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Mid-Swan Landscape Restoration and Wildland Urban Interface Project (Mid-Swan)

Public Comment (this does not represent any organization or collaboratives I am apart of)

Attention: Sandy Mack, Blackfoot-Swan Landscape Restoration Team Leader

United States Forest Service, Region 1 Office / 24 Fort Missoula Rd. / Missoula, MT 59804

Dear Members of the Mid-Swan Team,

Thank you for the opportunity to comment on this Project. As a citizen living and working in Condon, my health is linked to the health of this land, and I'm honored for the chance to share my praises and concerns with the project's general approach and specific treatments, which I would summarize as follows:

Thank you for looking at the forest, but please remember the trees.

I appreciate all efforts to look at this priceless patch of earth at the landscape scale. This view is bold and pioneering and [ndash] for the wide-ranging species and processes whose land we share [ndash] it is utterly necessary. This type of inquiry has precedent and promise with many nonprofits or independent collaboratives, and I'm thrilled that our region's most powerful land manager, the USFS, is joining the conversation towards large-landscape resilience.

But even, or especially, at this early stage of the Mid-Swan's consideration, I'm not sure that modeling and photo interpretation are enough. I fear that an overreliance on photo interpretation and modeling has wed the Mid-Swan project to desired products at the expense of resilient, ecosystem processes occurring on the ground now. The pace and extent of climate change is sure to annul predictions of future variability based on the past, and planetary forces are and will be influencing this place in ways we cannot fathom.

This project cites biodiversity as a [ldquo]corner stone of resilient ecosystem functions[rdquo] (4), and I heartily agree that it is, but there is little said about how photo interpretation or modeling connect [ndash] in ground-truthed field assessments [ndash] to how biodiversity can be advanced. Given the ways this landscape retains most of the large carnivores that Lewis and Clark saw [ndash] a continental exception to the trend of trophic toppling and biodiversity erosion [ndash] I am curious as to how the Mid-Swan project will know success in its goal to [ldquo]restore and maintain aquatic/terrestrial biodiversity in light of climate change.[rdquo] We are not certainly not without concerning biodiversity trends in this landscape [ndash] chronic declines of western toads and native trout; unoccupied beaver habitats; the fragility of water howellia[rsquo]s existence; the mysterious disappearance of porcupine and fisher; and more [ndash] so I would hope to see more explicit biodiversity goals addressed in public discussion, with on-the-ground specialists, and throughout all subsequent planning documents.

To that end, please consider approaches beyond aiming the project towards a single, [ldquo]big gulp[rdquo] EIS (separate EAs? a shorter duration for stepwise learning and adaptation?). Given the spatial distribution and the duration of these actions, they seem to be moving towards an unwieldy, near-impossible proposal for the public to digest. If a single EIS seeks merely to economize logistics, avoid litigation, and quickly gain licensure to act without impediment, please be forthright about that; but I suspect this type of efficiency will undermine public approval of the Forest Service, and it will certainly impede and overwhelm the adaptive management that a resilient Mid-Swan landscape requires.

Fire, not mechanical treatments, will heal our wounded forests. Please be more explicit regarding how treatments take place.

On the whole, this Project[rsquo]s messaging leaves me concerned with perpetuations of fire-as-destruction, instead of fire-as-restoration, which is the direction I[rsquo]d hope our national forests can slowly but surely embody. I[rsquo]m concerned with the possibility that, under the auspices of [ldquo]risk[rdquo] to communities, status quo fire suppression will continue, and mechanical treatments will unnecessarily intensify. Thinning small trees at a small scale on private land can productively create defensible space, and shaded fuel breaks may be carefully selected and proactively cut within the WUI for community protection, especially in the fire-prone foothills of the Missions. For that type of forestry, I encourage the use stewardship contracting to maximize benefit to local communities. But over vast acreages and in steep country beyond the WUI, mechanical treatments (and associated activities, see comments on roads below) will have serious consequences for ecosystem health at taxpayers[rsquo] expense. Only fire is dynamic and random enough to avoid homogeneity (12), and I do not want to see mechanical fuels reduction without follow-up burning create plantation-like conditions that are not as resilient or diverse as intended (Odion et al. 2004).

Wherever mechanical treatments do occur, I would like it to be more clearly denoted where they are accompanied by prescribed burning. There are some places where prescribed fire is not appropriate (ie. a young stand without fire-resistant species), but the best available science increasingly shows that logging alone will not reduce (and may advance) the extent and severity of burns on our landscapes. Intensive disturbance of soils through road access, large scale nutrient/biomass removal (including dead wood), fragmentation of mycorrhizal networks, and highly concentrated ash depositions in slash pile burning are among my concerns with logging without follow-up fire.

