“FINDING OF NO SIGNIFICANT IMPACT”

For Proposed Improvements to Petty Creek Road

MT PFH 71-1 (1)

Missoula County, Montana

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July 8, 2010
Refer to: HFL-17

FINDING OF NO SIGNIFICANT IMPACT
For Proposed Improvements to Petty Creek Road
MT PFH 71-1(1)
Missoula County, Montana

The Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA) has determined that the selected course of action for the reconstruction of the 11.8-mile segment of Petty Creek Road (PCR) beginning about 1 mile southeast of the community of Alberton, Montana (MT) for 11.8 miles (mi) along the PCR will have no significant impact on the human environment. The selected course of action is described as the *Preferred Alternative* in the *Petty Creek Road Improvement Project, MT PFH 71-1(1), Amended Environmental Assessment* (WFLHD, May 2010) (Amended EA).

This project is being developed as part of the Forest Highways category of the FHWA Public Lands Highway Program, which is financed by the Federal Highway Trust Fund. WFLHD is the lead agency for National Environmental Policy Act (NEPA) compliance for this road reconstruction project. In addition to NEPA compliance, WFLHD will design the project, issue a construction contract, and administer the actual construction. WFLHD is developing this project in cooperation with the U.S. Forest Service (USFS) and Missoula County.

BACKGROUND AND NEED

The first 1.3 mi of the PCR are flanked by private land up to the Lolo National Forest (LNF) boundary. Beyond that point the road lays within the boundaries of the LNF, and the property in this area a "checkerboard" of USFS-owned land and private ownership. The road provides access to several residences, land acquired by the Montana Legacy Project (MLP)[1], and portions of the LNF.

The purpose of the project is to improve operational safety of PCR while also reducing excessive maintenance efforts and the road's contribution of sediment to Petty Creek. The existing road has a substandard driving surface that has potholes, washboards, loose to no gravel, and cracked pavement all of which compromise driver safety. Residents in the area who are regular users of the road have requested improvements to the road, particularly paving for several years. Requests are a result of the condition of the road and subsequent safety issues. Airborne dust is

[1] The goal of the MLP is to conserve important forestland owned by Plum Creek Timber Company in northwestern Montana. To meet this goal, the MLP has established objectives to conserve wildlife and fisheries habitat, provide opportunities for sustainable forest management, and maintain traditional public recreational access.

also a safety issue, which limits the sight distance of drivers. Deficient road signage is also a problem because drivers of PCR are often not adequately informed of travel speeds or potential roadway hazards to properly anticipate road conditions.

Several stream crossing structures along PCR are undersized which does not provide for adequate water flow during large storm events and thereby compromises road stability and safety. Furthermore, these undersized structures also impede fish passage to varying degrees. Erosion of the roadway and side slopes necessitates additional maintenance to keep the roadway stable. The existing road supplies large amounts of sediment to Petty Creek, which in turn contributes to the creek's degraded water quality.

These deficiencies require frequent maintenance efforts by Missoula County. The minimal gravel, potholes, and washboards require frequent grading of the substandard road surface on the unpaved portion, and severe cracking requires patching of the paved portion to provide a smooth travel surface. These repairs are temporary and must be repeated regularly to maintain a smooth surface. Erosion of the roadbed around the undersized stream crossing structures requires maintenance to keep the road and structures stable and properly functioning. Missoula County's available funding, staff, and equipment are severely limited, which further exacerbates the deficiencies.

SELECTED (PREFERRED) ALTERNATIVE

The selected alternative is shown as the *Preferred Alternative* in the Amended EA and is modified from the Preferred Alternative as discussed in the *Petty Creek Road Improvement Project, MT PFH 71-1(1), Environmental Assessment* (WFLHD, March 2008) (2008 EA). Since publication of the 2008 EA, issues that were raised by various individuals and groups. This resulted in a more comprehensive look at the project need which resulted in modification of the Preferred Alternative from the 2008 EA. Instead of constructing a pavement surface along the full 11.8 mi as was the plan in the 2008, the *Preferred Alternative* as described in the Amended EA will include a pavement surface that will end at milepost (MP) 10, and from MP 10 to 11.8 the surface will be reconstructed with gravel. With the modification of the *Preferred Alternative* in the Amended EA, the full-length pavement alternative was dropped from further consideration.

The *Preferred Alternative* will improve operational safety of 11.8 mi of PCR by creating a uniform road width of approximately 24 feet (ft) with one travel lane in each direction and adjacent shoulders. The road will be paved to MP 10, and the remaining 1.8 mi will be reconstructed with a gravel surface.

Unsafe curves will be reconstructed to American Association of State Highway and Transportation Officials (AASHTO) standards with the exception of three curves at:

- MP 6.06 to 6.2 – West Fork Petty Creek
- MP 7.12 to 7.33 – Ed Creek Road
- MP 7.78 to 7.97 – Gus Creek Road

Road signs will be erected, pavement markings will be included along the first 10 miles, and obstacles in the clear zone will be removed.

Given the lack of safe parking near the Petty Pasture and Petty Creek Sheep Viewing Trails, formally designated parking will be provided to improve safety. The parking areas will be constructed adjacent to the road and will accommodate about 5 vehicles per parking area. Short segments of additional trail will be constructed from the new parking areas to the existing trailheads.

The undersized stream crossings structures will be replaced with structures to accommodate 100-year flood events. The new stream crossing structures will be designed to provide a natural bank-full stream configuration and substrate within the crossing, providing passage during all life stages of fish species. To accommodate new culvert and bridge installations, temporary detours and diversion channels will likely be constructed. The details of these detours will be developed with the USFS, Montana Fish Wildlife and Parks (MFWP), and permitting agencies.

The reconstruction will mostly follow the existing road with small alignment adjustments primarily where PCR is close to Petty Creek. Where feasible, the road will be adjusted away from Petty Creek, and the area between the road and creek will be planted with native vegetation suitable to the riparian area. Where it is not feasible to adjust the road away from the creek, riparian vegetation will be planted to promote sediment buffering and nearby habitat. Drainage ditches and sediment control features will also be improved.

Over the long term, the *Preferred Alternative* will reduce the amount of available sediment for transport to the waterways from about 433 tons per to 27 tons per year as described in the Amended EA.

With the *Preferred Alternative,* road maintenance efforts will decrease substantially both in the short and long-term, and the maintenance costs will be a reasonable investment into the improved infrastructure. Paving the first 10 miles and then reconstructing the road with a gravel surface over the next 1.8 miles will require less frequent maintenance because the new surfaces will be more durable than the existing substandard surface; they will be less prone to potholes; and the 10 mi of paved surface will eliminate the problem of wash boarding. Installing appropriately sized stream crossing structures and shifting the road away from the creek where feasible will better protect the stability of the road, reducing the need for future costly maintenance. Consistent road width and designated travel lands will concentrate the tire tracks farther from the road edges, protecting the road edges and reducing the need for surface and shoulder maintenance.

The estimated initial cost to construct the *Preferred Alternative* is $12.5 million.

The Amended EA described mitigation measures that will be performed if the *Preferred Alternative* were implemented. All mitigation measures related to the *Preferred Alternative* as described in the Amended EA will be implemented.

PUBLIC INVOLVEMENT

The 2008 EA was available for public review and comment from March through May 2008. During this time, WFLHD received a total of 12 written comment letters and emails commenting on the 2008 EA. Many of the comments were related to the inadequacy of the 2008 EA, especially in its description of effects to wildlife and zoning and growth. As a result of these comments, WFLHD, in cooperation with the USFS and Missoula County reviewed the project need and the issues identified during the public involvement process for the release of the 2008 EA. From this, WFLHD prepared and issued the Amended EA, which included some substantive changes from the 2008 EA. These are:

- The *Preferred Alternative* was modified from a full pavement length to 10 mi of pavement with the remaining 1.8 mi of gravel surface.
- The Amended EA analyzed a Gravel Alternative. The Gravel Alternative had all the same design features of the *Preferred Alternative* except the entire surface was gravel.
- The Amended EA considered the recent acquisition of Plum Creek lands by the MLP.

The Amended EA was available for public review and comment from May 7 to June 7 of 2010, and on the evening of May 11, 2010, WFLHD conducted a public meeting in Alberton, MT. During the public meeting, some attendees expressed in interest in extending the pavement to the school bus turnaround at MP 10.8, a further distance than what is described as the *Preferred Alternative.*

During this review period for the Amended EA, WFLHD received a total of 49 written comment letters and emails about the proposed project. Forty-four of the comments received were from local residents, one was from American Wildlands, one was from MFWP, one was from U.S. Fish and Wildlife Service (FWS), and one was from the Montana Legacy Project (MLP). In summary, the nature of comments is as follows:

- **In Favor of *Preferred Alternative*.** Thirty-five of the respondents are in favor of the *Preferred Alternative* as described in the Amended EA.
- **Extended Pavement.** Four of the respondents are in favor of the *Preferred Alternative* but wish to see the paved portion extended to the Bill's Creek intersection.
- **Additional Comments or Considerations.** Eight of the respondents asked for additional considerations and had no objections or are in favor of the *Preferred Alternative.*
- **Concern with Analyses.** One of the respondents had concern with the analyses, primarily the cumulative effects analyses but had no objection to the *Preferred Alternative*.
- **In Favor of *Gravel Alternative.*** One of the respondents was in favor of the *Gravel Alternative* and had several concerns with the analyses in the Amended EA.

Attached is a list of all unresolved comments and considerations and how they were resolved or addressed. This list, *Response to Comments,* is incorporated as part of this Finding of No Significant Impact (FONSI).

ENVIRONMENTAL ISSUES

The Amended EA analyzed the effects of the proposed action on numerous resources including: land use; water resources; transportation and safety; fish and wildlife species, including threatened and endangered species and USFS Sensitive species; soils and geology; wetlands; vegetation; archaeological and historical resources; section 4(f); noise; air quality; visual quality; floodplains; public services and utilities; populations and demographics; prime farmland, rangeland, and forestland; and cumulative impacts for all these topics. WFLHD's findings with respect to the environmental effects of the *Preferred Alternative* on those resources measurably affected or with residual minor issues are set forth below. These findings are based on the evidence and conclusions set forth in the Amended EA, the following minor modifications, and the attached *Response to Comments*.

Land Use

As set forth in the Amended EA, the *Preferred Alternative* may result in increased development in the Petty Creek area. The Amended EA applied the Open and Resource Land designation, which recommends a maximum of one dwelling unit per 40 acres to the entire area. WFLHD recognizes that the Suburban Residential (SR) designation of two dwelling units per acre should have been omitted from the developable area, which is approximately 3,000 ft at the end of the northern corridor. The SR designated area was included in the entire analysis area, and the intent was to omit it since the PCR road is already paved through this area, and residents within this area generally will not be generating trips up the newly paved portion of PCR (Ebert, 2010). The growth and development analysis has been revised to reflect this correction. The SR designated area encompasses 24 acres of the 5,240 acres of non-The Nature Conservancy (TNC)/MLP private lands, and 45% of the area is vacant or undeveloped (Ebert, Lewis, 2010). Because the SR designated land is a very small percentage of the non-TNC/MLP private land, the pace of development only changed by a decrease of about 0.1%.[2] This correction did not result in a measurable change in the conclusion drawn in the Amended EA. The estimated overall increase in development is expected to result in a negligible to minor impact to land use. Accordingly, the *Preferred Alternative* would not result in a significant impact on the quality of the environment.

Water Resources

The *Preferred Alternative* will result in minor increases in sedimentation to Petty Creek and other nearby creeks due to an increased impervious surface over the first 10 miles, sand used in winter maintenance, and new cuts. These new inputs would be offset by reducing the available sediments generated, improving drainage and stream crossing structures, improving sediment capture structures, and adjusting the alignment slightly away from Petty Creek where feasible. It is anticipated that the *Preferred Alternative* will reduce the amount of available sediment for transport to the waterways in the long term from the modeled 433 tons per year to 27 tons per year based on the report, *Road Sediment Assessment, Petty Creek Road* (PBS&J, October 23, 2009). The overall impact from the *Preferred Alternative* will be beneficial.

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[2] The same calculations were used as those shown in footnote 4 of page 26 of the Amended EA. Assuming that the County's guidelines for parcel size will be followed and homes will be clustered on developable areas, the total number of homes that could be built at 1 dwelling per 40 ac is 59 homes within this acreage (2,347 ac/40 homes per ac). The rate of 3.7 new homes in 10 years is calculated by applying the one new home per square mi (640 ac/1 sq mi) to the 2,347 ac available for development (2,347/640).

The storm water Best Management Practices (BMPs) will also assist in filtering out increases in hydrocarbons and metals, which can be a concern when a road is paved. These storm water features will also assist in filtering out the dust abatement chemicals that would be used for the maintenance of the last 1.8 miles of gravel section.

Fish and Wildlife

***Wildlife*:**

Review of the *Preferred Alternative* and the factors that adversely affect wildlife (direct mortality, displacement and avoidance, habitat fragmentation, direct habitat loss, and associated development) indicates that the *Preferred Alternative* will not result in a substantial adverse change from existing conditions. It is expected that because of increased control, visibility, and signage, direct mortality will not be expected to demonstrably change as currently exists. Existing displacement and avoidance behaviors will continue, and there will be a minor direct loss of habitat. Existing habitat will not be substantially fragmented by the *Preferred Alternative*; however, an increased rate of development on private lands could result from this alternative which could gradually alter localized wildlife movement patterns. Overall, because the *Preferred Alternative* retains the existing alignment, keeps a relatively small barrier-free width, and minimizes impacts to habitat, existing movement patterns will not be substantially altered by the road itself. Wildlife may be exposed to increased rates of development which will increase the rate at which localized movement patterns will shift, but levels of developable land are the same under the *Preferred Alternative* as the existing conditions. Because of this, wildlife will be subject to habitat fragmented by increased development sooner under the *Preferred Alternative* than under the status-quo. This is considered a minor adverse affect of the *Preferred Alternative*. Both the Northern Continental Divide Ecosystem (NCDE) Sellway-Bitterroot Ecosystem linkage and the Petty Creek wildlife movement Corridor will be altered more rapidly under the *Preferred Alternative*, however, the end result will be the same level of development. Accordingly, the *Preferred Alternative* will not result in a significant impact to wildlife.

Aquatic Organisms and Fish:

Aquatic organisms may be impacted by increased sediment from construction activities and increased runoff from the paved surface of the road over the first 10 miles. However, these impacts are expected to be short-term and minimized by implementation of BMPs during construction. Also, the improved features would have long-term beneficial effects on fish and amphibians by reducing sedimentation by approximately 406 tons/year (See Water Resources, Section 4.2, of the Amended EA) and providing for passage of all life stages of fish species. With the use of BMPs during construction, efforts to minimize sedimentation, and improvements to stream crossing structures, the *Preferred Alternative* will result in temporary minor adverse impacts but long term beneficial impacts to aquatic species. Accordingly, the *Preferred Alternative* will not result in a significant impact to aquatic organisms and fish.

