Appendix A

Addendum to Biological Evaluation for Summit Pierre Fuels Reduction Project

Environmental Assessment

September 24, 2009

1. Common loon (Gavia immer)

Status: Sensitive (USFS Region 6 List).

a. Introduction and Description of Analysis Elements

Common loons (loons) once nested on about 31 different lakes and reservoirs in Washington (Poleschook and Gumm 2006) but now maintain fewer than 12 territories annually. Loons began nesting on lakes on the Colville National Forest in 1999 but have nested on Twin Lakes in southern Ferry County since at least the 1980s.

Nesting loons require larger waterbodies on which to feed and nest because their long, narrow wings cannot lift them directly from the water and they need a long takeoff area. Loons face a variety of hazards:

1. lead toxicosis (Pokras and Chafel 1992, in Poleschook and Gumm 2006),
2. loss of nesting habitat,
3. property development,
4. predation by bald eagles, and
5. high levels of recreation or other disturbance.

In Washington, ingestion of lead caused the majority of known adult loon mortality in the past decade (Poleschook and Gumm 2006), and it remains a problem in their range in the lower 48 states. Loss of nesting habitat due to water level fluctuations and shoreline development have decreased habitat on lakes in Washington on which loons historically nested. The increase in bald eagle populations has pressured nesting loons. Bald eagles frequently harass adult loons from their nests, and then eat the eggs. Bald eagles also capture and eat young loon chicks. Both situations have occurred repeatedly on area lakes, including Pierre Lake.

Recreation, particularly use of boats and jet-skis, can sufficiently disturb loons and cause them to abandon their nests.

b. Affected Environment

Both Summit and Pierre lakes are sufficiently large to provide feeding areas, though Summit Lake might not be sufficiently large for nesting.

Loons have been documented on Pierre Lake since 1999 and Summit Lake shortly thereafter, though unverified reports indicate that loons might have used Pierre Lake

before then. Neither lake would have been used historically as a nesting territory because the fish on which the loons subsist are planted for human fishing: the lakes are naturally nearly or totally devoid of fish.

Loons initiated nesting on Pierre Lake in 2006 (the eggs were destroyed) and successfully raised a chick in 2008 and 2009. They have not nested on Summit Lake, and it appears that the loons on Pierre Lake use Summit Lake as an ancillary feeding area. Loons also nest on other lakes on the Colville National Forest (Ferry, Swan, Long, Big Meadow and Yokum) and the sum of these nesting efforts constitutes more than half the nesting loons in Washington.

c. Environmental Consequences

The proposed project will not lead to an increase or decrease of the first four hazards; these four hazards will no longer be addressed in this document. Disturbance by recreationists will not be affected by this project, but harvest activities close to the lake could disturb the loons. Timing of harvest of units near Pierre Lake will take place on a schedule agreed to by the district wildlife biologist or his representative to reduce or eliminate potential negative effects to nesting loons.

d. Cumulative Effects

Because the proposed project will not lead in a trend towards federal listing or loss of viability for common loons, it will not contribute towards cumulative positive or negative effects to loons.

e. Design Elements (DE) and/or mitigations (MI)

Timing of harvest of units near Pierre Lake will take place on a schedule agreed to by the district wildlife biologist or his representative to reduce or eliminate potential negative effects to nesting loons.

f. Conclusions

The proposed project, with the design element in place, will not lead in a trend towards federal listing or loss of viability for common loons.

2. Pygmy shrew (Sorex hoyi)

Status: Sensitive (USFS Region 6 List).

a. Introduction and Description of Analysis Elements

The pygmy shrew is the smallest mammal in North America. Pygmy shrews are distributed throughout the boreal region of North America, and they range as far south as the Rocky Mountains of Colorado and the Appalachian Mountains of the northeastern United States. They include at least 2 subspecies, montane in the west and prairie in the middle-west (eastern Montana) and east. We consider only the montane subspecies in the discussion. Its diet consists of invertebrates. Much of the following information comes from the US Forest Service's technical conservation assessment for pygmy shrew (Beauvaisand McCumber 2006).

It is one of the rarest of North American mammals, though can be common locally. Little is known about pygmy shrew habitat requirements. In general, pygmy shrews seem to

prefer moist habitats over dry areas. They occupy a wide variety of habitat types, including coniferous and deciduous forests, swamps, grassy clearings, bogs and floodplains, and appear to prefer grassy openings of boreal forest. In nearly all cases where the subspecies has been captured in a non-forest cover type, those types have been small patches enclosed by coniferous forest and in close proximity to streams or wetlands. Large amounts of down woody material were a common element at most sites at which pygmy shrews have been found.

In Washington, pygmy shrews have been found only in the south end of Stevens County, where they were captured in upland, uneven-aged, second-growth coniferous forests (Stinson and Reichel 1985). Their capture here and in other harvested areas indicates that it might be tolerant to a moderate level of disturbance.

