

APPENDIX B:
IMPACTS FROM
TREATMENT ALTERNATIVES /
ENVIRONMENTAL CONSEQUENCES

Appendix B: Impacts from Treatment Alternatives (Environmental Consequences)

Environmental Consequences

This section 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 Analysis of Landscape Integrity* and is organized by resource topic areas. The no action alternative and each treatment alternative are discussed within each resource topic area. Resource topics analyzed are Cultural Resources (Historic Structures and Cultural Landscapes), Socioeconomics and Environmental Justice (low income communities), 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 Appendix A: *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.

Impacts from Treatment Alternatives

Potential impacts for this proposal are described in terms of type, context, duration, and intensity.

Type of Impact

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 of Impact

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

Duration of Impact

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.

- 1 • Long-term: Impacts last beyond the construction period and the resources may not
2 resume their preconstruction conditions for a longer period of time following
3 construction.
4

5 ***Intensity of Impact***

6 Intensity of impact refers to the consequences of implementing a given alternative as negligible,
7 minor, moderate, and major. Detailed descriptions of each intensity level are provided for each
8 resource topic evaluated in this document. Generalized descriptions are as follows:
9

- 10 • Negligible — The effect is localized and not detectable, or the effect is at the lowest
11 levels of detection.
12 • Minor — The effect is localized and barely detectable.
13 • Moderate — The effect is clearly detectable and could have an appreciable effect on a
14 resources.
15 • Major — The effect is highly noticeable, and would have a substantial influence on
16 resources.
17

18 The comparison of impacts for each treatment alternative is summarized in Table A-2, which is
19 at the end of Appendix A: *Treatment Alternatives*. The impact analysis presented in this chapter
20 results in a determination of an Environmentally Preferable Alternative, which is also described
21 in Appendix A: *Treatment Alternatives*.
22

23 ***Cumulative Impacts***

24
25 A cumulative impact is described in the Council on Environmental Quality's (CEQ) regulation
26 1508.7 as follows:
27

28 Cumulative impacts are incremental impacts of the action when added to other past,
29 present, and reasonably foreseeable future actions, regardless of what agency (federal or
30 nonfederal) or person undertakes such other action.
31

32 Cumulative impacts can result from individually minor, but collectively significant, actions
33 taking place over a period of time. The CEQ regulations, which implement NEPA, require
34 assessment of cumulative impacts in the decision-making process for federal projects. To
35 determine potential cumulative impacts, other projects within and surrounding Keweenaw
36 National Historical Park were identified. These include past, ongoing, and foreseeable future
37 projects at Keweenaw NHP and within the surrounding Keweenaw Peninsula. These actions are
38 evaluated in conjunction with the impacts of each treatment alternative to determine if there
39 would be any cumulative impacts on a particular cultural resource, visitor experience,
40 socioeconomic environment, or NPS operations. This assessment of cumulative impacts is
41 required under 36 CFR 800.5(1) Criteria of Adverse Effect. Other projects identified are
42 described in the following section.

43 ***NPS Visitor Center at the Union Building***

44 In October 2011 the Keweenaw National Historical Park visitor center opened in Calumet at the
45 Union Building located at the intersection of Red Jacket Road and Fifth Street. For the first time

1 since its establishment, the park has a facility dedicated to orienting visitors to the park and
2 interpreting the park resources. It is anticipated that access to the facility and information
3 provided will enhance visitor experiences. Location of the facility in the Calumet Unit is
4 anticipated to change visitor use patterns and may affect cultural resources, park operations, and
5 local socioeconomics.

6 ***NPS Plans for Warehouse No.1***

7 The National Park Service has recently completed a Historic Structure Report for C&H
8 Warehouse No. 1 and plans to rehabilitate the building for use as a multi-park museum collection
9 storage facility with self-guided interpretative exhibits featuring the C&H Mining Company
10 operations.

11 ***NPS Plans for the Russell Snow Plow***

12 The National Park Service has prepared plans to restore the Russell Snow Plow, develop a
13 universally accessible route providing access to the upper level of the vehicle, and provide
14 interpretive information regarding its association with the C&H Mining Company.

15 ***Incremental Changes to Agassiz Park***

16 Numerous changes to Agassiz Park have occurred. Large portions of the property have been
17 sold and developed for residential, office, and commercial use. The statue memorializing
18 Alexander Agassiz was removed from the park. The remaining 4.5 acre park has been degraded
19 by the addition of parking, a non-historic building, and neglect of historic paths and vegetation.
20 Currently, the grocery store located at the northwest corner of the park is preparing to move to a
21 location on U.S. 41/Calumet Avenue, south of Calumet. A new use for the property has not been
22 determined.

23 ***Sixth Street Extension***

24 In 1976 Sixth Street was extended to the south connecting to U.S. 41/ Calumet Avenue. The
25 development of the road created a new vehicular connection between the main regional road and
26 downtown Calumet. The historic connection at Red Jacket Road had been the primary vehicular
27 route connecting the regional traffic, industrial core, and downtown prior to the development of
28 this route.

29 ***Mine Street Station development***

30 In 1995 a commercial development including a large parking lot, grocery store, fast food
31 restaurant, motel, and gas station was developed on the west side of the Sixth Street Extension.
32 The scale and character of the property is not compatible with the historic character of the
33 Calumet Unit.