Threatened and Endangered Species:

The Amended EA addressed the effects of the *Preferred Alternative* on federally listed threatened and endangered (T&E) species identified by the FWS that potentially occur in the project area. WFLHD completed Section 7 consultation with the FWS, and the FWS issued their biological opinion (BO) and concurrences on informal consultation in September of 2006. The BO and informal consultations were issued for the *Preferred Alternative* when it involved paving the entire 11.8 mi of the project area.

On June 28, 2010, FWS sent WFLHD an e-mail stating that the BO is still valid for the *Preferred Alternative* as described in the Amended EA (Jackson, June 2010). In the same e-mail, FWS noted that the informal consultation response that they issued in September 2006 is still valid as well. The informal consultation was based on some species being listed that are no longer listed today. The species that were since then delisted are bald eagle (*Haliaeetus leucocoephalus*) and gray wolf (*Canis lupis*).

The T&E species and habitat that reside in the project area are bull trout (*Salvelinus confluentus*) and Canada lynx (*Lynx Canadensis*). As described in the Amended EA, the *Preferred Alternative* will result in the following, for which the effect determinations of which FWS concurred are included:

- *Bull Trout* – Bull trout may be impacted by increased sediment from construction activities and increased runoff from the paved surface of the road over the first 10 miles. However, these impacts are expected to be short-term and minimized by implementation of BMPs during construction. Also, the improved features would have long-term beneficial effects on bull trout by reducing sedimentation by approximately 406 tons/year (See Water Resources, Section 4.2, of the Amended EA) and providing for passage of all their life stages. With the use of BMPs during construction, efforts to minimize sedimentation, and improvements to stream crossing structures, the *Preferred Alternative* will result in temporary minor adverse impacts but long term beneficial impacts to bull trout. Because construction activities associated with the proposed road improvements will require in-water work resulting in temporary sedimentation to Petty Creek and its tributaries and although implementation of BMPs and timing restrictions will reduce the effects of sedimentation on bull trout, construction activities are still likely to adversely affect bull trout in the short term during construction and until vegetation will be re-established. Therefore, the WFLHD's determined and FWS concurs that the *Preferred Alternative* will have the following effect to bull trout; *may affect, likely to adversely affect* because of construction activities associated with the proposed project. However, WFLHD further concluded, despite the project's short-term negative impacts, that those impacts will not substantially reduce the potential for persistence or recovery of this population of bull trout.
- *Bull Trout Critical Habitat* - The analysis for the *Preferred Alternative* indicates that the activities associated with this alternative will have short-term adverse affects on the habitat indicators for sediment and substrate embeddedness during construction as stream crossing structures are replaced, slopes are exposed, and road fill is placed, all of which will likely increase sediment to surrounding waters. Application of BMPs will help to reduce these impacts, and long-term improvements of these indicators and to spawning habitat quality and water supply is expected with reduced sediment, improvement of drainage facilities, and where feasible, moving the roadway away from Petty Creek and planting a vegetative buffer. While the *Preferred Alternative* will result in short-term negative impacts during construction, these impacts will not change the functioning status of the primary constituent elements (PCEs) in Petty Creek.[3]

[3] The PCEs may include but are not limited to features such as spawning sites, feeding sites, and water quality or quantity. An area need not include all of the PCEs to qualify for designation as critical habitat.

No destruction or adverse modification of bull trout critical habitat will *occur* as a result of the *Preferred Alternative*. Therefore, the FWS concurred that the project is not likely to destroy or adversely modify designated bull trout critical habitat.

- *Canada Lynx* - Roadways can impact Canada lynx by direct mortality, displacement and avoidance, habitat fragmentation, direct habitat loss, and associated human development. However, the project corridor does not support occupied or suitable habitat for the species and except for incidental occurrence of dispersing Canada lynx, they are not expected within the project corridor. Lynx moving through the NCDE Sellway-Bitterroot ecosystem linkage or the Petty Creek wildlife movement corridor will be exposed to habitat fragmentation resulting at a somewhat increased rate under the *Preferred Alternative* compared to the current conditions. The fragmentation of these two movement corridors would be the same under either scenario once all vacant or undeveloped land is developed.
  The risk of increased vehicle collisions with any dispersing Canada lynx is expected to be minor because the project is located in a low elevation area outside of lynx habitat, design speed of the roadway will remain low (35 miles per hour), future traffic volumes are expected to be relatively low, and the species primarily moves at night when traffic volumes are even lower. Speed limit signs and wildlife warning signs will be posted and are expected to help minimize vehicle wildlife interactions. Therefore, WFLHD determines and FWS concurs that the proposed action *may affect, but is not likely to adversely affect* Canada lynx.

The de-listed T&E species that reside in the project area are bald eagle and gray wolf. As described in the Amended EA, the *Preferred Alternative* will result in the following, for which the effect determinations of which FWS concurred (when the species were still listed):

- *Bald Eagle* - Use of the project corridor by bald eagles is expected to be incidental and limited to periods of high flows in Petty Creek during the spring. Therefore construction activities associated with the *Preferred Alternative* may disrupt bald eagle foraging along Petty Creek during high-flow events in the spring. Therefore, the level of impact to the bald eagle from the *Preferred Alternative* will be minimal.
  Although the bald eagle is no longer on the T&E species list, at the time FWS conducted informal consultation with WFLHD for the project, the bald eagle was listed as threatened. In the informal consultation, the FWS concurred with WFLHD's determination that the *Preferred Alternative may affect, but is not likely to adversely affect* the bald eagle based on the limited use of the corridor by the species.
- *Gray Wolf* – The *Preferred Alternative's* effects to gray wolves will be the same as previously covered in the discussion on wildlife presented above. Although the gray wolf is no longer on the T&E species list, at the time the FWS conducted informal consultation for the project, the gray wolf was listed as endangered. In that consultation, the FWS concurred with the determination that the *Preferred Alternative may affect, but is not likely to adversely affect* the gray wolf.

Accordingly, the *Preferred Alternative* will not result in a significant impact to T&E species or habitat or formerly listed T&E species.

Vegetation

Approximately 63 acres of low to marginal quality roadside vegetation will be removed with the *Preferred Alternative* through cutting back slopes and placement of fill. About 6 acres of this will be permanently removed, and the rest of it will be temporarily impacted during construction until the exposed areas can be re-vegetated. Accordingly, the *Preferred Alternative* will not result in a significant impact to vegetation.

COMPLIANCE WITH OTHER LAWS

Wetlands Finding

In accordance with Executive Order 11990, Protection of Wetlands, WFLHD closely evaluated the proposed road improvement and its wetland impacts. About 0.04 acre of wetlands will be impacted by the reconstruction of PCR, all of which is considered waters of the United States (U.S.) (or jurisdictional waters) by the Corps of Engineers (Corps). Wetland impacts have been consciously reduced through avoidance and minimization during the design phase of the project. Compensation, if any, for impacts to wetlands will be determined through partnering with the Corps. Any mitigation will be conducted in the project corridor or through a wetland mitigation bank in coordination with the Corps.

Based on the above considerations, WFLHD has determined that there is no practical alternative to the proposed construction in wetlands, and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

Archaeological and Historic Resources

In accordance with Section 106 of the National Historic Preservation Act, WFLHD completed consultation with the Montana State Historic Preservation Officer (SHPO). The SHPO concurred with WFLHD's findings that the proposed reconstruction of PCR will result in *no historic properties affected* in their letter to WFLHD dated February 6, 2004.

Section 4(f)

The Petty Creek Pasture Trail located at approximately MP 3.5 and the Petty Creek Sheep View Trail located at approximately MP 5.1 qualify for protection under Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. § 303(2006). Both of these trails are publicly owned (administered and maintained by the FS), open to the public, have recreation as their major purpose, and are important as recreational facilities in this region of the Lolo National Forest. There are no formally designated parking areas accessing these trails. Currently, recreational users either park on the side of the road, which is inconvenient and unsafe, or in the case of the Petty Pasture Trail, cross private property to access an informal parking area near the trailhead.

Through coordination with the USFS, the proposed Petty Creek Road project will include formalized parking areas to enhance access to each trail and provide a safer recreational experience. Impacts will include temporary closure of both trail access points during construction. Petty Pasture trailhead will be relocated approximately 60 feet to the north, and approximately the first 50 feet of the trail will be re-routed to connect to the new trailhead. Access will be re-opened once construction is complete.

On July 1, 2010, WFLHD issued a public notice to provide an opportunity for the public to comment concerning the effects of the project on the protected activities, features, or attributes of these trails. This public comment period will close on July 20, 2010. If there are no outstanding comments to address, WFLHD will inform the USFS of its intent to make a *de-minimis* impact finding for the two trails on PCR and will seek the USFS's concurrence that the *Preferred Alternative* will not adversely affect the activities, features, or attributes that make these trails eligible for Section 4(f) protection.

Floodplains

Petty Creek Road parallels much of Petty Creek, and portions of the road were originally constructed in close proximity to the floodplain. None of these floodplains are designated by the Federal Emergency Management Agency as 100-year Special Flood Areas. The *Preferred Alternative* will not impact the 100-year floodplain.

Permits

The following permits will be required for the proposed project:

1. A Section 404 authorization will be required from the regulatory branch of the Corps under the Clean Water Act of 1977, for impacts to wetlands and improvements to stream crossings. Montana Department of Environmental Quality (DEQ) will ascertain whether a 401 Water Quality Certification will be needed as part of the 404 permit.
2. A Montana Pollution Discharge Elimination System permit from the DEQ will be required since the *Preferred Alternative* will result in disturbance greater than 1 acre.

CONCLUSION

WFLHD finds the Amended EA, including the attached *Response to Comments* and minor modifications described above, and related documentation adequately and accurately addresses the need, environmental issues, impacts of the proposed action, and contains appropriate mitigation measures. Furthermore, WFLHD finds that the Amended EA, including the information listed above, documents full compliance with the NEPA and other related environmental laws, executive orders, and implementing regulations. The Amended EA with the supplemental information in this FONSI provides sufficient evidence and analyses for determining that the proposed project will have no significant impact on the environment and that an Environmental Impact Statement is not required.

RECOMMENDED BY:

David K. Kennedy
Environmental Program Manager

July 8, 2010
Date

APPROVED BY:

Robert B. Lale III, Director of Project Delivery
Western Federal Lands Highway Division
Federal Highway Administration

7/8/10
Date

RESPONSE TO COMMENTS FOR THE AMENDED EA

Montana Fish Wildlife and Parks (MFWP) – Comment #1
As mentioned in our 18 April 2005 letter…we are concerned that if the…Road were to be paved…winter maintenance would likely include using a salt substance on the roadway.
Response #1
Missoula County (County) does not use any chemical treatment for ice control outside the Missoula urban area due to their limited budget. On Petty Creek Road they will be plowing and using a sand material (Robertson, 2010).

MFWP – Comment #2
As mentioned in the EA (Sec 4.3.1, pg 35, para [paragraph] 1), the Petty Creek road-type data comparison and conclusions in Table 4 are "quite limited." We would offer the observation that speeds may be slower on the currently paved (northern 1.3 miles) portion of Petty Creek Road because of the level of development along that stretch compared with the unpaved portion of the drainage--many motorists coming off Interstate Highway 90 (I-90) may not be driving far enough up Petty Creek Road to get their speed up. Since "three main elements are known to dictate speed on roads--surface type, curvature and clear zone" (Sec 4.3.1, pg 35, para 1), and drivers may travel faster on paved roads (Sec 4.3.2, pg 36, para 3), we do not support the Paved Alternative.
Response
WFLHD retracts Table 4 from the Amended EA because after examining this comment, the WFLHD project team discovered that there was speed data that was collected sufficiently, and it was collected during the time the traffic counts were also collected as shown in Table 1 of the Amended EA. (The average speeds were found to be in slight error, and this was probably due to rounding, so a revised Table 1 is attached with this Finding of No Significant Impact [FONSI])[4]. Therefore Table 4 from the amended EA is replaced with a Revised Table 4 as part of this FONSI that shows the average speeds and average percentage of exceeded speeds at the same locations as Table 1; mileposts (MPs) 0.0, 6.3, and 10.7.[5] Table 4 shows that MWFP is correct that the average speed is slower on the paved portion than that at MP 6.3, however, like MFWP WFLHD thinks that the approximately 3% difference is primarily due to the roadside features, mostly the homes adjacent to the road. Based on Table 4, the average percentage of motorists speeding is relatively minor. With the *Preferred Alternative*, 10 miles of the road will be paved, and if there were no other changes to the road, then motorists would almost certainly drive somewhat faster. However, the paved section will be 24 feet wide and striped with a centerline and edge-lines, which will delineate 10 feet travel lanes. These will be visually narrower than the Gravel Alternative – a 24-foot wide gravel road on the same general alignment. Studies have shown that visual cues (such as narrower lanes, trees along the road, etc.) can lead to reduced speeds. Furthermore, the road will be posted for 35 miles per hour (mph), and warning signs will be posted where there will be limited sight distance on the road or where curves are designed below 35 mph. These measures will all help to prevent speeding (Brinkly, Gifford, June 2010).

[4] All future references to Table 1 refer to Table 1 in this FONSI and not the table in the Amended EA.

[5] All future references to Table 4 refer to Table 4 in this FONSI and not the table in the Amended EA.

Table 1. Traffic Counts August 31 –September 6, 2004 (Revised from Amended EA)

Location/ Direction	Average (Avg) Speed (mph)	Mon 9/6	Tue 8/31	Wed 9/1	Thu 9/2	Fri 9/3	5 day Avg	Sat 9/4	Sun 9/5	7-day Avg	Multiple Axle 7 Day Avg
MP 0.0 / North	35	210	222	229	216	220	**219**	164	183	**206**	**4.1**
MP 0.0 / South	33	206	212	220	222	226	**217**	170	183	**206**	**3.0**
Total ADT at MP 0.0		416	434	449	438	446	**436**	334	366	**412**	
South of West Fork Road (MP 6.3) /North	36	115	108	103	109	104	**107**	88	93	**103**	**4.1**
South of West Fork Road (MP 6.3) /South	35	105	108	99	107	107	**105**	98	84	**101**	**1.9**
Total ADT at MP 6.3		220	216	202	216	211	**212**	186	177	**204**	
Bills Creek Road (MP 10.7) /North	30	82	36	36	32	50	**47**	52	85	**53**	**3.9**
Bills Creek Road (MP 10.7) /South	29	70	41	31	34	52	**46**	61	71	**51**	**0.7**
Total ADT at MP 10.7		152	77	67	66	102	**93**	113	156	**104**	

Table 4: Replacement of Table in Amended EA. Results of Speed Study from August 31 – September 6, 2004 Showing Average of Exceeded Speeds

LOCATION	AVERAGE SPEED (MPH)	AVERAGE PERCENTAGE OF SPEEDS EXCEEDED AT 45 MPH	AVERAGE PERCENTAGE OF SPEEDS EXCEEDED AT 55 MPH	AVERAGE PERCENTAGE OF SPEEDS EXCEEDED AT 65 MPH
MP 0.0	34.3	6.3	0.5	0.1
South of West Fork Road (MP 6.3)	35.5	11.9	1.0	0.0
At Bills Creek Road (MP 10.7)	29.5	2.2	0.2	0.0

MFWP – Comment #3

…most of the accidents reported in Appendix 1 (We note that the Township and Ranges are switched in this table: The Townships should be 13N and 14N, and the Ranges should be 22W and 23W.) were the result of speed and/or careless driving…A paved road would not improve those two issues, but if anything, would be expected to exacerbate the speed issue and consequently, exacerbate the careless driving issue. Since "the improved surface of the Gravel Alternative would provide improved vehicle control (i.e., shorter stopping distances and better handling during sudden changes in vehicle course)," and the improved vehicle handling is expected to reduce wildlife/vehicle collisions" (Sec 4.4.1, pg 43, para 4), again, we support the Gravel Alternative.

