

Chapter 5: Cumulative Impacts

5.1 Methodology

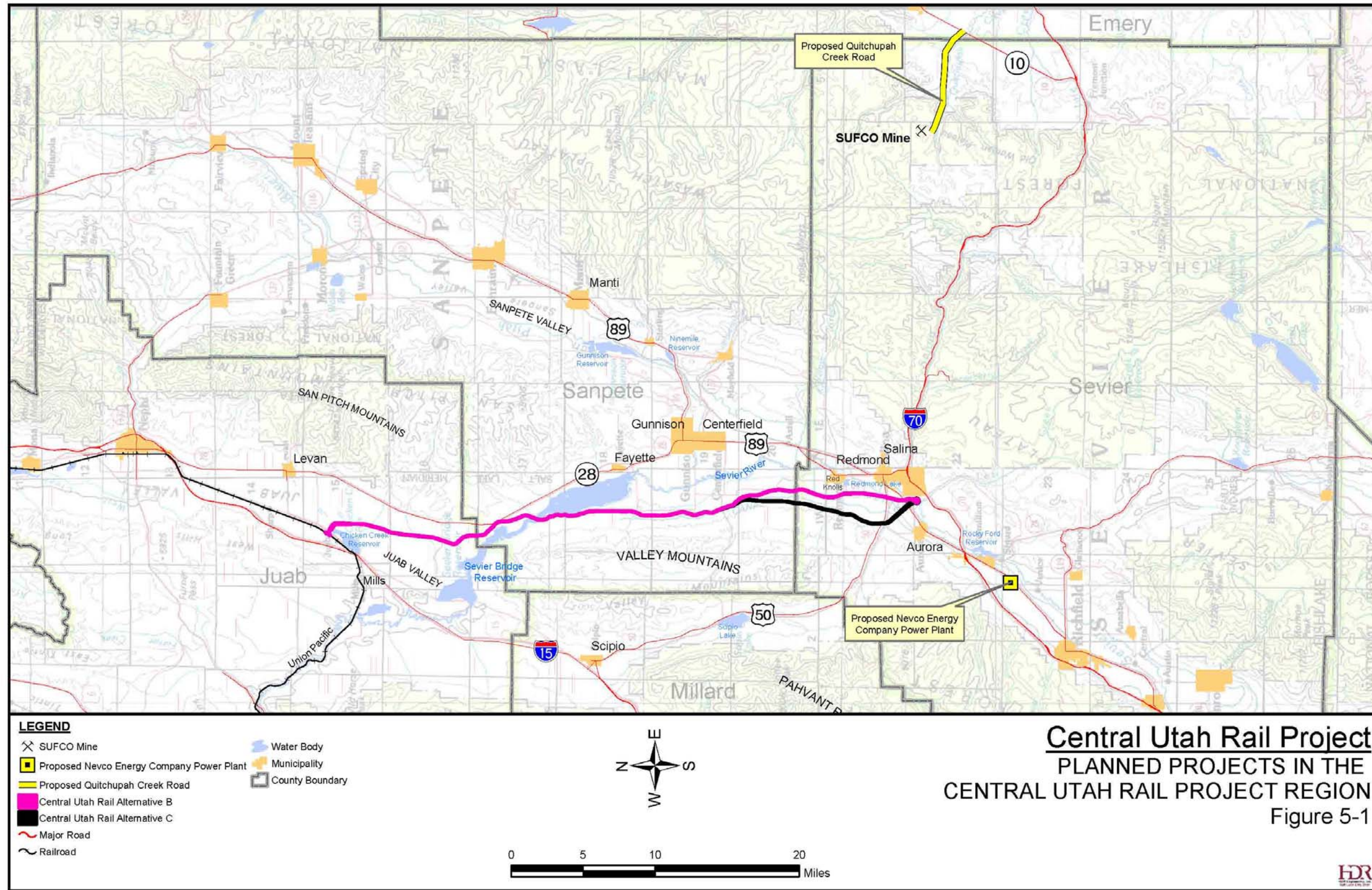
The CEQ regulations that implement the procedural provisions of NEPA define cumulative effects as “the impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). To assist Federal agencies in assessing cumulative impacts under NEPA, CEQ developed a handbook entitled *Considering Cumulative Effects under the National Environmental Policy Act*. SEA followed these guidelines in its evaluation of whether planned and reasonably foreseeable projects in the area in combination with potential impacts of operations or construction activities of the Proposed Action and Alternatives would cumulatively result in significant adverse environmental impacts.

