

Chapter VII: Impacts from Treatment Alternatives / Environmental Consequences

Environmental Consequences

This Chapter of the *CLR/EA* forms the scientific and analytic basis for the comparisons of treatment alternatives as required by 40 CFR 1502.14. The discussion of impacts / effects is organized in parallel with Chapter III: Existing Conditions / Affected Environment and is organized by resource topic areas. The current management / no action alternative and each action treatment alternative are discussed within each resource topic area. Resource topics analyzed are Cultural Resources including Cultural Landscapes and Archeological Resources, Socioeconomics, Visitor Experience and Park Operations. The analysis of alternatives in this *CLR/EA* is at a programmatic level. Each of the action alternatives includes a large number of proposed treatments. A number of these treatments are common to all action alternatives and would result in redundant analysis if addressed for each alternative. Common treatments for all action alternatives are highlighted in Chapter VI: Treatment Alternatives. To minimize redundant discussion, the elements common to the action alternatives will only be discussed at the beginning of each resource topic. The balance of the discussion for each resource topic will focus on treatments that are distinct to that treatment alternative.

Potential impacts for this proposal are described in terms of type, context, duration, and intensity. The definition of impact intensity is specific to each resource topic and is provided at the beginning of each resource topic discussion.

Type of impact refers to the consequences of implementing a given alternative as beneficial or adverse, direct or indirect:

- **Beneficial** – A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse** – A change that moves the resource away from a desired condition or detracts from its appearance or condition.
- **Direct** – An effect that is caused by an action and occurs in the same time and place.
- **Indirect** – An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.

Context describes the area or location in which the impact will occur.

Duration describes the length of time an effect will occur, either short-term or long-term:

- **Short-term** – Impacts generally last only during construction, and the resources resume their preconstruction conditions following construction.
- **Long-term** – Impacts last beyond the construction period, and the resources may not resume their preconstruction conditions for a longer period of time following construction.

Professional judgment is used to reach reasonable conclusions as to the type, intensity, context and duration of potential impacts for each resource topic.

The comparison of impacts for each treatment alternative is summarized in Table 6-3, which is at the end of Chapter VI: *Treatment Alternatives*. The impact analysis presented in this chapter results in a determination of an Environmentally Preferred Alternative, which is also described in Chapter VI: *Treatment Alternatives*.

Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act (NEPA), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions.”¹ Cumulative impacts are considered for the no-action and proposed action alternatives.

Cumulative impacts were determined by combining the impacts of the no-action and action alternatives with other past, present, and reasonably foreseeable future actions. Projects at Keweenaw National Historical Park and within the surrounding area were identified for the purpose of conducting the cumulative effects analysis. The following section includes a summary of related projects.

U.S. Highway 41 Road Improvements and Directional Signage

Recent development in the vicinity of the Quincy Unit has included large institutional facilities such as Hancock High School and Portage Health Center. Because a primary access route to these facilities is from U.S. 41, traffic is anticipated to increase and there are recently constructed signs directing motorists to turn at Campus Drive, which extends into the unit. If this campus area west of the Quincy Unit continues to develop, or other facilities that require highway signage are developed, there is potential for construction of additional highway signs that could affect the viewsheds from U.S. 41. Improvements to the stretch of U.S. 41 in the vicinity of the Quincy Unit could include upgrades to the scenic overlook just south of the unit and possible safety improvements such as dedicated turn-lanes at the intersection with Campus Drive.

Keweenaw NHP Sign Guidelines

The Park is preparing a park sign plan with recommendations for signs to improve the presentation of directional information and wayfinding for visitors.

Keweenaw NHP Long Range Interpretive Plan

The Park is preparing a Long Range Interpretive Plan (LRIP) that would identify the appropriate methods for interpreting the Park’s resources. The CLR recommendations have been coordinated with the current draft of the LRIP (August 2008) to ensure that recommendations in both reports are compatible. The LRIP addresses the entire park and includes recommendations for increasing the profile of the park as well as educational/interpretive opportunities throughout the region. These include proposals for enhancing unstaffed partner or neighboring sites, creating gateway experiences to orient visitors to the NPS sites, improving wayfinding and orientation for visitors, improving exhibits, developing a park film and publications focused on park themes, and developing wayside

¹ 40 CFR 1508.7

exhibit plans. All of these efforts will help to improve visitor's understanding of the history of the region and significance of the cultural resources present at the Quincy Unit. Ultimately, this will have a positive effect on the preservation of the historic resources.

Regional Trail Development and Use

Recreational trails are a very popular outdoor resource in the Keweenaw Peninsula. Regional trails are intended to be used throughout the year and would provide visitors and local residents with multi-use outdoor recreation ranging from walking, running or biking in warmer months to snowmobiling in the winter. To ensure trail development maximizes recreation opportunities without harming natural or cultural resources in the region, the Michigan Department of Natural Resources, county and local governments and local interest groups provide oversight and participation in the trail planning process. One trail may eventually link to the Quincy Unit and provide increased access. The NPS has been contacted about the possibility of providing technical assistance in trail development in resource sensitive areas including Keweenaw NHP. Trails in these resource sensitive areas would be limited to pedestrian access. Establishment of trails would benefit local residents and visitors by providing additional recreation opportunities and would increase opportunities for interpretation of the region's history.

Keweenaw NHP Partner Projects

Because Keweenaw NHP is a partnership park, there are numerous park partners that are directly associated with the Quincy Unit. Park partners work with the NPS in developing programs and interpreting the historic site. A current construction project undertaken by partners includes the rehabilitation of the Quincy machine shop into the A. E. Seaman Mineral Museum.

Utility Construction and Easements

Utility easements through the Quincy Unit result in visual intrusions into the landscape as well as affect vegetation management and introduce additional non-managed access into the unit. Past NPS decisions have allowed electrical transmission line upgrades through Keweenaw NHP units as part of the utility company's routine maintenance program. Further upgrades or changes to the transmission system should be reviewed and permitted by the NPS to mitigate any future impacts to the cultural landscape.

Impairment Analysis

The NPS *Management Policies 2006* requires analysis of potential effects to determine whether or not actions would impair park resources or values.

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid or minimize to the greatest degree practicable, actions that would adversely affect park resources and values that are related to the legislative establishment of the park, National Historic Landmarks, or other nationally significant resource.