34 ***Keweenaw NHP Partner Projects***

35 Because Keweenaw National Historical Park is a partnership park, there are numerous park
36 partners that are directly associated with the Calumet Unit. Park partners work with the NPS in
37 developing programs and interpreting the historic resources. Currently, the Township of
38 Calumet is repairing the roofs of the C&H Dryhouse and the C&H

39 ***Regional Trail Development and Use***

40 Recreational trails are very popular outdoor resources in the Keweenaw Peninsula. Regional
41 trails are intended to be used throughout the year and provide visitors and local residents with

1 multi-use outdoor recreation ranging from walking, running, biking and all terrain vehicle use in
2 warmer months to snowmobiling in the winter. To ensure trail development maximizes
3 recreation opportunities without harming natural or cultural resources in the region, the Michigan
4 Department of National Resources, county and local governments and local interest groups
5 provide oversight and participation in the trail planning process. Regional trails link to the
6 Calumet Unit, as these are completed throughout the region, they may provide increased access.
7 The NPS has provided technical assistance in trail development in the Calumet area, particularly
8 those in resource sensitive areas. Establishment of trails would benefit local residents and
9 visitors by providing additional recreation opportunities and would increase opportunities for
10 interpretation of the region's history.

11 ***NHL boundary adjustment / realignment***

12 The Calumet National Historic Landmark District was established in 1989. Since the
13 establishment of the district, a more comprehensive understanding of the relationship of
14 surrounding properties to the historical development of the Calumet Unit has evolved. The NPS
15 has plans to reconsider the boundary of the Calumet NHL District.

16 ***NPS Calumet Unit Boundary Finalization***

17 The National Park Service defined a interim boundary for the Calumet Unit when the park was
18 established in 1992. Since the establishment of the boundary in 1992, a more comprehensive
19 understanding of the area has been developed. After the boundary of the NHL District has been
20 reconsidered, the NPS will finalize the Calumet Unit boundary.

21

22 **Impacts to Cultural Resources**

23

24 ***Basis for Analysis (Cultural Resources/Cultural Landscapes)***

25 In this integrated CLR/EA, impacts to historic properties are described in terms of type, context,
26 duration, and intensity, as described above, which are consistent with the regulations of the CEQ,
27 which implement the NEPA. This CLR/EA is intended; however to comply with the
28 requirements of both NEPA and Section 106 of the NHPA. To achieve this, a Section 106
29 summary is included under the Preferable Alternative for each of the cultural resource topics
30 carried forward for analysis. The Section 106 summary is intended to meet the requirements of
31 Section 106 and is an assessment of effect of the implementation of the preferable treatment
32 alternative on cultural resources, base upon the criterion of effect and criteria of adverse effect
33 found in the Advisory Council's regulations.

34

35 Under the Advisory Council's regulations, a determination of either adverse effect or no adverse
36 effect must be made for affected historic properties that are eligible for, or listed in the National
37 Register of Historic Places (NRHP). An adverse effect occurs whenever an impact alters,
38 directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the
39 National Register (e.g., diminishing the integrity of the resource's location, design, setting,
40 materials, workmanship, feeling, or association). *Adverse effects* also include reasonably
41 foreseeable effects caused by the Preferable Alternative that would occur later in time; be farther
42 removed by distance; or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A
43 determination of *no adverse effect* means there is an effect, but the effect would not diminish in
44 any way the characteristics of the cultural resource that qualify it for inclusion in the NRHP.

45

1 In accordance with the Advisory Council’s regulations implementing Section 106, impacts to
2 historic properties for this project were identified and evaluated by (1) determining the area of
3 potential effect; (2) identifying cultural resources present in the area of potential effect that were
4 listed in or eligible to be listed in the NRHP; (3) applying the criteria of adverse effect to affected
5 cultural resources either listed in or eligible to be listed in the NRHP; and (4) considering ways
6 to avoid, minimize, or mitigate adverse effects. The area of potential effect was established in
7 Chapter 4: Landscape Analysis and further refined in Chapter 6: Treatment Alternatives.

8
9 CEQ regulations and the National Park Service’s DO-12 also call for a discussion of the
10 appropriateness of mitigation, as well as analysis of how effective the mitigation would be in
11 reducing the intensity of a potential impact. Any reduction in intensity of impact due to
12 mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does
13 not suggest that the level of effect as defined in Section 106 is similarly reduced. Although
14 adverse effects under Section 106 may be mitigated, the effect remains adverse.

15
16 ***Intensity levels (Cultural Resources/Cultural Landscapes)***

- 17 • **Negligible** — Impact(s) would be at the lowest level of detection, or barely perceptible
18 and not measurable. For the purposes of Section 106, the determination of effect would
19 be — **no effect**.
- 20 • **Minor Adverse impact** - impacts would not affect the overall cultural landscape, or the
21 significant landscape characteristics. For purposes of Section 106, the determination
22 would be — **no adverse effect**.
- 23 • **Minor Beneficial impact** - preservation of the overall cultural landscape and significant
24 landscape characteristics in accordance with the *Secretary of Interior’s Standards for the*
25 *Treatment of Historic Properties with Guidelines for the Treatment of Cultural*
26 *Landscapes*. For purposes of Section 106, the determination of effect would be — **no**
27 **adverse effect**.
- 28 • **Moderate Adverse impact** - impacts would alter the cultural landscape or one or more of
29 the significant landscape characteristics, but would not diminish the integrity of the
30 landscape to the extent that its NRHP status or eligibility is jeopardized. For purposes of
31 Section 106, the determination would be — **adverse effect**.
- 32 • **Moderate Beneficial impact** - rehabilitation of the cultural landscape or one or more of
33 the significant landscape characteristics in accordance with the *Secretary of Interior’s*
34 *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of*
35 *Cultural Landscapes*. For purposes of Section 106, the determination of effect would be
36 — **no adverse effect**.
- 37 • **Major Adverse impact** - impacts would alter the overall cultural landscape or one or more
38 of the significant landscape characteristics, diminishing the integrity of the landscape to
39 the extent that its NRHP status or eligibility is jeopardized. For purposes of Section 106,
40 the determination would be — **adverse effect**.
- 41 • **Major Beneficial impact** - restoration of the cultural landscape or one or more of the
42 landscape characteristics in accordance with the *Secretary of Interior’s Standards for the*
43 *Treatment of Historic Properties with Guidelines for the Treatment of Cultural*
44 *Landscapes*. For purposes of Section 106, the determination of effect would be — **no**
45 **adverse effect**.