Response

MFWP indeed is correct that the Township and Ranges are switched, and we appreciate that this error was identified. The correct Township and Ranges are shown in Table A. The As MFWP points out, page 35 of the Amended EA notes that there are three main elements that dictate speed on a road - "…surface type, curvature, and clear zone." This could have been better stated and roadside features would have been a more appropriate use and description than clear zone (Brinkly, June 2010). MFWP is correct that the improved surface of the Gravel Alternative would provide improved vehicle control over the current existing substandard surface. On page 43 of the Amended EA, it states the following about the Gravel Alternative, "Although not to the same extent as the Preferred Alternative, the improved surface of the gravel alternative would provide improved vehicle control…" The Amended EA attempted to draw the distinction that the *Preferred Alternative*, with 10 miles of pavement, will provide a much higher degree of vehicle control. Gravel roads present their own special road safety challenge because of traction. Driving on loose gravel is harder than driving on pavement because tires do not have the traction needed to give drivers stable control (Washington County, OR, 2000 – 2001). This improved vehicle control is important for safety where the traffic volumes exceed 250 vehicles per day. Also WFLHD does not

anticipate the speeds to increase demonstrably based on the calming measures that will be implemented with the *Preferred Alternative* including the striping of the centerline and edges that will provide 10-foot lanes. These will be visually narrower than a 24-foot gravel road on the same general alignment. Studies have shown that visual cues (such as narrower lanes, trees along the road, etc.) can reduce speeds (Brinkly, 2010).

Table A. Summary of Accidents and Causes

Location[6]	Date	Accident Type	Remarks/Cause
T14WR23N Sec 13	8/22/2002	Single Vehicle Damage	Too fast for conditions, overturn
T14WR23N Sec 12	2/21/1998	Single Vehicle	
T14WR23N Sec 13	12/20/1998	Two Vehicle Damage	Inattentive and careless driving, rock or boulder
T14WR223N Sec 13	11/12/1998	Single Vehicle Damage	Wild animal
T14WR23N Sec 36	9/15/1999	Three Vehicle Damage	Inattentive driving, parked MV
T14WR22N Sec 30	11/30/2001	Single Vehicle Damage/Injury	Too fast for conditions, overturn
T14WR22N Sec 18	6/1/2001	Single Vehicle Damage	Exceeded speed limit, too fast for conditions, careless driving
T14WR22N Sec 30	3/6/1998	Single Vehicle Damage	Inattentive, too fast for conditions
T14WR22N Sec 30	9/15/1998	Single Vehicle Damage	Exceeded speed limit, too fast for conditions, careless driving
T14WR22N Sec 30	2/10/1999	Single Vehicle Damage	Vegetation obstruction, wild animal
T13WR23N Sec 11	11/16/2000	Single Vehicle Damage	Icy tires, overturn
T13WR23N Sec 2	12/4/2004	Single Vehicle Damage	Too fast for conditions, embankment overturn
T13WR23N Sec 1	10/4/2000	Single Vehicle Damage	Ruts, holes, bumps, embankment overturn
T13WR23N Sec 2	12/25/2001	Single Vehicle Damage	Too fast for conditions, fence
T13WR23N Sec 13	9/29/1999	Single Vehicle Damage	Fire/explosion
T13WR23N Sec 24	6/8/1998	Single Vehicle Damage	Careless driving, utility pole
T13WR23N Sec 24	10/26/1998	Single Vehicle Damage	Too fast for conditions, fence
T13WR23N Sec 31	4/21/2002	Single Vehicle Damage/Injury	Alcohol, too fast for conditions

MFWP – Comment #4

The EA states, "...given the steep and curvy alignment of the southern portion of the road, it is likely that this use is, and will remain, minimal." (Sec 2.3, pg 11). We believe this is a faulty assumption....Thus, the

[6] The Township and Ranges have been switched than what was presented in Appendix 1 as pointed out in MFWP Comment #3.

Amended EA downplays and insufficiently addresses concerns of Petty Creek Road becoming a US 12/I-90 “cut-off road” if it were to be partially paved.

Response

For Petty Creek to receive sizable use as a U.S. Highway (Hwy.) 12 to Interstate (I) 90 through route, the entire route would need to be paved. Before any road agency would pave the remainder of the route beyond the project, the road would need to be brought to current standards. The alignment of the existing road would have to be changed to allow for current standards. The possible jurisdictions that would propose such a project – Missoula County, the FS, or MDT – do not have any plans or intention to propose such a project nor are there any funds identified to construct what would be a large investment. In addition, to be a serious "cut-off" road it would need a higher speed limit, requiring even more work to bring up to standards (Gifford, June 2010). To discourage any such use, WFLHD will erect a sign near the intersection with I-90 that advises motorists that the entire PCR is not recommended as through route and will remove the current sign that displays mileage to US-12.

MFWP – Comment #5

The EA states, “The proposed project terminates at MP 11.8 because: . . . (C) Traffic volumes beyond this portion of the road are projected to remain low into the foreseeable future, reducing the potential need for future improvements. Neither the County nor the USFS have current plans to improve Petty Creek Road south of South Fork Petty Creek Road nor do they anticipate the need to improve that segment of the road within the foreseeable future.” (Sec 2.1, pg 7). How can WFLHD “project” traffic volume when it has collected almost no road use data (Sec 2.4, Table 1[1], pg 12) over the years this project has been in the works?

Response

Wayne Noem, Transportation Planner with MDT said the Social, Economic Environmental (SEE) Team did not anticipate any plans in the foreseeable future to extend the project beyond the proposed limits of the Petty Creek project. Improving this section would be such a low priority because there are no population centers beyond this point, and there is little to no logging traffic to support such a project (Noem, 2010). The entire Petty Creek road is a Forest Highway (FH) and is under the jurisdiction of Missoula County. There is no such proposal in the Statewide Transportation Improvement Plan (STIP), which is a 5- to 6- year plan. Therefore there was no cumulative effects analysis that took this possibility into consideration because it is not a reasonable and foreseeable action or proposal. It should be noted that to improve the remainder of the Petty Creek road would require a substantial investment to bring the road to standard as it would require much more than paving. There is a set of switchbacks over the pass and to bring these curves to standards would be cost prohibitive for the use road use (Gifford, June 2010).

Traffic counts were taken from May 24 through May 26 of 2005 (Tuesday through Thursday) at MP 0.0 and outside the project limits at Graves Creek road near the top of the pass and on Graves Creek Road 0.5 mile north of Hwy 12 (PCR turns into Graves Creek Road). The results of these counts are shown in Table B in terms of average daily traffic (ADT). The location of Graves Creek Road near the top of the pass is about mid-way between I-90 and Hwy 12. The traffic volume at this location is extremely low which corresponds to Mr. Noem’s explanation that there are no traffic generators. Where the counts were taken 0.5 mile from Hwy 12, there is a tavern, where most arrive from Hwy 12, but north of there, the traffic volume drops of substantially. Also, the ADT counts at MP 0.0 as compared between Tables 1 and B did not change more than 5% and since there are no changes in land use plans or development for the area, then WFLHD deemed that it was not necessary to collect additional traffic volume data. Furthermore, WFLHD will erect a sign near the intersection with I-90 that advises motorists that the entire PCR is not recommended as through route and will remove the current sign that displays mileage to US-12.

Table B. Traffic Volumes and Average Speeds Measured in 2005

Location	ADT	Average Speed (MPH)
MP 0.0	436	35.8
Graves Creek Road near the top	57	25.9
Graves Creek Road 0.5 mile north of Hwy 12	99	29.0

MFWP – Comment #6

We do not see information on surveys conducted to determine who is using the road or when. We note the traffic count data in Table 1 was taken "August 31-September 6, 2004," which is depicted as running Monday through Sunday. Therefore, the survey appears to have ended the Sunday of Labor Day weekend in 2004 (But September 6th of 2004 was a Monday, so we are unsure of the date-to-day correlation for Table 1?). Without going into the possible activities involving driving the Petty Creek Road for a week in late-summer--in addition to a 3-day weekend and the potential for increased numbers of recreationists to be in the woods--we point out that the 2004 upland game bird hunting season started September 1 and archery deer/elk hunting season started September 4. Assuming no fire/drought closures that year, those two dates alone would be expected to put increased numbers of hunters afield in just such a location as Petty Creek. Is it possible that vehicle use for the traffic count period was possibly skewed higher than usual, due to the holiday weekend and start of hunting seasons?

Response

Table 1 has been revised as shown and adjusted to remove the confusion on the day-to-day correlation. The counts began on Tuesday, August 31, 2004 and ended on Monday, September 6, 2004. Since the traffic counts are the same for the middle of the week at 436 between 2004 and 2005 at MP 0.0 (see Tables 1 and B), it is unlikely that the vehicle use measured in 2004 is skewed. Table 1 also shows that that the weekend day use at MPs 0.0 and MP 6.3 is less than the weekday use, but the use as measured at MP 10.7 is higher on the weekends. WFLHD did not conduct origin-destination (O-D) studies, studies to determine who is using the road or when, as it is not customary to conduct these level of studies on rural roads as this type of planning is not necessary in planning a project of this level.

MFWP – Comment #7

…what the basis is for the statement, "The road is used most heavily by local residents who comprise approximately 75 percent of the total traffic" (Sec 2.3, pg 11)? Since the recommendation to pave is apparently strongly based on residential use. We noted no discussion in the EA about the relative number or percentage of residents of Petty Creek who live there year-round, versus those who may have cabins that are only used seasonally--and most likely n the summer.

Response

WFLHD retracts this statement. It should not have been included because the percentage of residential use cannot be substantiated. As noted in response to MFWP comment #6, no O-D studies were conducted. The referenced 75% residential traffic was an intuitive estimate based on the 2004 traffic volumes measured. However, retracting this statement does not change any of the conclusions from our analyses.

MFWP – Comment #8

…data from Table 1 apparently are used to determine that Petty Creek Road's vehicle traffic exceeds 250 vehicles a day and that safety concerns would recommend paving. "According to AASHTO [American Association of State Highway and Transportation Officials], for traffic volumes of 250 vehicles, crash rates are *generally* [emphasis added] higher for unpaved roads than paved roads (AASHTO 2001) (Sec 3.2, pg 14). Based on our questions in the previous paragraphs, do we know that vehicle traffic normally exceeds 250 vehicles a day on this road?

Response

As shown in Tables 1 and B, the ADT at MP 0.0 definitely exceeds 250 vehicles per day. At MP 6.3, the ADT was at 204, so it is currently below the 250 vehicles per day. Page 11 of the Amended EA (2nd paragraph or para of Section or Sec 2.4) acknowledges, "Design of new highways or improvements to existing highways should not be based on current traffic volumes alone but should consider future traffic volumes expected to occur within the design life of the facility. Twenty years is the widely accepted design life of roadways such as Petty Creek Road. Future traffic volumes were computed by applying an annual growth factor to the current traffic volumes…at different locations along the road (Table 2). For this project, an annual growth rate of three percent was applied to estimate future traffic growth." Therefore the future traffic was considered as shown in Table C that shows the future traffic at a 3% growth rate as considered in the Amended EA and at a 1% growth rate. On July 13, 1999, the traffic count at MP 0.0 was 544, but this was only one measurement, and in previous years counts there were fluctuations. With old and limited data, it's reasonable to work with the 2004 counts with a 1% growth rate, which produces the growth rates shown in the last column of Table C (Brinkly, June 2010). Even with the 1% growth rate, the middle section of PCR project area is estimated to exceed 250 vehicles per day.

Table C. Projected Traffic Volumes Using 3% and 1% Growth Rates

Location	2004 ADT	Projected ADT in 2030 using 3%	Projected ADT in 2030 using 1%
MP 0.0	412	888	534
MP 6.3	204	440	264
MP 10.7	104	224	135

MFWP – Comment #9

Since WFHLD apparently made little effort over the years to: 1) measure current traffic using Petty Creek Road as a connection between US 12 and I-90; 2) project how the proposed Alternatives might affect the future use of Petty Creek Road as a direct connection between these two major highways and through an area of high wildlife connectivity value; and 3) consider the possibility of future demand for the remainder of Petty Creek Road to be paved, we believe the Amended EA is insufficient and inadequate.

Response

WFLHD's responses to MFWP Comments #2 - #8 and modifications to information in the Amended EA as contained in this FONSI addresses the three points in MFWP's Comment #9. The changes were minor and do not alter the conclusions in the analyses of the Amended EA. Therefore WFLHD disagrees and finds the Amended EA with the supplemental information contained in this FONSI is sufficient and adequate.

MFWP – Comment #10

The bighorn sheep crossing information (Sec 4.4.1, pg 38) is not correct. …we appreciate that Terry Schumann inquired about the location of the sheep crossings, because those were difficult to precisely

delineate using the metric maps provided in the initial 2008 EA. On 7 April 2010, Vickie Edwards, our wildlife biologist, ground-truthed the crossings, starting at the bridge off Interstate Highway 90. The first well-defined sheep crossing is from MP 0.1 to 1.7; the second crossing starts at MP 2.4 and extends to MP 3.6; and the third crossing is from MP 4.5 to just past MP 5.5 (the photo in Figure 1 was taken at MP 4.8 on 7 April 2010).

Response

WFLHD will coordinate with MFWP concerning the bighorn sheep crossings as the MPs of the project likely do not exactly correspond to the MPs as measured by MFWP. WFLHD measured MPs starting just south of the railroad tracks whereas MFWP measured the their MP measurements from the bridge off I-90.

MFWP – Comment #11

…we do not support a staging site for construction equipment within an identified sheep crossing area at MP 1.53 (Sec 3.4, pg 19, para 2), because it would result in displacement of bighorn sheep within these important movement areas. Also, we do not recommend increasing the current level of disturbance within winter and lambing habitats.

Response

Upon reviewing this comment and after coordination with the FS, WFLHD will not use the proposed staging area at MP 1.53.

MFWP – Comment #12

…construction activities should not occur from December 1 to June 30 within bighorn sheep winter range and lambing habitat adjacent to Petty Creek Road. Winter and lambing habitats includes the entire road beginning at MP 0.0, south to the West Fork of Petty Creek on both sides. The habitat southeast of the West Fork is within and has some lambing habitat as well (T13N, R23W, Sections 1 and 12). Construction should not occur from MP 0.0 to Ed's Creek Road (~ MP 7.25) from December 1 to June 30.

Response

From December 1 through June 30 between MP 0.0 and MP 7.25, WFLHD will not conduct construction activities that would exceed normal noise and activity levels currently observed on the road. Examples would include but not be limited to driving through the project and construction surveying.

