
- Heartland High School in McCall.

Table 6-11 shows each school's enrollment.

Table 6-11 Enrollment for McCall/Donnelly School District No. 421

School Name	2000 Enrollment	2010 Enrollment	2019 Enrollment
Donnelly Elementary	106	121	166
Barbara R. Morgan Elementary	301	299	413
Payette Lakes Middle School	235	218	314
McCall/Donnelly High School	359	275	338
Heartland High School	22	17	34
District Total	**1,023**	**930**	**1,265**

Source: Idaho Schools 2020a; Midas Gold 2017

Cascade School District No. 422 provides kindergarten through high school education for southern Valley County residents at its single facility, the Cascade School. In 2000, the Cascade School's enrollment was 310 students, which fell to 293 students in 2010 and to 192 students in 2019 (Idaho Department of Education 2020a).

Several private and public schools in Valley County also provide other education options. North Fork School and Crestline Academy are both private schools located in McCall. North Fork School, which had approximately 19 students during the 2019-2020 school year, provides third through 12th grade education and most North Fork School students are dually enrolled in the McCall-Donnelly public schools (North Fork School 2020). Crestline Academy provides kindergarten through 12th grade education. The University of Idaho Cooperative Extension Office, located in Cascade, administers the local 4-H program, which provides continuing education for adults.

The Western Idaho Community Action Partnership, Inc., a private non-profit organization, administers the Head Start Program in Donnelly. The program provides early childhood education programs for 3- and 4-year-old children from low-income households, and for disabled children.

Adams County has a slightly lower percentage of individuals with a high school degree or higher (89 percent), which is comparable to the state average of 90 percent (Census 2018b). Adams County has public schools in New Meadows and Council. Meadows Valley School provides pre-kindergarten through high school education with a 2019 enrollment of 153 students (Idaho Department of Education 2020b). The Council Elementary School provides pre-kindergarten through sixth grade education with a 2019 enrollment of 148 students (Idaho Department of Education 2020c). The Council Junior-Senior High School provides seventh grade through 12th grade education and enrolled 111 students in 2019 (Idaho Department of Education 2020c). Between 2010 and 2019, Meadows Valley School District's student enrollment decreased by 22 percent, while enrollment in the Council School District increased by 14 percent (Idaho Department of Education 2020b, 2020c).

6.6.5 Libraries

Valley County has three public libraries located in McCall, Donnelly, and Cascade. The Donnelly Library is funded through the Donnelly Public Library District, while the McCall and Cascade libraries are funded by city taxes. Adams County has libraries in New Meadows and Council. These libraries are funded by city taxes, but residents outside the city limits can pay membership dues to obtain library service privileges. In addition to their lending services, the libraries provide public access to the Internet, fax and copy services, medical journals, legal materials, videos, audio books, periodicals, inter-library loan services, backcountry services, outreach programs, reading programs, and research assistance. There also is a law library at the Valley County Courthouse in Cascade, which is open to the public.

6.7 Recreation Use

Recreation users in the analysis area are mostly locals, originating from areas such as Yellow Pine, Warm Lake, Big Creek/Edwardsburg, Cascade, and Long Valley (Forest Service 2010). Users particularly in the western portion of the analysis area are from populated areas further south including Treasure Valley and Boise (Forest Service 2010). As noted in the Payette Forest Plan for PNF Management Area 13, though most use is local, "users come through the area from all over the country to use the adjacent Wilderness (Frank Church River of No Return Wilderness), especially during big-game hunting seasons" (Forest Service 2003).

Recreation use occurs throughout NFS, state, and private lands in the analysis area. Developed recreation use is limited to the developed recreation sites (i.e., overnight facilities) located primarily in the Warm Lake, Landmark, and Johnson Creek Road areas. Most recreation in the analysis area is year-round dispersed use, such as hunting, fishing, hiking, backpacking, and all-terrain vehicle use, which occurs outside of these developed recreation sites. Additionally, Valley County maintains a snowmobile trail grooming program from Warm Lake to Landmark and near Yellowpine to facilitate OSV use and

associated revenues in the Warm Lake and Yellowpine communities. General visitation estimates are provided as part of the National Visitor Use Monitoring Program.[4] In 2018, approximately 519,000 people visited the PNF (Forest Service 2020a). In 2014, approximately 756,000 people visited the BNF (Forest Service 2020a).[5]

Based on estimates from the National Visitor Use Monitoring data, undeveloped areas received over 50 percent of the estimated visits in in the PNF and just under 50 percent in the BNF (Forest Service 2022d). Developed area use was higher in both forests at developed day use sites than at developed overnight sites. Use at developed day use areas was about 32 percent of visits for PNF and 37 percent of visits at BNF compared to overnight use, which was about 5 percent of visits for PNF and 12 percent of visits for BNF. There were no wilderness visits estimated at BNF. However, at PNF wilderness use accounted for about 1 percent of total visits. Overall, the BNF was estimated to receive over 45 percent more visits than the PNF.

In 2019, there were several recreation-related special use permits issued by the Forest Service within the analysis area: three lodges, one bicycle event, four outfitters and guides, two organizational camps, and 62 recreation residences. Permits issued for the PNF include a lodge, biking event, and three outfitters and guides while permits issued for the BNF include one outfitter and guide, two lodges, two organizational camps, and 62 recreation residences. All but one of the recreation-related special use permits issued for the BNF are in the Warm Lake area.

6.8 Government Revenues

Valley and Adams counties residents and businesses pay federal, state, and local income taxes. Household and business purchases generate sales taxes, and the structures owned by individuals and businesses in the area are subject to city and/or county property taxes. There also are product taxes and/or fees on many items, including beer, wine, cigarettes, motor fuels, motor vehicle licensing fees, regulatory taxes, and business ownership.

Net state general fund revenue collections in Idaho totaled $3.355 billion in fiscal year 2017 and $3.735 billion in fiscal year 2019, resulting in a 11.3 percent increase from fiscal years 2017 to 2019 (**Table 6-12**). Idaho has no state gift or inheritance taxes, and its estate tax expired in 2004.

[4] A site visit is the entry of one person onto a National Forest site or area to participate in recreation activities for an unspecified period of time.

[5] Although there are general visitation estimates available for the PNF (Fiscal Year 2018) and BNF (Fiscal Year 2014) as part of the National Visitor Use Monitoring Program, visitor use estimates are not available for specific management areas in the PNF or BNF in the analysis area.

Table 6-12 Idaho Tax Revenues for Fiscal Years 2017 and 2019

Type of Taxation	Fiscal Year 2017 Revenue ($M)	Fiscal Year 2019 Revenue ($M)	Percent Change (2017 to 2019)
Personal Income/Property	$1,590.9	$1,661.1	4.8%
Corporate Income/Property	$202.5	$283.2	39.8%
State Sales	$1,379.7	$1,597.7	15.7%
Product	$56.9	$64.3	13.0%
Mine License Fees	$0.05	$0.02	-60.0%
Other Miscellaneous	$124.2	$128.3	3.3%
Total Revenues	$3,354.3	$3,734.6	11.3%

Source: Idaho Division of Fiscal Management 2020; Midas Gold 2017
M = million

Revenues for funding county services are obtained from a variety of sources, including local sales and use taxes, local property taxes, Idaho general funds, Idaho Lottery funds, and Idaho highway users' funds. Schools in Valley and Adams counties also receive federal funding under the Secure Rural Schools program.

Valley County had a 2018 budget of $25.1 million, which included $7.5 million in property taxes, $3.8 million in intergovernmental revenues, and $1.5 million in grants funding (Valley County 2018b) among other sources. Adams County had a 2018 budget of $8.9 million, which included $2.4 million in taxes, $0.3 million in grants, and $2.2 million in state funding (Adams County 2018) among other sources.

Neither Valley County nor Adams County has a separate sales tax. However, the cities of Donnelly and McCall impose an additional 1 percent local sales tax in addition to Idaho's 6 percent state sales tax. Both counties collect property taxes from lands and structures owned by individuals and businesses. These collected property taxes fund county government operations and local school systems.

Both counties have a high percentage of federal lands, which limits their potential tax base. In 2017, Valley County received approximately $2.6 million in federal land payments for the 2,046,000 acres (or 88 percent) of federally managed Valley County land (Midas Gold 2017). The federal land payments consisted of approximately $1.8 million in Forest Service Revenue Sharing and $0.8 million Payment In Lieu of Taxes disbursements. Approximately $2.0 million of these federal land payments were distributed to the County government and comprised 8 percent of the Valley County budget (Headwaters Economics 2019a; Valley County 2018b). Local school districts received approximately $500,000 of these federal land payments with the remainder distributed to the region's Resource Advisory Committee.

Federally managed land accounts for approximately 68 percent of Adams County's land base. In 2017, Adams County received approximately $900,000 in federal land payments consisting of approximately $700,000 in Forest Service Revenue Sharing and $200,000 in Payment In Lieu of Taxes disbursements. Approximately $700,000 in federal land payments were distributed to the county government and $200,000 million was distributed to local school districts. Federal land payments comprised 7 percent of the Adams County budget (Adams County 2018; Headwaters Economics 2019b).

Mining and mineral sales in Idaho result in property taxes and mining licensing fees for both the state and counties. In addition, mineral extraction from public lands also can generate lease and royalty payments for the government. In 2012, the State of Idaho and its local governments received mining operations

contributions of approximately $6.0 million in local property taxes and $7.0 million in state royalties, rents, and license fees (Idaho Mining Association 2013).

7.0 Environmental Consequences

7.1 Impact Definitions

The impacts definitions for intensity, duration (FSH 1909.15, 152b), and context are provided in **Table 7-1.**

Table 7-1 Impact Definitions

Attribute	Term	Description
Intensity	Negligible	Impacts would result in a change in current conditions that would be too small to be physically measured using normal methods or would not be perceptible. There is no noticeable effect on the natural or baseline setting. There are no required changes in management or utilization of the resource.
Intensity	Minor	Impacts would result in a change in current conditions that would be just measurable with normal methods or barely perceptible. The change may affect individuals of a population or a small portion of a resource, but it would not result in a modification in the overall population, or the value or productivity of the resource. There are no required changes in management or utilization of the resource.
Intensity	Moderate	Impacts would result in an easily measurable change in current conditions that is readily noticeable. The change affects a large percentage of a population, or portion of a resource which may lead to modification or loss in viability, value, or productivity in the overall population or resource. There are some required changes in management or utilization of the resource.
Intensity	Major	Impacts are considered significant. Impacts would result in a large, measurable change in current conditions that is easily recognized. The change affects a majority of a resource or individuals of a population, which leads to significant modification in the overall population, or the value or productivity of the resource. This impact may not be in compliance with applicable regulatory standards or impact thresholds, requiring large changes in management or utilization of the resource.
Duration	Temporary	Impacts that are anticipated to last no longer than 1 year.
Duration	Short-Term	Impacts that are anticipated to begin and end within the first 3 years during the construction phase.
Duration	Long-Term	Impacts lasting beyond 3 years to the end of mine operations and through reclamation, approximately 20 years.
Duration	Permanent	Impacts that would remain after reclamation is completed.
Context	Localized	Impacts would occur within the analysis area or the general vicinity of the Operations Area Boundary.
Context	Regional	Impacts would extend beyond the Operations Area Boundary and local area boundaries.

Intensity is the severity or levels of magnitude of an impact.
Duration is the length of time an effect would occur.
Context is the effect(s) of an action that must be analyzed within a framework, or within physical or conceptual limits)

7.2 Direct and Indirect Effects

7.2.1 No Action Alternative

Under the No Action Alternative, there would be no large-scale mining operations. As a result, no new mine site and off-site facilities, access roads, or utility infrastructure changes would occur.

Current uses by other users on patented mine/mill site claims and on the PNF and BNF would continue in compliance with all existing applicable codes and regulations. These uses of NFS lands include mineral exploration, dispersed and developed recreation, such as pleasure driving, hunting, off-highway-vehicle use, camping, hiking, snowmobiling, bird watching, target shooting, firewood cutting, and other forms of recreation. Private businesses, such as outfitter and guide services, also operate on NFS lands through special use permits. Traditional cultural uses of the area would continue, including the collection of plants, hunting, and fishing. Access to public land in the area would continue as governed by law, regulation, policy, and existing and future land ownership constraints.

Perpetua would continue to implement surface exploration and associated activities that have been previously approved on NFS lands as part of the Golden Meadows Exploration Project, per the Golden Meadows Exploration Project Plan of Operations and the Golden Meadows Exploration Project Environmental Assessment (Forest Service 2015). These approved activities include construction of several temporary roads to access drill sites, drill pad construction, and drilling on both NFS and private lands at and in the vicinity of the mine site. The continuation of approved exploration activities at the mine site would result in the continued use of the existing man camp, office trailers, truck maintenance shop area, potable water supply system, wastewater treatment facility, helipad and hangar, and airstrip.

Any impacts on recreation, infrastructure development, revenues, population, housing, and transportation impacts would be temporary and short term and no long-term changes to socioeconomic resources would occur (Forest Service 2015).

7.2.2 2021 MMP

During SGP scoping (AECOM 2018), public comments ranged from support of the SGP to specific issues of concern about future SGP impacts. Commenter support for the SGP mentioned its benefits for the local, regional, and state economy by providing jobs. They also stated that year-round employment (as opposed to seasonal tourism-related jobs) would bring financial security to the region from both the direct and indirect contributions to the local economy. Commenters not in support of the SGP expressed concerns about adverse effects on the environment, other industries, potential “boom and bust” impacts, and the influx of worker demand on public services like road maintenance and schools. Commenters also expressed social concerns of future property theft and vandalism (AECOM 2018).

In response to concerns over socioeconomic impacts, Perpetua has engaged with local communities and governments in a variety of ways including:

- the 2018 Perpetua Resources Community Partnership Agreement,
- meetings with the Stibnite Advisory Council (33 meetings to date),
- formation of the Stibnite Foundation for charitable endowment funding,
- a Community Impact and Mitigation Review,
- the Valley County Conditional Use Permit for the Stibnite Gold Logistics Facility, and

- road maintenance agreements with Valley County.

Social and economic topics covered during engagement meetings include (www.stibniteadvisorycouncil.com):

- employee carpool and parking locations,
- support for school districts to accommodate fluctuations in student populations,
- worker access to childcare and early learning opportunities,
- worker training programs, and
- assisting local businesses with opportunities to serve the construction and operations needs of the project.

Actions stemming from these outreach activities include commitments for:

- a road maintenance and dust abatement agreement between Perpetua and Valley County,
- collaboration between Perpetua, the Idaho Transportation Department, City of McCall, and Valley County of intersection improvements for Highway 55, Warm Lake Road, Deinhard Lane, and Boydstun Street (City of McCall 2022),
- limitations on project traffic to weekday business hours whenever possible,
- training opportunities to facilitate the hiring of local qualified local workers utilizing local colleges and universities,
- prioritization of local hiring, contracting and provision of supplies and services within local communities,
- work with local school districts to identify gap funding for first year students that in-migrate due to project employment,
- work with Valley County to mitigate impacts to community housing and county service providers and infrastructure such as EMS, sheriff, and solid wastes plus offer joint safety/emergency training,
- add broadband fiber to the power transmission line between Cascade and Stibnite,
- communication of Perpetua emergency preparedness plans with local health, safety, and transportation jurisdictions, and
- noticing and transporting hazardous materials and fuel according to standard operating procedures plus management of cyanide in accordance with the policies and requirements of the International Cyanide Management Institute.