Available information obtained in consultation with the Applicant, the Utah Department of Workforce Services, and the Utah Governor’s Office of Planning and Budget (2003) suggests that the following planned or reasonably foreseeable projects would take place in the same general geographical region as the Proposed Action and Alternatives. The project would occur within Sanpete, Sevier, and Juab Counties, Utah, and would connect to the Union Pacific Railroad (UPRR) about 16 miles south of Nephi, near Juab (see Figure 5-1, Planned Projects in the Central Utah Rail Project Region):

- **Quitcupah Creek Road.** Sevier County has proposed to upgrade the Quitcupah Creek Road located 25 miles from the Central Utah Rail Proposed Action and Alternatives. The road will be used as an additional, shorter haul road for trucks entering Emery County from Canyon Fuels’ SUFCO mine. The mine would be the primary user of the upgraded road. The road would also provide access to the Accord Lakes area and a shorter route for those in the Emery area traveling west toward Salina and I-15 (Fishlake National Forest and Bureau of Land Management 2006).
- **Nevco Energy Company Power Plant.** Nevco Energy Company is proposing to build a 270-megawatt circulating fluidized bed coal-fired power plant near Sigurd, Utah, which is in the Sevier Valley. The Nevco Energy power plant would be located 8 miles from the Proposed Action and Alternatives.

The cumulative impacts vary depending on the environmental resource category under consideration. SEA analyzed the cumulative impacts for those situations in which the geographic region for planned or reasonably foreseeable project impacts overlapped with the Proposed Action and Alternatives. The project area is located within high-elevation tablelands separated by generally narrowing north-trending structural valleys within the Juab and Sevier Valleys (Hecker 1993). Although the two projects mentioned above are planned to

Figure 5-1. Planned Projects in the Central Utah Rail Project Region



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occur in the same general geographic region as the Proposed Action and Alternatives, the projects are separated from the Proposed Action by a distance of 25 miles and 8 miles, respectively. In addition, the diverse topography of the project area separates these projects from the Proposed Action and Alternatives as seen in Figure 5-1, Planned Projects in the Central Utah Rail Project Region. Therefore, the projects do not share the same impact area for most resources considered in this EIS.

5.2 Impact Analysis

The production of coal at the SUFCO plant is currently at capacity, and there is no foreseen change in capacity. Coal production is driven primarily by mine infrastructure, not by client demand or coal transportation mode (K. May 2006). In addition, the rail project would not change the current distribution of coal to customers, change the customer base, or change the market base for SUFCO (K. May 2006). The volume of coal produced by the mine and subsequently shipped by train or truck should remain stable for at least 25 years (the life of the mine reserves).

SUFCO would need to ship 38,000 carloads annually to provide the economic foundation to proceed with the Proposed Action. Marketing studies show that, without increased production, SUFCO would be shipping 42,410 to 44,175 carloads annually (Washington Infrastructure Services Inc. and others 2001). Therefore, available information does not suggest that any appreciable increased production is planned, nor is there foreseeable need for increased production, if the proposed new rail line is completed.

SEA identified the combined interaction of the Proposed Action and Alternatives and the other planned or reasonable foreseeable projects described in Section 5.1, Methodology. SEA then identified the potential cumulative impacts on water resources, specifically water quality; air quality; energy; socioeconomics; and cultural resources.

SEA has determined that the proposed construction of about 43 miles of new rail line and the operation of two trains per day, on average, under the Proposed Action and Alternatives would not result in any notable cumulative impacts in the project area. The Central Utah Rail project impact area for the above resources does not overlap with either the impact area for the Quitchupah Creek Road project or the impact area for Nevco Energy Company's proposed power plant project. Because of this lack of overlap, coupled with the undeveloped nature of and lack of development in the project area, SEA does not expect that the Proposed Action and Alternatives combined with other past, present, and reasonably foreseeable projects would cause cumulative impacts for the other resource areas addressed in this EIS (see Figure 5-1, Planned Projects in the Central Utah Rail Project Region).

5.2.1 Water Resources

Several types of past, present, and ongoing land uses such as livestock grazing, mining, and recreation occur within the Sevier River watershed in the vicinity of the Central Utah Rail project impact area. These uses, along with related activities, may have contributed to upland watershed conditions and erosion.

