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First name: Tom
Last name: Titus
Organization:
Title:
Comments: [External Email]Comments on the QMS project EA

Dear Joan,

Following are my comments on the QMS project, which are directed almost entirely toward salamanders in the impacted area.

Regards,
Tom A. Titus, Ph.D.

There is no mention of terrestrial salamanders of any kind in this environmental assessment. This is a major oversight, given that terrestrial salamanders are the most abundant vertebrates in western forest ecosystems (Best and Welsh, 2014).

The project area lies squarely within the range of the Oregon slender salamander (Batrachoseps wrighti), listed by the Oregon Department of Wildlife (ODFW) as a Sensitive Species in the Western Cascades region. The Oregon slender salamander is the only amphibian species endemic to Oregon and is restricted to mature coniferous forests on the west slope of the Cascades. Individual salamanders have small home range sizes of perhaps 1m2, limited dispersal capabilitiy, and are dependent on down wood for cover. Although this species was shown to be resilient to a variety of logging practices, a major caveat is that large amounts of down wood must remain to provide moist microrefugia (Garcia, et al. 2020). A little appreciated long-term impact of logging is that large scale removal of trees from the landscape will decrease the supply of down wood over time, a resource that salamanders and a multitude of other species rely on for moist refuges during summer drought conditions common in the western U.S.

Similarly, the clouded salamander (Aneides ferreus) is also listed by ODFW as a sensitive species, and is also not mentioned in the EA. As with the Oregon slender salamander, the clouded salamander is most abundant in forests containing large decaying logs with sloughing bard (Thomas, 1993). The long-term decline of large wood debris as a result of logging will negatively impact this species.

Several other species of terrestrial salamanders occur within the management area, and are ignored by the EA. The Oregon ensatina (Ensatina eschescholtzii) require large woody debris and are negatively impacted by logging practices on the west slope of the Cascades (Garcia, et al., 2020). Western red-back salamanders (Plethodon vehiculum), also require woody debris of various decay classes (Corn and Bury, 1991). Dunn's salamanders (Plethodon dunni) are most abundant in shaded riparian corridors (Vesely and McComb, 2001). Terrestrial salamanders such as the Oregon ensatina are ecologically important predators of forest floor invertebrates that accelerate leaf decomposition. The Oregon ensatina is known to increase accumulation of leaf litter and slow the release of carbon by reducing populations of leaf-eating invertebrates (Best and Welsh, 2014). Given their ecological importance, the EA should have contained specific reference to terrestrial salamanders and addressed steps to maintain their abundance and diversity.

The Cascade torrent salamander (Rhyacotriton cascadae) is also listed by ODFW as a Sensitive Species in the Western Cascades. Cascade torrent salamanders inhabit lower order seeps and springs with cold, highly oxygenated water. Logging will negatively impact this species by increasing water temperature and increasing siltation (Steele, et al., 2003). These negative impacts can be mitigated by providing ample streamside buffers (Vesely and McComb, 2001). However, management plans rarely require buffers for seeps, springs, and first order streams. Although the EA mentions the Cascades torrent salamander and stream buffers, there is no assurance that the microhabitat needs of this aquatic salamander will be met in areas where logging is recommended. Cascades torrent salamanders are expected to benefit from decommissioned roads and resultant decrease in siltation from road runoff.

Inexplicably, the EA contains numerous references to Cope's giant salamander (Dicamptodon copei), which does not occur in the study area.

References:

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