1 ***Current Management, No-Action Alternative (Cultural Resources)***

2 ***Analysis (Current Management, No Action Alternative, Cultural Resources)***

3 Continuation of current management actions within the Calumet Unit could result in additional
4 incompatible development and loss of historic resources. Although the Village and Township
5 would continue to work very hard to preserve the historic resources, they lack the funding to
6 accomplish major efforts. Many properties within the Calumet Unit are privately owned and
7 decisions regarding change are at the discretion of property owners. Currently, the Red Jacket
8 Road Corridor includes several significant historic buildings, but the landscapes associated with
9 these structures are largely non-historic. The historic relationships between the extant buildings
10 are no longer clear. The missing small scale features and present non-contributing features
11 present a landscape that has a low level of historical integrity.

12 ***Cumulative Impact (Current Management, No Action Alternative, Cultural Resources)***

13 Changes made to the landscapes in the Calumet Unit, particularly at Mine Street Station on Sixth
14 Street, in Agassiz Park and the Red Jacket Road Corridor, have greatly undermined the integrity
15 of the landscape. Large areas of Agassiz Park have been developed for other uses, and the
16 addition of non-contributing buildings and loss of historic landscape features in the Red Jacket
17 Road Corridor have impacted the historic landscape.

18 ***Conclusion (Current Management, No Action Alternative, Cultural Resources)***

19 There would continue to be short and long-term moderate, direct adverse impacts to cultural
20 resources due to the loss of the majority of Agassiz Park and the changes that have occurred in
21 the Red Jacket Road Corridor as well as the impacts from Mine Street Station and the Sixth
22 Street Extension. Without guidance from the CLR, actions by private landowners within the
23 Calumet Unit could continue to result in direct long-term moderate adverse impacts to cultural
24 resources. The no action alternative does not meet project objectives as well as any of the action
25 treatment alternatives.

26 ***Section 106 Summary (Current Management, No Action Alternative, Cultural Resources)***

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

33
34 After applying the same Advisory Council's regulations, the NPS concludes that, although
35 NRHP-eligible archeological resources have not been identified in the area of potential effect,
36 there is potential for the presence of these resources in the Calumet Unit. Therefore, there is
37 potential for an adverse effect to archeological resources. Because this analysis is programmatic
38 and does not include site-specific analysis of cultural landscape or archeological resources,
39 Section 106 compliance will continue to be required at the time specific projects are proposed.
40 Also, it is important to note that while the NPS will continue to follow Section 106 and NEPA
41 requirements, the majority of the land within the Calumet Unit is not owned by the National Park
42 Service and impacting activities may continue to occur as the result of non-NPS actions.

43

1 ***Treatment Guidelines Common to Alternatives B, C and D for the Calumet***
2 ***Unit, Red Jacket Road Corridor, and Agassiz Park (Cultural Resources)***

3 ***Analysis (Treatment Guidelines Common to All Action Alternatives, Cultural Resources)***

4 Treatment guidelines common to all action alternatives would result in a greater ability to
5 manage the cultural landscape within the Calumet Unit, Red Jacket Road Corridor and Agassiz
6 Park than the no action alternative. There is a greater emphasis on restoration of cultural
7 landscape features and rehabilitation of historic landscape elements. With a greater emphasis
8 placed on restoration, rehabilitation and stabilization of structures and other landscape features,
9 the cultural resources in the Calumet Unit would ultimately be better protected. A greater
10 understanding of the historic landscape and ways to enhance it would help build support
11 community wide for these efforts. These changes would result in direct, long-term moderate
12 beneficial impacts to cultural resources.

13
14 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative B***
15 ***(Cultural Resources)***

16 ***Analysis (Treatment Alternative B, Cultural Resources):***

17 In addition to the Treatments Common to All Alternatives, Alternative B proposes to restore the
18 Alexander Agassiz Statue to its historic location in Agassiz Park, improve circulation between
19 downtown Calumet, Agassiz Park, and the Red Jacket Road Corridor, and add small scale
20 features and interpretive landscape elements. Combined with the unit-wide treatments would
21 result in direct, minor long-term beneficial impacts to cultural resources.

22 ***Cumulative Effect (Treatment Alternative B, Cultural Resources):***

23 The no action alternative and Treatments Common to All Alternatives described how past
24 development and reasonable foreseeable development have resulted in long-term, adverse
25 impacts to cultural resources within the Calumet Unit. Implementation of the treatment
26 recommendations in Alternative B, in addition to the Treatment Guidelines Common to all
27 Action Alternatives would reduce potential adverse impacts to cultural resources within the
28 Calumet Unit. The large amount of privately owned land in the Calumet Unit makes it very
29 difficult to eliminate the potential for adverse impacts in the future. Through adherence to
30 Federal and NPS laws, regulations and guidance, on-going or future actions by the NPS or
31 partners on NPS and partner-owned properties within the Calumet Unit should not contribute to
32 adverse effects to cultural resources.

33 ***Conclusion (Treatment Alternative B, Cultural Resources):***

34 The impacts from implementation of Alternative B would generally be direct, long-term minor
35 beneficial impacts to cultural resources. When compared to the no-action alternative, Alternative
36 B in conjunction with Treatments Common to All Action Alternatives would meet more project
37 objectives and result in direct long-term minor beneficial impacts to cultural resources in the
38 Calumet Unit.