There are ongoing conversations with potential traffic incident/spill responders, school programs, law enforcement agencies, water and sewer services, snowmobile community, local outfitters, and municipalities that could lead to other future actions.

In general, details of committed actions and potential future actions remain in development. While they are mentioned here for context, actions are not considered in the development of impact conclusions in the analysis below until they are finalized.

7.2.2.1 Employment

Direct Employment

An important factor in determining the economic benefits to the local and state economy under the SGP would be the home residency of the workforce. The proportion of SGP jobs filled by local workers would determine the level of SGP wages that would benefit local residents and the amount of new income that would be re-spent in the local economy benefitting other local businesses (induced impacts). Highland Economics (2018) projected low, mid, and high values of local employee residency for each SGP phase; the range of low to high values is provided in **Table 7-2**. The mid-value employment projection is utilized for the impact analysis to represent the expected future economic impacts as it is representative of the anticipated workforce requirements for the 2021 MMP (M3 2021).

Table 7-2 Projected Direct Annual Employment by Worker Residency and SGP Phase

	Total	Local Residents (Valley/Adams)	Other Idaho Residents	Out of State Residents
Construction (3 Years)				
Value Range (Low to High)	-	20% to 40%	30% to 45%	50% to 15%
Employment (Mid-Value)	640	190	230	220
Operations (15 Years)				
Value Range (Low to High)	-	20% to 50%	50% to 40%	30% to 10%
Employment (Mid-Value)	583	200	270	113
Closure and Reclamation (5 Years)				
Value Range (Low to High)	-	40% to 70%	30% to 20%	30% to 10%
Employment (Mid-Value)	160	90	40 / 20	30
Post-Closure (15 Years)				
Value Range (Low to High)	-	40% to 70%	30% to 20%	30% to 10%
Employment (Mid-Value)	40	20	20	0

Source: Highland Economics 2018

Table 7-2 shows the projected average annual employment and work residency for all three SGP phases (construction, operations, and closure and reclamation). An average of approximately 640 total workers would likely be employed annually (including subcontracted employees) over the initial 3-year construction period (Highland Economics 2018). For the project's operating phase, the projected average annual employment and work residency for SGP operations would be an average of 583 workers (including subcontracted employees) over the expected 12- to 15-year operating period (Highland Economics 2018). SGP's projected average annual employment and work residency for the five-year closure and reclamation phase is expected to be a total of 160 workers, which would decrease to 40 workers for the subsequent monitoring (Highland Economics 2018).

As shown in **7-2**, most construction workers (ranging from 50 to 85 percent) would likely be Idaho residents. This estimate was developed utilizing residency data for other remote mining operations, local population sizes, distance to local population centers, and local employment levels (Highland Economics 2018). Under the mid-value scenario, it is expected that SGP construction would provide employment for 640 employees of which 420 would be Idaho residents. It is further expected that 190 of SGP's construction positions would be filled by individuals who would live in Valley or Adams counties. These

local jobs would contribute to the local economy and could improve the standard of living for the employees and their families if wage rates are raised relative to their current jobs.

It is expected that most of the local construction workers would be adequately qualified and/or trainable for mine operations work and that many construction workers living locally or elsewhere within Idaho would likely accept mine operations jobs. These, and other local residents, would be adequately qualified for the general, administrative, and maintenance positions. These job categories account for approximately one-half of the SGP's operations phase workforce needs (Highland Economics 2018). Therefore, the majority of SGP operations workers (ranging from 70 to 90 percent) would likely be Idaho residents. Under the mid-value scenario, SGP operations would provide employment for 470 Idaho residents, of which 200 would live in Valley County or Adams County. SGP employment under the post-operations phases would decline sharply from construction and operations phase levels.

As shown in **Table 7-2**, the majority of SGP closure and reclamation workers (ranging from 70 to 90 percent) would likely be Idaho residents. SGP employment during the much of the closure and reclamation phase would total 160 positions, which would be a net decrease of 423 positions from the prior operations employment levels. The decrease in employment for Idaho residents is estimated to be 340 jobs, of which 110 would likely be local resident jobs. Perpetua has indicated that they could ramp up and ramp down employment in a measured way to result in a more gradual transition for local area residents and the economy (AECOM 2018).

After the major closure and reclamation tasks are complete, employment would decrease to 40 positions and would correspondingly result in a decrease of 120 jobs from the prior employment levels at the beginning of this phase. The decrease in employment for Idaho residents is estimated to be 90 jobs, of which 70 are estimated to be Valley and Adams counties residents (Highland Economics 2018).

The estimated number of SGP construction jobs for local residents are equivalent to 3.3 percent of the 2019 total employment for the local area of 5,777 (Idaho Department of Labor 2019). Operational, closure and reclamation, and post-closure employment represents 3.5 percent, 1.6 percent, and 0.3 percent, respectively of the local area's total employment. The 2019 local unemployment rates (4.2 percent) and unemployed individuals in the labor force in Valley and Adams counties indicate while some of these positions could be filled by currently unemployed or under-employed local residents, it also is expected that many of the SGP construction jobs may be filled by non-local area residents that would choose to relocate to Valley or Adams County.

This local area employment increase would be expected to last for the duration of the mining operations phase. However, as discussed further below, the post-closure decrease in employment and other related economic activity could result in adverse economic impacts on the local area's economy from the "bust" following the prior "boom" from the SGP's construction and operations employment and spending. When mine operations cease, local communities and economies may experience a contraction in demand for private and public goods and services and a corresponding reduction in demand for labor. Investment and capacity expansion that occurred during mine operations may become under-utilized unless new economic productivity and business opportunities develop in the region. Post-closure economic expansion and investment may happen if tax revenue or fees from mining can be effectively re-invested in community services and infrastructure, creating an environment conducive for long-term economic growth.

Indirect and Induced Employment

In addition to direct employment, the SGP would result in indirect and induced economic effects on the local analysis area's economy. Indirect jobs are created in the supply chain for materials and equipment used. Indirect economic impacts include changes in sales, income, or jobs within the area's economy associated with the businesses that supply goods and services. For example, increased sales for local suppliers providing construction materials and equipment represent an indirect effect of SGP activity and spending. Induced effects represent increased economic activity from household spending of labor income by both the SGP and supporting businesses' workers.

The indirect and induced job projections for the SGP are based on national data on the relationship between employment and output for each affected economic sector. Depending on the specific state and local economic conditions, businesses operating at or under capacity, or facing limited increased demand, may increase their utilization of their existing employees rather than hire new workers. Highland Economics (2018) estimated the indirect and induced economic impacts from the SGP for both the State of Idaho and Valley and Adams counties' combined local economy using an input-output economic model (IMPLAN). IMPLAN was used to estimate regional or local economic impacts and the data used are compliant with the Data Quality Act (Section 515 of Public Law 106-554). IMPLAN is based on well-established input-output modeling methods that had been developed for and have been used to successfully describe economic contributions and impacts, over more than two decades, for hundreds of projects and management plans on NFS lands most of which are located in rural areas. IMPLAN has gone from a system employed by a few federal agencies to one that is embraced by economists throughout the U.S., including 250 academic institutions, as well as over 200 federal, state, and local government agencies. IMPLAN data is well-suited for rural areas given the use of proprietary methods to estimate trade flows and industry characteristics that are not available from public sources (proprietary techniques are used to estimate data that cannot be disclosed because of federal confidentiality requirements). These methods allow for estimates of trade flows for 440 commodities between all U.S. counties that are key to the creation of credible, local models.

Under the SGP mid-value scenario, the IMPLAN analysis estimated that up to 830 full and part-time indirect jobs would be supported within Idaho's economy during the 3-year construction period. Similarly, up to 570 full and part-time induced jobs also would be supported within the Idaho economy over the same period. As a result, it is projected that a total of 1,400 indirect and induced jobs would be supported annually in Idaho by the SGP during the 3-year construction phase. Most of this employment would occur outside the local economy, as a total of 300 Valley and Adams counties jobs (180 indirect and 120 induced) of the 1,400 total are projected to be supported during the 3-year construction period (Highland Economics 2018).

Similar to the construction phase, operation's spending and employment also would result in indirect and induced employment effects on the state and local analysis area's economy. Under the SGP mid-value scenario, IMPLAN analysis estimates that up to 310 full- and part-time indirect jobs within the State of Idaho would be supported during the 12- to 15-year period of operations. Over the same period, up to 370 full- and part-time induced jobs within Idaho also would be supported. As a result, it is projected that a total of 680 indirect and induced jobs would be supported annually by the SGP during the operations phase. Most of this employment would occur outside the local economy, as a total of 270 Valley and Adams County jobs (150 indirect and 120 induced) out of the 680 total are projected to be supported by the SGP operations (Highland Economics 2018). Outside of Idaho, the total indirect and induced full and part-time jobs supported by the SGP would be approximately 1,430 (Highland Economics 2018).

The total local, state, and national indirect and induced full- and part-time jobs supported by the SGP would be approximately 4,050 (Highland Economics 2018). It is important to note that these are jobs and income supported by the SGP, but at the national level, these are not necessarily additional jobs and income in the United States (U.S.) compared to the No Action Alternative. If the capital and labor resources used for SGP's development were instead invested in mining or other economic activities elsewhere within the U.S., there would be employment and income benefits generated from these alternative activities (Highland Economics 2018).

The indirect and induced job projections are based on national data on the relationship between employment and output for each affected economic sector. Depending on the specific state and local economic conditions, businesses operating at under capacity or facing limited increased demand may increase their utilization of their existing employees rather than hire new workers.

For closure and reclamation spending and employment under the SGP mid-value scenario, IMPLAN analysis estimated that, on average, approximately 20 full- and part-time indirect jobs within Idaho would be supported annually during the 5 years of this phase. Similarly, approximately 40 full- and part-time induced jobs within Idaho also would be supported over the same period. Most of these jobs would occur within the local economy. A total of 10 indirect and 30 induced local jobs are projected to be supported within the Valley and Adams counties' economy by closure and reclamation phase during the first 5 years (Highland Economics 2018).

In addition, SGP closure and reclamation activities after the first 5 years is expected to support approximately 20 full- and part-time indirect and induced jobs for Idaho residents per year during the 15-year duration. Ten of these jobs are projected to be filled by local residents (Highland Economics 2018). The total local, state, and national indirect and induced full and part-time jobs supported by the SGP would be approximately 170 (Highland Economics 2018).

Employment Summary

Based on the direct, indirect, and induced employment impacts analyzed above, under the mid-value scenario, the overall statewide employment impact for the SGP is estimated to support 1,820 full and part-time jobs for Idaho residents annually during the 3-year construction period. The overall local employment impact during the 3-year construction phase is expected to provide 490 full and part-time jobs for the residents of Valley and Adams counties (i.e., 190 direct and 310 indirect/induced jobs). This local job impact would correspond to 8.7 percent of the local area 2019 total employment of 5,777 (Idaho Department of Labor 2020a, 2020b).

For the operating phase, overall statewide employment impact is estimated to support a total of 1,150 full- and part-time jobs for Idaho residents annually during the 12- to 15-year period of operations. The overall local employment impact of the SGP during operations is expected to total 470 full- and part-time jobs. This local job impact would correspond to 8.1 percent of the local area's 2019 total employment of 5,777 (Idaho Department of Labor 2020a, 2020b).

For the closure and reclamation phase, overall statewide employment impact is estimated to total 190 full and part-time jobs during the first 5 years. The overall local employment impact during this period is expected to total 130 full- and part-time jobs, resulting in a corresponding decrease in total employment of 340 full- and part-time jobs from prior employment levels during operations. This local employment corresponds to 2.2 percent of the local area's 2019 total employment of 5,777 (Idaho Department of Labor 2020a, 2020b).

For the post-closure phase of SGP, overall statewide employment impact is estimated to total 40 full- and part-time jobs during the additional 15-year period. The overall local employment impact of the SGP during this phase is expected to total 30 full- and part-time jobs. This local employment corresponds to 0.5 percent of the local area's 2019 total employment of 5,777 (Idaho Department of Labor 2020a, 2020b).

The number of unemployed residents in the labor force in 2019 in Valley and Adams counties was approximately 349 (Idaho Department of Labor 2021). Therefore, the SGP could provide jobs to unemployed or under-employed residents in the labor force in those counties. The SGP also is expected to attract worker in-migration to the local area.

Such potential "boom and bust" effects from a mine's closure are commonly recognized as potential source of adverse socioeconomic impacts on the local area economy. The impacts on the local area's economy depend on employees' responses after their mine employment ends, as well as their other employment opportunities. If the local area's economy is strong and there are sufficient job opportunities with adequate earning potential for the unemployed mine workers, then the adverse economic impacts on the local economy could be limited if the unemployed mine operations workers are re-employed locally. While it may be difficult for the displaced mine workers to find equally high-paying replacement jobs, some individuals may be willing to accept less wages for job positions. As discussed in the Scoping and Issues Summary Report, Perpetua also has indicated that they could ramp up and ramp down employment in a measured way to reduce the "bust" effects on the local area residents and economy (AECOM 2018).

In addition, economic development planning, job-retraining, and other mechanisms can be used to facilitate the transition after the mine's closure. However, in the absence of established funding and implementation commitments (either by Perpetua or state/local public agencies), potential adverse "boom and bust" impacts could occur.

When mine operations cease, local communities and economies may experience a contraction in demand for private and public goods and services and a corresponding reduction in demand for labor. Investment and capacity expansion that occurred during mine operations may become under-utilized unless new economic productivity and business opportunities develop in the region. Given the local analysis area's largely rural and small economy, in the absence of adequate economic transition mitigation, the mine-closure related decrease in local employment and income could have an adverse impact on the local area's residents, businesses, and overall economy.

Overall, the SGP is estimated to support 4,690 direct, indirect and induced jobs for residents nationwide during the construction period, 2,690 jobs nationwide during the operations period, and 330 jobs nationwide during the closure and reclamation period (Highland Economics 2018). Employment impacts from the SGP would be beneficial, local and regional, moderate to major, and long term.

7.2.2.2 Income

Direct Income

Construction

Table 7-3 shows the average annual construction spending on labor, materials, equipment, and services. Anticipated expenditures for the SGP also are broken out by their sourcing location.

Table 7-3 Projected Direct Construction Spending Per Year (in millions) (2017 Dollars)

Direct Spending	Total	Local	State Non- Local	State - Total	Out of State
Salaries & Wages [1]	$66.7	$17.4	$25.0	$42.4	$24.3
Vendor On-Site Operations	$17.7	$17.7	$0	$17.7	$0
Material, Equipment & Services	$260.1	$27.2	$179.6	$206.8	$53.3
Total	$344.5	$62.3	$204.6	$266.9	$77.6

Source: Highland Economics 2018

[1] Does not include direct labor expenses/income for vendor on-site workers and business proprietors.

During the construction phase, it is projected that approximately $66.7 million (in 2017 dollars) in salaries and wages would be paid annually for the construction workforce over the 3-year construction period. Under the mid-value scenario, $42.4 million in salaries and wages are projected to be paid to Idaho residents working for SGP. Of that total, the Valley and Adams counties SGP workforce is projected to receive $17.4 million per year in salary and wage income from the SGP (Highland Economics 2018). Salaries and wages paid to out-of-state residents are projected to total $24.3 million.