MFWP – Comment #13

Regardless of the alternative chosen, installing wildlife signs is a good idea, but unless combined with other mitigation measures, they are not always effective. Drivers' behaviors are influenced by the type of warning signs used (Huijser et al. 2007). We recommend utilizing signs on the roadway identifying "Bighorn Sheep on Roadway Next 7 Miles" on the northern and southern portions of their winter range. In addition, we recommend speed-limit signs with reduced speeds from 35 to 25 near blind curves within bighorn sheep winter range. We will gladly work with WFLHD to ensure proper style and placement of those signs.

Response

Currently, the draft design includes flashing lights at MP 4 for northbound traffic and MP 6 for southbound traffic, and these would be turned on by Missoula County when bighorn sheep are present. However, WFLHD encourages MFWP's input to ensure proper style and placement of wildlife signs. Curves with limited sight distance or designed below the 35 mph design speed will be posted to warn motorists. All signs will be posted according to the Manual on Uniform Traffic Control Devices (MUTCD).

MFWP – Comment #14

We do not support increasing trailhead parking of five spaces for the Petty Pasture Trailhead (Sec 4.9, pg 83-84). Bighorn sheep utilize the Petty pasture extensively, especially during the winter and spring by bachelor, ram groups. Increased recreational activity would displace those sheep to less suitable habitat

and increase energy exertion during critical times of the year. We recommend parking for only 1 to 2 vehicles.

Response

The parking area at Petty Pasture Trail at MP 3.5 is about 170 feet long by 12 feet wide with tapering on both sides. At 12 feet wide, it will only allow parallel parking, and it will accommodate about 5 passenger vehicles. Construction of a formal parking area for Petty Pasture Trailhead to accommodate up to 5 vehicles will not constitute an opportunity for increased recreational activity. While there is no formally-designated parking area for the trailhead at this time, the public parks either in existing turnouts along the road or in an informal dispersed parking area on a bench above the road that is accessed by crossing private land. Because these areas are not well defined, there is currently space for many more than five vehicles to park. The new parking area will be constructed adjacent to the road, be well defined, and provide space for a maximum of five vehicles, depending on vehicle type (a truck and horse trailer would use more of the available area). Existing turnouts will be removed, and shoulders will be graded, which will prevent parking along the road. Access to the dispersed parking area will be restricted to the rare administrative vehicle. Subsequently construction of the new trailhead parking area will actually reduce the available parking, facilitate USFS management of trail use, and promote safety along Petty Creek road by separating parking from the travel way (Doucey and Colyer, June 2010).

MFWP – Comment #15

Other Coordination and Consultations (Sec 9.2, pg 99) should include data and information requests from Terry Schumann to FWP, and our written responses dated 12 April 2010 (referencing construction activity and locations with regard to bighorn sheep wildlife crossing areas) and 23 April 2010 ***Conservancy*** (referencing request for further information). (One of these letters was cited on page 38, paragraph 2, but it is not listed under the "References" on page 153.)

Response

WFLHD agrees with MFWP comment.

MFWP – Comment #16

FWP's concerns of habitat fragmentation, increased residential development, increased traffic and traffic speeds, and those associated direct and indirect cumulative impacts on wildlife are not new issues that FWP has brought to the table--it is explicitly stated in our letters to WFHLD (18 April 2005, 19 July 2005, 2 May 2008, 12 April 2010, and 23 April 2010). Nonetheless, this EA does not include sufficient (and in some instances, accurate) data and analysis to address our concerns of the negative impacts of the paving alternative on wildlife. Accordingly, in light of the insufficient consideration within the Amended EA of the above-mentioned issues, we recommend the gravel alternative--combined with a monitoring program that would track traffic speeds, vehicle-wildlife collisions, and vehicle numbers, as well as road surveying at various times of the year to determine who/what (residents, recreationists, etc.) the road is being used for. Those data could be used for future consideration of paving Petty Creek Road, as well as a reference for other WFHLD projects.

Response

WFLHD agrees that MFWP has provided input to the Petty Creek project and that some of the data and analysis in the Amended EA is inaccurate or not entirely complete. This inaccurate information and analysis has been corrected and/or supplemented as part of this FONSI. WFLHD considers these revisions as minor, and the analysis that has been corrected did not alter the outcome of the conclusions made in the Amended EA.

MFWP – Comment #17

…We appreciate and support acquisition of that acreage for public ownership, but what specific parcels would be included? Also, we did not notice this mitigation measure summarized in the Summary of Mitigation Measures (Sec 7, pg 94-97).

Response
The Amended EA should have included the acquisition of The Nature Conservancy (TNC)/Montana Legacy Project (MLP) lands in the Summary of Mitigation Measures. At this time, the parcels that would be purchased are not known, and WFLHD will leave this decision to the USFS and the TNC/MLP. From a wildlife, fish, and watershed perspective, the USFS would prefer the following sections in the Petty Creek drainage in ascending order of priority (Brewer, March 2010):

Petty Creek:

1. Section 29; T13N, R22W
2. Section 31, T13N, R22W
3. Section 19 (west 1/2), T13N, R22W

Graves Creek:

4. Section 9, T12N, R22W
5. Section 5, T12 N, R22W
6. Section 7, T12N, R22W

Petty Creek:

7. Section 31, T14N, R23W
8. Section 29, T14N, R23W
9. Section 31, T14N, R22W

Graves Creek:

10. Section 15, T13N, R23W
11. Section 9, T13N, R23W
12. Section 10 (west 1/2), T13N, R23W

MFWP – Comment #18
As mentioned in our 2 May 2008 letter, we strongly expect that the paving alternative (and to some degree the gravel alternative) of this project would facilitate increased residential development in the Petty Creek drainage, and result in ever-increasing numbers of nuisance wildlife complaints and habitat alterations. Increased conflicts between wildlife (particularly with bears, lions and deer) and human residents would occur and often lead to direct mortality for wildlife. Because of incorrect information used to predict growth on private lands within the drainage, the efforts are insufficiently made within the EA to address our concerns of increased wildlife conflicts and FWP's increased costs associated with those conflicts and management actions (Sec 10.1.9, pg 108).

Response
WFLHD performed a comprehensive review at the comments received from MFWP and others in response to the *Petty Creek Road Improvement Project, MT PFH 71-1(1), Environmental Assessment* (WFLHD, March 2008) (EA), especially those concerns about the effects of paving to land use and therefore impacts to wildlife in the area. As a result, WFLHD hired a professional land use specialist to conduct an analysis of the potential for development, and this analysis is documented in the Land Use Section of Chapter 4 of the Amended EA. Based on the advice of this specialist, and the fact that development beyond the *County's Comprehensive Land Use Plan and 2005 Growth Policy* (Growth Policy) and County subdivision guidelines (slope, floodplain and septic) is speculative, the amount of land considered available for development is limited. Despite the conclusion that there is a limited amount of land available for development, the Amended EA went on to analyze development of all private (non-TNC/MLP) vacant and undeveloped land. As explained in response to MFWP Comment #28, development of TNC/MLP land is speculative. The Amended EA applied the Growth Policy guidelines for parcel size to all private (non-TNC/MLP) vacant and undeveloped land because, as with County subdivision guidelines, development outside of these guidelines is speculative. The Amended EA applied the Open and Resource Land designation, which recommends a maximum of one dwelling unit per 40 acres to the entire area. WFLHD recognizes that the Suburban Residential (SR) designation of two dwelling units per acre should have been omitted from the developable area,

which is approximately 3,000 ft at the end of the northern corridor. The SR designated area was included in the entire analysis area, and the intent was to omit it since the PCR road is already paved through this area, and residents within this area generally will not be generating trips up the newly paved portion of PCR (Ebert, 2010). The growth and development analysis has been revised to reflect this correction. The SR designated area encompasses 24 acres of the 5,240 acres of non-The Nature Conservancy (TNC)/MLP private lands, and 45% of the area is vacant or undeveloped (Ebert, Lewis, 2010). Because the SR designated land is a very small percentage of the non-TNC/MLP private land, the pace of development only changed by a decrease of about 0.1%.[7] This correction did not result in a measurable change in the conclusion drawn in the Amended EA. Accordingly, two of the three factors (limited area for residential development and County's guidelines for parcel size) supporting the conclusion in the Amended EA that the *Preferred Alternative* would result in negligible to minor impacts to land use, therefore are sound and appropriate. The third factor, the relatively small increased development rate anticipated, is based on the Headwaters Study. All three factors show that the vacant or undeveloped land in both the Open and Resource Land and Suburban Residential designations will occur somewhat faster based on development rates over the past 10 years. Accordingly, WFLHD does not anticipate significant impacts to wildlife due to increased conflicts between humans and wildlife as a result of increased development.

MFWP – Comment #19

The Petty Creek Amended EA does not fully address potential impacts on Montana Species of Concern. It looked at Forest Service Sensitive Species, but did not address all Species of Concern (SOC). Additional SOC verified or potentially found along the Petty Creek Road corridor include: northern alligator lizard, western skink, fringed myotis, hoary bat, golden eagle, great blue heron, great gray owl, Lewis's woodpecker, pileated woodpecker, brown creeper, Clark's nut cracker, Cassin's finch, and others.

Response

WFLHD did not address the Montana SOC individually as the impacts to these species are expected to be similar to the impacts to general wildlife and USFS Sensitive species. USFS Sensitive species have similar habitats to those species listed as Montana SOC. No unique habitats, such as breeding habitat, were identified by USFS and consulting biologists as present within or adjacent to the area of impact of the *Preferred Alternative* (Kennedy, June 2010). WFLHD would only address Montana SOC individually if there were factors unique to a particular species that made the analyses of impacts to indicator species inapplicable to Montana SOC.

MFWP – Comment #20

Section 4.4.2 "Special Status Fish & Wildlife Species" could be more correctly titled "Listed & Candidate Species under the Federal ESA." Likewise, in addition to Section 4.4.1, "Non-special Status Fish & Wildlife" and Section 4.4.3, "Forest Service Sensitive Fish & Wildlife Species," a section should be created that is titled "Montana Species of Concern." (Alternatively, this new section could be combined with 4.4.3 and re-titled something like "Forest Service Sensitive Species and Montana Species of Concern," since some occur in both categories, and others only in one.)

Response

See response to MFWP Comment #19. WFLHD acknowledges that there are many different styles for presenting information in text. WFLHD will take MFWP's comments into consideration as it prepares future NEPA documents for public review.

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[7] The same calculations were used as those shown in footnote 4 of page 26 of the Amended EA. Assuming that the County's guidelines for parcel size will be followed and homes will be clustered on developable areas, the total number of homes that could be built at 1 dwelling per 40 ac is 59 homes within this acreage (2,347 ac/40 homes per ac). The rate of 3.7 new homes in 10 years is calculated by applying the one new home per square mi (640 ac/1 sq mi) to the 2,347 ac available for development (2,347/640).

MFWP – Comment #21
The EA incorrectly states that caves and mines in Montana are too cold to provide maternity roosts for Townsend's big-eared bats (Sec [Section] 4.4.3, pg 64). Several maternity roosts for this species are known from western Montana, including one in a mine near the town of Ravalli, north of this project. This species has been documented to use buildings as maternity roosts in forested habitat of the Pacific Northwest. Roost sites in buildings are possible in western Montana. This and other bat species are poorly surveyed in Montana, so lack of records does not necessarily indicate lack of occurrence in an area.
Response
WFLHD appreciates the information provided by MFWP. On this project there are no known caves, mines, or suitable structures in the project area. Suitable structures occur adjacent to the project area, and caves and mines may also exist outside the project area. These habitats are not likely to be impacted by the project as the micro climate of any habitat feature will not be altered. Large amounts of vegetation (i.e. clearings) or large trees will not be removed to make such an impact to an adjacent structure (Kennedy, July 2010). This additional information does not alter the analysis or conclusions about Townsend's big-eared bats in the Amended EA.

MFWP – Comment #22
The EA did not adequately address the long-term potential impacts on many wildlife species, especially impacts of mortality from increased traffic loads and increased speed of the traffic. A paved road is much more likely than gravel to result in increased night vehicle traffic, which results in higher wildlife mortality from poorer visibility at night. Wildlife species active at night are especially vulnerable to increased vehicle mortality, including toads, owls, bats, big game, bears, lions, wolves, and forest carnivores. Reptiles and amphibians such as toads, lizards, and snakes can be especially vulnerable to mortality from traffic as they cross roadways. Paving the road may increase the attraction of the roadway to reptiles by providing a dark surface that heats up in the sun. Traffic mortality can have significant impacts on local populations of western toads in areas close to breeding sites. The private lands along Petty Creek have probably not been extensively surveyed for toad breeding sites.
Response
First, WFLHD thinks that MFWP's comment regarding traffic loads is actually intended to reference traffic volumes based on previous MFWP comments. WFLHD asked its traffic and safety engineer about this concern of MFWP. Our traffic safety engineer has not reviewed any reports supporting the conclusion that paving the surface will increase the traffic at night. Furthermore, the ADT has been steady so there would be a no appreciable influx of traffic just because the road is paved (Gifford, 2010). Therefore WFLHD considers the comment about increase in night traffic volumes to be highly speculative.
As to paving the road becoming an attractant to reptiles, there was no unique suitable breeding habitat identified for reptiles or amphibians within or adjacent to the roadway. No presence or absence surveys were conducted, but reconnaissance surveys conducted by the USFS and consultants did not identify any such habitats. Due to this, WFLHD concludes that paving would not increase mortality of western toads or reptiles (Kennedy, 2010).

MFWP – Comment #23
Increased traffic loads and faster speeds, both likely results of the preferred alternative, would probably lead to more road-killed animals along the roadway. Golden eagles, bald eagles, and other scavengers are attracted to road kills, especially road-killed deer. This puts the scavengers at higher risk of mortality from vehicle collisions. Mortality of eagles is especially likely in areas with wintering eagles. Wolverines are known to scavenge on road killed deer, and mortality from vehicle traffic has been documented in Montana.
Response

WFLHD addresses the previous comment on speed in its responses to MFWP Comments #2 and #3. Based on the steady use of the road (response to MFWP Comment #6), there would not be a great influx of traffic just because the road is paved (Gifford, June 2010).

MFWP – Comment #24

For both the preferred and the gravel alternatives, the proposal states that certain road sections would be pulled back away from the stream to provide a wider buffer "where feasible" (Sec 3.2, 3.3, 4.2.4, etc.). Based on review of the Amended EA, it is difficult to discern how many and where these locations would occur. A major concern still exists in sections where road relocation away from the stream is not considered feasible under the two action alternatives.

1. In these sections, does the extent of disturbance and road encroachment on the stream increase over the current condition?
2. How many and where are the locations where there is still less than a 25-foot buffer between the road shoulder and the stream?
3. Have road Best Management Practices (BMPs) been upgraded, and road widths reduced accordingly, to minimize impacts to the stream in these locations?