These laws give NPS the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, so long as the impact does not constitute impairment of the affected resources and values. Although Congress has given NPS the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may constitute impairment. Impairment may result from NPS activities in managing the park, from visitor activities, or from activities undertaken by concessionaires, contractors, and others operating in the park. Impairment of park resources can also occur from activities occurring outside park boundaries. An impact would be more likely to constitute impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park.
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park.
- Identified as a goal in the park's GMP or other relevant NPS planning documents.

An impairment determination is included in the environmental consequences analysis section for all resource topics relating to park resources and values.

Impacts to Cultural Resources

Basis of Analysis (Impacts to Cultural Resources)

In this CLR / EA, impacts to historic properties are described in terms of type, context, duration, and intensity, as described above, which are consistent with the regulations of the CEQ, which implement the NEPA. This CLR / EA is intended; however to comply with the requirements of both NEPA and Section 106 of the National Historic Preservation Act (NHHPA). To achieve this, a Section 106 summary is included under the Preferred Alternative for each of the cultural resource topics carried forward for analysis. The Section 106 summary is intended to meet the requirements of Section 106 and is an assessment of effect of the implementation of the preferred treatment alternative on cultural resources, base upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

Under the Advisory Council's regulations, a determination of either adverse effect or no adverse effect must be made for affected historic properties that are eligible for, or listed in the National Register of Historic Places (NRHP). An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the National Register (e.g., diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). *Adverse effects* also include reasonably foreseeable effects caused by the Preferred Alternative that would occur later in time; be farther removed by distance; or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A

determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the NRHP.

In accordance with the Advisory Council's regulations implementing Section 106, impacts to historic properties for this project were identified and evaluated by (1) determining the area of potential effect; (2) identifying cultural resources present in the area of potential effect that were listed in or eligible to be listed in the NRHP; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the NRHP; and (4) considering ways to avoid, minimize, or mitigate adverse effects. The area of potential effect was established in Chapter IV: Landscape Analysis and further refined in Chapter VI: Treatment Alternatives.

CEQ regulations and the National Park Service's DO-12 also call for a discussion of the appropriateness of mitigation, as well as analysis of how effective the mitigation would be in reducing the intensity of a potential impact. Any reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined in Section 106 is similarly reduced. Although adverse effects under Section 106 may be mitigated, the effect remains adverse.

In order for a historic property to be listed in the NRHP, it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. In addition, the historic property must possess integrity of location, design, setting, materials, workmanship, feeling, association.²

As noted in Chapter I, there are no established Ethnographic Resources at Keweenaw National Historical Park so this topic is not addressed in this Chapter.

Cultural Landscapes (Impacts to Cultural Resources)

Intensity levels:

- Negligible: Impact(s) would be at the lowest level of detection, or barely perceptible and not measurable. For the purposes of Section 106, the determination of effect would be – **no effect**.
- Minor – Adverse impact: Impacts would not affect the overall cultural landscape, or the significant landscape characteristics. For purposes of Section 106, the determination would be – **no adverse effect**.

² U.S. Department of the Interior, National Park Service. "National Register Bulletin: How to Apply the National Register Criteria for Evaluation. 1997.

- Minor -- Beneficial impact: Preservation of the overall cultural landscape and significant landscape characteristics in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be – **no adverse effect**.
- Moderate – Adverse impact: Impacts would alter the cultural landscape or one or more of the significant landscape characteristics, but would not diminish the integrity of the landscape to the extent that its NRHP status or eligibility is jeopardized. For purposes of Section 106, the determination would be – **adverse effect**.
- Moderate -- Beneficial impact: Rehabilitation of the cultural landscape or one or more of the significant landscape characteristics in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be – **no adverse effect**.
- Major – Adverse impact: Impacts would alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. For purposes of Section 106, the determination would be – **adverse effect**.
- Major -- Beneficial impact: Restoration of the cultural landscape and landscape features in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For purposes of Section 106, the determination of effect would be – **no adverse effect**.

Archaeological Resources (Impacts to Cultural Resources)

Intensity levels:

- Negligible: Impact(s) would be at the lowest level of detection, or barely perceptible and not measurable, either adverse or beneficial. For the purposes of Section 106, the determination of effect would be – **no effect**.
- Minor – Adverse impact: Disturbance of a site(s) results in little, if any loss of integrity. For purposes of Section 106, the determination would be – **no adverse effect**.
- Minor -- Beneficial impact: Maintenance and preservation of a site(s). For purposes of Section 106, the determination of effect would be – **no adverse effect**.
- Moderate – Adverse impact: Disturbance of a site(s) may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. For purposes of Section 106, the determination would be – **adverse effect**. A memorandum of agreement (MOA) is executed among the NPS and applicable state or tribal historic

preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact.

- Moderate -- Beneficial impact: Stabilization of a site(s). For purposes of Section 106, the determination of effect would be – **no adverse effect**.
- Major – Adverse impact: Disturbance of a site(s) may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. For purposes of Section 106, the determination would be – **adverse effect**. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the NPS and applicable state or tribal historic preservation officer and/or Advisory Council are unable to negotiate and execute a MOA in accordance with 36 CFR 800.6(b).
- Major -- Beneficial impact: Active intervention to preserve site(s). For purposes of Section 106, the determination of effect would be – **no adverse effect**.

Current Management, No-Action Alternative (Impacts to Cultural Resources)

Analysis:

Cultural Landscape (Current Management, Impacts to Cultural Resources)

Continuation of current management actions within the Quincy Unit could result in incompatible development patterns as growth occurs in this area. This potential direct, long-term, minor to moderate adverse impact is partially the result of a lack of land use regulations for development in Houghton County, not by NPS or NPS partner management actions. Without a coherent guidance document other potentially negative results could be haphazard management of vegetation by non-NPS landowners, which could have a direct, long-term, adverse impact to viewsheds to and within the Quincy Unit and Historic Industrial Core. Although there is potential for adverse impacts, continuation of current management would offer numerous beneficial impacts to elements of the cultural landscape. Historic resources would be stabilized or preserved and some landscapes would receive a more detailed level of management, which would result in direct, long-term, minor beneficial impacts to the cultural landscape.

Archaeological Resources (Current Management, Impacts to Cultural Resources)

Although comprehensive archaeological inventories have not been conducted in the Quincy Unit, numerous focused investigations have been conducted. These investigations revealed a high potential for historic archaeological resources as well as potential for prehistoric resources. Because the no-action alternative would result in continuation of current landscape management actions, there would likely be ground disturbing actions within the Historic Industrial Core and the Quincy Unit as a whole. This would create the potential for adverse impacts to archaeological resources. The precise nature of those impacts is not able to be determined at this time; however the implementation of the park’s Archaeological Overview

and Assessment, appropriate mitigation measures (described in Chapter VI) and coordination with SHPO and other appropriate parties to establish a Programmatic Agreement, it is anticipated that the potential for adverse effects would be mitigated.

