# GRMWP Project Proposal

## 1. Project Name:

Devils Run & Chesnimnus Creek Watergap Modifications

## 2. Applicant:

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## 3. Participating Landowner(s) and Agencies:

Same as Applicant above.

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## 5. Project Location:

The project is located in the Devils Run Creek and Upper Chesnimnus Creek Subwatersheds of the Chesnimnus Creek Watershed (formerly called the Upper Joseph Creek Watershed), T04N R47E Sections 31, 32 & 33, and T03N R47E Sections 1, 2, 3, 8, 16 & 21. It is along Devils Run Creek and upper Chesnimnus Creek in the northern part of Wallowa County on Forest Service land.

## 6. Project Objectives:

Joseph Creek is one of the five highest priority Geographical Areas for restoration of the Grande Ronde Subbasin steelhead population, and Upper Joseph Creek is ranked as priority #3 under the Joseph Creek population, with Key Habitat Quantity, Sediment and Temperature listed as Key Limiting Factors to that population (GRSBP Supplement, p. 16). Upper Joseph Creek is also a restoration priority for the Joseph Creek steelhead focal fish population. Table 3-3 of the GRSBP Supplement states "Tributary reaches are likely the source of the identified sediment impacts", and it is recommended that upstream tributaries should be given priority for restoration (GRSBP Supplement, p. 17). Devils Run Creek is a tributary to Chesnimnus Creek, and Chesnimnus Creek becomes Joseph Creek (name change; same creek) several miles downstream.

Two of the strategies to help improve sediment conditions in a High Priority Geographical Area are to identify sediment sources and to manage grazing in riparian areas (GRSBP Supplement, p. 48). Several sediment sources along both creeks have been identified, all within gaps between the fenced exclosures that line both creeks, or right next to a fenceline. Devils Run and Chesnimnus Creeks run through multiple pastures in the Chesnimnus Allotment, and are surrounded by grazing livestock every summer and fall. Exclosure fences were built along these creeks in the 1990s to help protect stream banks and beds from the effects of livestock trampling and grazing. The fences have gaps in between them to allow livestock access to water. In some places, the gaps between fences are narrow (approx. 50 feet) and could be considered a true "watergap". In many places, however, the gaps between fences are hundreds of feet wide and are more like "fence gaps" than "watergaps", although they are all called "watergaps" in this proposal for simplicity. The gaps between these fences are under high stress from livestock as this is where they come to water. This project aims to narrow many of the fence gaps so that they are true watergaps by extending the exclosure fences to encompass more of each stream, and to harden the streambanks within each watergap with rock to reduce the amount of sediment entering each creek. There are a few gaps that cannot be narrowed

because of heritage resource or other resource concerns, so hardening the streambanks right next to fences where livestock tend to trail, and placing thinned trees or downed wood in places where there is active erosion will be the only treatments allowed.

This project also aims to improve the grazing management along these streams by paying close attention to the fence maintenance performed in this allotment by the Permittees. They will be expected to comply with their Annual Operating Plan which states explicitly that they are responsible for the fence maintenance along these creeks, as well as ensuring that cows accidentally trapped in the exclosures are let out in a timely manner.

By narrowing up the Chesnimnus and Devils Run watergaps and adding rock to stabilize streambanks we are improving the riparian condition and addressing the Limiting Factors of Key Habitat Quantity and Sediment.

The Joseph Creek Watershed ranks 4$^{th}$ in a list of 8 watersheds that have the potential to positively affect steelhead populations from comprehensive habitat restoration (GRSBP Supplement, p. 50). This project will help to protect critical steelhead habitat by reducing sediment delivery to stream channels from actively eroding streambanks (GRSBP Supplement, p. 47).

The scope of this project was doubled from the original proposal to include the eroding streambanks in the gaps in the upper part of Chesnimnus Creek in addition to gaps along Devils Run Creek based on a suggestion during the BPA field review in 2009.

## 7. Project Description:

Introduction - This project would modify existing watergaps along Devils Run Creek (DR) and upper Chesnimnus Creek (UC) to reduce impacts to aquatic habitat, water quality and streambank integrity. Watergap modification would include one or a combination of the following: extending exclosure fences to narrow existing gap, pulling back steep banks to achieve a gentle grade into and out of the creek, adding 3"-5" rock to all or part of the banks in a watergap, and adding thinned, non-desirable tree species or down wood collected nearby to streams and streambanks to discourage livestock traffic in certain areas. Approximately 77 CY of rock would be needed and 3,600 feet of fence would be constructed.

Most of the watergaps along these creeks are excessively wide, and the meandering nature of the streams at these locations provides ample opportunity for bank trampling and eventual erosion of raw banks into the stream channel. Opportunities were explored for providing off channel water and closing some gaps, but these streams lie in the middle of each pasture and the gaps are needed for livestock movement and utilization throughout the entire pasture.