The Washington Department of Fish and Wildlife's Gap Analysis Program modeled potential habitat pygmy shrews, and the western edge of the habitat in Washington includes the Summit Pierre project area (http://wdfw.wa.gov/wlm/gap/vdm.htm). Model elements included open and closed conifer forests in all zones except the ponderosa pine zone, where open conifer forest was excluded.

Three main elements might affect their occurrence. Livestock grazing in wetland areas can compact soil and remove vegetation, both required to maintain invertebrate prey populations. Intense disturbance like clearcut harvesting and stand-repacing fires can convert a mesic site to a drier site. Roads can dry soils and vegetation by increasing airflow and sunlight to a site, and pygmy shrews might avoid roads because they contain drier environments.

b. Affected Environment

The Summit Pierre project area contains habitat for pygmy shrews in the riparian areas and wetlands scattered throughout the project area. Surveys were not conducted for pygmy shrews, and none were noted during general wildlife surveys.

c. Environmental Consequences

No treatments other than underburning will occur in riparian biophysical environments (hardwoods, western hemlock, spruce, western redcedar, or subalpine fir). Regardless of the vegetation type, a 15-foot no treatment buffer will be employed along both sides of all streams and wetlands to reduce the likelihood of creating new areas of cattle access to waterways, a water quality concern. All riparian vegetation including hardwoods (broadleaved trees), western hemlock, Englemann spruce, or western redcedar will be excluded from vegetation treatment. Units 2380063, 2380064, 2420005, 2420006, 2460020, 2460046, 2460050 and 2460069 propose harvest near wetlands and will be buffered according to RHCA guidelines.

Prescribed fire in the form of underburns will be allowed to enter RHCAs including LOS untreated patches, but no direct ignitions will occur within them. Many of the plant species associated with moist conditions demonstrate strong recovery following fire events. Fire will be allowed to enter RHCAs only when effects are predicted not to cause

detrimental soil conditions, more than 10 percent overstory mortality, or 20 percent loss of large woody debris. Fire line construction will not occur within RHCAs.

Machine piling will not occur in riparian vegetation types for example cedar, or hardwood forests. Wood and/or brush in the RHCA will be hand piled where more than a low creeping ground fire is expected due to high fuel loading. Piles will be outside of the 15 foot no treatment buffer and burned during late fall through early spring while fuel moisture levels are high enough to limit spreading. A minimum of 90% organic material (duff) will remain on the ground in the entire RHCA(s) after pile burning.

Cattle access to RHCAs will be limited by retaining vegetation barriers. During fuel disposal activities, if cattle activity increases and is resulting in damage in an RHCA because of barrier removal, a barrier such as a fence, debris fence, or other barrier method will be installed. The need for barriers will be assessed during post project visits to the sale area by the hydrology or fisheries staff.

Large wood will not be removed from stream channels during treatments, road construction or reconstruction, or danger tree removal. At least 35 feet of all existing downed trees 12 inches or greater in diameter within or overhanging the stream channel shall be left in place. Where possible, trees that need to be felled within the RHCA(s) will be felled toward the stream. Where felled trees cross a stream, at least a 35 foot section of each tree, including the portion within the stream's bankfull width, will be left on site.

Roads will cross riparian areas in several locations.

d. Cumulative Effects

Past projects included clearcuts and riparian harvest and might have negatively affected pygmy shrews. Current harvest prescriptions call primarily for partial harvests, which don’t dry sites as much as clearcuts. RHCAs are implemented in each project, which nearly eliminates negative effects to riparian areas. The proposed project will not add to cumulative affects, either positive or negative, to pygmy shrews.

e. Design Elements (DE) and/or mitigations (MI)

Same as Blue Grouse DE: Follow RHCA guidelines and buffer all units near ponds and wetlands to retain riparian habitat on at least 60% of the wetland edge (2380063, 2380064, 2380073, 2420006, 2460011, 2460020, 2460046, 2460050, 2460069, 2470123, 2470125 and 7380071 were identified using GIS layers; other wetlands might exist in units.).

f. Conclusions

The proposed activities may affect individual pygmy shrews but will not lead in a trend towards federal listing or loss of viability because little riparian vegetation, their primary habitat, will be disturbed.

Literature Cited

Beauvais, G.P. and J. McCumber. (2006, November 30). Pygmy Shrew (*Sorex hoyi*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/pygmyshrew.pdf [accessed September 2009].

Pokras, M., and R. Chafel. 1992. Lead toxicosis from ingested fishing sinkers in adult Common Loons (*Gavia immer*). New England Journal of Zoo and Wildlife Medicine 23(1): 92-97.

Poleschook, D. and V.R. Gumm. 2006. Summary of Status and Conservation of Common Loons (*Gavia immer*) in Washington. Wetland Ventures Volume 8 Number 3 (May 2006).

Stinson, D.W. and J.D. Reichel. 1985. Rediscovery of the pygmy shrew in Washington. Murrelet 66(2):59-60.

Chris Loggers /s/ September 24, 2009

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