

ERRATA

January 2011

Carbon River Access Management Environmental Assessment (September 2010)

The Carbon River Management Access EA was released for a 45-day opportunity for public review from September 17 – November 3, 2010. Approximately 198 letters and electronic responses were received from eight groups and organizations, the town of Wilkeson, three agencies, and 186 interested individuals.

This Errata (Part 1) documents minor edits to text in the EA. These changes correct, clarify or modify original text based on public comments and/or actions that have changed between the analysis of Alternative 2 and the identification of the selected alternative. There are no modifications which result in substantial alteration of determination of effects, nor which substantively amend proposed actions.

Part 2 documents substantive comments received during public review, and Park responses. No concerns surfaced during review of the EA which had not already been considered during preparation of the EA.

This Errata must be attached to the original EA so as to comprise the full and complete record of the environmental impact analysis completed for this initiative.

Edits and Corrections to EA

1. *Chapter III: Introduction, 4th bullet (second set):* Delete the following italicized text: Allow private vehicles on the first 1.2 miles of the Carbon River Road up to a turnaround at the Old Mine Trailhead. The Old Mine Trailhead parking area would be converted to a turnaround to allow passenger drop-off / pick-up ~~(in Alternatives 2-4, there could also be limited accessible parking).~~
2. *Chapter III: Alternative 2 Description: 2nd paragraph:* Insert the following italicized text: As future flooding occurs and additional sections of the roadway are damaged, more reroute trail would be constructed around the newly damaged sections, *with individual, site-specific analysis as appropriate.*
3. *Chapter III: Elements Common to All Action Alternatives (2-5): Old Mine Trailhead Vehicle Turnaround, 2nd sentence:* Delete the following italicized text: The turnaround area would accommodate passenger vehicles and would include a designated passenger drop-off / pick-up area ~~and very limited accessible parking.~~
4. *Chapter III: Elements Common to All Action Alternatives (2-5):* delete accessibility parking symbol from the Old Mine Trailhead on Figure 10 - Elements Common to All Action Alternatives Map on page 58 and Figure 15 - Alternative 2: Hiking and Bicycling in Historic Carbon River Road Corridor Map on page 66.
5. *Chapter III: Alternative 2 Components: 1. Parking, Road and Trail: Trail 1st paragraph:* Delete the following italicized text: Public access would continue to be via the current unimproved hiking / bicycling trail (4-6 feet wide) within the Carbon River Road historic corridor between the Old Mine Trailhead and Wonderland Trailhead ~~(5.0 miles).~~
6. *Chapter III: Alternative 2 Components: 1. Parking, Road and Trail: Trail 2nd paragraph:* Delete the following italicized text: There would be no major repair of the damaged sections on the Carbon River Road. Instead, the current unimproved hiking / bicycling trail (4-6 feet wide) within the Carbon River Road historic corridor between the Old Mine Trailhead and Wonderland Trailhead ~~(5.0 miles).~~