39 ***Section 106 Summary (Treatment Alternative B, Cultural Resources):***

40 The potential effects of Alternative B have been evaluated at a programmatic level and after
41 applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National

1 Park Service concludes that implementation of Alternative A would result in no adverse effect to
2 the cultural landscape at Keweenaw National Historical Park.

3
4 After applying the same Advisory Council's regulations, the NPS concludes that, although
5 NRHP-eligible archeological resources have not been identified in the area of potential effect,
6 there is potential for the presence of these resources in the Calumet Unit. Implementation of the
7 proposed Archeological Inventory for Keweenaw National Historical Park and any subsequent
8 follow-up resource investigations would be conducted to determine if any NRHP-eligible
9 resources exist. Applying the Advisory Council's criteria of adverse effects (36 CFR Part
10 800.5), the National Park Service concludes that implementation of Alternative B would not
11 result in an adverse effect to archeological resources on park property that are NRHP-eligible.
12

13 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative C***
14 ***(Cultural Resources)***

15 ***Analysis (Treatment Alternative C, Cultural Resources):***

16 In addition to the Treatments Common to All Alternatives, Alternative C proposes to restore a
17 portion of Agassiz Park, improve circulation between downtown Calumet, Agassiz Park, and the
18 Red Jacket Road Corridor, remove several non-contributing, impacting elements, and add small
19 scale features and interpretive landscape elements. Combined with the unit-wide treatments
20 would result in direct, long-term moderate beneficial impacts to cultural resources.

21 ***Cumulative Effect (Treatment Alternative C, Cultural Resources):***

22 The no action alternative and Treatments Common to All Alternatives described how past
23 development and reasonable foreseeable development have resulted in long-term, adverse
24 impacts to cultural resources within the Calumet Unit. Implementation of the treatment
25 recommendations in Alternative C, in addition to the Treatment Guidelines Common to all
26 Action Alternatives would reduce the effects of cumulative actions within the Calumet Unit.
27 This alternative addresses cumulative impacts by removing selected impacts and restoring a
28 portion of Agassiz Park while also adding interpretive landscape features within the Red Jacket
29 Road Corridor. These changes reduce the negative effects of previous actions. The large
30 amount of privately owned land in the Calumet Unit makes it very difficult to eliminate the
31 potential for adverse impacts in the future. Through adherence to Federal and NPS laws,
32 regulations and guidance, on-going or future actions by the NPS or partners on NPS and partner-
33 owned properties within the Calumet Unit should not contribute to adverse effects to cultural
34 resources.

35 ***Conclusion (Treatment Alternative C, Cultural Resources):***

36 The impacts from implementation of Alternative C would generally be direct, long-term
37 moderate beneficial impacts to cultural resources. When compared to the no-action alternative,
38 Alternative C in conjunction with Treatments Common to All Action Alternatives would meet
39 more project objectives.

40 ***Section 106 Summary (Treatment Alternative C, Cultural Resources):***

41 The potential effects of Alternative C have been evaluated at a programmatic level and after
42 applying the Advisory Council's criteria of adverse effects (36 CFR Part 800.5), the National

1 Park Service concludes that implementation of Alternative A would result in no adverse effect to
2 the cultural landscape at Keweenaw National Historical Park.

3
4 After applying the same Advisory Council's regulations, the NPS concludes that, although
5 NRHP-eligible archeological resources have not been identified in the area of potential effect,
6 there is potential for the presence of these resources in the Calumet Unit. Implementation of the
7 proposed Archeological Inventory for Keweenaw National Historical Park and any subsequent
8 follow-up resource investigations would be conducted to determine if any NRHP-eligible
9 resources exist. Applying the Advisory Council's criteria of adverse effects (36 CFR Part
10 800.5), the National Park Service concludes that implementation of Alternative C would not
11 result in an adverse effect to archeological resources on park property that are NRHP-eligible.
12
13

14 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative D***
15 ***(Cultural Resources)***

16 ***Analysis (Treatment Alternative D, Cultural Resources):***

17 This alternative, in addition to the Treatment Guidelines Common to all Action Alternatives will
18 provide direct, long-term moderate to major beneficial impacts to cultural resources. In addition
19 to the Treatments Common to All Alternatives, Alternative D proposes to restore the majority of
20 Agassiz Park to reflect the intent of designer Warren Manning, improve circulation between
21 downtown Calumet, Agassiz Park and the Red Jacket Road Corridor, remove several non-
22 contributing impacting elements, and add small scale features and interpretive landscape
23 elements.

24 ***Cumulative Effect (Treatment Alternative D, Cultural Resources):***

25 Implementation of the treatment recommendations in Alternative D, in addition to the Treatment
26 Guidelines Common to all Action Alternatives would reduce the effects of previous negative
27 cumulative actions within the Calumet Unit. This alternative goes the farthest of all alternatives
28 in reversing previous negative impacts by removing many impacting elements and restoring a
29 large portion of Agassiz Park while also adding interpretive landscape features within the Red
30 Jacket Road Corridor. These changes reduce the negative effects of previous actions. The large
31 amount of privately owned land in the Calumet Unit makes it very difficult to eliminate the
32 potential for adverse impacts in the future. Through adherence to Federal and NPS laws,
33 regulations and guidance, on-going or future actions by the NPS or partners on NPS and partner-
34 owned properties within the Calumet Unit should not contribute to adverse effects to cultural
35 resources.

36 ***Conclusion (Treatment Alternative D, Cultural Resources):***

37 The impacts from implementation of Alternative D would generally be direct, long-term
38 moderate to major beneficial impacts to cultural resources.