SEA determined that since the Quitchupah Creek Road project impact area is located in a different drainage basin from the Central Utah Rail project impact area, the cumulative effects on surface waters, canals and irrigation, floodplains, wetlands, and groundwater from these two combined projects would be negligible.

SEA also determined that because the Nevco Energy power plant near Sigurd is within the same watershed as the Proposed Action and Alternatives, there is the potential for cumulative impacts to water quality. However, the impacts would be negligible.

Construction and operation of both the Proposed Action and Alternatives and the proposed Nevco Energy power plant would both disturb undeveloped ground. Since there is more runoff from impervious surfaces than from undeveloped ground, some decrease in water quality would occur if this land is developed. Any land disturbances associated with the construction and operation of either project would need to be mitigated in accordance with all local, state, and Federal development requirements. The use of BMPs would reduce impacts; therefore, the development of either project would not contribute significantly to the degradation of water quality.

Since the actual project impact areas don't overlap and are located roughly 5 miles apart, there is little or no potential for cumulative impacts to surface waters, canals and irrigation, floodplains, wetlands, or groundwater.

5.2.2 Climate and Air Quality

All planned and foreseeable projects with emission sources must be considered for authorization under the State Implementation Plan to ensure that cumulative emissions do not cause Sevier County to violate the NAAQS or prevent the county from attaining these standards. The Central Utah Rail project area is in an attainment area for all priority pollutants, and no NAAQS would be exceeded by the Proposed Action or Alternatives. Because the proposed rail line is in an attainment area, would handle only one or two trains a day, and would reduce emissions in the Sevier Valley from reduced truck traffic, a comprehensive air quality analysis was not required.

The Quitchupah Creek Road project is also in an attainment area for all NAAQS pollutants, and no NAAQS would be exceeded by the Proposed Action and Alternatives.

Nevco completed an application (Notice of Intent) and the Utah Division of Air Quality (2004) approved a permit for the 270-megawatt coal-fired plant. An extensive air quality

study was completed as part of the application. In their response to comments received from the Sevier Power Company (N2529-001), the Utah Division of Air Quality stated that “the proposed construction of the new power plant would not cause an exceedance of the NAAQS for PM₁₀; nor would it significantly contribute to any model predicted exceedances of the NAAQS in the Sevier Valley.” If SUFCO were to provide coal to meet the needs of the Nevco power plant, it would need to reduce shipments to current customers. Nevco’s coal needs would not be met by increased production from the SUFCO mine.

Windblown emissions would be reduced for all projects through the use of covered rail cars and enclosed or covered trucks used for coal transport. Construction activities are typically regulated under the rules for reducing fugitive dust as expressed in Utah Administrative Code R307-205. Any air quality disturbances associated with the construction of any of the projects discussed in this chapter would need to be mitigated in accordance with all local, state, and Federal development requirements.

Because neither the Proposed Action and Alternatives nor the Quitchupah Creek Road project would exceed the NAAQS, and given the distance between all three projects, the Proposed Action and Alternatives would not have a significant cumulative adverse impact on air quality.

In addition, the rail project would not change the customer base for the SUFCO mine. Coal that is currently shipped within Utah and to Nevada by truck would continue to be delivered to these same customers by rail. Therefore, the rail project would not result in additional air quality impacts to other locales throughout the United States (K. May 2006).

5.2.3 Energy

Energy is evaluated primarily in the form of vehicle fuel consumption. Both the Proposed Action and Alternatives and the Quitchupah Creek Road project would reduce overall energy consumption by providing more efficient transportation of coal. As stated in Section 4.10, Impacts to Energy Resources, the total anticipated daily energy consumption resulting from the Proposed Action and Alternatives would be 51% of the existing average daily energy consumption (which consists of truck traffic only).

The proposed Quitchupah Creek Road project would reduce the round-trip coal transport from the SUFCO mine by about 50 miles and would therefore reduce fuel waste, resulting in a fuel savings of about 11 gallons per trip.

The cumulative impacts of the Proposed Action and Alternatives and the Quitchupah Creek Road would be a reduction in overall energy consumption.

5.2.4 Socioeconomics

5.2.4.1 Population

Due to an increase in the labor pool required for economic development in the geographic area, the Proposed Action and Alternatives, the Quitchupah Creek Road project, and the proposed Nevco Energy power plant could cumulatively lead to a small increase in population, likely resulting from in-migration from surrounding areas.