7. *Chapter III: Alternative 2 Components: 1. Parking, Road and Trail: Trail:* Delete the following italicized text: Public access beyond the Old Mine Trailhead turnaround on an improved formal hiking/bicycling trail surface would be within or adjacent to the Carbon River Road historic corridor up to the Wonderland Trailhead ~~(5.0 miles)~~.
8. *Chapter III: Alternative 2 Components: 1. Parking, Road and Trail:* Delete and insert the following italicized text: ~~Public~~ Private vehicles would be allowed to drive this section of road up to a turnaround, however, ~~public-private~~ vehicles would not be able to park at this location or along the narrow, . . .
9. *Chapter III: Alternative 2 Components: 2. Buildings and Structures: Ipsut Creek Campground Area, last sentence:* Insert the following italicized text: If either of these two exceptions occurred, it would be removed and replaced *(if needed)* with a suitable trail bridge.
10. *Chapter III: Alternative 2 Components: 3. Erosion Protection Measures: Carbon River Maintenance Area, last paragraph:* Delete and insert the following italicized text: Water ~~flowing into and~~ around the structures would create an eddy in front of them ~~(if it was connected to the bank) or on the downstream side of the structure~~ enhancing fish habitat (in the long-term) by providing areas of rest from otherwise strong currents in the river and overhanging wood for cover. ~~The ELJs would encourage deposition behind the structure, providing bank protection in areas downstream of the structure itself.~~ These structures would also be enhanced with bioengineering (native woody plant cuttings) to improve their habitat value and survivability. ~~The extended in-water work season for the main stem Carbon River is July 9 to August 22 to protect salmonid eggs and fry incubating within stream gravels. This applies to work associated with placement of engineered logjams or other bank protection structures along the Carbon River.~~
11. *Chapter III: Alternative 2 Components: 3. Erosion Protection Measures: Grade Control Structures (Drop Structures) 1st sentence:* Delete and insert the following italicized text: These would consist of emplaced logs ~~with notches that would allow~~ for fish passage and would effectively prevent head-cutting erosion. . .
12. *Chapter III: Alternative 2 Components: 3. Erosion Protection Measures: Grade Control Structures (Drop Structures) 2nd sentence:* Insert the following italicized text: The selected alternative calls for the removal of two very large culverts and their replacement with either trail bridges *or fish friendly culverts.* . .
13. *Chapter III: Alternative 2 Components: 3. Erosion Protection Measures: Grade Control Structures (Drop Structures) end of 1st paragraph:* Add the following italicized text: *In-water work is restricted to the period of July 16 to August 15 for all Carbon River tributaries streams to protect salmonid eggs and fry incubating within stream gravels.*
14. *Chapter III: Alternative 2 Components: 3. Erosion Protection Measures: Grade Control Structures (Drop Structures) 2nd paragraph, 3rd and 4th sentences:* Delete and insert the following italicized text: If head-cut erosion causes the tributary culvert to capture upper Ranger Creek flow after the culvert is removed, this may eliminate the need for one of the ~~check-dams drop structures~~. The proposed ~~check-dams~~ structures would consist of a series of three logs.
15. *Chapter III: Alternative 2 Components: 4. User Groups Accommodated:* Delete and insert the following italicized text: . . . people with ~~impaired~~ limited mobility.
16. *Chapter III: Alternative 2 Components (5. Visitor Use Activities: Hiking):* Add the following italicized text: *The Old Mine Trail tread would be improved and the trail would be maintained. The Boundary Trail would be improved and maintained, including creating any necessary agreements with the U.S. Forest Service: Mount Baker Snoqualmie National Forest.*

17. *Chapter III: Alternative 2 Components (5. Visitor Use Activities: Camping)*: Insert and delete the following italicized text: To accommodate ongoing camping, Ipsut Creek Campground would be converted to a hike-in / bike-in backcountry camp, with a *minimum* of 15 individual sites and three group sites. . . ~~Approximately 15 individual sites and one group site would be removed and restored.~~
18. *Chapter III: Alternative 2 Components (5. Visitor Use Activities: Camping)*: Add the following italicized sentence to the end: *If needed, a future backcountry camp could also be added to accommodate use.*
19. *Chapter III: Alternative 2 Components (5. Visitor Use Activities)* Add: *Bicycling to heading. Add: In addition to Common to All Action Alternative 2-5, bike racks would be installed at Old Mine, Chenuis Falls, and Green Lake Trailheads and Ipsut Creek Campground*
20. *Chapter III: Alternative 2 Components (6. Orientation / Fee Collection / Interpretation / Administration: Interpretation)*: Insert the following italicized text: In addition, there would be new interpretive exhibits at the *Old Mine Trailhead*, Chenuis Falls Picnic Area and at Ipsut Creek Campground.
21. *Chapter V: Vegetation Impacts: Alternative 1 Impacts*: The following paragraph was inadvertently placed under the Alternative 1 heading, and not referred to under Impacts from Elements Common to Alternatives 2-5. It should be incorporated by reference in that section as well.