I would also like clearer denotation of how mechanical treatments would occur in the riparian management zone (RMZ). Plum Creek has given us many examples of what abusive riparian logging can look like, and though I'm sure the Forest Service would not be so careless, the still-present riparian scars have increased my aversion to this practice. I respect the challenge of dense riparian buffers created through decades of fire-suppression that may "wick" flames for complete vegetation loss, and I'd be open to explore novel use of chainsaw work that strategically thins trees while contributing large woody debris or serving the goals of beaver dam analogues (see below). But I do not believe the practices outside the RMZ can so easily be transferred to conditions within it, and at this time I do not support commercial, machine-dependent, or road-creating applications of logging in the RMZ. There has been informal talk of "feathering" RMZ cuts, and I would like to understand more precisely what that means, what kind of equipment would be used, and how this upholds Montana's Stream Management Zone legislation.

I see the rapid advances of a warming climate and unplanned rural development as primary concerns in our fire-dependent landscapes, and both will take more structural, cross-jurisdictional changes than this Project alone can achieve. I commend this Project's efforts to reintroduce fire as a natural process, and intentions to focus in the WUI. But if large-landscape resilience is truly the goal, reversals of status quo fire suppression must take precedent over mechanical treatment. In the coming phases of this Project, I hope to see messages and actions that prioritize management with fire (prescribed and wild), while also strengthening protections of federal wildlands to reduce fire severity (Bradley et al. 2016)

Please do not add any new roads to this landscape.

I cannot support efforts that add any new roads to this landscape, and certainly not at least 60 miles of brand-new construction. This new road building directly contradicts stated goals for reducing sediment (5), perpetuates heedless expenditures of fossil fuels, multiplies invasive plant vectors, enables illicit motorized encroachments, and fragments critical wildlife habitat for many species (especially ESA-listed grizzly bears, Proctor et al. 2018).

New roads in general — whether they are temporary or permanent — will never receive my support, but many are specifically placed in steep, currently roadless terrain that would be unconscionable to invade. Along with old-growth retention, prohibition on new road construction is a firm sideboard of the Collaborative Forest Landscape Restoration Program funding that supports this project's planning, and I urge the Project to consider those implications.

The proposed roads in the upper slopes of the Goat Creek basin exemplify just a few of my blatant concerns (Map 16, C3-D3). There are new road lines — crossing some previously stored roads (!) — on almost every contour off Napa Ridge, which is incredibly steep, relatively treeless, occupied by avalanche chutes, and draining right into Goat Creek — a prime bull trout stream, which also has a consequential road right beside it. More examples exist in other streams prioritized for bull trout (Woodward, Lion, Squeezer, Piper, Cold, and

Jim), and westslope cutthroat trout (Cooney, Whitetail, South Cold, Piper, Cat, Dog, Smith). Because the Swan Valley is still trying to heal from road-wounds inflicted by Plum Creek mismanagement, I can only support efforts decommissioning roads, or decreasing sediment impacts through BMP improvements that point towards decommissioning in the future. In that regard, please also be more explicit with what stormproofing entails; choosing to [ldquo]upgrade[rdquo] a stored/closed road [ndash] even with BMPs [ndash] may have consequences that obviate long term goals (5).

Beavers are the answer to so many questions [ndash] thank you for including beaver dam analogues (BDAs), and please do many more!

I find the BDA component to be the most promising aspect of this entire Project, and I am wholeheartedly grateful to see its inclusion. The beaver is a keystone species whose restoration will, like fire, be transcendent across time and place for comprehensive ecosystem benefits (water storage, water cooling, fire-buffering, sediment capture, carbon sequestration, nutrient filtration, floodplain reconnection, stream complexity, biodiversity including but not limited to native fish recovery, etc., etc.). I would like to see this aspect of the Project become substantially more robust, not only in the spatial distribution of BDAs but also in their quantity. The Project is not clear whether [ldquo]nine stream sites[rdquo] (13) or [ldquo]nine structures[rdquo] (14) are being proposed, but either way [ndash] and definitely in the case of the latter [ndash] nine is woefully inadequate for landscape scale restoration goals. There are literally hundreds of opportunities for BDAs across the Mid-Swan landscape.