5.2.4.2 Employment, Income, and Tax Base

Information obtained in consultation with the Applicant suggests that the economic feasibility of the Proposed Action and Alternatives is based on coal shipments from the SUFCO mine. Based on representation by SUFCO, the volume of coal produced by the mine and subsequently shipped by train or truck should remain stable for at least 25 years. Available information does not suggest that any appreciable increased production at SUFCO mine is likely if the Proposed Action or Alternatives are implemented. Although production at the SUFCO mine is unlikely to increase, the area does have large coal reserves. Therefore, other mines near the proposed rail line could have an incentive to seek permits to open and begin production. The Utah Division of Oil, Gas, and Mining has advised SEA that they have received a few inquiries about other mines possibly starting up in the area, but there are no pending applications (SCOAG 2002).

Non-coal businesses could also use the proposed rail line. The proposed line could provide existing and future non-coal businesses that would benefit from using rail transportation with new marketing opportunities, which currently appear to be constrained by the trucking cost to reach a rail loading point. The amount of coal and non-coal products shipped in the study area could increase, assuming that the proposed new rail line is approved and becomes operational. However, the extent of the potential for increased coal production and the likelihood of new or existing non-coal businesses using the line is not reasonably foreseeable at this time.

SEA expects similar results from the projected coal transportation cost savings resulting from both the Proposed Action and Alternatives and the Quitchupah Creek Road project. Although there may be some initial increased profitability for the SUFCO mine, the competitive nature of the market should ensure that the added profit margin would be reduced to prevailing levels. Therefore, it's reasonable to assume that the combined effects of the Proposed Action and Alternatives and the Quitchupah Creek Road project would not cumulatively impact the productivity or profitability of mining in the region. However, the fact that both projects would allow SUFCO to remain competitive in a competitive coal market would have positive cumulative impacts on Sevier County. The long-term stability of the SUFCO mine would ensure that one-quarter of the Sevier County payroll would continue and one-fifth of workers would remain employed (Nash 2006).

Other positive cumulative impacts to employment and income would result from the combined projects. The construction sector would benefit from the construction of all three projects by providing services during construction. However, the jobs would add only a short-term boost to the local economies because the jobs would contribute dollars only until the construction phase of a project is complete. Once the railroad is operational, SEA expects that about 108 jobs would be lost from the trucking industry as SUFCO and other companies reduce the length of trucking routes and switch to using the rail line. According to the Utah Department of Workforce Services, average wages for the trucking industry in central Utah are \$29,480 (Utah Department of Workforce Services 2004), which translates to a loss of about \$3.1 million in wages in the study area.

The loss in trucking jobs from the implementation of the rail line would likely be partially offset by 19 railroad jobs that would be added when the railroad is operational. (Railroad jobs were assumed to be those from rail conductors and operations.) The average wage of the railroad jobs would be \$61,010 (Utah Department of Workforce Services 2004), resulting in a total of about \$1.2 million in wages, which is 39% of the lost wages from trucking jobs. In addition, 85 new jobs are projected to be created from the Nevco Energy power plant, resulting in about \$5.5 million in direct payroll. The operations and payroll would likely further stimulate indirect and induced jobs, creating additional economic development benefits. See Section 3.11, Socioeconomics, and Section 4.11, Socioeconomic Impacts, for further explanation of methodology of used for analysis.

The sectors that would benefit from construction of the Proposed Action and Alternatives, the Quitchupah Creek Road project, and the Nevco Energy power plant include the lumber; stone, clay, and glass; petroleum products; mining; and railroad sectors. These sectors would continue to produce benefits for the local economy in the long term. For example, although the local economy would lose some income from truck wage earnings as described above, SEA expects construction of the projects to offset that loss with higher employment and income, which would be spent in the economy on goods and services. This new indirect demand caused by higher profits and new employment would spur additional rounds of spending and drive increased economic development benefits in the local economies.

5.2.4.3 Agriculture

The resulting impacts on the market value of output from farms in the Central Utah Rail project area would be negligible. Construction of the proposed rail line could lead to changes in zoning. However, the ratio of agricultural land to farm operators is large enough that removing such small amounts of land from agricultural use would likely have no impact on farm employment. Similarly, the loss of agricultural lands resulting from the Quitchupah Creek Road project would be an insignificant economic impact to the livestock industry in the Quitchupah Creek study area. Information obtained in consultation with the Applicant suggests that about 35 acres of marginal farmland would be impacted by the project and likely converted to industrial use. However, given the distance from the rail line (see Figure

5-1, Planned Projects in the Central Utah Rail Project Region), it is reasonable to assume that the Proposed Action and Alternatives would not contribute significant cumulative impacts to agriculture or farm employment.