Campground: There would continue to be minor adverse effects from continuing to maintain a campground within an old-growth forest at Ipsut Creek. Campground impacts would include occasional removal or trimming of vegetation near campsites, ongoing hazard tree management according to the *Hazard Tree Plan* and its *Finding of No Significant Impact* (FONSI) (NPS 2010), including removal or retention of trees and closure of affected campsites. Under the Hazard Tree Plan, some campsites where very large defective trees are located would continue to remain closed until the trees fell. In other alternatives, these campsites would likely be among those permanently closed and restored.
22. *Chapter V: Vegetation Impacts: Alternative 2 Impacts: Improved Trail*: Delete the following italicized text from the 3rd sentence: Other impacts ~~from both alternatives~~ would include altering or removing vegetation in and alongside the trail.
23. *Chapter V: Special Status Species Impacts: Conclusion section following Table 33*: Delete and insert the following italicized text: ~~All alternatives~~ *Alternatives 3 and 4 may affect, and are likely to adversely affect bull trout, bull trout critical habitat, steelhead, and Essential Fish Habitat for Chinook and coho salmon. Alternatives 1, 2 and 5 may affect and would be likely to adversely affect bull trout and not likely to adversely affect steelhead, and Essential Fish Habitat for Chinook and coho salmon.*
24. *Chapter V: Prehistoric and Historic Archaeological Resources Impacts: Impact Avoidance, Minimization and Mitigation Measures*: Delete the following italicized text from the 8th open bullet: Potential changes (ground disturbance) to Ipsut Creek Campground (~~Alternative 1~~), ~~reduction and restoration of portions of Ipsut Creek Campground~~ (Alternatives 2-5).
25. *Chapter V: Visitor Experience Impacts: Alternative 2 Impacts: Visitor Use Opportunities, 2nd paragraph*: Add the following italicized text to the 1st sentence: “Day hiking opportunities and access and facilitation of extended hiking opportunities in Alternative 2 would be the similar to Alternative 1 *but would also include new opportunities to hike on the maintained Old Mine Trail and the Boundary Trail.*”

26. *Chapter V: Visitor Experience Impacts: Alternative 2 Impacts: Visitor Use Opportunities, 3^d paragraph:* Insert and delete the following italicized text: Although Ipsut Creek Campground would continue to be available as a hike-in/bike-in camp, camping opportunities would be reduced from Alternative 1, with a *minimum of 15 fewer* individual sites and two additional group sites.

27. *Chapter V: Visitor Experience Impacts: Alternative 2 Impacts: Visitor Use Interpretation and Education:* Insert the following italicized sentence between the 3rd and 4th sentences: *There would also be interpretation and benches added to the Old Mine Trailhead turnaround.*

Chapter V: Table 34: Replace the text in Table 34 regarding Special Status Species impacts with the same text noted in # 22 above.

EA Comments and Responses

1. There should be more opportunities for day hikes nearer to the road closure.

There are currently three day hiking opportunities near the Carbon River Entrance. Among these are the Rainforest Loop Trail, the Old Mine Trail, and the Boundary Trail. Although both the Boundary Trail and the Old Mine Trail are currently considered unmaintained trails, the Old Mine Trail was proposed to become maintained through this plan. To accommodate additional day hiking opportunities near the entrance, the Boundary Trail would also be re-designated as maintained. The Boundary Trail, similar in steepness to the Eagle Peak Trail, provides a fairly quick access through the forest into the subalpine area (approximately 3.3 miles one-way to a 360 degree view via a waytrail). The Boundary Trail continues on to join the Mowich Lake Road. Also within day hiking distance are the Green Lake Trail (3.1 miles one-way to trailhead, 1.8 miles to Green Lake one-way) and the Chenuis Falls Trail (3.6 miles one-way to trailhead, approximately 0.4 miles one-way to falls, and an additional 0.9 miles one-way to boundary, with hiking on USFS land beyond).