BDAs are most successful as low-tech, process-based restoration tools installed with on-site materials in quantity at the reach scale, mimicking how real beavers build a series of dams that check each other[rsquo]s effects. In a BDA project in Bridge Creek (OR) for example, 76 BDAs were installed over 3.4km in four treatment reaches, at a time when there were no beavers present in the system. Four years later, after additional BDAs were added in the process of adaptive management, 236 dams existed in the study area, and nearly half (115) of which were built by naturally recolonizing beavers (Bouwes, 2016).

In the Mid-Swan Project, the nine locations were [ldquo]identified high in stream drainages that are most likely to retain cold water in 2040,[rdquo] but there should be further affirmation of how beavers could moderate or reduce temperatures of streams lower in the watershed through increased hyporheic exchange (Weber et al 2017). Also, some of the placements [ndash] as in BDA 9 in the Lion Creek drainage on Map 12, D2 [ndash] have me somewhat skeptical. I believe more effort will be needed to ground-truth these locations with field assessments, and I would be eager to offer knowledge and service to help that to happen with success. I also recommend contracting Montana-based Amy Chadwick (of Great West Engineering) to assist the planning and installation process.

Ultimately, the goal of BDAs should be to kickstart processes that create conditions for naturally recolonizing animals to thrive in their former landscapes (Bouwes et al. 2016). In other words, the structural failure of BDAs over time should be assumed and accepted, for a BDA[rsquo]s true niche is to trigger the enduring work of actual animals. As this Project acknowledges, much prime beaver habitat in the Mid Swan is currently unoccupied, and this is a vital opportunity that could use existing active beaver sites as points for expansion. To that end, I think

the Project's modeling should eliminate the screen on lower-elevation stream drainages and conduct beaver habitat/occupancy assessments to focus BDAs in sites where the likelihood of existing beaver dispersal is high. Such assessments should also include analyses of forage availability (which is currently lacking in the model), and, as a secondary consideration, the availability of on/near-site materials for BDA construction. An example is of a historically rich but currently underoccupied beaver habitat that could be leveraged for expansion are the wetlands around Smith Creek (47.573559, -113.727225 21N 17W S14).

I also urge this Project to consider all potential BDA applications without fear that beaver restoration at lower elevations will lead to increased human-wildlife conflicts or brook trout incursions. We face more pressing challenges, and these are issues that can be resolved with the type of education that an organization like Swan Valley Connections can offer, including through the opportunities for human-scale volunteer service and citizen-science that BDA installation and monitoring can provide. There is a growing body of research and practice with solutions affirming that beaver benefits far surpass the obstacles in the landscapes to which they are native keystones (Hood et al. 2018, McCaffery 2017).

Thank you for respecting collaboration, but please qualify and expand its reach.

I respect the Project's inclusion of the Southwest Crown of the Continent Collaborative (SWCC) as an influential stakeholder, but I find it misleading to say that SWCC [ldquo]has been engaged in the development of the project's assessment (1).[rdquo] As a voting member of the SWCC, this statement implies an agency creating and authority endorsing the final presentation of the Project, and that is simply not true. Many of the comments from the SWCC as a whole [ndash] and mine as an individual [ndash] were constructive criticisms, but I never wished to be lumped as a driving force behind this Project in its current form. Had I seen a draft and been asked if it was ready for public review, I would have certainly said no. In the name of reducing further inaccuracies among the public and press, please qualify the SWCC's role as more of a critic alongside the Project instead of our present connotation as a sponsoring guide.

Another key stakeholder whose adjacency and potential collaboration I would like to see acknowledged is Montana State Department of Natural Resources & Conservation's Swan River State Forest (SRSF). It is wholly understandable that management approaches may differ, but given this Project's aims for comprehensive, large-landscape conservation, the block of SRSF land in the middle of the Mid-Swan landscape seems a glaring anomaly worth considering. Will there be agreements to soften borders and provide continuity in shared goals for biodiverse, resilient habitats?

For increased readability by the general and local publics you serve, I would also suggest some improvements to the maps. Two practical steps would be to: 1) include township, range, and section lines instead of the current idiosyncratic gridding; 2) include road names/numbers on the terrestrial maps (in addition to the aquatic maps) so that people can find where they are.

To help others digest and contribute to all this, I urge the comment period to be extended to at least 90 days. Given its impact over 70,000 acres and 30 years, this is a Project on a scale our small communities have never seen, and for public comment to be so truncated [ndash] to a mere 30 days with one brief meeting in the middle and no sponsored field visits [ndash] is not acceptable. I fear this is part of a larger trend in public lands policy, and it is one I earnestly hope we can reverse on the Flathead (Goldfarb 2018).

Thank you again for the invitation to participate, and for considering these comments. I look forward to continued involvement in pursuing a diverse, resilient landscape together.

Sincerely,

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