Based on the projected total annual direct labor cost of $66.7 million, the average, fully burdened compensation in 2017 dollars of all SGP employees (i.e., including management staff) is calculated to be $108,000 (Highland Economics 2018). This fully burdened compensation accounts for overtime, as well as employee health and other benefits. The average wage for local residents is projected to be approximately $96,600 per year (in 2017 dollars) and is fully burdened to account for employee health and other benefits. The corresponding unburdened salary is estimated to be $67,700, which is comparable to the area's prevailing Davis-Bacon rates of $20 to $30 per hour depending on the position (Highland Economics 2018).

The projected construction worker salaries and wages are considerably higher than the prevailing wages in the local area and in the Boise area, which average approximately $18 per hour (unburdened) for the construction and extraction sector and $16 per hour across all occupations (Idaho Department of Labor 2020a, 2020b). The average covered wage (i.e., for non-self-employed workers) statewide within Idaho is $43,480, $35,948 within Valley County, and $37,465 within Adams County (**Table 6-8**). This high compensation rate for construction workers would partly reflect the specific work conditions and labor skill needs. Nonetheless, employment opportunities with the SGP would represent well-paying and attractive job opportunities for both local and non-local residents, as the average unburdened wage for employees ($67,700) would be 55 and 53 percent and higher than the average 2018 wage in Adams County and Valley County, respectively (**Table 6-8**).

SGP employees and contractors would be expected to spend almost all their earnings in their community of residence, given their bi-weekly shift schedules and employee housing at the mine site's remote location. As a result, the economic contributions to Valley and Adams counties' economies would be related to the income earned by construction workers that live within the local area. The contribution of relatively well-paying local area employment and labor income from the SGP would result in increased spending and increased economic activity within the local economy during the 3-year construction period.

Operations

The SGP would mine a total of approximately 400 (356) million tons of ore and development rock from the Yellow Pine, Hangar Flats, and West End pits and would recover approximately 4.2 million ounces of

gold, approximately 1.7 million ounces of silver, and 115 million pounds of antimony (M3 2021). Based on the 2018 to 2021 average mineral prices for gold ($1,600 per ounce), silver ($20 per ounce), and antimony ($3.50 per pound), the total future value of mineral production (after refining) would be estimated to be approximately $7 billion. The annual value of extracted minerals would be between approximately $350 million and $950 million per year over mine years 1 through 12 during the operations phase (M3 2021).

Table 7-4 shows the average annual spending on labor, materials, equipment, and services for SGP operations. Operations expenditures also are broken out by their sourcing location.

Table 7-4 Annual Operations Spending ($M/year, 2017 Dollars)

Direct Spending	Total	Local	State Non- Local	State - Total	Out of State
Salaries & Wages	$53.4	$18.7	$24.0	$42.7	$10.7
Vendor On-Site Labor	$2.3	$0.8	$0.8	$1.6	$0.7
Vendor On-Site Operations	$13.7	$13.7	$0.0	$13.7	$0.0
Material, Equipment & Services	$165.3	$26.8	$48.1	$74.9	$90.4
Total	**$234.7**	**$60.0**	**$72.9**	**$132.9**	**$101.8**

Source: Highland Economics 2018

During operations, it is projected that a total of approximately $53.4 million (in 2017 dollars) in salaries and wages would be paid annually to its operations workforce. Under the mid-value local residency scenario, $42.7 million in salaries and wages would be paid to Idaho residents working for SGP. Of this, Valley and Adams counties residents are projected to receive $18.7 million in annual salary and wage income (Highland Economics 2018). Salaries and wages paid to out-of-state residents are projected to total $10.7 million.

Based on the projected total annual direct labor cost of $53.4 million, the average fully burdened compensation of all SGP employees (i.e., including management staff) during operations is calculated to be $90,600 (in 2017 dollars) (Highland Economics 2018). This fully burdened compensation accounts for overtime, as well as employee health and other benefits. The average salary and wage for local residents is projected to be approximately $92,500 per year (in 2017 dollars) and is fully burdened to account for employee health and other benefits. The corresponding unburdened salary and wage is estimated to be $64,800, which is comparable to the area's prevailing Davis-Bacon rates of $20 to $30 per hour depending on the position (Highland Economics 2018).

As with the construction phase, SGP employees would be expected to spend their earnings in their community of residence, given their bi-weekly shift schedules and employee housing at the mine site's remote location. As a result, the direct economic impact to the Valley and Adams counties economies would be related to the income earned by the 200 operations staff that live within the local area.

Reclamation and Closure

Table 7-5 shows the average annual spending on labor, materials, equipment, and services during closure and reclamation and post-closure activities. Closure and reclamation and post-closure expenditures also are broken out by their sourcing location.

Table 7-5 Annual Closure and Reclamation Spending (2017 Dollars)

Direct Spending ($M/year)	Total	Local	State Non-Local	State - Total	Out of State
Closure and Reclamation					
Salaries & Wages	$6.6	$3.6	$1.7	$5.3	$1.3
Material, Equipment & Services	$11.9	$1.2	$6.4	$7.5	$4.4
Total - Reclamation	$18.6	$4.8	$8.1	$12.9	$5.7
Post-Closure					
Salaries & Wages	$1.6	$0.9	$0.4	$1.3	$0.3
Material, Equipment & Services	$4.3	$0.5	$1.6	$2.0	$2.2
Total - Closure	$5.9	$1.4	$2.0	$3.3	$2.6

Source: Highland Economics 2018

It is projected that a total of approximately $6.6 million (2017 dollars) in salaries and wages would be paid annually to the 160 workers during closure and reclamation. Under the mid-value local residency scenario, $5.3 million in salaries and wages would be paid to Idaho residents working for the SGP. Of this, Valley and Adams counties residents are projected to receive $3.6 million in annual salary and wage income (Highland Economics 2018). Salaries and wages paid to out-of-state residents are projected to total $1.3 million.

As with the construction and operations phases, SGP employees would be expected to spend their earnings within their community of residence, given their bi-weekly shift schedules and employee housing at the mine site's remote location. As a result, the economic benefits to the Valley and Adams counties economies would be related to the income earned by SGP operations staff that live within the local area.

During the subsequent post-closure phase, it is projected that approximately $1.3 million (2017 dollars) in salaries and wages would be paid to the 40 workers. Valley and Adams counties residents are projected to account for 20 of these employees and to receive $0.9 million in annual salary and wage income (Highland Economics 2018).

Indirect and Induced Income

Construction

As discussed above for the indirect and induced employment impact analysis, SGP-related impacts from construction activities would result in indirect and induced income contributions to the statewide and local analysis area's economies. Indirect income earnings would result from the increased sales and employment for the businesses that supply goods and services for construction. Induced income effects represent the local workers' earnings resulting from increased household spending by both construction and support businesses' workers.

Under the mid-value scenario, the IMPLAN analysis estimated that $44.3 million in indirect and $21.2 million (in 2017 dollars) in induced income, for a total of $65.5 million, would be supported within Idaho economy's during the 3-year construction phase. Most of this income would occur outside the local economy. Construction activities are projected to support a total of $7.4 million indirect and $3.3 million per year (in 2017 dollars) in induced income within Valley and Adams counties' economies during the 3-year construction period (Highland Economics 2018). Outside of Idaho, the SGP is projected to support a total of $191.8 million in indirect and induced income, resulting in a nationwide total of $257.3 million

in indirect and induced income (i.e., combined total of Idaho and elsewhere in the U.S.; Highland Economics 2018).

Based on an assumed full-time equivalent employment rate of 80 percent for projected indirect and induced full-time and part-time local jobs, the average salary for these workers (including benefits) is estimated to range from $34,400 (induced) to $51,400 (indirect) per year.

Operations

As with the construction phase, SGP operational spending and employment would result in indirect and induced income changes to the state and local analysis area's economy. Under the SGP mid-value scenario, IMPLAN analysis estimates SGP operations would result in $15.7 million in indirect and $13.7 million in induced income annually in Idaho. Most of this income would be earned outside the local economy, as operations are projected to result in $7.6 million in indirect and $3.3 million in induced income within the two-county economy (Highland Economics 2018). Based on an assumed full-time equivalent employment rate of 80 percent for projected indirect and induced full-time and part-time local jobs, the average salary for these workers (including benefits) is estimated to range from $33,700 (induced) to $63,300 (indirect) per year.

Closure and Reclamation

Under the SGP mid-value scenario, IMPLAN analysis estimated that closure and reclamation activities would support $4.5 million in indirect and $5.3 million in total induced income. The majority of this induced income would occur outside the Idaho economy, as closure and reclamation activities are projected to support $1.1 million in indirect and $1.6 million in induced income out of the $4.5 million and $5.3 million totals. Of the statewide totals, Valley County and Adams Counties residents are projected to receive $400,000 in indirect and $1.1 million in induced income. Based on an assumed full-time equivalent employment rate of 80 percent for projected indirect and induced full-time and part-time local job increase, the average salary for these workers (including benefits) is estimated to range from $41,700 (induced) to $50,000 (indirect) per year.

During the subsequent post-closure phase, it is projected that approximately $3.0 million in salaries and wages for indirect and induced workers would be supported by the SGP's closure activities, of which approximately $500,000 would be expected to be received by Valley and Adams County residents (Highland Economics 2018).

Income Summary

Based on the direct, indirect, and induced income effects analyzed above, under the SGP mid-value scenario, the overall statewide income impact is estimated to contribute a total of $110.9 million per year during the 3-year construction phase (in 2017 dollars). Of this total, the overall local income impact is projected to total $28.1 million per year for Valley and Adams County residents. Outside of Idaho, the SGP is projected to support a total of $215.5 million in direct, indirect, and induced income resulting in a nationwide total of $326.4 million in direct, indirect, and induced income (i.e., combined total of Idaho and elsewhere in the U.S.) (Highland Economics 2018).

Operations statewide total income impact during the 15-year period of operations is estimated to be $71.6 million per year. Of this statewide total, the overall local income impact is expected to total $29.3 million per year for Valley and Adams counties residents. Outside of Idaho, the SGP is projected to support a total of $114.8 million in direct, indirect, and induced income resulting in a nationwide total of $186.4 million

in indirect and induced income (i.e., combined total of Idaho and elsewhere in the U.S.; Highland Economics 2018).

The closure and reclamation phase is estimated to support a total of $7.8 million in annual income statewide under the SGP mid-value scenario. The total local income supported by the SGP's closure and reclamation phase is expected to be $5.3 million. In total, the SGP is estimated to contribute $16.4 million direct, indirect, and induced income per year nationwide (i.e., $7.8 million in Idaho and $8.6 million elsewhere in the U.S.; Highlands Economics 2018) during SGP's closure and reclamation phase.

SGP-related local jobs and earnings also would result in spending and economic activity within the local economy that would in turn support further local employment and income growth. The projected direct income impact from reclamation and closure activities is $3.6 million annually. The SGP is projected to support $18.5 million (including direct, indirect, and induced jobs) for local area residents during operations. Therefore, during reclamation and closure, there would be a corresponding decrease in total local income of $14.9 million from the reduction in prior employment levels during the operations phase.

As discussed under the employment impact analysis, adverse economic disruption and dislocation impacts could occur as result of the decrease in activity from the prior levels during the construction and operations phases.

These potential "boom and bust" effects after mine operations cease could result from reduction in 110 local jobs and corresponding decrease in local residents' labor income by $14.9 million. In addition, the projected reduction in 230 indirect and induced local jobs could result in a corresponding decrease in local residents' labor income by $9.5 million from the prior levels during mine operations. In which case, there would be a total local labor income decrease of approximately $24 million from the prior operations phase. Given the local analysis area's largely rural and small economy, in the absence of adequate economic transition mitigation, the mine-closure related decrease in local employment income could have an adverse impact on the local area's residents, businesses, and overall economy. The duration of this impact would depend on the affected workers and local area economy's ability to adapt in response to the economic dislocation.

Income impacts would be beneficial, local and regional, moderate to major, and long term.

7.2.2.3 Population and Housing

Project construction, operations, and closure and reclamation would affect the surrounding communities through local employment and income effects, which in turn would cause changes in population and housing needs of communities within the local analysis area. The peak effect would be realized during the construction period when predicted in-migration of approximately 450 workers would need housing. This effect would diminish following completion of the on-site worker housing facility and incorporation of portions of the in-migrating workforce into the local community. Any such population changes also would affect the level of community public services needed. The extent of induced population growth would be a primary factor determining potential economic and social impacts (e.g., increased housing and public services demand). As discussed in **Section 7.2.2.1**, it is projected that up to 500 total local jobs (i.e., direct and indirect/induced) would be supported by SGP construction activities (Highland Economics 2018).

However, as discussed above, in the absence of interim measures, there would be potential for substantial "bust" impacts following the cessation of the SGP's mining operations from the subsequent local job and income losses. If there are insufficient replacement job opportunities for the local residents no longer

employed (directly or indirectly), then the local area economy would experience increased unemployment and reduced economic activity. Depending on the severity and duration of the economic dislocation and recovery, many of the local residents formerly employed (direct or indirectly) by the SGP's mining operations may choose to relocate out of the local area to find employment. There could be some adverse housing supply impacts from worker out-migration in the form of increased home sales and decreased tenancy/demand for rental properties, which might reduce property values if there is not adequate demand for their vacated homes.

Housing impacts would be beneficial, local and regional, minor to moderate, and long term. However, if future housing demand and supply conditions change, it may be possible that there could be adverse housing impacts to the local economy if any vacated properties remain unoccupied for an extended period of time.

Commuter and In-Migration Rates

SGP proposes to operate bus/vanpool pickup sites in Cascade, McCall, and Donnelly to transport construction workers to the mine site for their bi-weekly shifts (Highland Economics 2018). Most of these commuting employees would likely come from communities outside the local analysis area. It was assumed that most workers would reside in the Boise metropolitan area (which is located approximately 75 miles and a 1.5-hour drive south from Cascade) or communities along Idaho SH 55 and U.S. Route 95 travel corridors that connect easily to the bus/vanpool pickup sites. In addition to the City of Boise's population of more than 220,000 residents (2019), a similar sized population lives within approximately a 2-hour drive from Cascade in the cities of Meridian, Nampa, and Caldwell.

It is difficult to predict the actual extent and location of SGP-related in-migration to the local area, especially due to the mine site's remote location and two-week shift staffing. The need or incentive for employee relocation to the local area is limited because most of workers would be housed on-site during their bi-weekly shifts. Idaho residents (particularly those living in rural areas) commute or travel long distances on a regular basis, as do many workers in the mining industry. In the absence of benefits inducing workers to live locally, SGP employees can choose from a wide variety of housing locations and base their housing decisions on factors including housing availability/affordability, local amenities, and social conditions, among others. As a result, many SGP employees might be expected to continue living in their current locations or choose to relocate to other larger non-local communities closer to Boise with greater housing options, amenities, and public services options.

In-migration by SGP construction employees and contractors could be limited for several reasons. First, existing local residents may be expected to fill a portion of the construction jobs. Second, during their 2-week work-shift, most employees would be housed on-site and, consequently, there would be no benefit from living within the local analysis area. Thirdly, as discussed above, non-local communities closer to Boise would offer greater housing options, amenities, and public services options within a relatively close travel distance (i.e., less than 2 hours) from the proposed employee bus/van pool pick-up locations in Cascade, McCall, and Donnelly (Highland Economics 2018).