Cumulative Impacts (Current Management, Impacts to Cultural Resources)

Growth has been occurring in the area immediately west of the unit in recent years and is likely to continue. This growth area has resulted in the placement of incompatible directional signage, most notably, signage that is internally lit. This signage introduced an extremely bright light source into the Historic Industrial Core that is not compatible with the cultural resource.

Another light source incompatible with the cultural resource is night lighting at the Mont Ripley Ski area. These sources of light result in direct, long-term minor adverse impact to the lightscape associated with the cultural resource as well as an indirect, long-term minor adverse impact to the night sky. Additional construction of back-lighted, directional signage along U.S. 41, in addition to the Ripley Ski area, would result in direct and indirect long-term moderate adverse impacts to the cultural resource and the night sky.

Previous development including residential, institutional, commercial or recreational expansion has likely resulted in a cumulative loss and adverse impacts to archaeological resources. Future development by private landowners, utility companies and recreation providers that may occur on private property within the Quincy Unit and outside the NPS property poses a risk to archaeological resources. Although this alternative would provide the least beneficial effects to cultural resources of all alternatives, implementation of the no action alternative would still require thorough adherence to Federal and NPS laws, regulations and guidance. On-going or future actions by the NPS or partners on NPS and partner-owned properties within the Quincy Unit should result in only direct, short-term negligible to minor adverse effects to cultural resources.

Conclusion (Current Management, Impacts to Cultural Resources)

There would continue to be short-term, negligible to minor, direct adverse impacts during periods of construction related to on-going management from NPS or partner actions, in addition the no-action alternative could result in a direct, long-term, minor adverse impact to cultural resources due to ground disturbing activities and potential introduction of inappropriate materials, features and vegetation. Without guidance from a CLR, actions by private landowners within the Quincy Unit would continue to result in direct long-term, moderate adverse impacts to cultural resources. The no action alternative does not meet project objectives as well as any of the action treatment alternatives.

Impairment (Current Management, Impacts to Cultural Resources)

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Keweenaw National Historical Park; (2) key to the cultural integrity of the National Historical Park; or (3) identified as a goal in the National Historical Park's general management plan or other relevant National Park Service planning documents, there would be no foreseen impairment of the National Historical Park's resources or values.

Section 106 Summary (Current Management, Impacts to Cultural Resources)

The potential effects of the no-action alternative have been evaluated at a programmatic level and after applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that the no-action alternative provides the least beneficial impacts to Keweenaw National Historical Park's cultural landscape of all alternatives and implementation of the no-action alternative could result in an adverse effect to the cultural landscape at the Quincy Unit of Keweenaw National Historical Park.

After applying the same Advisory Council's regulations, the NPS concludes that, although NRHP-eligible archaeological resources have not been identified in the area of potential effect, there is high potential for the presence of these resources in the Quincy Unit. Therefore, there is the potential for an adverse effect to archaeological resources. Because this analysis is programmatic and does not include site-specific analysis of cultural landscape or archaeological resources, Section 106 compliance will continue to be required at the time specific projects are proposed. Also, it is important to note that while the NPS will continue to follow Section 106 and NEPA requirements, the majority of the land within the Quincy Unit is not owned by the National Park Service and ground disturbing activities may continue to occur as the result of non-NPS actions.

Treatment Guidelines Common to Alternatives A, B and C for Quincy Unit and Historic Industrial Core (Impacts to Cultural Resources)

Analysis:

Cultural Landscape (Treatment Guidelines Common to all Action Alternatives, Impacts to Cultural Resources)

The proposed treatment guidelines common to all action alternatives would provide a much greater ability to manage the cultural landscape within the Quincy Unit and Historic Industrial Core than the no action alternative. The initial step in encouraging compatible development on private lands within the Quincy Unit would be to conduct appropriate research to fill in any gaps on historic housing and development. The results from this research would form the framework for design guidelines to provide direction for property owners. Also, the research would provide information on the availability of programs providing financial incentives to encourage private landowners and NPS partners to maintain or develop properties in a compatible manner. These programs could result in long-term, moderate beneficial effects to the landscape. Treatment guidelines related to development would also be flexible to allow for compatible development that still meets contemporary needs of families and businesses.

Features of the historic circulation pattern would be restored or preserved in a manner that educates the visitor and provide access to and within the Quincy Unit and Historic Industrial Core resulting in direct, long-term moderate beneficial impacts. The prominence of the U.S. 41 corridor is addressed through treatments including preparation of design guidelines for private property owners to manage development so that it is compatible with the cultural landscape.

In a similar fashion to the no action alternative, historic structures, ruins and small scale features would still be restored, reconstructed, rehabilitated or stabilized, which would result in long-term, moderate beneficial effects to those resources. Incompatible features would be removed or relocated to the extent possible.

Vegetation management would be orchestrated through removal of vegetation that is adversely affecting the landscape, as it relates to viewsheds and adverse affects to native species from introduced or volunteer invasive species. Vegetation management would be a much stronger management focus in the treatment guidelines common to all action alternatives than what is proposed in the no action alternative resulting in direct, long-term, minor beneficial impacts to the landscape.

Although the Quincy Smelter Site is not included in the treatment alternatives in this CLR / EA, there is a strong long-term desire by the local community to redevelop the site. Reuse of this site would result in direct, long-term, moderate beneficial impacts.

Archaeological Resources (Treatment Guidelines Common to all Action Alternatives, Impacts to Cultural Resources)

As mentioned in the no action alternative, there is no comprehensive knowledge of archaeological resources at the Quincy Unit. Implementation of the proposed Archaeological Overview and Assessment for Keweenaw National Historical Park would provide a strong basis for follow-up resource investigations and develop priorities for investigations to be completed prior to ground disturbing actions. Follow-up investigations could also reveal additional information on the historic industrial practices at Keweenaw National Historical Park. Specific recommendations for an archaeological investigation are presented for the Mine Management Area.

The precise nature of potential impacts from ground disturbing activities is not able to be determined at this time; however the implementation of the park's Archaeological Overview and Assessment, and follow-up investigations, appropriate mitigation measures (described in Chapter VI) and coordination with SHPO and other appropriate parties, it is anticipated that the potential for adverse effects would be mitigated.