5.2.4.4 Community Facilities and Emergency Response

The Central Utah Rail project, when combined with the Quitcupah Creek Road project and the Nevco Energy power plant project, would not contribute to cumulative impacts to community facilities and emergency response times.

5.2.4.5 Summary

Overall, the cumulative effects of the combined projects would have positive effects on local socioeconomic conditions.

5.2.5 Cultural Resources

SEA has determined that no indirect, visual, or cumulative impacts would result from the Proposed Action and Alternatives (Seddon 2007).

In 2006 and 2007, as a result of discussions with the Utah SHPO and the Advisory Council on Historic Preservation (ACHP), SEA completed an assessment of the potential indirect, visual, or cumulative impacts that could result from construction of the proposed project and alternatives. This assessment was completed by SEA in consultation with the SHPO, BLM, Federally recognized tribes, and UDOT.

In 2007, SEA identified nine historic properties that are listed on or eligible for the National Register located outside the APE for direct impacts but within a 0.5-mile-wide buffer zone analyzed by SEA in its 2003 study of the project area (MOAC 2004, 2005). The nine sites include two prehistoric lithic scatters, one prehistoric lithic scatter/camp, one prehistoric lithic and ceramic scatter, three historic canals (the Rocky Ford, Vermillion, and Piute Canals), and two historic bridges (the Lost Creek Bridge and the Denmark Bridge).

In follow-up discussions with the SHPO and BLM, SEA determined that the archaeological sites listed above would not be subject to indirect, visual, or cumulative impacts because the characteristics that make them eligible for the National Register under Criterion D would be affected by direct impacts only (Seddon 2007). In addition, SEA determined, based on a site inspection completed by BLM Archaeologist Craig Harmon, that the historic Denmark Bridge would not be subject to indirect, visual, or cumulative impacts because it is not in actual visual view of any of the construction alternatives.

Finally, consultations with UDOT indicated that the remaining bridge (the Lost Creek Bridge) had been recently replaced and is therefore no longer eligible for listing in the National Register. SEA also determined that, although the historic canals (the Vermillion, Rocky Ford, and Piute Canals) are National Register properties, they would not be subject to

adverse indirect, visual, or cumulative impacts due to the high degree of degradation of the canals from years of improvements and modifications (Harmon 2007).

5.2.6 Aesthetics

In 2004, Montgomery Archaeological Consultants, Inc. (MOAC) conducted a Class I existing data review of the Central Utah Rail project that examined the area 0.5 mile in either direction of the centerline of the proposed alternatives. This data review included record searches conducted at the Utah SHPO and a literature review of the area's prehistory and history. The record searches identified 63 archaeological sites. Nine of these sites have been recommended as eligible for the NRHP. These nine sites include two prehistoric lithic scatters, one prehistoric lithic scatter/camp, one prehistoric lithic and ceramic scatter, three historic canals, and two historic bridges. See Table 5.2-1.

Table 5.2-1. Class I NRHP-Eligible (Recommended) Sites

Site Number	Site Type or Name
42Sp84	Lithic scatter
42Sp200	Lithic/ceramic scatter
42Sp212	Lithic scatter/camp
42Sp213	Lithic scatter
42Sv2342	Historic Rocky Ford Canal
42Sv2343	Historic Vermillion Canal
42Sv2344	Historic Piute Canal
Lost Creek Bridge	Historic bridge
SR 260 Denmark Bridge	Historic bridge