The suggestion of installing a geocell mat prior to rock placement in each watergap was also considered and then rejected due to cost, the possibility of water velocities exceeding the design specifications, and the fact that NEPA had already been completed for this project by FS staff and installation of a geocell mat was not analyzed. The possibility of installing a geocell mat on another watergap project will be explored in the future.

In the 2006 Grazing Management Processes and Strategies for Riparian-Wetland Areas from the BLM (Technical Reference 1737-20), authors recommend locating water access points where the streambed is stable, hardening the area with rock to minimize trampling damage to streambanks, and ensuring the access point is narrow enough to discourage loafing. These designs are incorporated into this project, as well as ensuring the approaches to the crossing or access points blend in with existing site conditions, not be steeper than a 5:1 slope, and that the material to be used to rock the slope be "equal to the channel bottom materials from the channel bottom to the five-year frequency storm elevation" as suggested in the NRCS Technical Note on Livestock Water Access published in 2009 (No. NM-2). The 3"-5" rock specified in this project falls within this suggestion, though there are both larger and smaller rock sizes in the stream substrate of each creek. Since this rock will be added to the streambanks instead of the stream bed, it expected to remain in place for many years.

Existing condition – Devils Run Creek (the section that flows along FSR 4690) has 6 exclosures (EX) and 5 watergaps (WG). Upper Chesnimnus Creek (the section that flows along FSR 4600-930 and FSR 4695) has 8 exclosures and 7 watergaps. Watergap numbering referred to below (and on attached maps) reflects a former draft of this proposal where there were 6 watergaps in Devils Run Creek and 8 watergaps in Upper Chesnimnus. Watergap 3 in Devils Run Creek has been dropped but the original watergap numbering has remained the same, hence the reference to Watergap 6. Likewise, Watergap 1 in Upper Chesnimnus has been dropped and the tasks outlined below start with Watergap 2.

Specific Actions – There are 4 main Tasks to complete, two of which include many individual tasks:

Task 1 – Modify the Devils Run Watergaps and Exclosures as follows (see attached maps for overview of each individual task):

- WG1: Add 2 CY of rock to east part of creek where bank has eroded just downstream of fence.
- EX2 (upstream end): Extend EX2 NE fence corner (the one across creek) upstream 150 feet to red osier dogwood and spruce along base of slope (not on floodplain), straight across from fir holding N fence corner. NE fence corner will be high enough in elevation so that cows trailing around that corner will not be able to capture streamflow. Add 1 CY of rock to the far bank of Devils Run Creek near the former fenceline to discourage water from entering a cow trail that has captured streamflow and become a new channel. Add small thinned trees to a headcut that has formed where the cow trail channel re-enters Devils Run creek to help prevent the headcut from moving upstream. Add 2 CY of rock to banks along new downstream fence line, 1 CY on each side. Add more thinned trees or down wood on floodplain to encourage use of the rocked area next to the new fenceline.
- EX3 (and area downstream): Add 2 CY of rock to banks along downstream fenceline, 1 CY on each side. Designated Old Growth starts downstream from here at Poison Creek and extends upstream to the end of the project area on Devils Run. If the DMA allows, pull several pieces of existing downed wood on the hillside to creek and surrounding floodplain to "trash up" the area (make it difficult to access the stream or walk along the edge of the bank) for approximately 100 feet downstream of the EX3 fence. Also put a 4$^{th}$ (back) side on EX3 (500 ft); extend north side of EX3 to base of the roadfill to include the wetland on the east side of Summit Creek (350 ft); raise the height of EX3 fence; and restore anchor points on EX3 fence.
- WG4 (in Poison pasture): Add 3 CY of rock to the entire length of both streambanks in this small gap just upstream of EX3.
- EX4 (downstream of fence): Add 6 CY of rock to fenceline and streambanks downstream, 3 CY on each side.
- WG5: Narrow this gap to 45 feet and move it upstream approximately 40 feet into EX5; the upstream fence (new EX5 fence) would cross at the shrub on the north side of the creek (~40 ft upstream from current fence location); move EX4 fence upstream ~130 ft to create the downstream watergap fence (~300 ft of fence); remove the old fence (175 ft) along the backside of the old gap location and ensure gap is accessible from both directions; lay back banks of new gap and add 6 CY of rock to both streambanks; move existing fence anchor to a live tree. Watergap narrowed from 265 feet to 45 feet.
- WG6: Extend EX6 fence downstream and EX5 fence upstream to create a 70-ft gap that encompasses a point bar and one small meander and has access to a cow trail down the tributary on the far side of Chesnimnus; approximately 500 feet of total additional fence will be needed; add 8 CY of rock to laid-back banks in gap; remove the old fence (225 ft) along the backside of the former gap and ensure gap is accessible from both directions; restore tributary channel from culvert under FSR 4690 to EX6 that is being diverted into WG6 by down wood and trailing. Watergap narrowed from 240 feet to 70 feet.