Response

Besides other purposes, WFLHD uses the NEPA process to help the decision maker make a well-informed decision, and design details are only developed to the level of detail to conduct environmental analyses and comply with other environmental laws. Subsequently, final design details are not available as the design is still in development. Based on this level of design:

1. The extent of disturbance and road encroachment on the stream will increase slightly over current conditions in some locations. Based on the current level of design, there are some places where the reconstructed road will abut right at the stream's edge. While the current level of design does not show encroachment, given the close proximity to the stream, there will likely be some encroachment and certainly some disturbance during construction. These areas will be mitigated with bio-engineered fills that will be designed with the help of the USFS Hydrologist
2. The existing road is hemmed in between Petty Creek and some relatively steep slopes. There are approximately 35 areas where there will be less than a 25-foot buffer between the road shoulder and stream. These are located at approximately between the stations shown below, which can be expressed in feet.
    - 119+16 – 120+27, right
    - 153+60 – 154+60, right
    - 158+21 – 159+75, right
    - 169+16 – 171+82, right
    - 176+28 – 177+12, right
    - 234+90 – 236+68, right
    - 241+24 – 242+18, right
    - 261+20 – 262+73, right
    - 265+03 – 266+68, right
    - 273+19 – 274+21, right
    - 279+35 – 280+06, right
    - 282+89 – 283+34, right
    - 289+38 – 291+54, right
    - 294+67 – 295+67, right
    - 337+12 – 337+20, right
    - 345+48 – 346+26, right
    - 351+25 – 351+54, right
    - 360+92 – 361+90, right

- 363+15 – 365+79, right
- 366+75 – 376+69, right
- 382+64 – 384+50, right
- 387+84 – 388+18, right
- 391+10 – 392+38, right
- 395+76 – 396+21, right
- 398+78 – 399+75, right
- 407+83 – 408+10, right
- 410+59 – 410+97, right
- 411+18 – 411+47, left
- 414+65 – 416+32, left
- 421+97 – 423+18, left
- 612+49 – 612+66, left
- 612+85 – 612+98, right
- 642+18 – 642+43, right
- 643+20 – 943+96, right
- 644+95 – 645+51, right

However, the design is still in development, and the number of areas and the locations where there will be a less than a 25-foot buffer between the road shoulder and stream may vary with the final design. WFLHD will be happy to provide MFWP the current set of plans and cross sections if they wish to receive a copy

3. To avoid encroachment into the stream, the road prism will be reduced as much as possible with the use of walls, steeper slopes, and bio-engineered fills. The road width, however, will remain 24 feet wide. BMPs will be part of the final design and specifications.

MFWP – Comment #25

We find the analysis in the Land Use Section (4.1) of factors affecting growth and development and the projected residential growth rate and development on private lands in the Petty Creek watershed flawed, misleading and inadequate, because the analysis is still largely predicated on the assumption that development and subdivision is regulated within the watershed, and that The Nature Conservancy (TNC) lands--which are part of the Montana Legacy Project (MLP)--will not be developed. Consequently, all references made to this section under the "Affected Environment and Environmental Consequences" (Sec 4) and elsewhere within the document are flawed and inadequate.

Response

The Amended EA acknowledges that development and subdivision on non-TNC/MLP private lands is not regulated since WFLHD consciously addressed the error we made about zoning in the 2008 EA. The Amended EA states, "According to the County's Office of Planning and Grants, comprehensive plans and growth policies are not regulatory and cannot be enforced as if zoning ordinance. There are no zoning designations within the Petty Creek watershed that have the ability to regulate density." (pages 21-2, Sec 4.1.1.2). The Amended EA also acknowledges the potential for TNC/MLP to be developed, but that would be the last resort as it is not part of the MLP's objective (page 21, Section 4.1.1.1, para 1), which is further corroborated by Mr. Rasmussen of MLP In his June 16, 2010, response letter to the Amended EA. In this letter, he states, "The MT Legacy Project (MLP) has acquired the Plum Creek holdings within the Petty Creek drainage (~12,300 acres). The intent is to maintain forest-based land uses and avoid the conversion of these lands to subdivision and development." The analysis of growth was based only on the amount of land that is vacant or undeveloped. The county subdivision guidelines were not considered (sites subject to flooding, slopes greater than 25%, or septic requirements), so the analysis considers a larger area than that might be developed even though the growth rate used was based on the County's Comprehensive Land Use Plan and 2005 Growth Policy (one dwelling per 40 acres on land

designated as Open and Resource and 2 dwellings per 1 acre on land designated as Suburban Residential). The use of these rates and this analysis was performed by a professional land use specialist as stated in the response to MFWP Comment #19 and that was updated to include the Suburban Residential designation as part of this FONSI . This supplemental analysis does not alter the overall conclusions in the Amended EA.

MFWP – Comment #26

Although the EA mentions that "comprehensive plans and growth policies are not regulatory and cannot be enforced as if they were zoning ordinances" (Sec 4.1.1.2, pg 21-23), the EA still makes the error of analyzing potential developable areas using parcel size and dwelling units/acre as recommended in Missoula County's Comprehensive Land Use Plan ("Comp Plan") and the 2005 Growth Policy Update. [8] The EA also continues to base impacts (or lack of impacts) due to potential development in Petty Creek on the Comp Plan, including statements such as, "The County's Comprehensive Land Use Plan and 2005 Growth Policy (one dwelling per 40 ac) would further *restrict* [emphasis added] the amount of growth that could result following implementation of the Preferred Alternative" (Sec 4.1.2, pg 26).

Response

WFLHD acknowledges that the last sentence quoted by MFWP should be modified, and with this FONSI replaces *would* with *could*. WFLHD hired a professional land use specialist to conduct an analysis of the area, and this is analysis is documented in the Land Use Section of Chapter 4 of the Amended EA. Based on the advice of this specialist and as noted in the Amended EA, the best information available was used, and that is the County's Comprehensive Land Use Plan and 2005 Growth Policy for non-TNC/MLP private land. This is assumption is reasonable and to assume otherwise would be highly speculative. Further this analysis is supplemented in this FONSI to include the land designated as Suburban Residential. This supplemental analysis does not measurably alter the conclusions in the Amended EA, and the analysis is still considered sound.

MFWP – Comment #27

We point out that data presented in the Amended EA already paints a "worse" picture for development in the Petty Creek watershed than one dwelling per 40 acres: Table 3 (Sec 4.1.1.1, pg 20) indicates the 5,240 acres of land is in the "private" owner category, and that acreage is divided into 249 parcels--which would average out at *21.0 acres per parcel*. Not all these parcels currently contain a dwelling (and some have 2 or more), but the fact remains that each of these parcels is essentially a legal lot that could be built on. Therefore, the average parcel size is already nearly half the recommended 40-acre size; conversely, the density is already nearly twice the recommendation.

Response

WFLHD agrees with the average 21 acres per parcel as calculated by MFWP, and there could be several reasons for this. If there are more dwellings than recommended in the County's Comprehensive Land Use Plan and 2005 Growth Policy, many of them could have been constructed before the Growth Policy was implemented (Ebert, 2010). Further, there are many parcels that are part of the road right-of-way, and WFLHD estimates that this project will acquire 50 parcels of right of way, and these parcels will not

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[8] The Missoula County Growth Policy provides guidance for subdivision regulation and review. As stated in the Missoula County Growth Policy 2005 Update (Ch 1, pg 1-1): "The Missoula County Growth Policy also provides guidance for subdivision regulation and review. All planning and community development decision making *should* [emphasis added] be in accordance with the Growth Policy. However, changes in State law have limited the use of the Growth Policy in land use decisions. The 2001 Legislature passed a bill that removed the provision for conformance with the Growth Policy as a basis for the governing body's decision on a subdivision. The 2003 Legislature passed a bill that provides that a *governing body may not withhold, deny, or impose conditions on any land use approval based solely on compliance with* a Growth Policy. [MCA 76-1-605(2)(b)]"

receive a dwelling (Ebert, 2010). These considerations will have an effect on the average acres per parcel and the corresponding dwellings per acre.

MFWP – Comment #28

The EA states that approximately 23% of the land owned in the Petty Creek watershed is owned by TNC, and that there are three possibilities for final disposition of those lands, including "the last resort and least desirable outcome is conveyance of these parcels into private ownership without development restrictions" (Sec 4.1.1.1, pg 21). Thereafter the EA essentially ignores that possibility and any development potential of TNC from further analysis. For example, "Only 5,240–ac of land are in private ownership in the project corridor. The remaining land in the Petty Creek area is either publicly-owned or owned and protected by the TNC" (Sec 4.1.2, pg 22).

Response

WFLHD disagrees that the Amended EA ignores the possibility of development potential of TNC/MLP lands based on the quote provided by MFWP from page 21 of the document. Lands currently protected by the TNC were not analyzed as MFWP suggests because all indications are that the land would be protected. Given the goals of the MLP, it is not reasonably foreseeable that the TNC/MLP lands would be developed without restriction. WFLHD confirmed with the MLP that it has no plans at this time for conveyance into private ownership without development restrictions (Rasmussen, June 2010). Accordingly, WFLHD conducted the analysis as it did because residential development of TNC/MLP lands is highly speculative.

MFWP – Comment #29

…most of the Zoning/Growth Inducement section (10.1.2) is a discourse of inaccurate information and essay based on the EA's assumption that TNC land will not be developed. Yes, this land is currently "protected by TNC" and off-limits for development, but change in ownership might not carry through that protection for all or even most of TNC's land--depending on who the land is sold to and other economic considerations that could affect TNC as with all private landowners.

Response

See response to MFWP Comment #28.

MFWP – Comment #30

There are conflicting land ownership acres and percentages used throughout the document. Based upon ArcGIS analysis on the Petty Creek Watershed Boundary (5th Code Sub-watersheds), the TNC land ownership shapefile, and Missoula County Cadastral, we believe that TNC owns 10,199 acres (19% of ownership in the watershed), other private land includes 5,134 acres (9%), with the remaining 72% of the drainage in public ownership (38,610 acres).

Response

Based on this comment from MFWP, WFLHD re-checked the acreages generated and the number reported in Table 3 of the Amended EA. The percentages of land ownership are correct and the acreages are correct for all of the entities except for federal lands due a typo of adding another digit. The correct area of federal land ownership is 35,032 acres. This was also confirmed in a letter from Robert Rasmussen of MLP (dated June 16, 2010) which notes, *The MT Legacy Project (MLP) has acquired the Plum Creek holdings within the Petty Creek drainage (~12,300 acres).* Table 3 from the Amended EA is revised to show this correction and is included as part of this FONSI[9].

[9] All references to Table 3 refer to Table 3 in this FONSI and not the table in the Amended EA.

Table 3. Land Ownership in the Petty Creek Watershed (Revised from Amended EA)

Owner	Acreage	Parcels	Percent of Watershed
Federal	35,032	95	65
State of Montana	1,345	3	2
TNC - MLP	12,315	42	23
Private	5,240	249	10
Source: State of Montana 2009			

MFWP – Comment #31
TNC likely owns approximately 11,000 acres, not "approximately 12,000" (pg 21) or "10,000" (pg 67, 104, etc.).
Response
WFLHD disagrees. Based on the rechecking of our numbers and review of MLP's letter, TNC likely owns approximately 12,000 acres. See response to MFWP Comment #30. References to 10,000 acres in the Amended EA in regards to TNC ownership should have been updated to say approximately 12,000 acres.

MFWP – Comment #32
The EA misstates several times that, "There are 5,240 acres of private ownership" (Sec 4.1.1.2, pg 23; 4.1.2 Project Impacts, pg 26; etc.)--when the TNC acreage should *always* be included in the total of private land acreage.
Response
Page 20, para 1 of Section 4.1.1.1 of the Amended EA states, *Private lands consist of private landholdings as well as lands owned by The Nature Conservancy (TNC)/MLP.* WFLHD purposely separated the acreages of the private and TNC/MLP lands because the MLP manages its lands with unique goals and objectives protecting it from development in contrast to the 5,240 acres of private land.

MFWP – Comment #33
…the stated "325,032" acres in Federal ownership (Sec 4.1.1.1, pg 20, Table 3) is in error.
Response
The stated 325,032 acres in Federal ownership indeed is in error. See the MFWP Comment #30.

MFWP – Comment #34
The EA includes a dramatic miscalculation of private/public land and misstatement of reality: "The fact that 90 percent of the watershed is in public ownership or otherwise protected from development helps insure the cohesiveness of the existing wildlife movement corridors." (Sec 4.4.1, pg 39, para 1). This statement is incorrect because based upon ArcGIS analysis, the percentage of private land in the Petty Creek watershed is 28% or 15,133 acres. Since it is not a "fact that 90 percent of the watershed is in public ownership or otherwise protected from development," the cohesiveness of the existing wildlife movement corridor is *not* ensured, as stated (pg 39, para 1). This and other justifications for the affected environment analysis and lack of need for mitigation throughout the document were made based upon erroneous data, and letting these stand would bias the decision-making process.
Response
First, it is very important that the sentence from page 39 quoted by MFWP is read within the context of most of the first paragraph on this page. The 90% figure is carefully explained in the first sentence. WFLHD considers the expectation that the MLP lands will be protected from development is reasonable based on the goals of the MLP (see response to MFWP Comments #28 and #32). Further, WFLHD considers the TNC/MLP lands to be private as covered in the response to MFWP Comment #32; however,

for purposes of the assessing impacts from development, the TNC/MLP lands are not included with the 5,240 acres of private lands since their development purposes are not all similar. Given all of the explanations provided in the Amended EA and the supplemental information in this FONSI, WFLHD is confident that the decision-making process will be based upon correct information regarding ownership and development. Finally, the Amended EA carefully states that these measures will *help* ensure cohesiveness of the wildlife movement corridor rather than promise that the cohesiveness will be protected. To the extent that the action alternatives will result in impacts to fish and wildlife, mitigation measures have been identified and are listed in Section 4.4.5 of the Amended EA, pages 70 to 71.

MFWP – Comment #35

We found the "Comments on Public Scoping" (Sec 10.2, pg 150-152) to be very confusing. At the beginning, it states, "This section is as presented in the 2008 EA. **Because of changes in the Preferred Alternative, some of the information presented in this section (10.2) is no longer accurate and does not reflect the new Preferred Alternative.** This information is presented as part of the Administrative Record" (pg 150). This would seem to imply that more than one item in this 3-page section is inaccurate? We recommend deleting this entire section or be prepared to footnote the section, sentence by sentence where needed, as to what is still accurate, in order to not bias, mislead or confuse reviewers.

Response

WFLHD agrees with MFWP that Section 10.2 of the Amended EA is confusing. Before the second paragraph, WFLHD should have inserted a different prelude that stated: *The following is only copy of Attachment 6. Summary of Public and Agency Comments from the 2008 EA. It is provided for those readers of this Amended EA who might be interested on what comments were received prior to the release of the 2008 EA and how WFLHD addressed them in the 2008 EA.*

MFWP – Comment #36

Also in the "Comments from Public Scoping" section (10.2, pg 151, para 1) is the statement, "Note: This summary was written before the purchase of the Plum Creek Timber land by the MLP. As of 2010 the correct percentage of publically owned land in the Petty Creek watershed is 90 percent." Again, this is totally inaccurate, as the current, 2010 public ownership is 72% by ArcGIS mapping or 67% by the EA's estimation (Sec 4.1.1, pg 20, Table 3). (Also, MLP did not purchase the lands; they were purchased by TNC, a private owner.)