2. There should be additional impact analysis regarding the Old Mine Trailhead Turnaround

The EA contains analysis regarding air quality, geology and soils, hydrology, wetlands, vegetation, ethnographic resources, archeological resources and visitor experience on the Old Mine Trailhead Turnaround. Impacts associated with construction and use of the turnaround are discussed in air quality. Impacts from constructing and maintaining the turnaround are discussed in geology/soils. Impacts associated with runoff from the turnaround are identified in hydrology and the lack of wetlands because only the existing road prism would be used in wetlands. Impacts on vegetation are also noted as are beneficial impacts on access by tribal elders. The potential for archeological impacts are also discussed. Finally, the visitor experience section identifies concurrent use of the road by hikers, bicyclists and motorists as well as administrative ATVs and beneficial effects from increased access.

3. Parking should be provided at the Old Mine Trailhead Turnaround.

Because there are both sensitive natural and cultural resources that legally must be protected in the vicinity of the Old Mine Trailhead, the existing disturbed area should not be expanded. The turnaround has been designed to be accommodated within the existing disturbed area. As a result while drop-off of passengers would be encouraged, the selected alternative has been modified to exclude accessible parking and in management would require that bicycle drop-off occur at formal parking areas.

4. *A trail alongside the road up to the Old Mine Trailhead Turnaround would minimize safety hazards of walking on the road.*

Parking along the roadside up to the Old Mine Trailhead was considered but dismissed because the greatest number of large old growth trees is located in this section of roadway. In the same way, constructing a trail in this area would affect these same trees. As a result, although a trail would separate hikers and bicyclists and motor vehicles in this area, this action was considered but dismissed. Instead, the speed limit along this section of roadway would be enforced, warning signs would be added, and closure of the road at the gate during peak times / pending congestion would occur. Adding this flexibility to the use of the turnaround would allow the park to minimize adverse effects on visitor experience (safety) that might occur associated with use of the turnaround.

5. *The road up to the Old Mine Trailhead Turnaround should only be open for handicapped placarded vehicles.*

Under the MOA with the Washington State Historic Preservation Office and the Advisory Council for Historic Preservation, to mitigate the adverse effect on the contribution of the Carbon River Road to the Mount Rainier National Historic Landmark District from the conversion of this road to a trail beyond the Old Mine Turnaround, among the requirements is that this section of roadway would be open and available to the historic use of this road – for public motorized vehicles. As a result, public, not just handicapped placarded vehicles would be accommodated. Maintaining this road as a drivable road, including side ditches, crown and grading as well as its traverse through a key part of the old-growth forest along the river would preserve a portion of the historic visitor experience in the Carbon River area.

6. *Bicycle use may result in unauthorized use of wilderness trails.*

Although unauthorized bicycle use of trails where bicycles are prohibited may occur, the potential for this to occur would not be the right reason to exclude bicycle use in the area, given the direction from the General Management Plan. Based on anecdotal evidence from volunteer, trails and ranger staff patrols the extent to which this has occurred in the Carbon River area is minimal, despite bicycle use that has been promoted since the mid-1990s.

7. *Closure of Ipsut closes off year-round car camping opportunities in the park.*

While this is currently true, the intent is to establish frontcountry camping in the boundary expansion area as called for by the GMP. In addition walk-in car camping is available at Mowich Lake, usually from July to October and the intent is to allow camping at Sunshine Point again if possible.

8. *Money is being spent to improve other park areas, a fraction of which would improve access to the Carbon River area.*

This is currently true because these other areas have a heavier investment in visitor facilities, administration, maintenance and housing. Most people who visit the park enter through the Nisqually Entrance, a smaller number enter through the southeast or northeast and nearly a third enter the northwest corner. Of these about half of these go to Mowich Lake and half to the Carbon River area. A great deal of money however has recently been spent in the Carbon River area to facilitate the boundary expansion called for by the GMP. The GMP calls for a gradual withdrawal of investment in the flood-prone areas near the Carbon Entrance, along the road and at Ipsut Creek to minimize future loss of these. The express purpose of this area is to provide for facilities that are no longer available at the Carbon River area. Upon continued acquisition of these lands, planning for the replacement facilities will begin and the balance of investment will shift to developing facilities in the Carbon River area.