39 ***Section 106 Summary (Treatment Alternative D, Cultural Resources):***

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

1
2 After applying the same Advisory Council’s regulations, the NPS concludes that, although
3 NRHP-eligible archeological resources have not been identified in the area of potential effect,
4 there is potential for the presence of these resources in the Calumet Unit. Implementation of the
5 proposed Archeological Inventory for Keweenaw National Historical Park and any subsequent
6 follow-up resource investigations would be conducted to determine if any NRHP-eligible
7 resources exist. Applying the Advisory Council’s criteria of adverse effects (36 CFR Part
8 800.5), the National Park Service concludes that implementation of Alternative D would not
9 result in an adverse effect to archeological resources on park property that are NRHP-eligible.

10
11 **Socioeconomics/Environmental Justice (low income community)**

12
13 ***Basis for Analysis (Socioeconomics)***

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

19
20 ***Intensity Levels (Socioeconomics):***

- 21 • **Negligible** — Economic and socioeconomic conditions would not be affected, or effects
22 would not be measurable.
- 23 • **Minor** — The effect on economic and socioeconomic conditions would be small but
24 measurable, and would affect a small portion of the population. Few effects could be
25 discerned outside of the local area.
- 26 • **Moderate** — The effect on economic and socioeconomic conditions would be readily
27 apparent and widespread in the vicinity of Village of Calumet and Calumet Township,
28 with effects being evident at the local level.
- 29 • **Major** — The effect on economic and socioeconomic conditions would be readily
30 apparent and would substantially change the economy or social services within the
31 Village of Calumet, Calumet Township and Houghton County.

32
33 ***Current Management, No Action Alternative (Socioeconomics)***

34 ***Analysis (Current Management, No Action Alternative, Socioeconomics):***

35 The no action alternative would result in continued preservation of some historic structures
36 within the Calumet Unit. It would also continue to provide visitor experience and interpretation
37 opportunities at specific locations (including Coppertown, Keweenaw NHP Visitor Center,
38 Keweenaw Heritage Center and the Russell Snow Plow). Continued efforts by the Village and
39 Township to recruit residents and businesses to rehabilitate and utilize historic properties may
40 result in a growth in the local population and tax base. Implementation of the current
41 management actions may, over time, require the NPS to add some seasonal staff to assist in
42 preservation of structures and interpretation of resources. This would result in a direct, short-
43 term, negligible beneficial impact to the local economy. Revenues for visitor related services,
44 including interpretive sites, restaurants, stores, and lodging facilities, could potentially increase
45 with enhanced visitor contact opportunities. Expanding opportunities for visitor contact

1 encourages visitors to stay longer at the Calumet Unit, which could have direct, long-term minor
2 beneficial impacts to the local economy. Longer stays at the Calumet Unit could result in
3 visitor's spending money at local restaurants and stores, and staying longer at local hotels.

4 ***Cumulative Impact (Current Management, No Action Alternative, Socioeconomics):***

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

11 ***Conclusion (Current Management, No Action Alternative, Socioeconomics):***

12 Implementation of the no action alternative could result in a direct, long-term, minor beneficial
13 impact to the local economy through improvements to visitor contact opportunities at the
14 Calumet Unit.

15
16 ***Treatment Guidelines Common to Alternatives B, C and D for the Calumet***
17 ***Unit, Red Jacket Road, and Agassiz Park (Socioeconomics)***

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

19 Treatment guidelines common to all action alternatives would result in greater opportunities for
20 visitor contact within the Calumet Unit. There is a greater emphasis on restoration of cultural
21 landscape features and rehabilitation of historic landscape elements. With a greater emphasis
22 placed on restoration, rehabilitation and stabilization of structures and other landscape features,
23 there is potential for future increases in short-term employment by the NPS and local businesses.
24 Visitor contact and experiences should be improved with enhanced interpretation of the
25 landscape by both the NPS and local groups, which could potentially result in seasonal and
26 permanent employment at the Calumet Unit. Coordination of efforts related to managing the
27 landscape and providing an improved visitor experience could result in greater visitation and
28 longer stays by visitors. Keeping visitors at the Calumet Unit for longer stays could also be
29 improved through the proposed enhancement of experiences available for visitors. The
30 combination of increased management of the cultural landscape at the Calumet Unit could result
31 in a direct, long-term minor to moderate beneficial impact to the local economy.

32
33 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative B***
34 ***(Socioeconomics)***

35 ***Analysis (Treatment Alternative B, Socioeconomics):***

36 Implementation of Alternative B, in addition to the Treatments Common to All Alternatives
37 would provide increased visitor opportunities and may result in visitors staying in the area
38 longer. The potential increase in staff (mostly seasonal) may be necessary due to a greater
39 amount of improvements to visitor contact opportunities and enhanced maintenance and
40 rehabilitation of the cultural landscape at the Calumet Unit. This could result in direct short and
41 long-term minor beneficial impacts to the local economy.

1 **Cumulative Impact (Treatment Alternative B, Socioeconomics):**

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

7 **Conclusion (Treatment Alternative B, Socioeconomics):**

8 Because there could be an increase in staff needed (mostly seasonal) to implement Alternative B,
9 this alternative could result in a direct, long-term, minor to moderate beneficial impact to the
10 local economy.

11
12 **Red Jacket Road Corridor and Agassiz Park Treatment Alternative C**
13 **(Socioeconomics)**

14 **Analysis (Treatment Alternative C, Socioeconomics):**

15 Implementation of Alternative C, in addition to the Treatments Common to All Alternatives
16 would provide increased visitor opportunities and is likely to result in visitors staying in the area
17 longer. This could result in direct short and long-term minor beneficial impacts to the local
18 economy. The relocation of affordable family rental units from the Park Avenue Townhouses in
19 Agassiz Park to residential areas in the village could have the added benefit of integrating tenants
20 from the affordable housing units into established neighborhoods with diverse economic
21 backgrounds, thereby improving their standard of living. This would not necessarily require
22 existing tenants to relocate, but could direct new tenants to the new locations, rather than the
23 Park Avenue development. This alternative would require the rehabilitation of vacant historic
24 structures or the construction of new structures in vacant lots. Either of these would result in
25 short-term construction related employment opportunities. Overall, the complete
26 implementation of Alternative C would result in direct short and long-term moderate beneficial
27 impacts to the local economy.