Response

WFLHD agrees that the note quoted by MFWP does not accurately describe the ownership in the Petty Creek area. This information is accurately described in the main body of the Amended EA. Because this information is accurately addressed in other parts of the Amended EA and is not needed with the revised prelude as provided in response to MFWP Comment #35, WFLHD retracts this statement for the project record.

MFWP – Comment #37

We believe the analysis (Sec 4.1.1.2, pg 23, para 2) that yielded only "316" acres (6%) buildable of the total 5,240 acres in private ownership in the watershed and depicted in Figure 6 (pg 24) is inaccurate and flawed. We did not perform our own analysis, but a cursory look at the topography of the watershed--and the many houses already built on Tables 6's "non-buildable" land--would indicate that there is a lot of land within the 5,240 acres that is not steeper than 25% and/or "subject to flooding" (2 of the 3 subdivision "guidelines" named that "would limit the creation of additional lots"). Because there are slopes >25% present within a parcel does not preclude that parcel from having a dwelling.

Response

As noted in response to MFWP Comment #18, the actual analysis of effects for the *Preferred Alternative* (pages 25 through 27, Sec 4.1.2) did not consider the subdivision guidelines and was based solely on the vacant or undeveloped land within the 5,240 acres of private land (see footnote 4, page 26 of the Amended EA). Although this information is valid and was developed by and under the guidance of a land use specialist, in an effort to be conservative in applying limitations to the potential for development, it was not used to predict development that might occur as a result of the *Preferred Alternative*. Instead, it is included within the Amended EA as information for consideration during the decision-making process.

MFWP – Comment #38

We are not experts in county and state regulations and laws pertaining to septic systems, but we are at a loss to understand what "septic requirements" the EA is referring to--and the EA offers no explanation of this term--that could be the third subdivision guideline that would be able to be mapped as a "non-buildable" lot. We are not aware of any septic requirements in subdivision regulations that "limit" development to the extent that it can be used in any sort of build-out analysis. The only "septic requirement" related to density that we are generally aware of is a state-wide limitation that without a sewer system, buildable parcels generally have to be 1 acre or larger in size, if that lot is to contain both a septic system and a water well.

Response

The professional land use specialist that WFLHD hired provided the information on the septic systems as part of the subdivision guidelines in the Affected Environment portion of the Land Use section of the Amended EA. It was also used to predict the current rate of development.[10] However, while WFLHD considers the information valid, the subdivision guidelines on septic systems were not used to estimate development that might occur for the *Preferred Alternative* as part of the developable land.

MFWP – Comment #39

Add to the flawed analysis of "buildable" land, there is the very real issue that (according to the EA) an additional 10% of the land in the watershed is TNC land--but this is additional *private* land. And although we and TNC may hope to the contrary--(especially) in this economic period of history, no assumption or lack of mitigation should or can be made in this EA that these lands will go into public ownership. Nor can it be assumed that they will go into private ownership with strict enough conservation easements to preclude most development.

Response

WFLHD agrees that the TNC land is private land. As set forth above, WFLHD has determined that the information related to TNC/MLP land included within the Amended EA is correct. See responses to MFWP Comments #28 and #32.

MFWP – Comment #40

Another shortcoming in the Land Use section is that it fails to include any analysis of (for the Petty Creek area) or allowance for the land division and subsequent development potential of lots that can be legally created outside the subdivision process--via methods such as gift or sale to family, court-ordered splits, creation of a lot as security for a mortgage, etc. Although not supposed to be used this way, in reality family gift/sale is a non-subdivision way (process) of spinning off lots that can often be sold soon after they are created.

Response

[10] The current rate of development was calculated based on the number of septic tanks (assuming one per home) since 2000. This is 26 homes/9 years, which equates to 2.9 homes per year. See page 25 of the Amended EA, Sec 4.1.1.3.

WFLHD disagrees with MFWP that the Land Use section should have included analysis or allowance for development outside the subdivision process. While a possibility, it is not a foreseeable event, and WFLHD considers it highly speculative.

MFWP – Comment #41
We believe that because incomplete, inaccurate or misleading data related to land development were used to define and predict impacts under the three alternatives, at minimum we find the following sections that reference those data to be invalid.

- 4.1 Land Use (several sub-sections, including 4.1.2 Project Impacts, 4.1.3 Cumulative Impacts)
- 4.4 Fish and Wildlife Species
- 4.12 Visual Quality
- 10.1 Responses to Comments on 2008 Public EA (including 10.1.1 Wildlife Connectivity/Impacts, 10.1.2 Zoning/Growth Inducement)

Response
Based on the responses to MFWP Comments #18 and #25 - #41, including the supplemental information and analysis provided in these responses, WFLHD considers the analysis on land development, particularly as described in the Land Use section of the Amended EA, to be valid. Therefore WFLHD disagrees with MFWP that sections 4.1, 4.4, 4.12, and 10.1 of the Amended EA are invalid.

MFWP – Comment #42
…we again must state that the Land Use section (4.1) is fatally flawed, biases all other portions of the EA where it is referenced or portions of it repeated, and needs to be redone.
Response
WFLHD disagrees. See response to MFWP Comment #41.

U.S. Fish and Wildlife Service (FWS) – Comment #1
Where feasible, the Service continues to encourage WFLHD to avoid and minimize aquatic impacts by designing bridges that do not allow bridge deck runoff to directly enter streams.
Response
The bridge deck will be designed to include a curb without a scupper; therefore there will be no direct discharge of deck runoff into the stream.
FWS – Comment #2
In areas where it isn't feasible to re-align the road away from high quality aquatic habitat, we encourage other innovative designs that effectively reduce and avoid stream encroachments from the roadway and bank stabilization features.
Response
This issue has been previously addressed in response to MFWP Comment #24.

American Wildlands – Comment #1
Consider over-sizing culverts or bridges where the roadway crosses Petty Creek or tributaries to encourage wildlife passage under the roadway. Where appropriate, utilize right-of-way fencing to direct wildlife to these passages.
Response
In the Amended EA, on page 71, Section 4.4.5, which lists the mitigation for fish and wildlife, it states the following: *Culverts/bridges would allow small mammal passage underneath the roadway.* As the design progresses, WFLHD will work with the biologists from MFWP and the USFS to determine the appropriateness of right-of-way (ROW) fencing to direct wildlife at these passages.

American Wildlands – Comment #2

Provide warning signs at all known wildlife crossings or concentration areas to alert drivers to the possible presence of large animals on the roadway.
Response
WFLHD will work with the USFS and MFWP to identify wildlife crossing and concentration areas that need to be signed. See the response to MFWP Comment #13.

American Wildlands – Comment #3
Work with adjoining private landowners to ensure that right-of-way fences allow wildlife passage at specific crossing areas.
Response
WFLHD will work with the land owners and with MFWP to ensure the proper design and installation of any ROW fences, particularly at crossing areas.

American Wildlands – Comment #4
Maintain the existing speed limit of 35 mph, provide enough speed limit signs to ensure that drivers are fully aware of that speed limit, and encourage adequate law enforcement to protect wildlife and human safety.
Response
WFLHD will design the road to AASHTO standard for 35 mph, but curves with limited sight distance or those designed below the 35 mph design speed will be posted to warn motorists. All signs will be posted and placed according to the MUTCD. WFLHD has no authority in regards to providing law enforcement. However, WFLHD will forward your comments to Missoula County to advise them of your concerns.

MLP - Comment #1
The MT Legacy Project (MLP) has acquired the Plum Creek holdings within the Petty Creek drainage (~12,300 acres).
Response
WFLHD agrees with MLP as noted early in the responses to MFWP Comments #30-#31.

MLP - Comment #2
The Nature Conservancy currently holds title to these lands and can be considered a willing seller, if the conveyance of the properties meets the objectives of the MLP.
Response
WFLHD thanks MLP for the clarification and agrees as noted in the third para in Sec 4.1.1.1 of the Amended EA.

MLP - Comment #3
We have been working with the Lolo National Forest (LNF) on several conveyances of MLP lands and do not foresee any problems with incorporating any land transactions with the LNF proposed as part of the Petty Creek Road project.
Response
WFLHD looks forward to working with both the MLP and the LNF in implementing these land transactions that are part of the mitigation to minor adverse affects to localized wildlife movement.

MLP - Comment #4
There are a variety of factors that can influence the fair market value of property, including how much land area is included in a transaction. Until we know what actual properties may be considered and whether they are part of a larger transaction, estimated valuations must be used. I would increase the

proposed limit of 1,000 acres to allow for maximum flexibility in any transaction, understanding that there may be a financial limit of any FHWA contribution.

Response

As noted in page 71 in Sec 4.4.5 of the Amended EA, WFLHD is committed to the following to mitigate for some minor adverse affects to localized wildlife movements; *WFLHD is proposing to facilitate the acquisition of up to 1,000 acres of MLP land in the project area for permanent conservation by the USFS.* While the parcels of acquisition are currently not known, the USFS has some preferences based on wildlife, fish, and protection of the watershed (see response to MFWP Comment #17). If WFLHD sees the need and it is within the project, WFLHD might increase the 1,000-acre limit, but this would depend on approval and agreement of the Tri-Agency (the FS, MDT, and WFLHD).

MLP - Comment #5

The assessment of potentially developable areas within the watershed does not include any of the MLP lands. This should be acknowledged or otherwise noted that an assumption was made regarding the MLP objectives and the avoidance of land-use changes on these lands.

Response

This comment is addressed in response to MFWP Comment #28.

MLP - Comment #6

Note that the Missoula County Growth Policy is not a regulatory document, but a guideline for growth patterns and community development. Regulatory zoning has not been enacted in the Petty Creek area, but other regulatory structures do exist (subdivision regs, et al).

Response

This comment is addressed in the response to MFWP Comment #26.

MLP - Comment #7

There does not appear to be a need for any r-o-w acquisition on the MLP lands to accommodate the road improvements.

Response

There will be no right-of-way acquisition of TNC/MLP lands as part of this project even though the project is close to some MLP parcels (Gifford, June 2010).

Public Comment #1

Our concern is the continuation of the project over to highway 12 using the road as a bypass of Missoula. It seems odd to put 12.5 million into a project with very limited forest land access-one trail head and the sheep viewing area. If this is not a terminal project this fact should be stated in the cumulative affects. It has to considered as a reasonable foreseeable action.

Response

See responses to MFWP Comments #4-5.

Public Comment #2

The Montana Legacy Project was stated as a source of a 1000 acres land purchase to control development-where would this land be located.

Response

The Amended EA actually states the following: *Because the proposed project would have some minor adverse affects to localized wildlife movement, the WFLHD is proposing to facilitate acquisition of up to 1,000 acres of MLP land in the project area for permanent conservation by the USFS.* See response to MWFP Comment #17.

Public Comment #3

The conclusions on land development were greatly understated. There are large tracts of land in private ownership that could be divided. There are many areas were the density is much greater than one resident per 40 acres.

Response

The comment was previously addressed in responses to MFWP Comments #26-27.

Public Comment #4

Itinerant traffic on the 18 miles between I-90 and Highway 12 may increase with an improved 11.8 miles of road, but drivers will still have to drive six miles of a steep, windy low maintenance gravel road over a mountain pass. A suggestion would be to have prominent signs off both I-90 and Highway 12 warning drivers, such as one off I-90, "STEEP, CURVED, LOW MAINTENANCE GRAVEL ROAD SOUTH 6 MILES TO HWY 12", or a sign(s) to that effect.

Response

The comment was previously addressed in responses to MFWP Comments #4-5.

Public Comment #5

The significant factor for growth in Petty Creek should not be an increase in the present 190 platted private parcels, but the development of the 75 of those 190 private parcels that presently have no homes. However, even those 75 undeveloped private parcels may have restrictions to development, such as being on steep slopes, or in a flood plain, both of which would restrict County septic approval for a new home.

Response

WFLHD's response on growth was previously addressed in the responses to MFWP Comments #26, 27, 37, and 38.

Public Comment #6

I believe there are many factors in determining future growth along Petty Creek such as; developable land, land prices, changes in mortgage requirements, the cost of gasoline and commuting to Missoula and the overall local and national economy. All of these considerations, most of which have changed significantly in the last decade, make future growth predictions uncertain for Petty Creek.

Response

To some degree, the factors described above may affect future growth along Petty Creek. WFLHD hired a professional land use specialist to analyze land use in the Petty Creek area, and through their research, factors affecting growth and development are described in Section 4.1.1.2 of the Amended EA. On page 21, it states the following: *In the last 30 years, low density rural residential development in the Petty Creek watershed has caused a conversion from larger land holdings and ranches to smaller parcels and subdivisions. Exurban development in the Rocky Mountains is influenced by agricultural suitability, transportation and services, natural amenities, past development patterns, and economic and recreational characteristics of nearby towns (Gude 2005). The proximity to the Missoula urban area and Petty Creek's rural and natural setting is an attraction for residential development.*

Public Comment #7

There are presently properties along and near Petty Creek Road that have been for sale since the downturn in the economy in 2008. Some of these unsold properties are near the present paved section of Petty Creek Road and less affected by the often poor condition of the gravel road. That these properties are not selling suggests that there will not be an immediate new housing boom along a paved road.

Response

WFLHD notes the information provided by Mr. McCoy. The NEPA process, as described in the Amended EA, analyzes the direct effects of the project over 10 years so that it is comparable to the Headwaters Study. It used the average past growth rate of the area in the analysis to predict what the future growth will be with the implementation of the *Preferred Alternative*. This analysis was based on the best information available as averaged over a longer period of time to take into account times when residential growth is stunted or when it booms forward.

Public Comment #8
Job losses at local employers like Smurfit-Stone, Montana Rail Link and in the construction industry may have more of an impact for people moving into Petty Creek than a paved road. Also, changes such as requirements for later retirement ages, pension fund losses, the difficulty of selling homes in areas such as California and then moving to and retiring in rural Montana may permanently lower local population growth rates.
Response
The modeling used in the Amended EA to predict growth is a reasonable assumption based on past data and the County guidance for development. The items suggested above are not foreseeable events, and WFLHD considers them highly speculative.

Public Comment #9
A mitigation effort for this project by both Missoula County and the WFLHD would be to publicize the economic and environmental benefits of conservation easements and working with local residents to protect the environment, wildlife and rural lifestyle of Petty Creek.
Response
WFLHD will acquire up to 1000 acres of TNC/MLP land in the project area for permanent conservation by the USFS to mitigate any minor adverse effects to localized wildlife movements. During construction, WFLHD staff will be supervising the activities to ensure they comply with the commitments made to protect the environment and wildlife in the area and that considers the safety of the motorists who use the road. General promotion of conservation easements to the public is beyond WFLHD's authority or jurisdiction. WFLHD will pass this comment on to Missoula County should they wish to take this into consideration.