Source: Kinnear-Ferris and others 2004

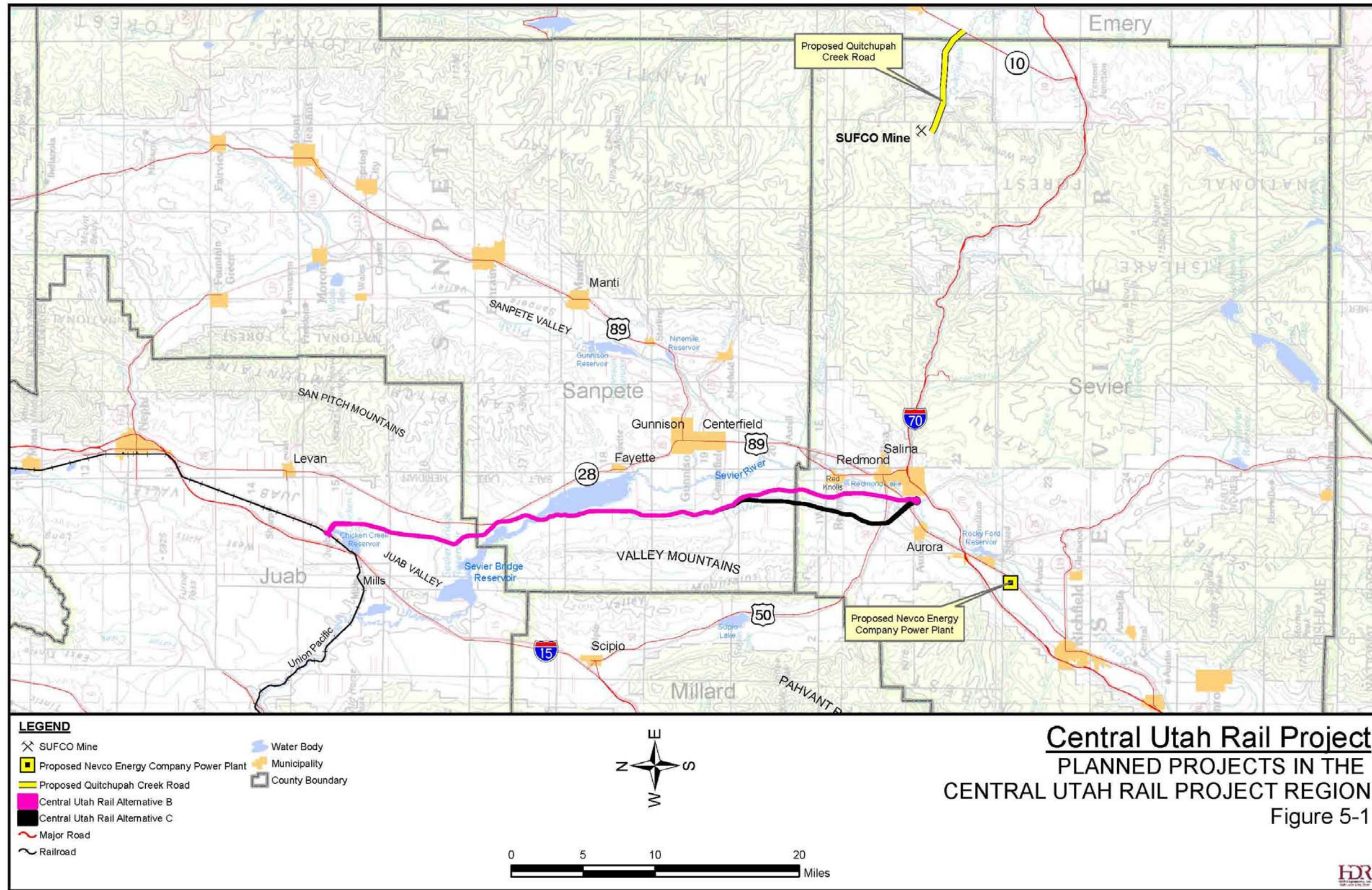
SEA has worked in coordination with the SHPO to determine that the characteristics that make these sites eligible under Criterion D would not be affected by the Proposed Action and Alternatives (SHPO 2007). Any future cumulative impacts to aesthetics and visual resources would be mitigated through cooperative efforts to create appropriate mitigation.

5.2.7 Conclusion

Neither the Quitcupah Creek Road project nor the proposed Nevco Energy power plant share the same geographical impact area with the Proposed Action and Alternatives. Therefore, the Central Utah Rail project would not contribute cumulative impacts to most resource areas discussed in Chapters 3 and 4 of this EIS. Because there would be no change in production for the SUFCO mine or any change in its client base, impacts would not occur beyond the current geographical impact area for the project. For those resources that do have a less-defined geographic boundary or for projects that would be constructed at the same time, SEA finds that the Central Utah Rail project, when combined with other past, present, and reasonable foreseeable projects, would not contribute to any notable cumulative impacts.

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Figure 5-1. Planned Projects in the Central Utah Rail Project Region



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