28 **Cumulative Impact (Treatment Alternative C, Socioeconomics):**

29 Cumulative socioeconomic impacts under Alternative C would be similar to those described in
30 Alternative B.

31 **Conclusion (Treatment Alternative C, Socioeconomics):**

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

37
38

1 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative D***
2 ***(Socioeconomics)***

3 ***Analysis (Treatment Alternative D, Socioeconomics):***

4 Implementation of Alternative D, in addition to the Treatments Common to All Alternatives
5 would provide the greatest increase in visitor opportunities and is likely to result in visitors
6 staying in the area longer. This could result in direct short and long-term minor beneficial
7 impacts to the local economy. The relocation of affordable family rental units from the Park
8 Avenue Townhouses in Agassiz Park to residential areas in the village could have the added
9 benefit of integrating tenants from the affordable housing units into established neighborhoods
10 with diverse economic backgrounds, thereby improving their standard of living. In addition, the
11 gradual relocation of affordable senior housing from Agassiz Park into the village would
12 increase the use of properties within the downtown. Overall, the complete implementation of
13 Alternative D would result in direct short and long-term moderate beneficial impacts to the local
14 economy.

15 ***Cumulative Impact (Treatment Alternative D, Socioeconomics):***

16 Cumulative socioeconomic impacts under Alternative D would be similar to those described in
17 Alternative B and C.

18 ***Conclusion (Treatment Alternative D, Socioeconomics):***

19 Because there could be an increase in staff needed (mostly seasonal) to implement Alternative
20 D, this alternative could result in a direct, long-term, minor to moderate beneficial impact to the
21 local economy. The potential increase in staff (mostly seasonal) may be necessary due to a
22 greater amount of improvements to visitor contact opportunities and enhanced maintenance and
23 rehabilitation of the cultural landscape at the Calumet Unit.

24
25 **Visitor Experience**

26
27 ***Basis for Analysis (Visitor Experience)***

28 The history of the C&H Mining Company has been interpreted by the NPS and local
29 organizations for many years; however there is a large amount of story yet to be told at the
30 Calumet Unit. *NPS Management Policies* state that enjoyment of park resources and values by
31 the people of the United States is part of the fundamental purpose of all parks and that the NPS is
32 committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks.
33 This analysis focuses on the potential affects from the overall guidance provided in the
34 Treatment Alternative and whether those affects would benefit the visiting public.

35
36 ***Intensity levels (Visitor Experience)***

- 37 • Negligible – a negligible effect would be a change that would not be perceptible or would
38 be barely perceptible by most visitors.
- 39 • Minor – a slight change in a few visitor’s experiences, which would be noticeable but
40 which would result in little detraction or improvement in the quality of the experience.
- 41 • Moderate – a moderate effect would be a change in a large number of visitor’s
42 experiences that would result in a noticeable decrease or improvement in the quality of

1 the experience. This would be indicated by a change in frustration level or inconvenience
2 for a period of time.

- 3 • Major – a substantial improvement in many visitors’ experience or a severe decrease in
4 the quality of many visitors’ experiences.

5
6 ***Current Management, No Action Alternative (Visitor Experience)***

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

8 The no action alternative would continue to offer visitors the opportunity to experience the
9 Calumet Unit. Some historic structures and sites would be preserved and some would be
10 interpreted; however this alternative would result in fewer opportunities for landscape
11 interpretation than all action alternatives, which would be a direct, long-term, minor beneficial
12 impact to visitor experience. In addition, visitors would not experience a more representative
13 historic landscape because small scale features would not be added, Agassiz Park would not be
14 revitalized, Osecola No. 13 and South Mine Street would not be accessible to visitors, and
15 connections between the historic landscapes would not be apparent.

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

17 Changes made to the landscapes in the Calumet Unit, particularly in Agassiz Park and the Red
18 Jacket Road Corridor, have greatly undermined the integrity of the landscape. Although current
19 management offers visitor interpretation of the Calumet Unit, the lack of integrity related to
20 small scale features makes it difficult for visitors to envision the historic conditions.

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

22 Implementation of the no-action alternative would have a long-term, minor beneficial impact to
23 visitor’s experiences at Keweenaw National Historical Park.

24
25 ***Treatment Guidelines Common to Alternatives B, C and D for the Calumet***
26 ***Unit, Red Jacket Road Corridor, and Agassiz Park (Visitor Experience)***

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

28 The proposed treatment guidelines common to all action alternatives would result in much
29 greater opportunities for visitor experiences at the Calumet Unit. These common treatment
30 guidelines provide a greater emphasis on the restoration of cultural landscape features and
31 rehabilitation of historic landscape elements which allows the NPS and local community to
32 expand the interpretation of the history of the community. The addition of pedestrian
33 connections throughout the Calumet Unit would open opportunities for visitors to explore many
34 aspects of the community, in a variety of ways. Visitor experiences should be improved with
35 enhanced interpretation of landscape features following archeological investigations that reveal
36 information regarding the historic period. Improved wayfinding, self-guided brochures and
37 interpretive features would provide long-term, moderate beneficial impacts to the experience of
38 casual visitors that want to explore the area on their own. Self-exploration of the community
39 would be enhanced with landscape features and pedestrian routes connecting key locations.