Historic Industrial Core Treatment Alternative A (Impacts to Cultural Resources)

Analysis

Cultural Landscape (Treatment Alternative A, Impacts to Cultural Resources)

In addition to the Treatments Common to All Alternatives, Alternative A proposes to preserve the historic mine shafts, restore interiors of historic buildings and rehabilitate industrial structures in the Historic Industrial Core area. This alternative recommends that the NPS partner with property owners to revise incompatible features along U.S. 41. Recommendations for the Mine Management Area in Alternative A expand on the preservation and restoration recommendations in Treatments Common to All Alternatives. In this alternative the National Park Service would work with property owners to restore and interpret the Superintendent's Residence, Assay Office, and Captain's Residence. This alternative differs from the other action alternatives by proposing the reuse of the Supply House as the NPS Visitor Center. This action would be part of a strong rehabilitation effort in the historic buildings in the No. 2 and No. 4 area, including rehabilitation of the No. 2 Hoist House as a Visitor Center for the Quincy Mine Hoist Association.

In this alternative, vegetation management includes selectively removing vegetation to reveal historic industrial activities. This alternative, combined with the unit-wide treatments would result in direct, long-term, minor to moderate beneficial impacts to the cultural landscape.

Archaeological Resources (Treatment Alternative A, Impacts to Cultural Resources)

The analysis of archaeological resources under Alternative A is similar to those described under the Treatments Common to All Alternatives.

Cumulative Effects (Treatment Alternative A, Impacts to Cultural Resources)

The no action alternative and Treatments Common to All Alternatives described how past development and reasonable foreseeable development patterns have resulted in long-term, adverse impacts to cultural resources within the Quincy Unit. Implementation of the treatment recommendations in Alternative A, in addition to the Treatment Guidelines Common to all Action Alternatives would also reduce or prevent potential adverse impacts to cultural resources from entities within the Quincy Unit in the future. Through adherence to Federal and NPS laws, regulations and guidance, on-going or future actions by the NPS or partners on NPS and partner-owned properties within the Quincy Unit should not contribute to adverse effects to cultural resources.

Conclusion (Treatment Alternative A, Impacts to Cultural Resources)

The impacts from implementation of Alternative A would generally be direct, long-term minor to moderate beneficial impacts. The exception could be possible direct, long-term, minor adverse impacts during vegetation removal activities or other ground disturbing activities. However, these potential adverse impacts would be mitigated through resource investigations prior to ground disturbance and Section 106 consultation. When compared to the no-action alternative, Alternative A in conjunction with Treatments Common to All Alternatives would meet more project objectives and result in direct long-term, minor to moderate beneficial impacts to cultural resources at the Quincy Unit.

Impairment (Treatment Alternative A, Impacts to Cultural Resources)

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Keweenaw National Historical Park; (2) key to the cultural integrity of the National Historical Park; or (3) identified as a goal in the National Historical Park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the National Historical Park's resources or values.

Section 106 Summary (Treatment Alternative A, Impacts to Cultural Resources)

The potential effects of Alternative A have been evaluated at a programmatic level and after applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Alternative A would result in no adverse effect to the cultural landscape at Keweenaw National Historical Park.

After applying the same Advisory Council's regulations, the National Park Service concludes that, although NRHP-eligible archaeological resources have not been identified in the area of potential effect, there is high potential for the presence of these resources in the area.

Implementation of the proposed Archaeological Overview and Assessment for Keweenaw National Historical Park and any subsequent follow-up resource investigations would result in ground disturbing activities. Applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Alternative A would result in an adverse effect to archaeological resources that are NRHP-eligible. The adverse effects should be mitigated through establishment of an MOA.

In addition to archaeological investigations, other ground disturbing activities that might result from maintenance functions would result in an adverse effect to NRHP-eligible archaeological resources and should be mitigated through the use of the 1995 NPS Servicewide Programmatic Agreement, or consult with the Michigan SHPO to develop a park-specific programmatic agreement to simplify the Section 106 process.

Historic Industrial Core Treatment Alternative B (Impacts to Cultural Resources)

Analysis:

Cultural Landscape (Treatment Alternative B, Impacts to Cultural Resources)

Notable differences between this alternative and all other action alternatives is the proposed NPS Visitor Center would be located at a site outside of the Historic Industrial Core and a much stronger approach to vegetation management. Although the Supply House is not considered for the NPS Visitor Center in this alternative, the historic building would be rehabilitated for interpretation. This alternative would result in more preservation and restoration of historic buildings in the No. 2 and No. 4 area than the no action alternative and Alternative A, which would result in direct, long-term moderate beneficial impacts.

Vegetation management in this alternative is more focused on removal than the no action alternative or Alternative A. All vegetation would be removed in the Historic Industrial Core, the No. 7 and Railroad Corridor area as well as the No. 2 and No. 4 area. Vegetation removal would return the Historic Industrial Core area to the landscape that was experienced during mining operations, which from a cultural landscape perspective would be a direct, long-term minor beneficial impact; however there is potential for some level of adverse impacts from this activity. The potential adverse impacts are discussed in the Archaeological Resources section.

Archaeological Resources (Treatment Alternative B, Impacts to Cultural Resources)

The analysis of archaeological resources under Alternative B is similar to those described under the Treatments Common to All Alternatives, with the exception of potential adverse impacts due to vegetation removal. This alternative recommends a stronger vegetation management strategy than the no action alternative or Alternative A. Complete removal of vegetation in certain areas described in the previous section might result in damage to archaeological resources near the surface, which could result in a direct, long-term moderate adverse impact if subsurface resources were located in areas of vegetation removal. Development of a mitigation program related to vegetation management would reduce potential adverse impacts.

Cumulative Impacts (Treatment Alternative B, Impacts to Cultural Resources)

Cumulative impacts would be similar to those described in Alternative A.

Conclusion (Treatment Alternative B, Impacts to Cultural Resources)

The impacts from implementation of Alternative B, in addition to the Treatments Common to All Alternatives would generally be direct, long-term minor to moderate beneficial impacts. The exception for this alternative is that there could be potential direct, long-term, moderate adverse impacts during vegetation removal activities. However, these potential adverse impacts could be mitigated through resource investigations prior to ground disturbance, Section 106 consultation and preparation of vegetation management mitigation program. When compared to the no-action alternative, Alternative B in conjunction with Treatments Common to All Alternatives would meet more project objectives and result in direct long-term, minor to moderate beneficial impacts to cultural resources at the Quincy Unit.