Task 2 - Modify the Upper Chesnimnus Watergaps and Exclosures as follows:

- WG2 (2-part gap separated by pasture fence): Extend EX2 fence downstream ~150 feet toward pasture fence for a total of ~400 additional feet of fence. Add 6 CY of rock to both streambanks in east part of gap, and 6 CY of rock to both streambanks in west part of gap, mostly near the fenceline. East watergap narrowed from 155 feet to 50 feet.
- WG3: Add 4 CY of rock to 4 streambank locations where fences cross creek (1 CY/ bank). Cut the tributary culvert under FSR 4695 shorter and move a berm of soil to route flow into the original channel to the east that will carry the flow directly into EX3 and not meander through WG3. Add extra fill from channel re-route to the existing/new tributary channel that flows through WG3, especially where it exits EX3 and is ~2 feet deep.
- WG4: Add 5 CY of rock to both streambanks, especially along fenceline where soil has eroded away.
- WG5: Extend EX4 fence upstream ~330 feet and extend EX5 fence downstream ~40 feet to close up gap, and add fence with gates on both sides of the narrowed watergap for a total of approximately 600 feet of fence (one side of the watergap is already fenced). Add 6 CY of rock to streambanks, especially along fencelines. Watergap narrowed from 340 feet to 55 feet.
- WG6: Extend EX5 fence upstream and EX6 fence downstream to a 60-ft gap in a straight section of stream, for a total of 800 feet of fence. Lay back watergap banks and add 6 CY of rock to banks. Watergap narrowed from 265 feet to 60 feet.
- WG7 (2-part gap separated by pasture fence): Leave fences as they are due to potential Heritage Resource impacts. Add 4 CY rock to east part of gap along Exclosure 7 fenceline, and add 6 CY of rock to entire length of both streambanks in west part of gap (much smaller gap). Place thinned trees along Exclosure 7 fenceline where it is next to eroding streambank, and also on floodplain and in outside bend of creek just downstream of fence.
- WG8: Add 4 CY of rock to streambanks in this gap, mostly on the west side of the creek. This gap and EX8 are on The Nature Conservancy's property at this time, but the property is expected to be sold to the USFS within the next several months.

Task 3 – On both ends of every exclosure where the fence crosses the creek, the traditional barbed wire fence would be replaced with a gate that would be left open in winter to provide uninhibited downstream movement of woody debris during high winter and spring flows.

Task 4 – Remove the decrepit Pasture Fence through Upper Chesnimnus Exclosure #5 (300 ft).

Rocking of the streambanks in watergaps would be performed by a rubber-tired excavator during dry or frozen ground conditions per SHPO requirements. Trees to be thinned for addition to the watergaps will be prescribed by the USFS Silviculturist with approval from the USFS Wildlife Biologist.

Benefits – Approximately 1,400 feet of streambank protected within an 8 mile project area.

Project Maintenance – Fence maintenance will be performed by the Permittees as part of their Annual Operating Plan. Permittees have been included in project design and have reviewed every aspect of the project on the ground with the USFS Hydrologist and USFS Range Specialist.

Permits –The project is covered by USFWS/NMFS programmatic Aquatic Restoration BOs and DSL/ACOE programmatic permits. Project Notification Forms will be sent out to DSL, ACOE and ODFW in May 2012. No work will occur outside of the instream work windows of 1 July 2012 – 31 March 2013, and 1 July 2013 – 31 March 2014. A SHPO compliance document is complete and in the project file.

Monitoring Plan - The monitoring plan will include a final report that describes the actual implementation of the project, and pre- and post- work photos taken from 3 established photo points. Photos are to be taken each year for 2 years post implementation, then again after 5 years. Monitoring and report writing will be completed by the USFS Hydrologist.

Work Dates – The project will either start in September 2012 or in August or September of 2013and wrap up approximately 1 month after the start of implementation. The requested BPA contract term would be 1 September 2012 to 30 November 2013.

## 8. Project Budget:

USFS contribution to this project is time conducting NEPA for this CE, Contracting Time and Personnel time during implementation, which is captured in the Personnel section of the Budget spreadsheet as well as part of the Indirect Cost section, totaling $16,027. All other costs for the Project are requested from BPA, totaling $51,540.

## 9. Attachments:

Include appropriate information or attachments, these may include:

X Maps – There is a Vicinity Map indicating the project location within Oregon, a 1:18,000 map for Devils Run Watergap locations, and a 1:22,000 map for Upper Chesnimnus Watergap locations. There are also additional maps for each individual task in Main Tasks 1 & 2.

X Photos – One double-sided photo sheet showing examples of existing conditions and one single photo showing rock addition to Devils Run Watergap 1.