40
41 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative B***
42 ***(Visitor Experience)***

1 ***Analysis (Treatment Alternative B, Visitor Experience):***

2 This alternative, in addition to the Treatment Guidelines Common to all Action Alternatives will
3 provide visitors with long-term, minor to moderate beneficial experiences related to the historic
4 landscape. Added features in the Red Jacket Road Corridor and the restoration of the statue of
5 Alexander Agassiz to Agassiz Park would help visitors to understand some aspects of the historic
6 landscape. However, the tentative steps taken in this alternative do not create a streamlined
7 pedestrian experience for visitors.

8 ***Cumulative Impact (Treatment Alternative B, Visitor Experience):***

9 Previous changes made to the landscapes in the Calumet Unit, particularly in Agassiz Park and
10 the Red Jacket Road Corridor, have greatly undermined the integrity of the landscape.
11 Alterations made under Alternative B would improve the visitor experience by improving
12 circulation, safety, and historic character. However, the presence of non-contributing, impacting
13 buildings, roads, parking lots, and other features that do not relate to the historic period would
14 continue to limit visitor experiences.

15 ***Conclusion (Treatment Alternative B, Visitor Experience):***

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

18

19 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative C***
20 ***(Visitor Experience)***

21 ***Analysis (Treatment Alternative C, Visitor Experience):***

22 This alternative, in addition to the Treatment Guidelines Common to all Action Alternatives will
23 provide visitors with long-term, moderate beneficial experiences related to the historic
24 landscape. Added features in the Red Jacket Road Corridor, removal of selected non-
25 contributing elements, restoration of the statue of selected small scale features and portions of
26 Agassiz Park, and the addition of interpretive landscape features would greatly help visitors to
27 understand aspects of the historic landscape. Enhancement of these features with self-guided
28 interpretive information would further improve visitor's experiences. Also, the addition of stop
29 signs, cross walks, and parking in convenient locations would have a positive effect on visitors.

30 ***Cumulative Impact (Treatment Alternative C, Visitor Experience):***

31 This alternative addresses cumulative impacts by removing selected impacts and restoring a
32 portion of Agassiz Park while also adding interpretive landscape features within the Red Jacket
33 Road Corridor. These changes reduce the negative effects of previous changes.

34 ***Conclusion (Treatment Alternative C, Visitor Experience):***

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

37

38

39 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative D***
40 ***(Visitor Experience)***

1 ***Analysis (Treatment Alternative D, Visitor Experience):***

2 This alternative, in addition to the Treatment Guidelines Common to all Action Alternatives will
3 provide visitors with long-term, moderate to major beneficial experiences related to the historic
4 landscape. Added features in the Red Jacket Road Corridor, removal of many non-contributing
5 elements, restoration of the statue of selected small scale features and portions of Agassiz Park,
6 and the addition of interpretive landscape features would greatly help visitors to understand
7 aspects of the historic landscape. Enhancement of these features with self-guided interpretive
8 information would further improve visitor's experiences. Also, the addition of stop signs, cross
9 walks, and parking in convenient locations would have a positive effect on visitors.

10 ***Cumulative Impact (Treatment Alternative D, Visitor Experience):***

11 This alternative addresses cumulative impacts in a way similar to Alternative C, but goes a step
12 further by removing additional impacting features and rehabilitating more portions of Agassiz
13 Park and the Red Jacket Road Corridor. The changes would have a positive effect on visitor
14 experiences.

15 ***Conclusion (Treatment Alternative D, Visitor Experience):***

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

18

19 **Park Operations**

20

21 ***Basis for Analysis (Park Operations)***

22 Implementation of any alternative would affect the operations of Keweenaw National Historical
23 Park. This includes the number of staff required to accomplish recommendations for any
24 alternative; when these actions would occur; and how these actions were to occur. Park
25 operations related to maintenance of park structures and grounds and interpretation of the
26 cultural and natural heritage of Keweenaw National Historical Park, particularly the Red Jacket
27 Road Corridor and Agassiz Park are the focus of this analysis.

28

29 ***Intensity levels:***

- 30
- 31 • Negligible – Park operations would not be affected or the effect would be at low levels of
32 detection.
 - 33 • Minor – The effect would be detectable, but would be of a magnitude that it would not
34 have an appreciable adverse or beneficial effect on park operations.
 - 35 • Moderate – The effect would be readily apparent and would result in a substantial
36 adverse or beneficial change in park operations in a manner noticeable to staff and the
37 public.
 - 38 • Major – The effect would be readily apparent and would result in a substantial adverse or
39 beneficial change in park operations in a manner noticeable by staff and the public, and
40 would be markedly different from existing operations.

41

Current Management, No-Action Alternative (Park Operations)

1 ***Analysis (Current Management, No Action Alternative, Park Operations)***

2 The continuation of current management actions at Keweenaw National Historical Park would
3 result in ongoing maintenance, protecting and preserving selected historic features within the
4 cultural landscape at the Calumet Unit. On-going maintenance and interpretive park operations
5 would continue to be based out of the park headquarters, Keweenaw History Center, and Visitor
6 Center, all in Calumet. Ongoing maintenance actions would be conducted without the benefit of
7 additional guidance on maintenance, rehabilitation or restoration of historic features within the
8 landscape, which would result in direct, short and long-term, negligible to minor impacts to park
9 operations (maintenance).