Impairment (Treatment Alternative B, Impacts to Cultural Resources)

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Keweenaw National Historical Park; (2) key to the cultural integrity of the National Historical Park; or (3) identified as a goal in the National Historical Park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the National Historical Park's resources or values.

Section 106 Summary (Treatment Alternative B, Impacts to Cultural Resources)

The potential effects of Alternative B have been evaluated at a programmatic level and after applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Treatment Alternative B would result in no adverse effect to the cultural landscape at Keweenaw National Historical Park.

After applying the same Advisory Council's regulations, the National Park Service concludes that, although NRHP-eligible archaeological resources have not been identified in the area of potential effect, there is high potential for the presence of these resources in the area. Implementation of the proposed Archaeological Overview and Assessment for Keweenaw National Historical Park and any subsequent follow-up resource investigations would result in ground disturbing activities. Applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Alternative A would result in an adverse effect to archaeological resources that are NRHP-eligible. The adverse effects should be mitigated through establishment of an MOA.

In addition to archaeological investigations, other ground disturbing activities that might result from maintenance functions would result in an adverse effect to NRHP-eligible archaeological resources and should be mitigated through the use of the 1995 NPS Servicewide Programmatic Agreement, or consult with the Michigan SHPO to develop a park-specific programmatic agreement to simplify the Section 106 process.

Historic Industrial Core Alternative C, Preferred Alternative (Impacts to Cultural Resources)

Analysis

Cultural Landscape (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

A primary difference between this alternative and all other alternatives is that the NPS Visitor Center is proposed for the A.E. Seaman Mineral Museum. The proposed visitor center in this alternative would include the Quincy Mine Hoist Association into the combined visitor contact center. The combined visitor center would be housed in the Blacksmith Shop and Machine Shop. The treatment recommendations for the cultural landscape would result in direct, long-term moderate beneficial impacts to the historic resource.

Archaeological Resources (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

The analysis of archaeological resources under Alternative A is similar to those described under the Treatments Common to All Alternatives.

Cumulative Impacts (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

Cumulative impacts would be similar to those described for Treatment Alternative A.

Conclusion (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

The impacts from implementation of Alternative C in addition to the Treatments Common to All Alternatives would generally be direct, long-term minor to moderate beneficial impacts. However, the potential adverse impacts would be mitigated through resource investigations prior to ground disturbance and Section 106 consultation. When compared to the no-action alternative and Alternatives A and B (in conjunction with Treatments Common to All Alternatives) this alternative would meet the most project objectives and result in direct long-term, minor to moderate beneficial impacts to cultural resources at the Quincy Unit.

Impairment (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Keweenaw National Historical Park; (2) key to the cultural integrity of the National Historical Park; or (3) identified as a goal in the National Historical Park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the National Historical Park's resources or values.

Section 106 Summary (Treatment Alternative C, Preferred Alternative, Impacts to Cultural Resources)

The potential effects of Alternative C have been evaluated at a programmatic level and after applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Treatment Alternative C would result in no adverse effect to the cultural landscape at Keweenaw National Historical Park.

After applying the same Advisory Council's regulations, the National Park Service concludes that, although NRHP-eligible archaeological resources have not been identified in the area of potential effect, there is high potential for the presence of these resources in the area. Implementation of the proposed Archaeological Overview and Assessment for Keweenaw National Historical Park and any subsequent follow-up resource investigations would result in

ground disturbing activities. Applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National Park Service concludes that implementation of Alternative A would result in an adverse effect to archaeological resources that are NRHP-eligible. The adverse effects should be mitigated through establishment of an MOA.

In addition to archaeological investigations, other ground disturbing activities that might result from maintenance functions would result in an adverse effect to NRHP-eligible archaeological resources and should be mitigated through the use of the 1995 NPS Servicewide Programmatic Agreement, or consult with the Michigan SHPO to develop a park-specific programmatic agreement to simplify the Section 106 process.

Socioeconomics

Basis for Analysis (Socioeconomics)

The NPS Management Policies, Section 8.11 includes provisions for the study of social sciences, which encompasses the resource topic Socioeconomics. As it relates to the proposed action of implementing proposed Treatment Alternatives in this CLR, the discussion of socioeconomics includes the potential effects to the local economy and park partnerships.

Intensity Levels:

- **Negligible:** Economic and socioeconomic conditions would not be affected, or effects would not be measurable.
- **Minor:** The effect on economic and socioeconomic conditions would be small but measurable, and would affect a small portion of the population. Few effects could be discerned outside of the local area.
- **Moderate:** The effect on economic and socioeconomic conditions would be readily apparent and widespread in the vicinity of Hancock and Houghton, with effects being evident at the local level.
- **Major:** The effect on economic and socioeconomic conditions would be readily apparent and would substantially change the economy or social services within Houghton County.

Current Management, No Action Alternative (Socioeconomics)

Analysis (Current Management, No Action Alternative, Socioeconomics)

Continuation of current management actions includes ongoing partnerships with organizations such as the Quincy Mine Hoist Association and A.E. Seaman Mineral Museum. The general intent of these partnerships is to share in maintaining and managing the Keweenaw National Park resources and tell the story of mining operations and the cultural heritage of the Keweenaw Peninsula. There is not a large number of staff employed at Keweenaw National Historical Park and some are seasonal hires. Park partners do not have many paid staff,

particularly during the winter months. The no action alternative would result in continued preservation of some historic structures and ruins within the Quincy Unit. It would also continue to provide visitor experience and interpretation opportunities. Implementation of current management actions may, over time require the NPS to add some seasonal staff to assist in preservation of structures and interpretation of the site. Although this may be a direct, short-term, negligible beneficial impact to the local economy, it is still a beneficial impact. Revenues for partner organizations could potentially increase with enhanced visitor contact opportunities. Expanding opportunities for visitor contact encourages visitors to stay longer at the Quincy Unit, which could have a direct, long-term minor beneficial impact to the local economy. Longer stays at the Quincy Unit could result in visitor's spending money at local restaurants and stay at local hotels.

Cumulative Impact (Current Management, No Action Alternative, Socioeconomics)

Although the Keweenaw National Historical Park is relatively new within the NPS system, local partner organizations have been promoting the story of the Quincy Mine operations and regional cultural heritage for decades. These organizations have helped build tourism in the region, which has been a direct, long-term, moderate benefit to the local economy. Implementation of current management actions would continue to build on those earlier successes and beneficially impact the local economy.