In-migration effects on indirect and induced employment can be expected to be weaker than direct employment effects. The wage rates for the indirect and induced jobs would be lower and more comparable to prevailing wage rates within the local area and elsewhere in the state. Generally, indirect and induced employment opportunities would be less specialized and less skilled. As a result, there would be a larger labor pool of potential employees for any new positions. Finally, given the relatively short-term nature (3 years) of the new jobs from SGP construction activities, many businesses may meet increased business demands through more interim measures (e.g., overtime and increased

facility/equipment utilization) rather than business expansion (e.g., new hires or facility expansion). Consequently, projected indirect and induced employment impacts may result in comparatively less attraction and incentives for in-migration to occur than that from the SGP's higher paid and more secure job opportunities.

However, the local area's current relatively low unemployment rate increases the potential for future in-migration from indirect and induced job demand. Currently, there is only a limited labor pool of unemployed and under-employed local residents available to fill the projected new job positions.

As a result, this socioeconomic analysis identifies and evaluates the potential impactsassuming moderate in-migration rates under Highland Economics (2018) mid-value local worker residency scenario. **Table 7-6** shows the existing resident and new in-migrant worker populations expected under the mid-value local worker residency scenario for each of the phases of the SGP (construction, operations, and closure/reclamation). As shown in the table, new in-migrants relocating to the local analysis area could account for up to half of projected local direct employment and a third of the projected indirect and induced local employment. As a result, construction activities are projected to potentially result in total in-migration of approximately 198 workers, most of which are estimated to be sustained during operations (190 in-migrants). Additional in-migration during the operations phase is expected to be negligible as the in-migrating construction workforce would likely convert to the operating workforce.

Table 7-6 Projected Employment by Worker Residency and SGP Phase

Employment	Total Local Employees	Existing Local Residents	In-Migrant
Construction			
Direct	190	95 (50%)	95 (50%)
Indirect and Induced [1]	310	207 (66.7%)	103 (33.3%)
Total – Construction [2]	**500**	**302**	**198**
Operations			
Direct	200	100 (50%)	100 (50%)
Indirect and Induced	270	180 (66.7%)	90 (33.3%)
Total – Operations	**470**	**280**	**190**
Closure and Reclamation			
Direct	90 / 20	90 / 20 (100%)	0
Indirect and Induced	40 / 10	40 / 10 (100%)	0
Total – Reclamation / Closure	130 / 30	130 / 30 (100%)	0
Total – Annual Average [3]	**52**	**52 (100%)**	**0**

Source: Highland Economics 2018

[1] Estimated increased employment includes both full and part-time positions.

[2] Totals may not sum exactly due to rounding.

[3] Based on 5-year closure and reclamation phase and 15-year post-closure phase durations.

Factors affecting relocation include housing availability and schools, as well as other amenities such as parks, restaurants, and recreation. Relocation is a personal decision based on interest, commute preferences, family make-up, and background. As a result, it is inherently difficult to reliably predict the future geographic distribution of the expected population growth. However, several factors may be anticipated to contribute to future relocation outcomes. Some in-migrants may be former local residents who may reside with current existing residents when they return. Between 2010 and 2016, an estimated

540 working age individuals out-migrated from the local area, possibly for employment reasons. Coupled with an increased prevalence of multi-generational households, a sizeable number of the in-migrating population may take up residence with friends or relatives that are existing residents and thereby have a lesser impact on local housing demand (Highland Economics 2018).

It also is possible that in-migrating SGP employees may live in dispersed areas within the two counties due to their bi-weekly work schedule and higher income levels, which would give them more housing opportunities – potentially including rental/purchase of more expensive "occasional use" second homes (Highland Economics 2018) or other temporary housing in motels or trailer parks.

Given the existing distribution of population and housing within the McCall and Cascade areas, it is expected those communities would attract a major share of in-migrating non-SGP workers. A lesser number of employees might be expected to relocate to Council or New Meadows, while few, if any, new employees and their families would be expected to relocate to the small communities of Yellow Pine or Donnelly, or elsewhere within the unincorporated and more rural areas of the two counties.

Housing impacts may be adverse from the overall local area perspective, and concentrated new in-migrant population increases could result in greater impacts within specific communities – especially if those communities are not well equipped to absorb the new residents. For example, while McCall has 4,259 housing units, only 1,440 are occupied year-round by residents (Census 2018). If half of the projected new in-migrant workers selected McCall for their place of residence, that would represent an approximate 3 percent increase in the community's population (3,226 people), which would likely represent and could be perceived by current residents as a noticeable and possibly adverse population effect. As discussed under the Housing Availability and Affordability Section below, the potential for affordable housing impacts would depend on the number of lower-paid, in-migrants relocating to the specific community. As a result, if there is an insufficient existing inventory of suitable housing within the affected communities, adverse affordable housing availability impacts could result during construction activities.

In-migration impacts would be local and regional, negligible to moderate, and long term.

Population Demographics

Based on Idaho statewide averages, it is expected that 57 percent of the in-migrating workers would be married with an average of 0.64 child per capita (Census 2018). As a result, the 198 workers projected to relocate to the local analysis area during the construction phase would be expected to result in a total population increase of up to 438 new residents, which would consist of 240 dependents (113 spouses and 127 children).

This in-migration worker population could increase new local housing demand by up to approximately 200 dwellings. Although, the actual total housing demand would be less if relocating workers opt to share housing (either with existing residents or other in-migrating workers) or if in-migrating spouses also work on the SGP.

The potential for any such new housing demand to have an adverse impact on the local area's affordable housing supply is a commonly held and understandable concern for many local residents (AECOM 2018). In addition, the local analysis area's past population growth and in-migration rates also likely contribute to concerns of SGP-related adverse impacts on local affordable housing availability.

Housing Availability and Affordability

As described in **Section 6.1.2**, overall, there were a total 91 homes for rent, 138 homes for sale, and 92 "other vacant" home in Valley and Adams counties available for in-migrating workers in 2018 (**Table 6-4)**. The data suggests that most of the local housing has been sold to second home buyers, thereby increasing the number of occasional housing units and decreasing the availability of housing to local residents (Highland Economics 2018).

Most of the "occasional use" housing within Valley and Adams counties generally consists of more expensive second homes that may be unavailable or unsuitable for workers to rent or purchase, as these custom and/or newer homes are typically less affordable.

However, the percentage of Valley County households paying more than 30 percent of their household income on rent grew from 33.5 percent to 59.1 percent between 2010 and 2018 (Census 2010, 2018). This increase indicates that the local housing market is becoming less affordable and that local demand for affordable housing already currently exceeds the available supply in Valley County. During the same period, the portion of Adams County residents that were paying more than 30 percent of their household income on rent each month decreased from approximately 50 percent to 39.9 percent, suggesting that the local housing market has become more affordable (Census 2010, 2018).

An influx of new SGP employees and contractors into the local communities would increase local housing demand. In-migrating employees may live in dispersed areas of the two counties, limiting the effects on housing in any one location within the two-county area (Highland Economics 2018). Given their higher paying salaries, these in-migrating workers could rent or buy homes with values closer to the area's median and market values. Although the 2018 quantities of homes for sale or rent is limited (321 homes), this supply exceeds the projected 95 new SGP construction workers expected to in-migrate to the local area. Since 2018 data, housing throughout western U.S. states has been affected by pandemic-era migration away from population centers (Hjerpe et al. 2020). Vacancy rates in Adams and Valley Counties have decreased by approximately 25 percent from 2018 to 2019. If this in-migration trend continues post-pandemic, there would be a general lack of housing that would be further affected by the housing needs of SGP construction workers.

As a result, potential adverse housing availability impacts would likely predominantly result from the approximately 103 workers that may migrate into the local area for the indirect and induced jobs supported by SGP's construction activities. Given the lower typical salaries for the indirect and induced jobs supported by construction activities, the workers in-migrating to the local area for these jobs could increase competition for lower-priced housing, which could in turn contribute to greater scarcity of affordable housing.

The number of currently available homes for sale or rent is limited (321 homes), and it is expected that the 90 to 95 projected new SGP operational and construction workers relocating to the analysis area should be able to afford to buy or rent these available homes. In which case, 226 unoccupied homes would be expected to remain available for the approximately 103 in-migrant non-SGP workers (i.e., indirect or induced workers) that are projected to relocate to Valley or Adams counties unless these homes are utilized by other housing demands. Adverse affordable housing availability impacts could result from construction and operating activities if there is an insufficient existing inventory of suitable housing within the affected communities. In which case, SGP construction activities could result in adverse impacts to housing availability and affordability within the local area. In addition, this impact would be expected to occur primarily during the start of construction and/or operations phases and then subsequently stabilize in the absence of any further increase in local employment. Many factors affect the

actual housing demand from in-migrating workers. These include the extent that SGP-related indirect and induced jobs might be filled by existing residents or SGP employee spouses, the extent that in-migrating workers would cohabitate, and where they would reside within local communities, which would in turn affect local housing demand and affordability for the local analysis area's existing residential population.

Public Services

As described earlier in this section, construction and operations activities could attract a projected 420 to 438 new residents (workers and families) that could relocate to the local analysis area. This population growth would result in increased public services demand and use. The type and extent of the public service increases would depend on the demographics of the new residents. For example, the number and age of children relocating with in-migrating workers would determine increased enrollment impacts on the local public school system.

The population growth also would result in increased sales tax revenue (state and in some cases local), utility payments, and possibly property tax revenues (if existing property values appreciate or home development expands; **Section 7.2.1.4** Government Revenues). Potential adverse impacts to public services may occur if the new residents' service demands exceed the specific public service/program's capabilities.

The local analysis area's public water utilities and school systems have the most potential to be impacted by the expected population increases. The communities of McCall, Cascade, New Meadows, and Donnelly all provide water and sewer services for their residents, and addition of new permanent residents may, in some cases, increase stress on their systems. Community members have expressed concern about these impacts (AECOM 2018).

The public school system within the local area consists of several independent school districts located in McCall, Donnelly, Cascade, New Meadows, and Council. Under the mid-value worker residency scenario, it is projected that up to 121 children may relocate to the local analysis area during the project's operations phase. In which case, the potential increase in school enrollment demand would be approximately 80 students as some relocating children would be younger than school age or opt for alternative schooling (Census 2015; Highland Economics 2018). If these new students are evenly distributed across grades, then the average enrollment increase per grade would be approximately six additional students in each grade.

As shown in **Table 6-11**, McCall school district's 2018 enrollment is higher than 2000 and 2010 levels, while the Cascade school district's enrollment has decreased by approximately 38 percent over the last 20 years. Cascade and New Meadows are both under enrolled, while McCall and Donnelly currently do not have capacity for additional students (Idaho Department of Education 2019). The SGP-related influx of new students would correspond to an approximately 6 percent increase in local enrollment. If the in-migrating student population consists of more similarly aged children, then the increase for their corresponding grades would be higher and more likely to be difficult for the local school systems to accommodate. If this occurs, the adverse impact on the public school system could be substantial if the current programs and facilities have insufficient capacity to absorb that additional student enrollment. The specific effects on the number of teachers and classrooms would depend on the actual ages and enrollment locations for new students. In Valley County, there are currently 52 middle and high school classroom teaching full-time equivalent positions with an average student-teacher ratio of 15:1 and 40 elementary school positions with an average student teacher ratio of 17.5:1 (Idaho Gazetteer 2021). If in-migrating students concentrated in the area, up to six full-time equivalent teaching positions would be needed to maintain current student-teacher ratios.

The population increase attributable to the SGP would result in effects to local police and fire protection services. Currently, there is a patrol officer for approximately 850 residents of Valley County (Valley County Sherriff's Office 2021). There are nine Valley County fire departments that serve approximately 1,300 residents per department and six Adams County fire departments that serve approximately 730 residents per department. The specific effects of adding an estimated 438 residents on police and fire services would depend on the actual residential locations selected by in-migrating workers. If in-migrating workers concentrated closest to the mine area in Valley County, demands on police and fire services and equipment would increase up to 4 percent assuming the frequency of in-migrating worker service needs would be equivalent to the current population.

Adams and Valley counties' telecommunications and internet infrastructure operate at near capacity and, therefore, may have difficulty in maintaining service levels from increased service demand in some locations.

Public service impacts would depend on both the location of any SGP-related population growth and the specific circumstances of the affected public services. It is possible that adverse public service impacts could occur to the local analysis area's water and public school system, particularly if in-migrants are more highly concentrated in individual communities such as McCall. In which case, there could be localized, long-term, substantial adverse impacts to those public services.

However, if the relatively limited projected population growth is not highly concentrated, then construction could have regional, long-term, minor or negligible adverse impacts on most of the local area's public services.

Valley County's 2021 unemployment rate was relatively low (4.0 percent). Adams County's unemployment rate was higher at 6.0 percent in 2021 (Idaho Department of Labor 2021). While vacancies in these sectors might be more readily filled by Adams County's unemployed or under-employed residents, it is likely that Valley County communities would provide a larger share of local employees and, therefore, receive greater benefit of higher wage jobs in construction and mining. Consequently, Valley County's public agencies and service sectors also would have greater potential of possible adverse impacts from wage-inflation and/or understaffing. These jobs are important for the functioning of the local economies. A lack of employees able to fill these positions could negatively affect the local government service sectors, assuming new workers do not move into the area and government agencies have limited flexibility to adjust wages and/or increase funding to pay contractors.

Labor cost increases could adversely affect the capacity for public agencies that rely on lower paid, skilled workers for their operations (i.e., school bus drivers, garbage haulers, etc.) to continue providing their services. In addition to increasing their operating costs, in more serious cases, the labor shortages could result in business contractions and reduced public services if their work positions remain unstaffed. Contraction also could occur for private businesses relying on lower-wage or competing wage workers; however, businesses may have greater flexibility to react to increases in disposable income, adjust their wage rates, attract new workers, and benefit from the influx of higher wage jobs.

It also is possible that any adverse wage-inflation or staffing impacts would result in relatively short-term effects as the affected public agencies, private businesses, and local economy adjust their operations to the changes in labor force availability. These adjustments may occur during the both the mine construction and operation phases.

In the absence of any population or housing demand growth impacts, no related adverse impacts from increased demand for public services would be expected. Out-migration following cessation of SGP

operations may have the potential for adverse impacts to public services if it results in underuse and/or underfunding for any facility expansion that occurred to serve SGP-related population growth (e.g., development of new utility connections or school buildings). However, the potential type and extent for both operational and post-operational impacts to public services would be dependent on the location of any SGP-related population growth and the capabilities of the specific public systems serving the new residents.

7.2.2.4 Government Revenues

Valley and Adams counties residents and businesses pay federal and state income taxes, federal payroll taxes, corporate taxes, and their purchases are subject to state sales taxes. In addition, the buildings within the local area owned by individuals and businesses are subject to local and state property taxes.

Table 7-7 shows the estimated projected annual tax revenues resulting from construction activities.

Table 7-7 Projected Annual Taxes Generated and Supported by Construction ($M/year, 2017 Dollars)

Impact Type	Perpetua	Other	Total - Annual	Total – All Years [4]
State Sales Tax [1]	$4.9	$0.7	$5.6	$16.8
State Personal Income Tax [2]		$3.4	$3.4	$10.2
State Corporate Income Tax		$0.3	$0.3	$0.9
State and Local Subtotal	$4.9	$4.4	$9.3	$27.9
Federal Personal Income Tax [2]		$21.2	$21.2	$63.6
Federal Payroll Taxes [2, 3]	$7.1	$27.9	$35.0	$105.0
Federal Corporate Tax		$5.3	$5.3	$15.9
Federal Subtotal	$7.1	$54.4	$61.5	$184.5
Total (Local, State, Federal)	**$12.0**	**$58.8**	**$70.8**	**$212.4**

Source: Highland Economics 2018

[1] Does not include local sales taxes.