9. *The EA states: "The former Thompson home site is currently being rehabilitated to replace the Carbon River Ranger Station for visitor contact, staff offices, employee housing and maintenance facilities." There is no housing at the new Carbon River Ranger Station.*

Although there is currently no housing at the new Carbon River Ranger Station (former Thompson house), it is the intention of the park to provide housing either at this location or at the Marsh property to improve visitor contact opportunities in the Carbon River area and rehabilitation improvements will provide for this. The former Thompson property does have another home that has been used and will continue to be used for seasonal and volunteer housing.

10. *Improve the Old Mine, Green Lake and Chenuis Trails to allow for increased use.*

Old Mine Trail improvements have been provided for in Alternative 2. In addition to the creation of the turnaround, as noted in the EA: "Additional interpretation would be designed for the Old Mine Trail (Alternatives 1-5) and the trail would be maintained because of potential increased use (Alternatives 2, 4, and 5)." Due to the presence of important natural and cultural resources in the area, the trail cannot be widened or fully rehabilitated without undesirable adverse effects; however placement of fill would occur to improve the trail tread.

There would also be bike racks added at the Green Lake and Chenuis Falls trailheads, while former parking areas would be restored in these locations. The Green Lake and Chenuis Falls trails currently accommodate existing use. Replacement of the footlogs on the Chenuis Falls Trail that repeatedly wash out due to fluctuations in the Carbon River is already a high priority, however, the replacement is dependent on access and predicted weather conditions.

11. *Consider a narrower trail with fewer impacts on old growth trees.*

The proposed trail has been designed to avoid impacts to the greatest extent possible on old growth trees. Primarily only old growth logs and stumps (24-72 inches) would be removed to construct it. No standing trees greater than 24 inches dbh would be removed. Two western hemlocks (18 and 24 inches), one white fir (18 inches) and two western red cedars (16 and 24 inches) would be removed. Other trees removed (approximately 41) are anticipated to be 12 inches in diameter or smaller, with most less than 6 inches in diameter. (See Table 29 in the EA.)

12. *There would be additional impacts on other areas from reduced access to the Carbon River area.*

This is noted in the EA. Visitor use statistics (traffic counters) and anecdotal evidence based on the recollection of park staff members show a slight increase in use at Mowich Lake. Because visitors often arrive at the Carbon River Entrance expecting additional facilities, it is true that one of the most frequent handouts at the entrance station is one with directions to Paradise. These impacts have occurred as a result of the road washing out and are not a direct result of the selected alternative, though they would continue under its implementation. In time, pending boundary expansion facility development, as called for by the GMP, expanded visitor use opportunities will likely result in more visitors staying and recreating in the Carbon River area.

13. *There would be additional effects on the Mowich Lake area from reduced access to the Carbon River area.*

This is noted in the EA. See response to comment 14 above. These effects have been ongoing as more frequent road washouts in the area have occurred. Planning undertaken for the Mowich Lake area and visitor use statistics also have continued to demonstrate that visitation to this area often likely exceeds its carrying capacity. Anecdotal evidence indicates that trail counts and day use impacts are increasing. The EA notes: "Many of the effects would be similar to or the same as those in Alternative 1, including effects associated with . . . and potential displacement of visitors to the Mowich Lake area." Recreational use in the

Carbon River area of the park averaged 57,221 visitors per year during 2000-2006, when the Carbon River Road was open to vehicles. Recent visitation figures (raw numbers from traffic counters with missing data due to malfunctions) show the following for the Carbon and Mowich Lake areas:

2007	2008	2009	2010
Carbon: 22,377 (8 months)	Carbon: 25,388 (10 months)	Carbon: 31,616 (12 months)	Carbon: 22,912 (10 months)
Mowich: 12,980 (9 months)	Mowich: insufficient data*	Mowich: 14,675 (6 months)	Mowich: 10,919 (7 months)
	* Highest months missing.		

14. The air quality impact analysis is missing information regarding displacement of visitors from the Carbon River area to Paradise.