Conclusion (Current Management, No Action Alternative, Socioeconomics)

Implementation of the no action alternative could result in a direct, long-term, minor beneficial impact to the local economy through improvements to visitor contact opportunities and continued maintenance of the cultural landscape at the Quincy Unit.

Treatment Guidelines Common to Alternatives A, B and C for Quincy Unit and Historic Industrial Core (Socioeconomics)

Analysis (Treatment Guidelines Common to All Action Alternatives, Socioeconomics)

Treatment Guidelines Common to all Action Alternatives would result in much greater opportunities for visitor contact for the NPS and its partners. There is a greater emphasis on restoration of cultural landscape features and rehabilitation of historic landscape elements. With a greater emphasis placed on restoration, rehabilitation and stabilization of structures and other landscape features, there is potential for future increases in seasonal employment by the NPS and potentially by its partners. Visitor contact and experiences should be improved with enhanced interpretation of the landscape by both the NPS and its partners, which could potentially result in an increase in seasonal and permanent employment at the Quincy Unit. Keeping the visitors at the Quincy Unit for longer stays could also be improved through the proposed enhancement of visitor amenities. The combination of increased management of the cultural landscape at the Quincy Unit could result in a direct, long-term minor to moderate beneficial impact to the local economy.

Historic Industrial Core Treatment Alternative A (Socioeconomics)

Analysis (Treatment Alternative A, Socioeconomics)

Implementation of Alternative A, in addition to the Treatments Common to All Alternatives would result in a cultural landscape with an extensive story to tell to visitors. This alternative

would result in adaptive reuse of the Supply House as the NPS Visitor Center, which in addition to the A.E. Seaman Mineral Museum and the Quincy Mine Hoist Museum and Gift Shop provides visitors more opportunities for revenue generation for those organizations. Longer stays by visitors would be very likely with increased visitor “attractions” as historic landscape features are rehabilitated, restored and interpreted. Longer stays at the Quincy Unit could result in increased sales at local businesses, which would result in direct, long-term, minor to moderate beneficial impact to the local economy. Because this alternative could result in more seasonal and permanent work for craftsmen, maintenance and interpretive staff for the NPS and partners, it would also benefit the local economy.

Cumulative Impact (Treatment Alternative A, Socioeconomics)

Implementation of this alternative would continue to build on past actions by local cultural heritage organizations and the NPS in establishing an expanding tourism component to the local economy. The actions in this alternative, when combined with past actions and any foreseeable actions should benefit the local economy to a greater extent than the no action alternative, but still fall within the moderate intensity level.

Conclusion (Treatment Alternative A, Socioeconomics)

Because there could be an increased level of seasonal and permanent staff needed to implement Alternative A, this alternative could result in a direct, long-term, minor to moderate beneficial impact to the local economy. The potential increase in seasonal and permanent staff may be necessary due to a greater amount of improvements to visitor contact opportunities and enhanced maintenance and rehabilitation of the cultural landscape at the Quincy Unit.

Historic Industrial Core Alternative B (Socioeconomics)

Analysis (Treatment Alternative B, Socioeconomics)

This alternative, in addition to the Treatments Common to All Alternatives would have some similarities to Alternatives A and C, but there would be a noticeable difference in location of visitor contact facilities. This location would result in the NPS Visitor Center being constructed at a location outside of the Historic Industrial Core and the Quincy Mine Hoist Association would use the rehabilitated No. 2 Hoist House for its visitor center. Although different structures would be used for visitor contact facilities in this alternative there would still be craftsmen work to be done at the other facilities. Additional visitor contact facilities would lead to an increase in interpretive opportunities and employment, which should result in direct, short, and long-term, minor to moderate beneficial impacts to the local economy. In this alternative the Franklin Township Fire Hall would be restored and interpreted, which differs from Alternative A. Because the fire hall would not be used for community purposes as in Alternative A, there may not be opportunities for social gatherings and other type of small commercial space, a negligible, but noticeable difference.

Cumulative Impact (Treatment Alternative B, Socioeconomics)

Cumulative socioeconomic impacts under Alternative B would be similar to those described in Alternative A.

Conclusion (Treatment Alternative B, Socioeconomics)

There could be an increased level of seasonal and permanent staff needed to implement Alternative B. This alternative, in addition to the Treatments Common to All Alternatives could result in a direct, long-term, minor to moderate beneficial impact to the local economy. The potential increase in seasonal staff may be necessary due to a greater amount of improvements to visitor contact opportunities and enhanced maintenance and rehabilitation of the cultural landscape at the Quincy Unit.

Historic Industrial Core Treatment Alternative C, Preferred Alternative (Socioeconomics)

Analysis (Treatment Alternative C, Preferred Alternative, Socioeconomics)

In addition to the Treatments Common to All Alternatives, Alternative C proposes that the Blacksmith Shop and the Machine Shop be utilized for a combined visitor contact center that is shared by the NPS and its partners. The additional visitor contact facilities could result in an increase in seasonal and permanent staff, which would result in direct, short, and long-term, moderate beneficial impacts to the local economy. This combined visitor contact center, in conjunction with enhanced centralized parking could provide increased opportunities for social events for the community, which in itself would be a direct, long-term, minor benefit to the local community. This opportunity, in addition to reuse of the fire hall, would be a strong benefit to the community, as well as the NPS partners.

Cumulative Impact (Treatment Alternative C, Preferred Alternative, Socioeconomics)

In addition to the Treatments Common to All Alternatives, this alternative would continue to build on past actions by local cultural heritage organizations and the NPS in establishing an expanding tourism component to the local economy. The actions in this alternative, when combined with past actions and any foreseeable actions should benefit the local economy to a greater extent than all other alternatives, but still fall within the moderate intensity level.

Conclusion (Treatment Alternative C, Preferred Alternative, Socioeconomics)

As noted in Alternatives A and B, there could be an increased level of seasonal and permanent staff needed to implement Alternative C. This alternative, in addition to the Treatments Common to All Alternatives could result in a direct, long-term, moderate beneficial impact to the local economy because it offers more opportunities for community social events that benefit local residents and the NPS partners than any other alternative.

Visitor Experience

Basis of Analysis (Visitor Experience)

The history of the Quincy Unit has been interpreted by the NPS and organizations like the Quincy Mine Hoist Association for years; however there is a vast amount of story yet to be told at the Quincy Unit. *NPS Management Policies* state that enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for visitor to enjoy the parks. The analysis focuses on the potential affects from the overall guidance provided in the Treatment Alternative and whether those affects would benefit the visiting public.