10 ***Cumulative Impact (Current Management, No Action Alternative, Park Operations)***

11 Maintenance and interpretive activities have been conducted for years at the Calumet Unit and
12 these activities would continue. Additional maintenance and interpretive activities have been
13 added recently with the opening of the Visitor Center at the Union Building, however these
14 activities are limited in relationship to the landscape. NPS plans to rehabilitate Warehouse No.1
15 and restore the Russell Snow Plow will require additional efforts by staff involved with
16 maintenance, interpretation, and museum collections. Although these plans do include the
17 addition of parking, universally accessible routes, and interpretive landscapes, the guidance for
18 how to develop these landscape improvements is not provided in the no action alternative. In
19 addition, the no-action alternative does not address removal of non-contributing features
20 (including buildings) that distract from the historic character of the landscape. Since the no
21 action alternative does not provide additional assistance in the rehabilitation or restoration of
22 historic landscape features and necessary new site improvements, this alternative, in addition to
23 previous actions, could result in short and long-term, minor to moderate adverse impacts to park
24 operations.

25 ***Conclusion (Current Management, No Action Alternative, Park Operations)***

26 Implementation of the no action alternative would result in direct, short and long-term, minor
27 adverse impacts to maintenance, restoration and rehabilitation of the historic landscape, as well
28 as interpretation and museum collections at Keweenaw National Historical Park.
29

30 ***Treatment Guidelines Common to Alternatives B, C and D for the Calumet***
31 ***Unit, Red Jacket Road Corridor, and Agassiz Park (Park Operations)***

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

33 Treatment guidelines common to all action alternatives would result in a bigger workload for the
34 Keweenaw National Historical Park maintenance and interpretive staff. However, this workload
35 would be shared by other members of the Calumet community, as many changes would occur on
36 property not owned by the NPS.
37

38 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative B***
39 ***(Park Operations)***

40 ***Analysis (Treatment Alternative B, Park Operations):***

41 Due to current staff levels, the larger workload resulting from this alternative could potentially
42 be a negative impact to the current staff at Keweenaw National Historical Park. This alternative

1 includes the relocation of the statue of Alexander Agassiz, revisions to the landscape at park
2 headquarters, Warehouse No.1, the Russell Snow Plow, and other sites along Red Jacket Road.
3 The associated workload would be shared by other members of the Calumet community, as
4 many changes would occur on property not owned by the NPS. In Alternative B, Agassiz Park
5 and the Italian Hall Site would continue to be maintained by the Village of Calumet. Downtown
6 Calumet management would continue to be guided by Village administrators. The Osceola
7 No.13 site, South Mine Street Corridor and Railroad/Recreational Corridor would continue to be
8 maintained by Calumet Township. The main added work for NPS would be related to properties
9 owned by the NPS along Red Jacket Road. Implementation of Treatment Alternative B would result
10 in short-term and potentially longterm minor adverse impact to maintenance operations and park
11 interpretive staff.

12 ***Cumulative Impact (Treatment Alternative B, Park Operations):***

13 Maintenance and interpretive activities have been conducted for years at the Calumet Unit and
14 these activities would continue. Additional maintenance and interpretive activities have been
15 added recently with the opening of the Visitor Center at the Union Building, however these
16 activities are limited in relationship to the landscape. NPS plans to rehabilitate Warehouse No.1
17 and restore the Russell Snow Plow will require additional efforts by staff involved with
18 maintenance, interpretation, and museum collections.

19 ***Conclusion (Treatment Alternative B, Park Operations):***

20 Implementation of Alternative B would have short and long-term minor adverse impacts on park
21 operations.

22

23 ***Red Jacket Road Corridor and Agassiz Park Treatment Alternative C***
24 ***(Park Operations)***

25 ***Analysis (Treatment Alternative C, Park Operations):***

26 Due to current staff levels, the larger workload resulting from this alternative could potentially
27 be a negative impact to the current staff at Keweenaw National Historical Park. However, this
28 workload would be shared by other members of the Calumet community, as many changes
29 would occur on property not owned by the NPS. In Alternative C, Agassiz Park and the Italian
30 Hall Site would continue to be maintained by the Village of Calumet. Downtown Calumet
31 management would continue to be guided by Village administrators. The Osceola No.13 site,
32 South Mine Street Corridor and Railroad/Recreational Corridor would continue to be maintained
33 by Calumet Township. The main added work for NPS would be related to properties owned by
34 the NPS along Red Jacket Road. Implementation of Treatment Alternative C would result in
35 short-term and potentially longterm minor adverse impact to maintenance operations and park
36 interpretive staff.

37 ***Cumulative Impact (Treatment Alternative C, Park Operations):***

38 Cumulative impacts would be similar to those discussed in Alternative B.

39 ***Conclusion (Treatment Alternative C, Park Operations):***

40 Implementation of Alternative C would have short and long-term minor to moderate adverse
41 impacts on park operations.

42

1 **Red Jacket Road Corridor and Agassiz Park Treatment Alternative D**
2 **(Park Operations)**

3 **Analysis (Treatment Alternative D, Park Operations):**

4 Due to current staff levels, the larger workload resulting from this alternative could potentially
5 be a negative impact to the current staff at Keweenaw National Historical Park. While the
6 workload would be shared by other groups in the Calumet community, in Alternative D, the NPS
7 would take over maintenance of Agassiz Park and the Italian Hall Site, adding a substantial
8 workload for park staff. Downtown Calumet management would continue to be guided by
9 Village administrators. The Osceola No.13 site, South Mine Street Corridor and
10 Railroad/Recreational Corridor would continue to be maintained by Calumet Township. The
11 main added work for NPS would be related to properties owned by the NPS along Red Jacket
12 Road. Implementation of Treatment Alternative D would result in short-term and potentially longterm
13 minor adverse impact to maintenance operations and park interpretive staff.

14 **Cumulative Impact (Treatment Alternative D, Park Operations):**

15 Cumulative impacts would be similar to those discussed in Alternative B.

16 **Conclusion (Treatment Alternative D, Park Operations):**

17 Implementation of Alternative D would have short and long-term minor to moderate adverse
18 impacts on park operations.

19
20