Public Comment #10
The proposed purchase for project mitigation of up to 1000 acres of MLP property by the WFLHD for transfer to the US Forest Service (USFS) is a significant step in protecting the environment of Petty Creek. I would suggest that the property to be purchased and transferred to the USFS be property adjacent to and most likely to be impacted by an improved Road. I would also suggest that the WFLHD work with the USFS and MLP in purchasing with other funds, possibly Federal Land and Water Conservation Funds (LWCF), the entire MLP land holdings in Petty Creek for transfer to the USFS. This purchase and transfer would end the present checkerboard pattern of land ownership between the USFS and the MLP and permanently protect the environment of the Petty Creek area.
Response
At this time, it is not known which parcels will be purchased, and WFLHD will leave this decision to the USFS and the TNC/MLP. In response to MFWP Comment #17, there is a list of sections in the Petty Creek drainage that the USFS would prefer to acquire from a wildlife, fish, and watershed perspective. These are listed in ascending order of priority. It would be beyond WFLHD's authority to secure the purchase of the entire TNC/MLP lands in the Petty Creek watershed as it would be beyond the scope of the project or mitigation needed for the project effects. While WFLHD supports environmental protection, our authority of operation is to not permanent environmental protection of areas.

Public Comment #11

It seems to me that if you are serious about protecting motorists and sheep from potentially lethal collisions for both, the least expensive and simplest answer is speed bumps. I know this would be fairly unpopular with many residents but it will force people to slow down and that reduction in vehicle speed will save lives in the long run. The sign you propose will do little if any good at all. Nine Mile hill and the stretch of I-90 from Huson to Alberton is a good example of the ineffectiveness of signs.

Response

The draft design includes flashing lights at about MP 4 for northbound traffic and MP 6 for southbound traffic, and these would be turned on by Missoula County when bighorn sheep are present. However, WFLHD will gladly work with MFWP to ensure proper style and placement of wildlife signs and warnings where needed. All signs will be posted according to the MUTCD. For clarification, speed bumps (tall height and short longitudinal length) are appropriate for low speed parking lots and alleys, while speed humps (short height and long longitudinal length) are more appropriate for traffic calming on low speed (<=30 mph) roads. Neither speed bumps nor speed humps were considered as a traffic calming device near the bighorn sheep location. One of the purposes of the project is to reduce the maintenance efforts, and speed bumps and speed humps present a challenge to road maintenance crews, especially road plowing in the winter. Utilizing temporary speed humps during peak bighorn sheep presence is something the Forest and County could explore in the future, as the temporary humps would be removed before winter snowfall and would not affect plowing activities (Brinkly, June 2010).

Public Comment #12

I strongly suggest that you construct a bike/walking lane. We are in a time that people bike and walk for recreation, health as well an economical reasons. The Petty Creek Road is a perfect stretch for this kind of activity. It would get a lot of use as a bike/walk area. Please do NOT build a road that is unsafe for bikers and walkers.

Response

The purpose of the proposed Petty Creek Road Project is to improve Petty Creek Road's operational safety, reduce its excessive maintenance efforts, and reduce its contribution of sediment to Petty Creek. When the USFS and Missoula County submitted this project as a proposal, improvements for bicycles and/or pedestrians wasn't identified as need to address for safety. Petty Creek Road is not a designated route. There are no plans in the long range transportation plan for such a designation (Robertson, June 2010). Therefore, a bicycle/walking lane was not pursued as part of this project. WFLHD expects that bicyclists and pedestrians that use the two-foot paved shoulders will have a safer experience than they currently do under conditions. WFLHD considers the statement that the PCR would get a lot of use as bike/walk area as purely speculative without data and modeling to support or challenge it.

Public Comment #13

The first and in my opinion most glaring deficiency is the failure to consider the continuation of the paved road on the second half of the road connecting to U.S. Highway 12. Although this project does not have that section of road scheduled for paving and has thus discounted it, I believe that it is very shortsighted not to include the possibility of this development in the cumulative effects sections as a reasonable foreseeable event. As the road currently exists it would be cost prohibitive for either county, state, or federal agencies to pave the entire road; however, once this project is complete the cost of connecting Highway 12 and I-90, completely bypassing Missoula, would be substantially reduced. With this in mind I would like to see a project design feature that limits the development of the connecting section of road for the foreseeable future (approximately 30+ years). Failing this, the foreseeable action should be analyzed in the cumulative effects sections, namely wildlife.

Response

This comment has been addressed in responses to MFWP Comments #4 and #5.

Public Comment #14
...for some of the far ranging species mentioned in the report (e.g. lynx, grizzly bear, wolves, and wolverines) the scale of the project area watershed is not sufficient for disclosing cumulative impacts. At the least, increased development in the Fish Creek drainage following the sale of large tracks of Plum Creek lands to private developers and continued subdivision and development of the Lolo drainage should be considered when discussing habitat connectivity for these species.
Response
The scale of analysis referenced in the Amended EA was the fifth field watershed drainage for Petty Creek. However for the wide ranging wildlife species referenced in your comment and for the analysis of wildlife linkage and connectivity in the project area, the American Wildlands Priority linkage assessment report was used. This report identifies a large area for the Petty Creek Linkage area starting at a center point of where Ed's creek joins Petty Creek (MP 7.3 of the project) south and west to Lolo Pass on US Highway 12. Only a small portion of the Petty Creek project falls within this area (Ed's Creek to project end at MP 10.6). The majority of lands in the linkage area (both USFS and TNC/ Trust for Public Lands)) occur west of the Petty Creek road and north/northwest of US Highway 12. Wildlife access to these lands, which connect to the Fish Creek drainage, are not restricted by any current or known development or forest-land activities. The majority of east to west movement across the Petty Creek Linkage area can occur and is thought to occur north of US Highway 12 but south of the project termini at MP 11 across the existing gravel portion of Petty Creek that connects to US 12. This area accesses large tracts of forested USFS lands thought to provide habitat for these species. This "upper section" of Petty Creek road has not been proposed for reconstruction, and there are no plans in the future to propose such an action. WFLHD has concluded that the small portion of the Petty Creek Road project identified in the Petty Creek Linkage area (most likely less than 5% of the total linkage area) would not impede wildlife movement and connectivity to adjoining drainages to the east, south, and west, including Fish Creek as the majority of those land occur outside of the project area (Kennedy, June 2010).

Public Comment #15
The third issue I have pertains to the Plum Creek properties in the Petty Creek drainage that were purchased by the Nature Conservancy. These lands were a major issue in the first draft of the Petty Creek EA because of the concern that they would be sold to private land developers and increase the density of housing within the Petty Creek valley. Even though the Nature Conservancy has purchased these lands they are still on the table for future land development. I applaud the initiative to purchase 1,000 acres of this land as part of the proposed project to limit this risk; however, I would like to know which acres are proposed for purchase. Will these be the acres that are most accessible and therefore most likely to be developed? If not, this effort may not limit development within the valley at all. Please provide a map of the proposed land purchases.
Response
This comment has been addressed previously in responses to MFWP Comment #17 and Public Comment #10.

Public Comment #16
At the meeting in Alberton I offered the comment that there are approximately 17 residences between South Fork Road and Printer's Creek Rd (Old Petty Creek Road), and that the school bus turns at Bill's Creek, as well as there is garbage pick up there- therefore that it might be appropriate to consider paving to the Bill's Creek intersection.
Response
The *Preferred Alternative* was developed by the SEE Team to address project purpose and need and issues raised by the public and other government agencies. As a result, a more comprehensive look at the project need resulted in identification of pavement needed only on the first 10 miles of PCR as the

future traffic beyond that point is not expected to reach 250 vehicles per day as shown in Table C. As stated in Sec 3.2 of the Amended EA (page 14), *According to AASHTO, for traffic volumes of 240 vehicles per day or more, crash rates are generally higher for unpaved roads than paved roads (AASHTO 2001).*

Public Comment #17

Currently, magnesium chloride is used primarily for dust abatement. Recent research projects in Colorado, have detailed some of the environmental impacts of using this chemical as a summer dust suppressent and also as a winter de-icer…this research (a copy is attached) shows that both uses of this chemical causes extensive damage to roadside vegetation. Eventually this chemical will find its way into the stream and what this does to the aquatic environment is unknown. Paving would eliminate this concern.

Response

The *Preferred Alternative* will result in the surface of the first 10 miles of PCR being paved and the remainder 1.8 miles will receive a gravel surface. Maintenance is Missoula County's jurisdiction, and they might choose to use magnesium chloride on the last 1.8 miles of the project area after construction. WFLHD will send your concerns and the information you provided to the County. Winter maintenance is addressed in response to MFWP Comment #1.

Public Comment #18

There are several other roads near by, that have been paved in recent years, that could possibly be used as a comparison to possible impacts of paving the Petty Creek road.

1. The Lolo Road (Highway 12) for example, was a dirt road from Lolo Montana, to Powell Ranger Station in Idaho, when I was a student at the University of Montan during the 1950's. At that time, present day Highway 12 did not extend beyond Powell Ranger Station. It was a pack trail, not even a dirt road, from there to Lowell, Idaho. The paving of the 150 mile stretch of highway (from Lolo, Montana to Lowell, Idaho) in the 1960's apparently did no damage to the indigenous fishery or wildlife populations. There are steel head trout and salmon populations in the Lochsa River today as there were in the 1950's, and also healthy populations of elk, moose and deer as well as lynx, grouse, marten etc, there today as there was before the paving. When Lewis and Clark explored this area in 1805-06, (well before any road construction or pack trails), there no elk or deer reported in their diaries. Incidently, Elk were introduced into the Petty Creek drainage in 1910. I personally think there elk in the area all along just not in the numbers that occur today.
2. The Swan Highway north east of Missoula, (another good example) extends from Highway 200 in the south to Highway 35 near Big Fork, Montana in the north, a distance of approximately 75 miles. This road parallels both the Clearwater River and the Swan River, and like the Lolo Road above, it was a dirt road in the 1950's. The paving of this road (now Highway 83) apparently created no detrimental impact to either the fishery or wildlife values. In fact, there are still good populations of trout and big game as well as grizzly bears (an endangered species) in the area along both sides of that paved road. There is also a large elk winter range at the junction of Highway 83 and Highway 200.
3. At third example us the St. Regis cutoff road (highway 135) between St. Regis to Plains, Montana. This road was also a dirt road in the 1950's and was not even a through road until the 1970's. IN fact, it was necessary to use a ferry to cross the Clark Fork River about half way through the canyon until the 1970's. This road was paved I believe in the late 1970's. Like the tow roads listed above, the paving of this road and the elimination of the ferry system with the construction of a bridge across the Clark Fork River, apparently created no detrimental impact to either the fishery or to adjacent terrestrial wildlife populations in the area.

Response

The Amended EA relied on the Headwaters Study to predict development trends based on paving PCR, and this information was used in part to predict wildlife impacts. WFLHD is grateful for the suggestion in this comment, but in order to study the effect of paving the three roads listed, resource information would need to be gathered prior to the road improvements to understand the wildlife use of the area, and those opportunities have passed.

Public Comment #19
Unpaved roads are the largest source of particulate air pollution in the country. According to the EPA, unpaved roads cause almost 5 times as much particulate matter as construction activities and wind erosion combined. A single vehicle traveling an unpaved road once a day for a year will produce one ton of dust per mile (according to an Iowa study). By latest counts, Petty Creek Road is traveled by approximately 300 cars/day. This translates to 300 tons of fine particulate/aggregate lost per mile per year.
Response
This comment comes from Wisconsin Transportation Bulletin No. 13 dated January 1997. WFLHD investigated Environmental Protection Agency (EPA) web sites on unpaved roads and particulate matter and could not find anything that showed that they are the largest source of particulate air pollution in the country or that they cause almost 5 times as much particulate matter as construction activities and wind erosion combined.

Public Comment #20
I do recommend that the road be paved to the point of turn-around that the school bus travels.
Response
This comment was previously addressed in the response to the Karl and Public Comment #16.

Public Comment #21
There was several comments at the presentation about the Big Horn Sheep population. Some of the comments were concern about vehicles hitting them. I believe the danger is both the same in any of the alternative plans, I know this first hand as I struck a Male Ram last fall...The only thing that we could possibly do is to post signs for drivers to be aware that there are to be always looking.
Response
This comment is addressed in responses to MFWP Comment #13 and American Wildlands Comment #4.

Public Comment #22
I struck a Male Ram last fall. He jumped out in front of my truck from some brush at the very last moment and I did not have enough time to stop. Luckily he turned and hit the front of my truck with his "full" curl. It severely damaged my truck but he walked away, unhurt. The location that this occurred was at a place that I had never seen them at before and surprised me.
Response
WFLHD appreciates this information.

Public Comment #23
I support your effort to pave Petty creek road to the point of the school bus turn around.
Response
WFLHD does not intend to pave PCR to the school bus turn around but at near Printer's Gulch. This is more thoroughly addressed in response to the Public Comment #16.

Public Comment #24
All of the environmental groups that responded to the original EA seemed to take the Petty Creek paving project out of context. They don't realize that this is only a project to pave about 10 miles of a road that

has existed for over 100 years. The road does not pass through a wilderness, or a State or Federal park. The 10 miles is already developed and home to 115 families. The human development has not been detrimental to wildlife. On the contrary, species like white-tailed deer, wild turkeys, and elk are more abundant than ever because of human settlement. Dust from the dirt road, on the other hand is damaging wildlife populations by shortening the lives of ungulate species that forage anywhere near the road. The dust coats the vegetation and acts like sandpaper wearing down the teeth of wild animals that feed there. Good teeth are critical to the well being of ungulates in particular. Once their teeth are gone, the animal dies. The revised EA explains the extent that sedimentation from the mud road impacts Petty Creek itself. All of this is explained in more detail in our brief on Fish and Wildlife issues.

Response

This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #25

Petty Creek road is not really a gravel road, but a dirt/mud road.

Response

WFLHD acknowledges that PCR does not have a consistent gravel surface even though the County manages it as a gravel road. The Amended EA attempted to address this by acknowledging that the existing surface is substandard, but in a few places, the Amended EA states that it is a gravel road bed.

Public Comment #26

Residents along Petty Creek Road are forced to use large gas guzzling vehicles that can stand up to the harsh driving conditions. I know from experience that the little economy cars cannot handle the mud, dust and potholes of Petty Creek Road. In this age, energy efficiency and clean air are important topics. Paving Petty Creek Road would go a long way in promoting energy efficiency by allowing residents to successfully drive more fuel efficient cars and trucks. Someone also pointed out at the May 11 meeting that dust from the road poses a significant health hazard to people who must breath the air near the road during dry periods.

Response

WFLHD thanks the author for this input. While the *Preferred Alternative* will allow the use of energy efficient vehicles in optimal weather conditions, WFLHD thinks it is speculative the project will promote their use. While several residents have made claims that the dust from the road results in respiratory health hazards at the May 11 meeting and before, WFLHD has no evidence to support or deny this claim.

Public Comment #27

Another concern expressed by FWP was that traffic would increase because drivers using US Highway 12 would cut across to Interstate 90 using Graves Creek Road off Highway 12 and Petty Creek Road north of the Wagon Mountain Pass side road. Some of that may occur, but the pass is very steep and narrow making it very unwise for drivers of large vehicles to go that way. If Petty Creek Road is only paved to the 10-12 mile mark, it would still leave 8-10 miles of dirt/mud road and a formidable barrier in Wagon Mountain Pass. Signs could be posted at both ends that read "RESIDENTS ONLY". This may help minimize shortcut traffic. Signs warning large vehicles not to travel the road would probably help as well. Upgrading the road by straightening out the curves would not be particularly necessary. Leaving it winding as it is would tend to slow traffic (for those concerned about wildlife collisions) and the cost of road construction and paving would be less. Speed is not the reason residents want the road paved.