[2] Tax payments for these items also are included in the employee compensation estimates.

[3] Includes social security and Medicare payments by both employee and employer paid payroll taxes.

[4] Based on a 3-year construction period.

M = million

The total annual government tax revenue benefits from construction activities are estimated to be $70.8 million per year and $212.4 million over the 3-year construction period. Perpetua is projected to pay $12.0 million of these taxes annually or $36.0 million over the construction period. The other $58.8 million per year in total taxes would be obtained from businesses and employees supporting the SGP. Over the entire 3-year construction period, the total taxes paid by SGP support businesses and employees are projected to total $176.4 million.

The federal government is expected to receive most of total tax revenues resulting from construction activities. The state and local tax revenues generated are projected to total $9.3 million per year, of which the majority would be a regional, short-term, minor tax revenue benefit received by the State of Idaho. No property taxes would be paid by Perpetua until after the SGP facilities are completed and the mining operations begin. As a result, construction activities would result in short-term, negligible tax revenue benefits for the local area's economy.

Table 7-8 shows projected annual tax revenues from SGP operations. Annual government tax revenue benefits from SGP operations are estimated to total $61.7 million. Perpetua is projected to pay $29.4 million in taxes annually. The other $32.3 million would be paid by SGP support businesses and employees.

The federal government is expected to receive most of the total tax revenues resulting from operations. Federal tax receipts during the SGP operations phase are projected to be $51.6 million annually and total $774 million over the entire operations period (based on a 15-year operations period). The state and local tax revenues generated are projected to be $10.1 million per year and total $151.5 million over the entire operations period. Most of these taxes would be received by the State of Idaho. Local tax revenues paid by Perpetua are projected to average $0.3 million per year and total $4.5 million over the entire assumed 15-year period of operations. In 2018, Valley County's property tax totaled $7.5 million; therefore, the SGP's projected annual property tax would account for approximately 4 percent of Valley County's current total property tax. As a result, operations would result in a relatively limited tax revenue increase for the local area's economy. Locally SGP operations government revenues impacts would be negligible to minor and long term.

Table 7-8 Projected Annual Taxes Generated and Supported by Operations ($M/year, 2017 Dollars)

Impact Type	Perpetua	Other	Total - Annual	Total – All Years[2]
Property Tax	$0.3	–	$0.3	$4.5
State Mine License	$0.1	–	$0.1	$1.5
State Sales Tax	–	$0.8	$0.8	$12.0
State Personal Income Tax	–	$2.3	$2.3	$34.5
State Corporate Income Tax	$6.4	$0.2	$6.6	$99.0
State and Local Subtotal	$6.8	$3.3	$10.1	$151.5
Federal Personal Income Tax	–	$10.7	$10.7	$160.5
Federal Payroll Taxes [1]	$5.7	$14.3	$20.0	$300.0
Federal Corporate Tax	$16.9	$4.0	$20.9	$313.5
Federal Subtotal	$22.6	$29.0	$51.6	$774.0
Total (Local, State, Federal)	$29.4	$32.3	$61.7	$925.5

Source: Highland Economics 2018

[1] Includes social security and Medicare payments by both employee and employer paid payroll taxes.

[2] Based on a 15-year operations period.

"–" This cell is blank.

Local property taxes may be used to fund local schools, local governments, local law enforcement, fire protection, local roads, and other public services. The extent that the SGP-related increase in local tax revenues would result in a net benefit to Valley County's public services would depend on the extent that they offset increases in costs to provide public services.

It is expected that SGP's reliance on public services would be limited, as it would generally self-administer on-site security and fire protection services. Perpetua would be responsible for roadway maintenance measures under a cooperative agreement with Forest Service and Valley County (Access and Transportation Specialist Report, Forest Service 2022e). As such, there would be no increased cost to Valley County and its taxpayers as a result of any SGP-related roadway repair costs.

As discussed previously, public services demand impact would predominantly result from SGP-related local population increases (i.e., worker in-migration). In addition, operations could result in adverse impacts on government provision of services and staffing from wage inflation and local worker shortages for lower paying jobs within the local area, contingent on the ability of agencies and contractors to backfill staff losses over the longer period of operations, compared to the 3-year construction phase (e.g., government agencies could lose personnel to SGP with uncertain capacity to backfill positions).

Table 7-9 shows estimated annual tax revenues resulting from closure and reclamation activities and the percent change in tax revenue compared to the operations phase.

Table 7-9 Percent Change in Annual Taxes Generated and Supported by Operations Compared to Closure and Reclamation ($M/year, 2017 Dollars)

Impact Type	Operations	Closure and Reclamation	Change from Operations
Property Tax	$0.3	--	-100%
State Mine License	$0.1	--	-100%
State Sales Tax	$2.3	$0.3	-87.0%
State Personal Income Tax	$6.6	$0.1	-98.4%
State and Local Subtotal	$10.1	$0.4	-96.0%
Federal Personal Income Tax	$10.7	$0.3	-97.2%
Federal Payroll Taxes [1]	$20.0	$0.7	-97.0%
Federal Corporate Tax	$20.9	$0.1	-99.5%
Federal Subtotal	$51.6	$1.1	-97.9%
Total (Local, State, Federal)	**$61.7**	**$1.5**	**-97.6%**

Source: Highland Economics 2018

[1] Includes social security and Medicare payments by both employee and employer paid payroll taxes.

The total annual government tax revenue benefits from closure and reclamation activities are estimated to be $1.5 million per year, of which the federal government is expected to receive the majority ($1.1 million per year). State and local taxes revenues generated are projected to total $0.4 million per year, of which the majority would be received by the State of Idaho. As a result, closure and reclamation operations would result in long-term, negligible tax revenue benefits for the local area's economy.

7.2.2.5 Transportation and Infrastructure

Transportation

Changes in the local network of access roads and traffic use could potentially have socioeconomic impacts on the surrounding communities and their residents and businesses if it results in substantial changes in roadway use and/or user spending within those communities.

Construction, operations, and reclamation and closure phase impacts on the local analysis area's transportation system from both use and network changes are analyzed in detail in the SGP Access and Transportation Specialist Report (Forest Service 2022e). The socioeconomic impact analysis evaluates the nature and extent of projected travel redistribution and changes in traffic conditions to assess if they would result in corresponding economic changes for local area residents, businesses, and the local area's economy.

During the 3-year construction phase, a total annual average daily traffic (AADT) increase of 65 vehicle trips is projected to occur from the SGLF to the SGP, which would be distributed across several routes within the local roadway network. No measurable socioeconomic effects on the local area economy are expected due to the affected roadway system's remote location, very low use levels, and the limited traffic growth from construction activities.

Some existing roads would be upgraded and maintained to support SGP-related traffic or to offset impacts to recreational use. As noted in the Access and Transportation Specialist Report (Forest Service 2022e), Perpetua would be responsible for roadway maintenance measures under a cooperative agreement with the Forest Service and Valley County. The Burntlog Route would be constructed specifically to provide access to the mine site for construction and operational transportation needs. The Stibnite Road portion of the McCall-Stibnite Road (County Road [CR] 50-412) would be restricted during construction and gated at Sugar Creek. Through-mine public access would be allowed but check-ins on both ends, and a safety briefing would be required.

These roadway system changes have the potential to divert some recreational travel and spending from the village of Yellow Pine to other locations with access to the PNF and BNF. Traffic data on the number of annual recreationists travelling through Yellow Pine via this route is limited but is approximately 29 vehicles per day. This traffic likely includes current SGP employees and contractors accessing the mine site area as part of ongoing exploration activities. As a result, there is the potential for reduced economic activity in Yellow Pine from May through November from the project's roadway system changes. However, it also may be expected that any of the spending from diverted recreationists would be spent locally elsewhere and recaptured by the local area economy.

While the roadway improvements may redirect some traffic within the local area, the improvements are not expected to induce significant new visitation. As a result, SGP changes to the local area's roadway system and use are not anticipated to result in any major new economic activity or economic development. Consequently, the transportation impacts would have negligible, short-term socioeconomic effects on the local analysis area's economy during the construction phase.

During the 15-year operating period, a total AADT increase of 68 vehicle trips is projected to occur, which would be mainly along Warm Lake Road and the Burntlog Route. This traffic growth is approximately the same as that projected during the construction phase. In addition, the roadway network would be generally the same under both the construction and operations phases, but the Burntlog Route would be the designated route for mine traffic and provide an additional route for public access to the SGP and the Frank Church River of No Return Wilderness. Therefore, socioeconomic impacts from transportation during operations would be similar to those during the construction phase. As during construction, Perpetua would be responsible for roadway maintenance measures under a cooperative agreement with Forest Service and Valley County. As such, there would be no increased cost to Valley County and its taxpayers as a result of SGP-related roadway repair costs. Consequently, transportation impacts would have negligible, long-term socioeconomic effects on the local analysis area's economy during the operations phase.

During closure and reclamation phase, total SGP-related AADT of 25 vehicle trips is projected to occur, which would be distributed across several routes within the local roadway network. This traffic growth is less than that projected during construction and operations phases. Project socioeconomic impacts from transportation during closure and reclamation would be similar in nature but lesser in magnitude as those during the operations phase. Consequently, transportation impacts would have negligible, long-term socioeconomic effects on the local analysis area's economy during the closure and reclamation phase.

Infrastructure

Other infrastructure changes, such as utility system upgrades, also could have socioeconomic impacts on surrounding communities depending on nature of the effects on local area residents and businesses.

All the transmission lines and electrical substations that would be upgraded or built as part of the SGP are located within remote and underdeveloped areas with no current operating businesses or other economic activities. Concerns have been noted that the service capacity increase from SGP upgrade to the local area utility infrastructure could attract and result in other new development within the local study area that would result in additional socioeconomic impacts. However, it is considered highly unlikely that any such induced development would occur, because utility service capacity is not considered a primary limiting factor to current economic development within the vicinity of the upgraded or new utilities. Consequently, no utility service capacity related impacts would occur from SGP utility service changes.

7.2.2.6 Tourism

Recreation and tourism are important sectors of the local area economy. Valley County's recreation and tourism businesses provide more than 29 percent of county jobs (**Table 6-8**). The analysis of tourism to the area includes visitors from outside the area as well as seasonal residents who utilize the area for recreation and thus, contribute to the tourism economy.

There are several ways that SGP activities at the mine site and related infrastructure (including surrounding areas where SGP-related physical impacts may occur) could potentially affect recreation use. SGP-related physical impacts to the local analysis area's resources (e.g., noise/visual impacts and wildlife habitat conditions) would reduce the quality of the recreational utilization (i.e., user opportunities and experiences) within the vicinity of the mine site and off-site SGP facilities. Re-routing of the groomed OSV trail over the Warm Lake Summit to Landmark along with associated public Warm Lake Road usage and visitor parking could also affect the quality of the recreational use by snowmobiles and back-country skiers. The specific effects of resource changes on recreational and tourism use also would depend on how the changes influence visitor use decisions. Studies and economic models of correlated mining and tourism observe an interaction between the two industries with resulting positive and negative economic effects for tourism ranging from increased discretionary spending and travel accommodations to competition for labor and resources (Tourism Research Australia 2013).

SGP-related changes in recreation access or opportunities (i.e., recreation and wildlife conditions) could affect the local area's economy through visitor and seasonal resident spending changes at local tourism businesses. The nature and extent of the impacts to the local area's tourism economy would depend on the type and magnitude of SGP-related changes in local visitation and use. Non-local visitor and seasonal resident use changes would generally have greater potential to impact local tourism businesses due to their higher spending on goods and services than local residents.

Recreation use impacts are analyzed in detail separately in the SGP Recreation Specialist Report (Forest Service 2022d). This section evaluates the potential impacts on tourism-related businesses and the region's economy from expected changes to recreation due to construction activities.

SGP-related changes in recreation access (and consequently use) may result from both restrictions on the areas currently open to public use and/or changes in the local transportation system that affect users' ability or inclination to travel to the local area's recreational destinations.

SGP construction and operations would require imposition of an Operations Area Boundary primarily surrounding the mine site. Public use would not be allowed within the 13,441 acres of public lands within

the Operations Area Boundary. Existing dispersed recreational use and opportunities that occur in this area would be displaced to other locations in or adjacent to the analysis area.

However, once the Burntlog Route is constructed, access to recreation areas beyond the SGP area, such as Monumental Summit and Thunder Mountain would be available in addition to the route through the mine site which would provide public access with safety controls to preclude public interaction with mine equipment and blasting operations. As a result, there would be short-term decrease in recreational use and tourism-related business revenues during the 3-year construction phase to these areas; a short-term, moderate, and localized impact.

Impacts on recreation opportunities at and around the mine site would begin during construction and continue until the mine was closed, the site reclaimed, and the area reopened for dispersed recreation use. Some displaced visitors may choose to continue recreating at their current locations in other National Forest areas, such as the South Fork area, rather than return to the mine site area due to permanent changes in the recreation setting within the Operations Area Boundary. Nonetheless, there would be no net loss in recreation opportunity for the local analysis area, and the socioeconomic impacts to the local analysis area's tourism sector and overall economy based on recreational opportunity would be negligible, localized, and long term.

However, it also is possible that SGP-related displacement of some specific recreational use and visitation from areas near local communities, such as Yellow Pine or Warm Lake (e.g., re-routing of groomed OSV trails), could reduce tourism spending at their businesses. Depending on the type and magnitude of any such lost spending, it is possible that adverse economic impacts on individual businesses and community economies could occur. These impacts could be negligible to moderate, localized, and long term.

More specifically, SGP construction would affect access to the operating areas of three outfitters and guides as a result of the development of Burntlog Route and the OHV Trail, as well as the closure of Stibnite Road (CR 50-412) and the SGP Operations Area Boundary. In addition, the SGP also would degrade recreation experiences for customers participating in guided activities near construction of these components due to construction noise and activity. This could negatively affect their ability to provide their licensed activities and may degrade their customer's recreation experiences. However, all outfitters would continue to be able to access and use major portions of their operating areas that would not be impacted by the SGP. It is likely that any of their permitted uses displaced by the SGP could be served elsewhere within their existing operating areas where access would not be affected by the project. As such, adverse impacts to their operations and customers would be very limited (see also the Recreation Specialist Report, Forest Service 2022d).

The Operations Area Boundary established during SGP construction would remain in place during operations. Public access through the Operations Area Boundary would be re-established during operations with safety controls to prevent public interaction with mine mobile equipment and blasting activities. Through access for the three outfitters impacted during the construction period would be restored.

These SGP-related changes could result in increased or decreased recreation visitation (either in numbers of visitors and/or their recreation use). Increased visitation would be associated with new access that could provide new recreation opportunities and increased access to the wilderness, but there also would be negative impacts and reduced opportunities for non-motorized uses and potential impacts to wilderness visitors.

Use of the Burntlog Route and the Burntlog Maintenance Facility could impact two and one outfitters respectively, due to their locations within their operating areas. These impacts would be associated with potential increase in recreational use within their operating areas plus potential impacts on wilderness activities (Forest Service 2022d). As a result, there could be varied, and in some cases, possibly substantial impacts to individual outfitters. These impacts would be localized, long term, and negligible to major.

Generally, it is expected that any impacted or displaced recreation would likely relocate to other National Forest areas within the local analysis area. This outcome may be expected due to both the limited recreation use levels of the affected areas where historic mining disturbance dominates the existing condition and the existing availability of alternate and comparable recreational areas and resources. As a result, the corresponding change in recreation use under operations would have localized, long-term, and negligible socioeconomic impacts to the local area's tourism sector and overall economy.