Intensity levels:

- *Negligible*: A negligible effect would be a change that would not be perceptible or would be barely perceptible by most visitors.
- *Minor*: A slight change in a few visitor's experiences, which would be noticeable but which would result in little detracting or improvement in the quality of the experience.
- *Moderate*: A moderate effect would be a change in a large number of visitor's experiences that would result in a noticeable decrease or improvement in the quality of the experience. This would be indicated by a change in frustration level or inconvenience for a period of time.
- *Major*: A substantial improvement in many visitors' experience or a severe decrease in the quality of many visitors' experiences.

Current Management, No Action Alternative (Visitor Experience)

Analysis (Current Management, No Action Alternative, Visitor Experience)

The no action alternative would continue to offer visitors the ability to experience the Quincy Unit. Many historic structures and ruins would be preserved and some would be interpreted; however this alternative would result in fewer opportunities for interpretation than all action alternatives, which would be a direct, long-term, minor beneficial impact to visitor experience. In addition, visitors would not have opportunities to see larger viewsheds because vegetation management would be at minimal levels.

Cumulative Impacts (Current Management, No Action Alternative, Visitor Experience)

As mentioned in the Socioeconomic section, the NPS and local organizations have been offering visitor interpretation and experiences at the Quincy Unit for years. Continuation of current management actions would improve the visitor experience.

Conclusion (Current Management, No Action Alternative, Visitor Experience)

Implementation of the No-Action Alternative would have long-term, minor beneficial impact to visitor's experiences at Keweenaw National Historical Park.

Treatment Guidelines Common to Alternatives A, B and C for Quincy Unit and Historic Industrial Core (Visitor Experience)

Analysis (Treatment Guidelines Common to All Action Alternatives, Visitor Experience)

The proposed Treatment Guidelines Common to all Action Alternatives would result in much greater opportunities for visitor experiences at the Quincy Unit. These common treatment guidelines provide a greater emphasis on restoration of cultural landscape features and rehabilitation of historic landscape elements which allows the NPS and its partners to expand the interpretation and teaching of the history of mining operations at this site. Visitor experiences should be improved with enhanced interpretation of landscape features following any archaeological investigations that reveal artifacts from the historic or prehistoric periods. Improved wayfinding, self-guided brochures and interpretive signage would provide long-term, moderate beneficial impacts to the experience of casual visitors that want to explore the site on their own. Self-exploration of the site would be enhanced with pedestrian paths that direct the visitor to appropriate locations for viewing ruins, structures and the landscape. Self-guided tours of the Historic Industrial Core and the Quincy Unit would be enhanced by development of the transportation hub that would be centrally located in the No. 2 and No. 4 area. Hopefully, over time and with funding, an alternative transportation system would originate from this location and link all site elements. This one site improvement would provide long-term, moderate beneficial effects to visitor experiences by improving accessibility throughout the Quincy Unit and Historic Industrial Core.

Historic Industrial Core Treatment Alternative A (Visitor Experience)

Analysis (Treatment Alternative A, Visitor Experience)

In addition to the Treatment Guidelines Common to all Action Alternatives a notable difference between Alternative A and the other treatment alternatives is the development of a NPS Visitor Center at the Supply House. This would provide even more opportunities for interpretation, teaching and general visitor contact. The NPS contact center would add to the visitor educational experiences at the proposed Quincy Mine Hoist Association Visitor Center and the A.E. Seaman Mineral Museum. Visitor would receive long-term, beneficial effects from numerous restoration, rehabilitation and preservation projects that would occur. These projects would be available for active interpretation and for self-guided tours. Visitors staying longer at the site would have the opportunity to picnic at certain locations in the Historic Industrial Core, which provides moderate beneficial impacts to the visitor experience.

Vegetation management from this alternative would open more views of the landscape for visitors and with the removal of vegetation; they would gain greater knowledge of the scale of the Quincy Unit and the Historic Industrial Core.

Cumulative Impacts (Treatment Alternative A, Visitor Experience)

The years of interpretation and provision of some visitor experiences at the Quincy Unit would be enhanced by implementation of Alternative A. In addition to interpretation that has been ongoing for years, there would be a long-term minor to moderate beneficial impact provided to visitors by implementation of Alternative A.

Conclusion (Treatment Alternative A, Visitor Experience)

Implementation of Treatment Alternative A would have a long-term, minor to moderate beneficial impact to visitor's experiences at Keweenaw National Historical Park.

Historic Industrial Core Treatment Alternative B (Visitor Experience)

Analysis (Treatment Alternative B, Visitor Experience)

This alternative, in addition to Treatment Guidelines Common to all Action Alternatives will also provide visitors with long-term, minor to moderate beneficial experiences. There are few differences to visitor experience between this alternative and Alternative A; however this alternative would probably fall at the lower range of minor to moderate beneficial experiences because the proposed NPS Visitor Center would not be located in the Historic Industrial Core. It is possible that a casual visitor might go to either the NPS Visitor Center or the Quincy Mine Hoist Association Visitor Center at the No. 2 Hoist House, or the A.E. Seaman Mineral Museum if they are at separate locations. This could result in a less beneficial visitor experience.

Cumulative Effects (Treatment Alternative B, Visitor Experience)

Cumulative visitor experience impacts under Alternative B would be similar to those described in Alternative A. The difference would be the less beneficial effect from separated visitor contact facilities.

Conclusion (Treatment Alternative B, Visitor Experience)

Implementation of Alternative B would have long-term, minor to moderate beneficial impact to visitor's experiences at Keweenaw National Historical Park.

Historic Industrial Core Treatment Alternative C, Preferred Alternative (Visitor Experience)

Analysis (Treatment Alternative C, Visitor Experience)

This alternative, in addition to Treatment Guidelines Common to all Action Alternatives would provide visitors with long-term, minor to moderate beneficial experiences. This alternative would probably be at the higher range of minor to moderate because of the potential for developing a combined NPS Visitor Center, Quincy Mine Hoist Association Visitor Contact station along with the A.E. Seaman Mineral Museum. A combined Visitor Center "campus" environment will provide the greatest amount of visitor contact with the least effort. Visitors could be oriented to the Quincy Unit and Historic Industrial Core, including the Quincy Mine Hoist Association Visitor Center at the No. 2 Hoist House. Because of this concept visitors would likely receive a much more comprehensive knowledge of the site.