Response

This comment is addressed in responses to MFWP Comments #4 and #5. As stated in these responses, there are no plans to upgrade this section of road.

Public Comment #28
FWP Item # 1 refers to vehicle speed and incidents of vehicle collisions with wildlife. Our understanding is that the speed limit will remain at 35 mph and that the road will approximately follow the existing roadbed.[11] The lack of straightening should help to keep speeds in the 35 mph range. There will, of course always be speeders, no matter which road we are dealing with.
Response
WFLHD has addressed the issue of speeds and any changes from the Amended EA in MFWP Comments #2 and #3.

Public Comment #29
FWP referred to 18 accidents over a 4 year period, half of which they say were caused by excessive speeds. They did not indicate how many of those accidents were attributable to deplorable Petty Creek Road conditions, where potholes and washboard cause drivers to swerve to avoid the holes or due to dust during the summer, which blinds even slow moving drivers.
Response
MFWP was responding to the data that was provided in the 2008 EA. Accident data was provided in the Amended EA as Appendix 1. MFWP is correct; half of the 18 accidents involved excessive speeds or where the driver was driving too fast for conditions. Table A summarizes the cause of accidents and the dates. Two of the nine accidents are related to the conditions of the road. Speeds are analyzed in responses to MFWP Comments #2 and #3.

Public Comment #30
They also refer to vehicle collisions with wildlife. Most wildlife collisions are between vehicles and white-tailed deer[12]. We are aware of perhaps 4 or 5 white-tails hit each year. We are aware of one bull elk hit by a pickup, but no other ungulate species.
Response
Two of the 18 accidents reported show accidents involving animals as can be seen in Table A.

Public Comment #31
It's interesting to note that FWP mentioned that bighorn sheep use the area extensively and that they would be vulnerable to being struck by a vehicle.[13] Bighorn sheep are regularly seen on or near the road, but to our knowledge a sheep has never been killed by a passing vehicle. Probably 90% of sheep sightings occur along the south .5 mile of the section of Petty Creek Road that is already paved (about 1.2 miles of the north extremity of Petty Creek was paved prior to the year 2000). The sheep hang out on the paved section, yet none have been hit by a car there. Bighorn sheep are very visible along the road and do not seem to move around at night when visibility is limited.
Response
Since the accident data does not reveal what kind of animal was involved, it is not possible to say what the rate of bighorn sheep have been struck by a vehicle. In one of the response to comments to the Amended EA, one commenter wrote that they struck a ram; *…I struck a Male Ram last fall. He jumped out in front of my truck from some brush at the very last moment and I did not have enough time to stop. Luckily he turned and hit the front of my truck with his "full" curl. It severely damaged my truck but he walked away, unhurt. The location that this occurred was at a place that I had never seen them at before and surprised me.* This is not in WFLHD's accident data as it is only covered through 2004.

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[11] This and the remaining comments are
responses to MFWP's May 2, 2008, letter to WFLHD in response to the 2008 EA. This letter is found on pages 118 through 122 of the Amended EA.
[12] *They* is the author's reference for MFWP in regards to their response to 2008 EA.
[13] FWP is their abbreviation for MFWP.

Public Comment #32
A few people expressed concern for the sheep at the May 11, 2010 public meeting held at Alberton. It was suggested at the meeting that warning lights would be installed to warn drivers that sheep are on the road. Such lights are totally unnecessary and would be a waste of public money. The sheep simply are not prone to being hit by vehicles.
Response
WFLHD will work with MFWP and the USFS in identifying the locations and proper signage to protect bighorn sheep crossings. See responses to MFWP Comments # 10 and #13.

Public Comment #33
We can safely say that all drivers want to avoid an accident with wildlife, for obvious reasons. White-tailed deer are hit more often because of their habit of suddenly darting out in front of traffic from hidden places, especially in the darkness of night. Regardless of vehicle speed, a white-tail will often be hit by a vehicle… Mule deer stay on the higher ground and seldom venture near the road on the valley floor. Elk commonly cross the road in early spring as they take advantage of the first stems of fresh green grass in the pastures and hayfields on the valley floor. Elk are easier to spot and are seldom hit by vehicles. Moose are seldom seen along the portion of Petty Creek Road under consideration for paving. They are a dark colored animal that is difficult for drivers to see at night, but none have been struck by a vehicle along Petty Creek Road.
Response
This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #34
With vehicle speeds around 35 mph, collisions with white-tailed deer are likely not life threatening to the people in the vehicle, but the deer will probably die...White-tailed deer are the most abundant ungulate species in the valley and the few killed by vehicles certainly would not impact the population. If they are concerned about the deer population, they could consider that approximately 80% of fawns each year are killed by coyotes. The deer often move in close to residences for protection, but we often hear the young fawns being taken down by coyotes late at night, especially in the Spring.
Response
This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #35
Item # 2 speculates that paving the north 10 miles of Petty Creek Road will stimulate demand for improvements to Graves Creek Road to the south, resulting in a high traffic roadway between U.S. Highway 12 to the south and Interstate 90 to the north, and that it will result in residential development along the entire 18 miles. Item # 2 is pure speculation. It is very unlikely that traffic volume will change much, because the road on the Graves Creek side of Wagon Mountain Pass is very poor and seldom maintained. Wagon Mountain Pass is very steep and the road on both sides of the pass is narrow and winding. We don't know much about land ownership in that area, but expect that if the land is under government ownership, increased development there would be unlikely.
Response
Land use was analyzed in the Amended EA, and as supplemented in this FONSI, to address the comments received by MFWP and others to the 2008 EA. Traffic and future use of the southern portion of PCR and its connection to Graves Creek Road was also analyzed Amended EA, as supplemented in this FONSI. This information can be found in responses to MFWP Comments #4, #5, #18, #25, and #27.

Public Comment #36
As pointed out at the May 11 public meeting, there is little privately owned land left in the Petty Creek valley, so increased human development would have to be minimal. The valley is already inhabited by humans and blocking the paving of 10 miles of the road will not return it to the pristine wilderness that it once was.
Response
The Amended EA, with the information supplemented in this FONSI, considers the amount of developable land in the Petty Creek watershed. See responses to MFWP Comments #4, #5, #18, #25, and #27.

Public Comment #37
FWP listed a variety of forest wildlife species they think would be endangered by the paving project, but the species that do not do well near civilization are already gone from the area. Other species thrive near human settlement where the "edge effect" is maximized and there is some protection from hunting and predation. White-tailed deer and wild turkeys seem to benefit greatly in Petty Creek valley, but mule deer and elk also take some advantage of superior food resources, especially in early spring.
Response
The Amended EA adequately analyzed the effects to general wildlife in the area as well as federally listed Threatened and Endangered (T&E) Species and USFS Sensitive species in Sections 4.4.1 through 4.4.4.

Public Comment #38
There are many wildlife species in Montana, each with it's own ecological requirements. Some species, like deer, elk, and moose prefer more open areas with lots of shrub and grassy growth. Other species, like martin, wolverine, and fisher require older heavily forested habitats. The Petty Creek area has seen human development over the years and is now home to 115 families. Because of this, there are many clearings and openings that result in a tremendous edge effect. ..White-tailed deer are especially well adapted to living around settled areas. Along Petty Creek, elk benefit in early spring when they take advantage of the new green grass in the hayfields on the valley floor. Mule deer and moose also benefit and they are expected to increase their use of the valley as wildlife enforcement efforts become more effective in the future. Wild turkeys also benefit and their numbers have increased dramatically in recent years in the Petty Creek valley. Turkeys find food resources near residences and they get protection from predators. On a recent trip to Lolo, we counted almost 100 wild turkeys along the route, all of them close to human habitation.
Response
This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #39
Other species, those that prefer a closed forest type, do not benefit from human presence. Since the Petty Creek valley is already inhabited by people, species like martin, lynx and fisher will never have a future in this valley.
Response
This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #40
Item # 3 expresses that paving the road will lead to additional human development in Petty Creek valley and that it will lead to more animal-human conflict involving mountain lions, black bears and deer and that it will lead to direct mortality. First, it is questionable that the increased human development will be a significant factor (see above). This again, is speculation on the part of FWP. People here do not kill

deer because they are eating their geraniums. They fence their gardens, protect their deciduous trees or simply do not try to grow things the deer like to consume. There are some conflicts with black bears now, but that would not increase in the future to any extent, unless FWP is trying to increase bear numbers in this area. The same would apply to cougars. Remember that there are 115 families already resident in the valley. That probably means close to 400 people live there. The valley is already populated by people.

Response

Land use was adequately analyzed in the Amended EA, and as supplemented in this FONSI. See responses to MFWP Comments #18, #25, and #27.

Public Comment #41

Item # 4 complains that there would be increased costs to FWP as they have to deal with additional conflicts between humans and wildlife. This assumes there would be significantly more human settlements due to the Paving of the road...Any additional settlement would be limited to privately owned land on the valley floor. Such land is in short supply and not readily available.

Response

Land use was adequately analyzed in the Amended EA, and as supplemented in this FONSI. See responses to MFWP Comments #18, #25, and #27.

Public Comment #42

Item # 5 asserts that paving Petty Creek Road would be detrimental to Canada lynx and grizzly bears because it would disrupt the connectivity between grizzly habitats and lynx habitats, potentially isolating populations of these species...Petty Creek valleys is inhabited right now by 115 human families. Grizzly bears and Canada lynx do not come here now. If the road is paved, they will still not come here. How is paving the road going to effect connectivity of habitats any more than it does right now?

Response

Effects of development to Canada lynx and grizzly bears were adequately analyzed in the Amended EA in Sections 4.4.2.3 (Canada lynx) and 4.4.2.5 and verified in this FONSI.

Public Comment #43

Item # 6 complains that wolves would somehow be impacted by paving Petty Creek Road. Wolf packs do exist in the mountains close to Petty Creek, especially west of the Wagon Mountain pass, over toward Fish Creek drainage… Petty Creek valley is inhabited by humans (115 families). That is not a good place to promote wolf populations. Paving the road will not change that. The wolves are doing quite well along Wagon Mountain road and Fish Creek.

Response

The project effects to wolves were adequately analyzed in the Amended EA in Section 4.4.2.2.

Public Comment #44

Item # 7 is absolutely far fetched. FWP complains that paving Petty Creek Road will disrupt the connectivity between isolated grizzly bear habitats.

Response

The project's effects to grizzly bears and wildlife connectivity were adequately analyzed in the Amended EA in Section 4.4.2.5.

Public Comment #45

Item # 8 complains that with increased development the Forest Service will be required to manage it's lands in a way that reduces fuels for fire prevention and that this will adversely impact wildlife

populations. Please review Item 2 above. Most of the points expressed by FWP speculates that there will be increased human development as a result of paving Petty Creek Road.

Response

Land use was adequately analyzed in the Amended EA, and as supplemented in this FONSI. See responses to MFWP Comments #18, #25, and #27.

Public Comment #46

In their May 2008 brief, FWP discusses the impacts related to the fisheries aspects of Petty Creek itself. As pointed out in the revised EA, Petty Creek suffers from significant sedimentation caused by the mud road. We can supply pictures of muddy water running off the road directly into Petty Creek after a heavy rain. We are also concerned that the chemicals used for dust control (magnesium chloride) along some sections of the road are entering the creek as well. Recent research projects in Colorado have shown that use of magnesium chloride for dust control or as a deicer results in extensive damage to roadside vegetation. The damage to aquatic vegetation has not been documented, but it likely negatively impacts our streams where it is used, including Petty Creek. West Slope Cutthroat Trout have been found using Petty Creek, hence the creek is worth preserving.

Response

WFLHD acknowledges the author's comment on sedimentation. See response to Public Comment #17 regarding the use of magnesium chloride and our suggestion that you contact Missoula County of your concerns.

Public Comment #47

The road gets extremely dusty during dry periods. The dust coats all of the vegetation in the vicinity of the road. The gritty dust acts like sandpaper on the teeth of any ungulate that grazes or browses in the area. This tends to accelerate the wear patterns on ungulate teeth and ultimately shortens the life of the animal. Species most effected along Petty Creek Road are the relatively rare big-horned sheep and white-tailed deer, since they are the most abundant species along the road area. To a lesser extent mule deer, elk, and moose are impacted. We have not seen a technical report on this phenomenon, but as wildlife biologists we have examined hundreds of ungulate incisor bars over the years and can attest to the importance of good teeth to wild grazers and browsers. When the teeth are gone, gone also is the life of the animal.

Response

This comment does not address the environmental impacts of the proposed actions. Accordingly, no further response is necessary.

Public Comment #48

In his letter to Western Federal Lands Highway Division, dated May 1, 2010, [name withheld]detailed three examples of formerly dirt roads or trails that were eventually paved and today are major roadways, yet any negative impact on the fisheries or wildlife resources seem to have been minimal or non-existent. One example noted by [name withheld] is Lolo Road (Highway 12) which was a pack trail that was paved to the Powell Ranger Station in Idaho in the 1960's. There are actually more species of wildlife along that stretch now than when Lewis and Clark traveled the route, according accounts written in their journals. There are still steel head trout and salmon in the Lochsa River, in spite of the paved road.

The Swan Road (Highway 83) was a dirt road in the 1950's. The road was paved the 75 miles from Highway 200 to the south, north to Highway 35. The road parallels both the Clearwater River and the Swan River, yet there remains good populations of trout and many big game species, including grizzly bear. There is also a large elk winter range near the junction of Highways 83 and 200.

A third example is the St. Regis cutoff road (Highway 135) between St. Regis and Plains, Montana. This road was also a dirt road in the 1950's and was not even a through road until the 1970's. This road was

paved in the late 1970's. Like the two roads listed above, the paving of this road and elimination of the ferry system with the construction of a bridge across the Clark Fork River, apparently have created no detrimental impact to either the fishery or to adjacent terrestrial wildlife populations in the area.

Response

This comment is addressed in response to Public Comment #18.

Public Comment #49

Based on the above examples and our own personal observations in the Petty Creek valley, we are very confident that paving the 10 miles of Petty Creek road would not be detrimental to the fisheries or wildlife resources there. On the contrary, the quality of Petty Creek will improve due to less sedimentation and the life spans of all ungulate species will increase due to elimination of dust degradation of their forage. White-tailed deer and wild turkeys will continue to thrive and increase due to high quality food resources and protection from predation. Elk, moose, and mule deer will continue to benefit on a seasonal basis. Along with the advantages to wildlife and fisheries, the 115 human families residing in the valley will benefit from safer driving conditions, faster emergency response, safety for their school children taking the bus, cleaner air to breath, ability to use fuel efficient cars and trucks, and Missoula County will pay less each year for road maintenance.

Response

The Amended EA adequately analyzed the effects to wildlife and fish in Section 4.4.

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