The Operations Area Boundary established under the operations phase would continue to be in place during the closure and reclamation phase. During this phase, both the mine site and Burntlog Route would be reclaimed, and other SGP facilities also would be similarly decommissioned. However, it would take years (20 or more) for major revegetation to occur and major physical features of the operations would remain (tailings storage facility, buttress, and pit walls). As a result, some of the SGP's former facility sites would continue to appear disturbed. Consequently, the recreational setting for these locations would likely be permanently altered and some recreational use may remain permanently displaced to other more natural locations within the local area. Closure and reclamation noise would attenuate to background levels within 0.5 mile, nevertheless reducing recreation opportunities in these areas for activities that depend on a quiet, natural environment.

Until their completion, the closure and reclamation phase recreation and tourism impacts would likely be unchanged from the operations phase. However, following completion of closure activities, restrictions on visitation would no longer be in effect. Accordingly, the recreation use changes from reclamation would be negligible and would have localized, long-term, and negligible socioeconomic impacts to the local area's tourism sector and overall economy.

7.2.2.7 Fisheries Restoration Program

The Nez Perce Tribe's Department of Fisheries Resources Management (DRFM) operates Fisheries Restoration Programs in the vicinity of the SGP such as the Johnson Creek Artificial Propagation Enhancement Project and its associated research program. Annual funding for the project and research is approximately $1.5 million from a total annual operating budget of $22 million and utilizes DRFM's staff labor from the total group of 200 employees (Nez Perce Tribe 2020). The project produces up to 110,000 Chinook salmon smolts annually for direct release into Johnson Creek while the research program examines smolt-to-adult return rates and the utilization of hatchery rearing of wild fish to supplement fish populations.

Construction period usage of the Johnson Creek Road would increase traffic and activity on an existing roadway along portions of Johnson Creek where the fisheries restoration program is active. Project impacts regarding water quality and the transport of hazardous materials have the potential to affect the restoration efforts (Forest Service 2022e, 2022f). However, the socioeconomic components for the restoration program (e.g., road access, employment) would observe short-term, negligible effects from the increased use of an existing roadway. Implications for tribal treaty rights and interests are described in a companion specialist report (Forest Service 2022b).

7.2.2.8 Other Costs and Benefits

The SGP includes design and operational features intended to reduce impacts on water resources (streamflow, water temperature, and water quality) and aquatic habitat. These potential resource impacts are determined not to have quantifiable and/or monetizable impacts that can be incorporated as socioeconomic impacts. This is generally due to lack of discernable direct changes in human use that can be attributed to the resource changes in an area dominated by historic mining impact and disturbance as the existing condition.

The design and operations modifications would result in both incremental costs to the owner/operator (e.g., water treatment facility capital and operations and management [O&M] costs) and benefits (e.g., improved water quality or probability of meeting water quality standards) due to their intrinsic, non-market value. More specifically, the expected water resource benefits are evaluated in the SGP Water Quality Specialist Report (Forest Service 2022f) and the SGP Fisheries and Aquatic Habitat Specialist Report (Forest Service 2022g).

While changes in these resources may have non-monetary value, these resource improvements are not expected to result in any human use changes (e.g., by recreational or by tribal member users) that can be quantified. Consequently, for the purposes of this socioeconomic impact analysis, the non-monetary benefits of such improved water quality and wildlife habitat would not have any socioeconomic effects. Similarly, the related fisheries and ecological/resiliency also are not recognized to have any socioeconomic effects for the purposes of this socioeconomic impact analysis.

In addition to the incremental non-monetary resource benefits discussed above, the owner/operator would incur some incremental capital and future operations and maintenance (O&M) costs. Costs associated with the SGP would be primarily associated with the partial re-routing of Burntlog Route, construction and operation of the lime kiln on-site, and the addition of the road improvements for public access through the mine site. Overall, the capital costs for the design and operations modifications would be a relatively limited additional incremental cost to the estimated $1.1 billion initial construction cost and the approximately $270 million annual operating cost, especially given the expected total future mineral production value over the SGP operating life.

7.2.3 Johnson Creek Route Alternative

Under this alternative, the access route to the mine for all phases of the SGP would be via the Johnson Creek Route. The Johnson Creek Route starts at the intersection of Warm Lake Road (CR 10-579) and Johnson Creek Road (CR 10-413) and includes the Johnson Creek Road and the Stibnite Road section of the McCall-Stibnite Road (CR 50-412). Under this action alternative the Johnson Creek Route would be used as the primary route to the mine site during construction, operations, and reclamation/closure which would result in increased traffic on Johnson Creek and Stibnite roads. During the construction phase, AADT on Johnson Creek Road would increase from 57 to 122 and from 39 to 104 on Stibnite Road. This traffic growth would increase the noise and activity near campgrounds, dispersed camping areas, trailheads, and recreational residences adjacent to these roads which could change their recreation setting and reduce visitor recreation experiences. The Village of Yellow Pine would experience an increase in truck traffic from SGP vehicles use of the Johnson Creek Route to the mine site throughout all phases instead of only the construction phase as under the 2021 MMP. Truck traffic increases along the Johnson Creek Route also could have some effects on other roadway users travelling along the roadway to and from Yellow Pine.

Temporary road closures on Stibnite Road would occur on a daily basis for five years during construction and periodically on the Johnson Creek Road as the road is improved to accommodate operations vehicles. These road closures would result in reduced access to recreation sites/areas, decreases in recreational opportunities/settings, decreases in tourism, and decreased recreation experiences. As a result of these impacts, visitors may be displaced from these areas during this alternative's construction phase. These impacts would be localized, long term, and negligible to major.

Aside from access road construction and use differences, actions under the Johnson Creek Route Alternative are similar to those under 2021 MMP and, therefore, would impact most local area residents, businesses, and economy in predominantly the same way. The SGP construction period under the Johnson Creek Route Alternative would be five years, four years to upgrade and reconstruct Johnson Creek and Stibnite roads and a year to construct facilities at the SGP once heavy equipment access is available, and consequently would be two years longer than the 2021 MMP. The overall schedule of mining post-construction phases and activities under the Johnson Creek Route Alternative would be the same as the 2021 MMP. Similarly, the quantities of ore extraction and mineral recovery would be the same while future construction and operating expenditures under the Johnson Creek Route Alternative would be higher. The net additional construction cost of the Johnson Creek Route is estimated to total $62.5 million. Perpetua estimates that the overall net cost effect could reduce the SGP's value by up to $174 million due to the combined capital, operating (i.e., longer haul routes and increased roadway O&M), and financial costs (i.e., resulting from the extended construction period and delayed operations; Midas Gold 2019a). However, the related employment, income, population, housing, public services, and government revenue impacts (which would be predominately related to the increased construction and operations spending) would be marginally higher than those identified under the 2021 MMP.

Under the Johnson Creek Route Alternative, public road access through the mine during operations would be permitted and be similar to the 2021 MMP. As a result, the impacts during operations would be expected to be the same.

The minor relocation of Burntlog Maintenance Facility to Landmark would be expected to solely result in increased noise and visual impacts to the historic Landmark cabins.

The potential changes in socioeconomic impacts under the Johnson Creek Route Alternative analyzed for the socioeconomic analysis would be limited to those physical changes that could ultimately result in net changes in future visitor use and spending to the local area's tourism sector, fish restoration projects, and overall economy (e.g., changes in roadway access). The potential impacts changes to water quality and quantity, wetlands, fish resources, and cultural resources may result in incremental changes in those resource conditions. For example, upgrade and use of the Johnson Creek Route for the SGP's future operations would reduce roadway-related surface disturbance, stream diversions, and wetland impacts compared to the 2021 MMP. But the Johnson Creek Route's greater proximity to Johnson Creek and the East Fork South Fork Salmon River would increase the roadway disturbance and use within both avalanche-prone areas and riparian conservation areas and thereby could result in increased public safety and environmental risks and impacts associated with transportation-related incidents and spills. However, the combined and overall magnitude of these impacts is not expected to result in any human use changes (e.g., by recreational or by tribal member users). Consequently, for the purposes of this socioeconomic impact analysis, the non-monetary benefits of these design changes are not recognized to have any socioeconomic effects.

The village of Yellow Pine would experience an increase in future truck traffic from SGP vehicle use of the Johnson Creek Route to the mine site during SGP operations. Truck traffic increases along the Johnson Creek Route (estimated to average 60 vehicles daily) also could have some effects on other

roadway users travelling along the roadway to and from Yellow Pine. Roadway changes under the Johnson Creek Route Alternative might also result in redistribution of recreational and other traffic to other roads. Given the low use levels of these other roadways, the increase in traffic to local recreation locations would be limited. The additional SGP-related traffic along the Johnson Creek Route may displace some recreation use to other less noisy locations. Under this alternative, outfitters would not experience the adverse changes in their ability to access their operating areas.

The magnitude of the recreation use changes from these components of the Johnson Creek Route Alternative would be marginal and localized. As a result, overall recreational impact is anticipated to be minimal and, therefore, no net change in local area's overall visitation and visitor spending would be expected. As a result, the tourism impact findings during the Johnson Creek Route Alternative construction and operations phases would be expected to be the same as those determined for the Burntlog Route construction phase. Consequently, the Johnson Creek Route Alternative's construction activities would have a localized, negligible, and long-term overall impact on the local area's tourism sector and local economy.

With regard to other, non-monetary benefits, the use of the Johnson Creek Route would not incur any impacts to roadless area characteristics in the Black Lake, Burnt Log, and Meadow Creek IRAs that would be associated with the construction of the Burntlog Route.

Upon closure and reclamation activities, roadway improvements along the Johnson Creek Route would remain under this alternative. Traffic volumes and road closures would be reduced from construction and operational phases. In addition, because the Burntlog Route would not be constructed under the Johnson Creek Route Alternative, the reclamation activity and long-term recreational resource impacts for that would be avoided.

7.3 Mitigation and Monitoring

Mitigation measures required by the Forest Service would represent reasonable and effective means to reduce the impacts identified in the previous section or to reduce uncertainty regarding the forecasting of impacts into the future. These mitigation measures are in addition to the regulatory and Forest Plan requirements and project design features (**Section 2.4**) accounted for in the preceding impact analysis.

Mitigation measures may be added, revised, or refined based on public comment, agency comment, or continued discussions with Perpetua regarding this specialist report or subsequent analysis under NEPA. The adopted mitigation measures will be finalized in the Final EIS.

7.4 Cumulative Effects

The cumulative effects analysis area (CEAA) for social and economic conditions is the same area as the analysis area as described for direct and indirect socioeconomic effects. Other past, present, and reasonably foreseeable actions occurring on federal and non-federal lands, with similar effects that overlap in time and space include forest management, mining and mine reclamation, roadway changes, campground upgrades, and winter motorized use of forest roads.

7.4.1 Past, Present, and Reasonably Foreseeable Activities Relevant to Cumulative Effects Analysis

Past and present mining and mining-related activities have occurred around the Stibnite Mining District for over 100 years. These activities have contributed to the local analysis area's present socioeconomic conditions.

Past actions include activities that may have been initiated in the past but also could involve present operations such as mineral exploration, infrastructure development, and non-mining related actions. They may have lingering effects in degrading the environment or may influence trends in the physical, biological, or social environment.

Present actions include mining projects and their related activities (i.e., exploration, reclamation) that may have just commenced or are currently underway and are causing impacts. They also may include other non-mining related projects currently in progress, such as timber sales or vegetation treatment; recreation; other utility lines (e.g., powerlines) and roads; maintenance and use of the existing transportation network; urban development in Valley County; private land development and uses; and sand and gravel extraction.

Past and present actions that have an interactive, synergistic, and/or additive effect (per 40 CFR 1508.7) with a specific resource (such as lingering effects or influencing trends) in the SGP area are described below:

Mineral Exploration and Mining Activities – Past and present mineral exploration and mining have occurred in the vicinity of the mine site, including prospecting, exploration, underground mining, and open pit mining. To support past mining, other related activities occurred in the vicinity, including ore milling and processing, tailings disposal, smelting, heap leaching of ore, spent heap leach ore disposal, development rock disposal, hydropower generation, water retention dam construction, sawmill operations, electric power transmission line construction, and occupancy by thousands of people in housing camps and later in the town of Stibnite.

Two major periods of mineral exploration, development, and operations have occurred in the past century, and have left behind substantial environmental impacts. Between the mid-1920s and the 1950s, the area was mined for gold, silver, antimony, and tungsten mineralized materials by both underground and, later, open pit mining methods. The second period of major activity started with exploration activities in 1974 and was followed by open pit mining and seasonal on-off heap leaching and one-time heap leaching from 1982 to 1997, with ore provided by multiple operators from several locations, and processed in adjacent heap leaching facilities (Forest Service 2015).

The mining, milling, and processing activities created numerous legacy impacts including underground mine workings, multiple open pits, development rock dumps, tailings deposits, heap leach pads, spent heap leach ore piles, a mill and smelter site, three town sites, camp sites, a ruptured water dam (with its associated erosion and downstream sedimentation), haul roads, an abandoned water diversion tunnel, and an airstrip.

Other past and/or present mining projects considered in the cumulative effects analysis include:

- **Fourth of July Mine** – Located in Government Creek on National Forest System (NFS) land, Fourth of July Mine has been inactive (Forest Service 2012).
- **Camp Bird Mine** – Located in Logan Creek on private land, Camp Bird Mine has been inactive for more than 30 years (Forest Service 2012).
- **Valley County Quarry Development** – Development and operation of an aggregate source to support the road maintenance activities on McCall-Stibnite Road (County Road [CR] 50-412), Johnson Creek Road (CR 10-413), and other backcountry roads as determined by Valley County (Forest Service 2017).

- **Walker Millsite** – Located in Logan Creek on private land, the plan of operations approved in 1990 included a 50 ton per day ball mill and gravity milling process with the following components: a 50-foot by 100-foot by 8-foot-deep tailings impoundment, 1,000 feet of access road, a water transmission line, and explosives magazine. The millsite on NFS land has been reclaimed (Forest Service 2012).

- **Golden Hand No. 1 and No. 2 Lode Mining Claims** – Located in the Big Creek drainage on 1,309 acres of NFS land, approximately 19 miles north of Yellow Pine, the plan of operations included drilling operations, trenching and sampling, and reopening the caved Ella Mine adit. The project also would include the collection of subsurface geological information to prepare for a new mineral examination. The claims encompass approximately 20 acres each and are adjacent to Coin Creek (Forest Service 2012).

- **Cinnabar Mine** – Located 15 miles east of Yellow Pine and approximately 50 acres in extent, most of the mining occurred during the 1950s. No reclamation has been performed at the site and contaminants of concern include mercury, methylmercury, and arsenic (EPA 2020).