The EA air quality impact analysis acknowledges that visitor displacement is occurring, however there are no numbers associated with that displacement. No counts have been made of the number of visitors redirected to Paradise or Sunrise. As noted in the EA: "Although it is likely that visitors are being displaced to other areas of the park, there are no data regarding where they are being displaced to or how much additional travel that displacement involves." Although impacts are occurring, a quantitative assessment of the impact of this displacement would be speculative in the absence of the missing number of visitors redirected, either due to displacement or because they had intended to arrive at a more developed area. As also stated in the EA: "Air quality impacts would continue to be . . . widespread and minor from potential visitor displacement to other park areas, especially if visitors return to these areas after first arriving at Carbon River."

15. Erosion protection measures should consider the placement of log retention structures instead of gabion / wood structures.

The log retention structures referred to by this comment (as identified in the ENTRIX, Inc. proposal) would not be appropriate in the areas noted because they are designed for augmenting natural log jams. In addition, full scale engineered log jams are not proposed here for logistical reasons. Large equipment, such as trucks and excavators cannot traverse the sections of washed out roadway without recreating a primitive road wider than the proposed trail and causing additional impacts.

16. Avoiding the use of gabions for bank protection would reduce the level of river rock excavation needed from the Carbon River channel, and would further reduce impacts to fish habitat associated with channel excavation and the long-term impacts associated with the placement of non-biodegradable structures in the Carbon River floodplain.

Gabions have been proposed in place of large jetty-sized rock, which cannot be transported because of equipment limitations related to the current condition of the road washout area. Large vehicles, such as trucks and heavy equipment that could carry jetty-sized rock, cannot traverse the sections of washed out roadway. Therefore the gabions have been proposed as ballast for the erosion protection structures, which would primarily be comprised of wood.

17. Conduct reach, topographic and channel migration assessments to determine which sections of the trail could be moved to areas less susceptible to flood damage and that would not require bank protection.

The NPS will conduct the noted assessments, however, the proposed trail has been designed to avoid wilderness and the loss of old-growth trees, while minimizing its susceptibility to flood damage. Because

of the need to locate it between the Carbon River and the wilderness boundary, the trail is likely to continue to suffer from flood damage. Proposed erosion protection measures have been designed to minimize the damage and to allow for a more sustainable trail, while acknowledging that flooding would continue to occur.

18. If bank and channel stabilization techniques are required, the use of gabion baskets should be avoided.

The NPS concurs that avoidance of gabion baskets is desirable for bank and channel stabilization. As a result, the proposed gabion baskets, where not buried as ballast and surrounded by wood for erosion protection measures, are instead proposed for a different purpose in the selected alternative – to elevate the trail in washed out areas. (See also response to #17.)

19. The EA does not analyze the potential that land use practices in the Carbon River watershed may be influencing Carbon River flooding.

While it is likely that land use practices in the Carbon River area may have some influence in Carbon River flooding, the analysis of aggradation from the Carbon Glacier to the entrance shows that this is a much greater influence than land use practices since the area from just above Chenuis where much of this aggradation is occurring is managed as wilderness and is not subject to the land use practices (logging and erosion) below. The EA does note these land use practices: “On the forest, much of the watershed has recently been logged, particularly on the north side above the Falls Creek washout area and near the entrance.” The potential impact from these is also noted in the Draft Floodplains Statement of Findings: “Small, steep, straight tributaries to the Carbon River, especially those north of the park boundary from logged and clear-cut areas, can carry debris flows during large precipitation events.”

20. Alternative 2 would have significant impacts on visitor experience.

The GMP characterized impacts from the proposed conversion of the road to a trail as major adverse, but not significant. The EA has continued this characterization. While impacts from flooding have reduced access to the area, the proposed implementation of the selected alternative and future boundary expansion facilities in the area would actually expand visitor services and would therefore likely increase use over existing conditions.

21. Loss of day hiking access to the Carbon Glacier should be compensated for by providing improved access to a glacier terminus elsewhere in the park.

Although this is outside the scope of the Carbon River Access Management EA (see *Alternatives (and Actions) Considered But Dismissed* in the EA), the park is looking into suggestions provided during the public comment process regarding improving access to the Nisqually and Emmons glaciers as well as at identifying other public access points to the park as a whole.