Cumulative Effects (Treatment Alternative C, Visitor Experience)

Cumulative visitor experience impacts under Alternative C would be similar to those described in Alternative A; however a notable difference would be the development of visitor contact facilities in proximity to each other. This alternative would provide moderate beneficial impacts to visitor experience in addition to the previous efforts at the Quincy Unit.

Conclusion (Treatment Alternative C, Visitor Experience)

Implementation of Alternative C would have long-term, moderate beneficial impact to visitor's experiences at Keweenaw National Historical Park.

Park Operations

Basis of Analysis (Park Operations)

Implementation of any alternative would affect the operations of Keweenaw National Historical Park. This includes the number of staff required to accomplish recommendations for any alternative; when these actions would occur; and how these actions were to occur. Park operations related to maintenance of park structures and grounds and interpretation of the cultural and natural heritage of Keweenaw National Historical Park, particularly the Quincy Unit and the Historic Industrial Core are the focus of this analysis.

Intensity levels:

- Negligible: Park operations would not be affected or the effect would be at low levels of detection.
- Minor: The effect would be detectable, but would be of a magnitude that it would not have an appreciable adverse or beneficial effect on park operations.
- Moderate: The effect would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public.
- Major: The effect would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable by staff and the public, and would be markedly different from existing operations.

Current Management, No-Action Alternative (Park Operations)

Analysis (Current Management, No-Action Alternative, Park Operations)

The continuation of current management actions at Keweenaw National Historical Park would result in ongoing maintenance, protecting and preserving the historic features within the cultural landscape at the Quincy Unit. On-going maintenance and interpretive park operations would continue to be based out of the facilities at the Calumet Unit. This would typically require a daily drive of approximately 30 minutes in each direction for maintenance staff and interpretive staff as needed/required. On-going maintenance actions would be conducted without the benefit of additional guidance on maintenance, rehabilitation or restoration of historic features within the landscape, which would result in direct, short and long-term, negligible to minor adverse impacts to the historic landscape. Interpretation of the Quincy Unit and Historic Industrial Core would continue with NPS staff providing ranger-led tours and manning the visitor contact station at the Quincy Mine Hoist Association Visitor Center. These limitations for visitor contact facilities result in direct, long-term, minor adverse impacts to operations of the interpretive staff at Keweenaw National Historical Park.

Cumulative Impacts (Current Management, No-Action Alternative, Park Operations)

Maintenance activities have been conducted for years; however the no action alternative does not provide any additional assistance in providing guidance on the restoration, rehabilitation of all historic landscape features and structures; nor does it provide additional interpretive facilities to assist Keweenaw National Historical Park interpretive staff in telling the story of the rich cultural heritage of the site and region. This alternative, in addition to previous actions could result in short and long-term, negligible to minor adverse impacts to maintenance operations.

Conclusion (Current Management, No-Action Alternative, Park Operations)

Implementation of no action alternative would result in direct, short and long-term, negligible to minor adverse impacts to maintenance, restoration and rehabilitation of the historic landscape as well as interpretation of the Quincy Unit and Historic Industrial Core.

Treatment Guidelines Common to Alternatives A, B and C for Quincy Unit and Historic Industrial Core (Park Operations)

Analysis (Treatment Guidelines Common to All Action Alternatives, Park Operations)

Treatment Guidelines Common to all action alternatives would result in a bigger workload for the Keweenaw National Historic Park maintenance and interpretive staff. There would be much greater amount of rehabilitation, restoration and preservation projects, most of which would result in more opportunities for interpretation. The advantage that Keweenaw National Historical Park enjoys is that it is a partnership park, so some of the burden would be shared with park partners, which should result in a short and long-term, minor beneficial impact to park operations.

Historic Industrial Core Treatment Alternative A (Park Operations)

Analysis (Treatment Alternative A, Park Operations)

Due to current staff levels, the larger workload resulting from this alternative could potentially be a negative impact to the current staff at Keweenaw National Historical Park. However, as a partnership park some or much of the increased workload could be shared, which would result in short and long-term, minor benefits to park operations. Most notably, the establishment of the NPS Visitor Center at the Supply House would provide an on-site "base of operations" for interpretive staff. The interpretive staff would have adequate facilities for visitor contact and interpretation, which would result in a long-term, minor to moderate beneficial impact on operations.

Cumulative Effects (Treatment Alternative A, Park Operations)

Implementation of Alternative A and in addition to Treatment Guidelines Common to all Action Alternatives would result in a positive affect to ongoing park operations for both the NPS and NPS partners.

Conclusion (Treatment Alternative A, Park Operations)

Treatment Guidelines Common to all Action Alternatives and the implementation of Alternative A would result in short and long-term, minor to moderate beneficial impacts to park operations.

Historic Industrial Core Treatment Alternative B (Park Operations)

Analysis (Treatment Alternative B, Park Operations)

The proposed actions from Alternative B, in addition to Treatment Guidelines Common to all Action Alternatives would result in similar positive impacts to park operations as does Alternative A. One notable exception in this alternative in this alternative is the NPS Visitor Center would be located in a facility outside the Historic Industrial Core. This proposed siting would reduce interpretive opportunities shared between the NPS and NPS partners, which could result in long-term, minor beneficial impacts to park operations.

Cumulative Effects (Treatment Alternative B, Park Operations)

Cumulative impacts would be similar to those described in Alternative A.

Conclusion (Treatment Alternative B, Park Operations)

Implementation of Treatment Alternative B would result in short and long-term, minor beneficial impacts to park operations.

Historic Industrial Core Treatment Alternative C, Preferred Alternative (Park Operations)

Analysis (Treatment Alternative C, Preferred Alternative, Park Operations)

The proposed actions from Alternative C, in addition to Treatment Guidelines Common to all Action Alternatives would result in similar positive impacts to park operations as does Alternative A. However, as with Alternative B, there is a one notable exception. In Alternative C, the NPS Visitor Center would be located in the same area as the Quincy Mine Hoist Association visitor contact center and the A.E. Seaman Mineral Museum. This proposed visitor contact "campus" would maximize shared interpretive opportunities between the NPS and NPS partners, which could result in long-term, moderate beneficial impacts to park operations.

Cumulative Effects (Treatment Alternative C, Preferred Alternative, Park Operations)

Cumulative impacts would be similar to those described in Alternative A.

Conclusion (Treatment Alternative C, Preferred Alternative, Park Operations)

Implementation of Alternative C would result in short and long-term, minor to moderate beneficial impacts to park operations.