Exploration activities for potential future mining development have been occurring for the last decade and are ongoing at or within the vicinity of the SGP. Affiliates of Midas Gold initiated mineral exploration activities in 2009 as part of the Golden Meadows Exploration Project to better define the mineral deposit potential for the area. Activities associated with the Golden Meadows Exploration Project included the use of the existing road network, and construction of several temporary roads to access drill sites, drill pad construction, drilling on both NFS and private lands, and reclamation (Forest Service 2015). The following is a brief summary of the activities:

- **Midas Gold Exploratory Drilling (2009-2012)** –Exploratory drilling consisting of approximately 6 to 122 drill pads mostly occurred on private land. Crews were housed on private property in Yellow Pine. All equipment was staged on private property and drilling activities generally occurred 24 hours per day. Water withdrawal sites included existing sediment retention ponds and streams. Private and Forest Service temporary roads were used and/or authorized to access drill pads located on NFS lands. Road maintenance was needed to open the existing roads. For winter activities, chained rubber-tired vehicle, helicopter, snowcat, or snowmobile provided access. Where drill pads were located next to roads, some snow plowing occurred at select locations. During snow-free periods, access occurred by helicopter, and where there was authorized access on NFS land or on private land, rubber-tired vehicles also were used for access. Midas Gold also drilled 16 new groundwater alluvial and bedrock monitoring wells on 8 pads in 2012 (Forest Service 2015).

- **Monitoring Wells for the Golden Meadows Project (2013)** – Midas Gold drilled four new groundwater alluvial and bedrock monitoring wells on two pads in 2013. Exploration drilling was conducted in 26 drill areas within NFS land. Twenty-four of the drill areas were accessed by helicopter (i.e., for transport of equipment and crew) and contained temporary helicopter-supported drill pads. No temporary roads were needed for these 24 drill areas (Forest Service 2015).

- **Midas Gold Baseline Studies (2013-2017)** – Baseline data collection studies including water quality, fishery surveys, wildlife surveys, and vegetation mapping were conducted (Forest Service 2015).

- **Winter Geotechnical Study (2017)** – Exploration drilling was conducted in 26 drill areas within NFS land. Twenty-four of the drill areas were accessed by helicopter (i.e., for transport of equipment and crew) and contain temporary helicopter-supported drill pads. No temporary roads were needed for these 24 drill areas (Forest Service 2015).

- **Geotechnical Studies along Meadow Creek (2017)** – Geotechnical study field work program was conducted in support of feasibility level engineering work on the proposed tailings impoundment and impoundment dam foundation conditions. Midas Gold utilized a track mounted Cone-Penetrometer Test rig to access eight locations along Meadow Creek in September/October 2017 (Forest Service 2015).

- **Operations Exploratory Drilling (2016-2019)** – In addition to exploratory drilling for the winter geotechnical study in 2017, expansion of an existing borrow source on NFS land just east of the camp and shop area also occurred. The borrow material supplied approximately 7,000 cubic yards of crushed rock to support the exploration program, including road maintenance and site reclamation activities and also was used by previous operators and the Forest Service. Approximately 141,000 gallons of fuel (diesel, gasoline, and jet fuel) per calendar year was transported on existing Valley County roads to the fuel storage facility (located on private land) (Forest Service 2015).

- **Exploration and Geotechnical Drilling (2018)** – Midas Gold drilled 62 exploration and geotechnical drilling pads within the project area. Fifty-six of the pads are track-supported and the remaining six are helicopter-supported. None of the pads are steep slope drill pads. The 62 proposed pads are located in the vicinities of the following water bodies: Upper East Fork South Fork Salmon River, Meadow Creek, Middle East Fork South Fork Salmon River, Lower East Fork South Fork Salmon River, Upper Meadow Creek, and West End Creek (HDR 2017).

- **On-going Monitoring for Golden Meadows Project** – Monitoring for weeds, water quality, minerals and geology, access and haul route water quality monitoring, monitoring of water quality best management practices and project standard operating procedures associated with haul and access road use, wildlife and rare plants continue to be conducted (Forest Service 2015).

- **Burntlog Route Geophysical Investigation Field Work (2020-2021)** – Midas Gold collected geophysical data at proposed rock quarries, bridge abutments, cut slopes, and soil nail/mechanically stabilized earth wall locations using four methods including a Dynamic Cone Penetrometer Test, a track mounted excavator, a truck/track mounted hollow stem auger/core rig, and a helicopter assisted casing advancer/core drill rig. Midas Gold is investigating 24 locations by drilling or excavating 40 borings/test pits along the proposed Burntlog Route. The geophysical investigation field work will last approximately 40 days. Nearly half of the locations are situated along the existing Burnt Log Road and the remaining sites are located along the proposed new alignment of the Burntlog Route between Trapper Creek and Stibnite (Midas Gold 2019b).

Transportation Projects – Road maintenance, improvement projects, airstrip operations and maintenance, and culvert and bridge replacements have occurred in the past and are expected to continue in the future. Installation or improvement of culverts and bridges may impact aquatic habitat due to construction-related effects and erosion. Maintenance of existing roadways, culverts, and bridges will likely be short-term, while new roadways, culverts, and bridges would have a larger effect. More information regarding current and future road maintenance and airstrip operations are provided below:

- **Road Maintenance of NFS Roads** – Thunder Mountain Road (FR 50375) and Meadow Creek Lookout Road (FR 51290) are both NFS maintenance level 2 roads that received maintenance in 2014 and are on a regular maintenance schedule. Road maintenance activities include blading, slough removal, and culvert cleaning. It is assumed that private landowners on private lands keep roads open and maintained to meet their needs.

- **Road Maintenance of County Roads** –Warren Profile Gap Road (CR 50-340) and the road to the Big Creek Trailhead are currently maintained by Valley County under a cooperative agreement; both roads are on an annual or biannual maintenance schedule. Road maintenance activities include blading, slough removal, and culvert cleaning. Smith Creek and Pueblo Summit Roads have not received any maintenance for years (Forest Service 2016c).

    - McCall-Stibnite Road (CR 50-412) is currently maintained by Valley County under a cooperative agreement, on a regular maintenance schedule. There is an agreement between Valley County and Midas Gold to allow Perpetua to provide maintenance along the road from Yellow Pine to Perpetua 's property, “the road will be continuously maintained during the open period. Maintenance will, in all respect, be subject to review and approval by the Valley County Road Superintendent. The Owner/Contractor will abide by the Schedule 8: Payette National Forest; Road Maintenance Best Management Practices. During winter operations the Owner/Contractor will maintain a vehicle and trailer parking and turn around area at Profile Creek and Stibnite. The Owner/Contractor will place a temporary Valley County owned and signed gate above the Profile Creek Road during the Spring Breakup to prohibit any full-size vehicles from entering the Yellow Pine-Stibnite Road, unless otherwise authorized. All-terrain vehicles (ATV), utility-terrain vehicles, and snow mobile access on the Yellow Pine-Stibnite Road will still be permitted for the public at large during this temporary travel restriction.”

- **Road Maintenance of State Roads** – SH 55 is maintained by the Idaho Transportation Department (ITD). Recent upgrades and improvements included the Banks Beach parking study and the ongoing Smiths Ferry safety improvements. SH 55 was recently repaved between Donnelly and McCall (ITD 2021). The project addressed wear and tear to increase the service life of the roadway.

- The ITD, Division of Aeronautics maintains and operates the Johnson Creek, Warm Springs, and Bruce Meadows airstrips which are located on NFS land.

Mine Closure and Reclamation – Closure and reclamation of Hecla and SMI mining and processing facilities located in the headwaters of East Fork SFSR and Sugar Creek occurred between 1993 and 2000. Several Comprehensive Environmental Response, Compensation, and Liability Act Removal Actions also were conducted in the same area by the Forest Service, Environmental Protection Agency, and Exxon-Mobil Corporation to minimize risks to human health and the environment from legacy mining and processing activities during the 1930s, 40s, and 50s.

Recreation and Tourism – Past and present recreation and tourism activities include sport hunting, fishing, trapping, boating and river recreation, camping, hiking, backpacking, outfitter/guide operations, tourist services – Big Creek Lodge, Elk Springs Outfitters, and Juniper Mountain Outfitters. These activities take place primarily from late spring to late fall, and there may be small plane, helicopter, and vehicle traffic associated with access.

Infrastructure Development – Past and present community infrastructure projects include the transmission line upgrades in the West Central Mountain Electric Plan 2014, which follows the general location of the

SGP upgraded transmission line route (Idaho Power Company [IPCo] 2014). In 2020, IPCo rerouted approximately 2.5 miles of the existing Warm Lake Feeder overhead 7.2kV distribution line with approximately 2.75 miles of single-phase underground line in the Yellow Pine area (Forest Service 2020d).

Water Diversions and Hydro Power Projects – There are eight water diversions on federal and private lands in vicinity of the SGP area. There also are three residential, small-scale hydroelectric operations (0.4 to 0.9 cubic feet per second permitted), and one hydroelectric operation at Big Creek Lodge.

Wildland Fire, Noxious Weed Control, and Firewood Harvest – There have been numerous wildland fires in vicinity of the SGP area and it is likely more will occur in the future. Past fires within the headwaters of the East Fork SFSR and Sugar Creek include: Indian Creek Point (12,204 acres); Tamarack (2,348 acres); Bishop Creek (2,610 acres); Cascade Complex (299,930 acres); Thunder City (13,263 acres), and Buck Fire (19,474 acres). In fall of 2021, the Krassel Ranger District conducted prescribed burns to areas east of Yellow Pine (Bald Hill project area) and along the SFSR (Four Mile project areas). Removal of firewood for non-commercial use has occurred in the past and is expected to continue in the future on NFS land, in compliance with general permit requirements for the Payette National Forest. Several noxious weed species have been identified in the vicinity of the SGP including spotted knapweed, Canada thistle, yellow toadflax, and rush skeletonweed. Treatment of noxious weeds occurs regularly throughout the area. Treatments include chemical spraying and pulling. Main areas of treatment for noxious weeds include Chamberlain area, Beaver Creek, and Big Creek trails, and along road access areas. The Lost Horse vegetation management project was completed within the Clear Creek drainage along FRs 405, 406, 407, 409, and 433; the objective of this project was to restore species composition and stand structure while reducing undesirable tree densities and favoring retention of larger diameter, more fire-resistant trees (Forest Service 2020c).

Authorized in May 2021, the Big Creek Hazardous Fuel Reduction was a community protection project for Edwardsburg/Big Creek area using commercial and noncommercial treatments and prescription fire to reduce hazardous fuels. Treatments were on Forest Service lands along public roads and adjacent to private property, outside of wilderness. The project implementation reduced wildfire risk and fire severity/intensity on NFS lands around Big Creek and Edwardsburg and private property using commercial timber harvest, understory treatment, and prescribed burning. Approximately 10,290 acres were treated including, approximately 631 acres of mastication and/or hand thin, no removal; 847 acres of commercial and pre-commercial thinning; 1,047 acres of hand-thinning, no removal; 7,765 acres of natural fuel prescribed fire burn blocks; and less than 1 mile of temporary road constructed to facilitate equipment access and product removal reclaimed after vegetation management treatments were completed.

Forest Management - These activities include easements and other management actions. There are several easements in the SGP area and vicinity that are granted and maintained by the Forest Service including: Road Right-of-Way, Forest Road and Trail Act (FRTA) on McCall-Stibnite Road (CR 50-412), Road Right-of-Way and Linear Utility easement to the IPCo. The Yellow Pine Blowdown Project near Yellow Pine was conducted to remove down material from camping and recreating areas, reduce the risk of insect outbreak, and to reduce the fuel loading to help to ensure the safety of the Yellow Pine community. In 2020, the BNF decommissioned approximately 18 miles of non-system routes in the Six-bit Creek and Curtis Creek subwatersheds, part of the SFSR subbasin (Forest Service 2020c).

The South Fork Restoration and Access Management Plan (RAMP) is in the implementation phase with the decision dated July 13, 2021. The project's objective is to determine the minimum road system, improve watershed condition, provide ATV and motorcycle trail opportunities, and provide dispersed

camping and parking opportunities. The project includes numerous actions relating to watershed restoration, motorized and non-motorized access, and improvements of recreation facilities within the SFSR watershed within a 329,000-acre project area (http://www.fs.usda.gov/project/?project=51257). Target dates for implementation are 2022-2027 (Forest Service 2021a).

Commercial and Subsistence Harvest of Fish and Wildlife – Past and present harvest of fish and wildlife for recreational and subsistence purposes puts some degree of pressure on those resources. Legal hunting, fishing, and trapping has occurred and is currently occurring in the SGP area and vicinity. Fish and wildlife resources are managed by the Idaho Department of Fish and Game and federal agencies to maintain sustainable populations. Managers use management tools such as harvest limits and areas open and closed to sport and commercial harvest of fish and wildlife to maintain sustainable resources and allocate harvest.

Table 7-10 Reasonably Foreseeable Future Actions

Project or Activity Name	Agency Document/ District	Brief Description	Approximate Implementation/ Construction/ Operation Dates
Stibnite Mine Site ASAOC	EPA and Forest Service ASAOC	Address legacy mining impacts, including time critical removal actions consisting of stream diversion ditches and removal of about 325,000 tons of development rock and tailings.	2022 - 2024
East Fork Salmon River RAMP	PNF	Scoping for the East Fork Salmon River (EFSR) RAMP estimated to start late 2021. The spatial extent of the EFSR RAMP could include Yellow Pine, Big Creek, and Thunder Mountain within the PNF. The purpose of the EFSR RAMP is travel management. The Forest Service would conduct travel planning to identify a Minimum Road System (MRS) (36 CFR 212 Subpart A) and the routes open for public use (36 CFR 212 Subpart B), including motorized trail opportunities, dispersed camping, and parking opportunities and update the Forest Motor Vehicle Use Map.	Expected Decision: 10/2022 Expected Implementation: 11/2022
Burntlog Route Geophysical Investigation	CE (BNF SOPA)	- Minerals and geology The purpose of the investigation is to collect crucial geophysical data along the existing Burnt Log Road and new alignment between Trapper Creek and Stibnite.	In Progress: Scoping Start: 02/10/2020 Expected Decision: 03/2022 Expected Implementation: 09/2022

Project or Activity Name	Agency Document/ District	Brief Description	Approximate Implementation/ Construction/ Operation Dates
Wildlife Conservation Strategy	EIS (Forest Plan Amendment) 101 (PNF SOPA)	- Land management planning - Wildlife, Fish, Rare plants Short- and long-term management strategies and priorities for maintaining and restoring habitats associated with terrestrial wildlife species.	On hold
Nez Perce Tribe Research Equipment	CE / PNF SOPA	Replacement of an existing propane tank servicing a fish detection system (PIT array) with a 1,000-gallon tank in an existing hardened area to ensure fuel supply through winter months.	Scoping initiation: 11/2021 Expected Decision: 04/2022 Expected Implementation: 07/2022
Stallion Gold Horse Heaven Project		Surface exploration of gold and antimony deposits. The project consists of 695 unpatented federal mining claims and mineral rights on 13,950 acres. This project would share its eastern boundary with the SGP.	

Source: FHWA 2020; Forest Service 2018, 2020b, 2020c, 2020d, 2021a, and 2021b; ITD 2020
CE = Categorical Exemption
EA = Environmental Assessment
EIS = Environmental Impact Statement
FHWA-WFLHD = Federal Highway Administration Western Federal Lands Highway Division
NOA = Notice of Availability
SOPA = Schedule of Proposed Actions

7.4.2 No Action Alternative

Under the No Action Alternative, the SGP would not be approved by the Forest Service. There would be no open-pit mining or ore processing in the SGP area, no new or upgraded access roads, no changes to utilities, and no construction of off-site facilities. Although none of the RFFAs identified in **Table 7-10** would physically overlap with action alternative disturbance footprints, forest management, motorized use of road systems, fire suppression, prescribed fire and wildfire, dispersed camping, fishing, and hunting activities would continue in the cumulative effects area and vicinity, which would remain and continue to contribute to the cumulative socioeconomic effects on the local area's residents, businesses or economy. However, there would be no economic benefit from the SGP as currently proposed. Under No Action, continuation of the Golden Meadows Exploration Project and activity associated with the ASAOC would have negligible direct and indirect effects to socioeconomic conditions on the local area's residents, businesses, and economy. Therefore, the No Action Alternative would result in negligible cumulative effects on the local area's residents, businesses, and economy.

7.4.3 2021 MMP

Social and economic conditions and effects within the CEAA have occurred and would occur from past, present, and RFFAs. These effects have occurred primarily in Valley and Adams counties in terms of tax revenues, purchases of equipment and other services, and resulting employment income impacts.

The 2021 MMP, in addition to the reasonably foreseeable Stallion Gold Horse Heaven mining project, would provide the economic benefits associated with mine operations. The anticipated increases in the populations of Valley and Adams counties associated with in-migration as a result of these projects would be minor to moderate depending on the actual distribution of in-migrating resident locations. Further, there would be a related level of adverse cumulative effects to housing availability, housing affordability, community services, and infrastructure.

The SGP, ASAOC, and East Fork RAMP could have potential positive cumulative effects with regard to antimony and arsenic concentrations in water and reduced sedimentation; these effects could have an indirect effect on socioeconomics for activities benefiting from improved water quality such as recreation and fisheries restoration.

7.4.4 Johnson Creek Route Alternative

The cumulative effects under the Johnson Creek Route Alternative would be the same as under the 2021 MMP.

7.5 Short-term Uses and Long-term Productivity

7.5.1 No Action Alternative

Under the No Action Alternative, no activity associated with the SGP as proposed would be undertaken. Consequently, there would be no short-term use that would affect social and economic conditions, and no effect on long-term productivity.

7.5.2 2021 MMP

The 2021 MMP would result in short-term use of the SGP area, and construction of new roadways in the SGP area. After closure, the mine site and new roads would be reclaimed/decommissioned.

Short-term uses of both the mineral resources and other natural and human-made resources (i.e., for construction, operations, and closure/reclamation) would represent a lucrative use of these resources. The socioeconomic value of the short-term use of the resources is represented by both the extracted minerals market value and the monetary cost of the resources used to mine them.

As a non-renewable resource, the mineral extraction activities would permanently reduce the site's future productivity for mineral production and economic development potential. However, the activities would result in reclamation and environmental improvements of existing disturbances that would be expected to enhance other future use potential of the site in the long term.

Use of the mine site and other facility locations on NFS lands would also result in a short-term decrease in the acreage available for recreation. The mining activities and public exclusion from the Operations Area Boundary would result in short-term displacement of recreational use as well as changes in recreation opportunities and setting within portions of the local area. These changes to local outfitter businesses and their customers' and other visitors' recreation experiences changes would have the potential to result in short-term socioeconomic impacts on the local area's tourism sector and economy.

After reclamation is completed, the Operations Area Boundary would be re-opened to public access and recreation. As a result, there would not be recreation access impacts to long-term use of the mine site, access roads, and other facility locations for recreation after mine closure. However, it possible that long-term impacts to the recreation setting and recreation experiences (e.g., reduced wildlife populations) that could adversely affect local outfitter businesses and their customers' and other visitors' recreation experiences. In which case, if these changes result in adverse socioeconomic impacts on the local area's tourism sector and economy, there could be a long-term reduction in the area's economic productivity for future tourism use.

7.5.3 Johnson Creek Route Alternative

The productivity effects under the Johnson Creek Route Alternative would be the same as under the 2021 MMP.

7.6 Irreversible and Irretrievable Commitments of Resources

7.6.1 No Action Alternative

No irretrievable or irreversible commitments of public resources are anticipated under the No Action Alternative.

7.6.2 2021 MMP

Implementation of the 2021 MMP would result in the commitment of natural and human-made resources for new infrastructure, mine operations, closure and reclamation, and other post-mining activities. The predominant commitment of resources would result from the mining, which would deplete the valuable mineral assets in the targeted ore bodies. Extraction and use of the non-renewable mineral resources would constitute an irreversible commitment. However, the SGP is proposed in a legacy mining area, where substantial habitat reclamation is needed. The SGP may mitigate some existing environmental impacts, which would improve their resource conditions.

Substantial labor and materials needs would be required throughout the life of the SGP – these are irretrievable. Utility upgrades and new infrastructure would be required to facilitate mine operations and reclamation of historically damaged areas. Legacy mine waste rock would be incorporated into new construction to the extent feasible. Contaminated areas would be remediated during new construction as required.

Implementation of the SGP would remove the land from other uses while it is in operation, but the use would eventually be reversed through reclamation. The temporary loss of the land's availability for other uses during that period would be irretrievable.

7.6.3 Johnson Creek Route Alternative

The commitment of resources under the Johnson Creek Route Alternative would be the same as under the 2021 MMP.

7.7 Summary

Construction and operation of the SGP would provide jobs and income for both individuals directly employed for the SGP, as well as for other individuals whose employment and incomes would be indirectly or induced by SGP's activities. Most of these employment and income impacts would support Idaho residents, of which a portion would be Valley and Adams counties residents. Given the local area's population and current low unemployment conditions, the SGP would result in an in-migration of up to 200 individuals and another 230 dependents for SGP-related employment opportunities.

The potential for socioeconomic impacts to the local area's economy and social conditions would primarily result from the new in-migrant population. The potential influx of new residents (especially those that would be non-SGP employees) may increase the demand and supply of affordable housing within the local area. It also is expected that there could be potential for "boom and bust" impacts on the local area economy if there are insufficient alternative employment opportunities when SGP operations end.

Compared to the 2021 MMP, the Johnson Creek Route Alternative would have substantial increased construction and O&M costs. However, due to its longer construction period (five years instead of three years) and the operating phase's extended duration, the Johnson Creek Route Alternative's resulting socioeconomic impacts (i.e., employment, income, population, housing, public services, and government revenue impacts) would be expected to be marginally higher than those identified under the 2021 MMP.

The potential for other adverse impacts to the local area's economy would be relatively limited. This is due to both the limited extent and remote location of SGP's expected resource impacts. In addition, recreational opportunities would be available elsewhere in the analysis area for recreationists displaced by SGP's activities. As a result, these other SGP-related impacts generally would not result in future visitation changes or other impacts to the local area's overall economy.

Tables 7-11 and **7-12** provide a summary comparison of socioeconomic impacts by issue and indicators for each alternative. The SGP would result in other benefits and costs besides those identified above. The primary purpose and benefit of the SGP action alternatives for the owner/operator would be mineral extraction. Although there are some construction and operational differences between the two action alternatives, their total future revenues would be approximately the same.

Table 7-11 Comparison of Socioeconomic Impacts by Alternative

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
The SGP may impact the socioeconomics of Valley and Adams counties and the State of Idaho.	Total contributions to employment levels.	No change in recent employment trends.	Same as Baseline Condition	Employment – Total (annual) Construction: Direct: 640 Total[1]: 4,690 Operations: Direct: 583 Total[1]: 2,690 Closure and Reclamation: Direct: 160 / 40 Total[1]: 330 / 90	Marginally higher than 2021 MMP due to increased construction and operations spending from use of the Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Contributions to employment levels in Idaho.	No change in recent employment trends.	Same as Baseline Condition	Employment – Idaho (annual) Construction: Direct: 420 Total[1]: 1,820 Operations: Direct: 470 Total[1]: 1,150 Closure and Reclamation: Direct: 130 / 40 Total[1]: 190 / 60	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Contributions to employment levels in Valley and Adams counties.	No change in recent employment trends.	Same as Baseline Condition	Employment – Valley and Adams counties (annual) Construction: Direct: 190 Total[1]: 490 Operations: Direct: 200 Total[1]: 470 Closure and Reclamation: Direct: 90 / 20 Total[1]: 130 / 30	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
	Estimated value of local income contributions.	No change in recent employment trends.	Same as Baseline Condition	Income – Valley and Adams counties (annual) Construction: Direct: $18.1 million/year Total[1]: $28.1 million/year Operations: Direct: $18.7 million/year Total[1]: $29.3 million/year Closure and Reclamation: Direct: $3.6 million/year Total[1]: $5.3M/year Post-Closure: Direct: $0.9 million/year Total[1]: $1.3 million/year	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Estimated value of goods and services procured in Valley and Adams counties.	No additional procured goods or services.	Same as Baseline Condition	Direct Spending in Valley and Adams Counties (annual) Construction: Total: $62.3 million/year Operations: Total: $60.0 million/year Closure and Reclamation: Total: $4.8 million/year Post-Closure: Total: $1.4 million/year	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Change in populations of Valley and Adams counties.	No change in recent population growth trends. Valley County: 0.4%/year (35 people) Adams County: 0%/year (0 people)	Same as Baseline Condition	In-migration by workers to Valley and Adams counties Construction: SGP: 95 Total[1]: 198 Operations: Net construction change limited by local workers job transfers: SGP: 100 Total[1]: 190 Closure and Reclamation: No in-migration	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
	Impacts to housing demand in Valley and Adams counties.	No increase in housing demand or population from current conditions. Prevailing factors affecting housing affordability would continue.	Same as Baseline Condition	Construction: Housing demand increase to accommodate estimated in-migration of 198 workers and their families (438 new residents total). Operations: Negligible net change from construction as many workers would transfer to fill the estimated 190 operating positions that would be filled by in-migration. Closure and Reclamation: No new residents	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Impacts to housing affordability in Valley and Adams counties.	Prevailing factors affecting housing affordability would continue.	Same as Baseline Condition.	In-migration is likely to contribute to adverse impacts on local affordable housing availability beyond the existing prevailing factors.	Marginally higher than 2021 MMP due to increased construction and operations spending from use of Johnson Creek Route. However, construction impacts spread over longer 5-year period of construction.
	Impacts to school enrollment in Valley and Adams counties.	No increase in school enrollment from current conditions.	Same as Baseline Condition	Estimated school enrollment demand increase of 80 students. If these new students are evenly distributed across grades, then the average enrollment increase per grade would be approximately six additional students in each grade. However, if in-migrating students concentrated in an area, up to six full-time equivalent teaching positions would be needed to maintain current student-teacher ratios.	Same as 2021 MMP.

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
	Impacts to telecommunication and internet infrastructure in Valley and Adams counties.	No increase in telecommunications and internet infrastructure demand from current conditions.	Same as Baseline Condition	Estimated telecommunication and internet infrastructure demand for 198 new households. Adams and Valley counties' telecommunications and internet infrastructure operate at near capacity and, therefore, may have difficulty in maintaining service levels from increased service demand in some locations.	Same as 2021 MMP.
	Impacts to public services in Valley and Adams counties.	No increase in public service demand from current conditions.	Same as Baseline Condition	Estimated public services demand for 198 new households. Public service impacts would depend on both the location of any SGP-related population growth and the specific circumstances of the affected public services. If concentrated in individual communities such as McCall, there could be localized, long-term, substantial adverse impacts to those public services. However, if not highly concentrated, in-migration could have regional, long-term, minor or negligible adverse impacts on most of the local area's public services.	Same as 2021 MMP.
	Impacts to government provision of services.	No increase in public service demand from current conditions.	Same as Baseline Condition	Wage inflation and local worker shortages for lower paying jobs with the local area could result in adverse impacts on government provision of services contingent on the ability of agencies and contractors to backfill staff losses.	Same as 2021 MMP.

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
	Estimated tax revenue contributions.	No tax revenue increase from current conditions.	Same as Baseline Condition	Total Tax Revenues (annual)[2] Construction: State/Local: $9.3M Federal: $61.5M Operations: State/Local: $10.1M Federal: $51.6M Closure and Reclamation: State/Local: $0.4M Federal: $1.1M	Same as 2021 MMP.
	Changes in tourism and recreational based businesses.	No increase in tourism sector from current conditions and trends.	No change from baseline conditions including no improvement of the lingering effects of historic mining on the environment.	Limited displaced recreation due to low use levels and likely local area relocation. Negligible adverse impact to local area tourism economy expected. Potential for adverse impacts to specific individual recreation businesses and/or communities.	Long-term traffic growth in proximity to campgrounds, dispersed camping areas, trailheads, and recreational residences would increase activity and noise which could change the recreational setting and reduce visitor recreation experience.
	Changes in transportation and infrastructure.	No major changes expected that would result in economic activity or development changes that would substantially impact the local area's current economic conditions.	Same as Baseline Condition	Local area infrastructure and/or roadway use changes would not result in any major changes in economic activity or development that would result in substantial impacts on the local area's economy.	The village of Yellow Pine would experience an increase in future traffic (estimated to average 60 vehicles daily) from SGP vehicle use of the Johnson Creek Route to the mine site during SGP operations.

[1] Consists of direct, indirect, and induced employment (and includes both full and part-time positions).

[2] Estimated annual tax revenues generated from action alternatives related direct, indirect, and induced economic activity.

Table 7-12 Comparison of SGP Other Benefits and Costs by Alternative

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
SGP mineral extraction revenue.	Market values of extracted minerals.	No mineral extraction.	Same as Baseline Condition	SGP mineral production projected value (after refining) is approximately $7 billion over the SGP operating life.	Similar to 2021 MMP.
Incremental costs to the SGP as a result of proposed facility and operation modifications.[1]	Changes in the SGP's construction costs and/or future operating expenses.	The SGP is not built, and no mining operations occur.	No costs for SGP construction or future O&M expenses.	Total initial construction of SGP estimated to cost approximately $1.1 billion. Total annual operations estimated to cost approximately $270 million / year. Resource implications for these operational modifications are described in the Water Quality Specialist Report (Forest Service 2022f), Wildlife Specialist Report (Forest Service 2022h) and the Fisheries and Aquatic Habitat Specialist Report (Forest Service 2022g).	Marginal construction costs compared to 2021 MMP from upgrade of Johnson Creek Route instead of Burntlog Route construction. SGP value reduced by up to $174 million due to increased construction, O&M, and financial costs from use of Johnson Creek Route. Marginal net increase in future annual O&M cost due to longer haul distances.
Values and benefits associated with ecosystem conditions including water quality and aquatic habitat.	Removal of legacy mine tailings and waste rock. Volume and disposition of mineralized wastes from operations. Fish habitat and fish population conditions.	Legacy mine waste in Meadow Creek valley from historical mining. SGP area streams currently provide habitat for fish species, however, barriers associated with historical mining affect volitional fish access to portions of that habitat.	Same as Baseline Condition.	Removal of legacy mine waste, management of project mineralized wastes, and active water treatment result in water quality conditions in the mine area with lower dissolved antimony and arsenic concentrations compared to baseline. These activities utilize O&M expenditures during operations that continue into the post-closure period. Long term impacts to fish habitat and fish populations associated with project construction, operations, and closure. Restored fish passage to habitat available upstream of the existing Yellow Pine pit.	Similar to 2021 MMP.

Issue	Indicator	Baseline Conditions	No Action	2021 Modified Mine Plan	Johnson Creek Route
Impacts to an IRA from SGP construction and operations	Roadless characteristics	There is an existing IRA in the vicinity of the proposed Burntlog Route.	Same as Baseline Condition	Development and use of the Burntlog Route would affect roadless characteristics in three IRAs (see the Special Designations Specialist Report [Forest Service 2022i]).	The use of the Johnson Creek Route would not incur any impacts to roadless area characteristics that would be associated with the construction of the Burntlog Route.

[1] Legacy materials removed by the Project are distinct from those removed under the ASAOC. The removal of materials under the ASAOC is considered under the cumulative effects analysis.

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