**LRC Comments on RMZ**

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**Riparian Management Zones** It appears the LMP has carried forward the same distance parameters for riparian zone protection that were developed in 1995 from the Interior Columbia Basin Ecosystem Management Project. These were developed to apply from the crest of the Cascades east to the crest of the Rockies. They were not ecosystem specific and never expected to be used for more than 18 months until replaced with more ecosystem specific guidance. We think this portion of the plan needs additional refinement.

The LMP should make clear that the RMZ’s are different from actual riparian habitat. The RMZ is a mixture of actual riparian habitat defined by riparian vegetation closest to the stream (Hansen et al) and then it includes a buffer zone of upland vegetation that includes the distances spelled out in Table 10 – Riparian Management Zone Delineation, p.37. This distinction is important as vegetation management practices that are allowed or precluded must be differentiated by which part of the RMZ is being managed. The current inner delineation has nothing to do with the actual presence of riparian vegetation.

* 1. We recommend the inner and outer RMZ delineations be modified from what is presented in table 10. We recommend the inner zone should be defined by the riparian vegetation classification in Hansen et al, rather than arbitrary distances. We think this is based on ecologically defined conditions on the ground. The inner zone could be 15’ or it could be 500+’ depending on the geomorphology of the landscape and the size of the stream/river. Therefore the delineation should be based upon the presence of actual riparian plant indicators. Habitat typing of uplands (Pfister et al) is used routinely in prescribing treatments, the same potential vegetation tool (Hansen et al) should be used for riparian habitats. People with upland habitat classification skills can easily learn the plant identification for the riparian habitats.
	2. The outer zone buffer of upland vegetation distance should be applied based on topography and geomorphic setting. We suggest that slope, topographic breaks, and tree heights should dictate the distance of this buffer and what practices are appropriate. Guidelines should discuss the use of fire in this zone, the type of silvicultual systems that are appropriate and harvesting requirements in terms of equipment use and distinguish between ground based and cable systems.
		1. Hansen (Hansen et al 1995) in personal communication says fire should not be used within the actual riparian vegetation habitat as many of the species occurring there are not adapted to fire (cottonwood, red-osier dogwood, etc.) and can be considered a fire refugia. However, the buffer zone of upland vegetation is adapted to fire and is likely homogenized as a result of fire suppression and can put narrower riparian habitats at greater risk of being overwhelmed by fire. Therefore, the use of harvests and fire is likely appropriate to ameliorate this risk. This is consistent with the assessment descriptions and yet there is no standard or guideline about the use of fire is in the LMP that we found.
	3. The context/matrix of the upland vegetation is important to the survival of the riparian habitat when large severe fires occur. Description of the desired condition, objectives and guidelines are needed to assure these vital elements of the landscape are set up to be resistant to severe wildfires and potentially detrimental watershed effects.
	4. The LMP and assessment are unclear as to what the desired condition should be in terms of the ranges of size classes (successional stages) and density. However the assessment states that the current condition is “likely departed” but the extent of departure is not understood well. And yet the Desired Condition calls for a mosaic of vegetation patterns, successional stages, tree densities within the NRV, but no NRV is identified. It describes the need for rejuventating broadleafed shrubs and trees (aspen, birch, etc). We believe leaving this numerically undefined/undescribed is unacceptable. Proposed projects will not have a basis for designing projects to increase the resilience and resistance of the landscape. How will they know whether a specific drainage’s RMZ’s need to have actions implemented or what the appropriate actions might be? Hardwood trees and shrubs can help change fire behavior intensity and severity. We believe enhancing that component is essential.
	5. Since the assessment indicates research tools for modeling the NRV are inadequate, we acknowledge and support the importance of Goal 01 on p. 36 to develop the quantitative DC. However, there is no objective listed specifying a timeframe for this to be completed. We think the Lolo should convene a group of experts (Paul Hansen lives outside of Florence and recently retired and is likely available) and conduct a delphi approach to developing the NRV for the actual riparian habitat. In addition, use the experts to examine the upland vegetation portion of the RMZ to consider how to modify the Forest Veg DC to reflect a robust set objectives, guidelines and possible actions (App 3) that will create more resistant and resilient forest conditions. This work should be completed in the next 10-12 months so that the completed LMP will have direction for implementation. The goal for the team would be to provide the highest likelihood of maintaining conditions that will provide snags, CWD recruitment, hardwood vegetation (shrub and trees: aspen and birch) while avoiding the potential of extant high severity fires in the headwaters of drainages that can trigger debris flows damaging riparian zones downstream. The assessment acknowledges climate change will likely increase the amount of intermittent and ephemeral streams, warming of waters as stream flows decrease, along with the predicted increase in fire across the landscape. All of these factors in combination add significantly to the risks of negative water quality effects. This Delphi guidance will be replaced as the quantitative modelling methods are operational. The quantitative modeling should have a specified time frame for completion.
	6. We believe it is impossible to achieve Objective 01 without the DC being defined in a measurable way. How can the requirement (Standard 02) that only vegetation management (harvesting, prescribed burning, PCT) that restores or enhances aquatic or riparian associated resources be implemented, if there is no way to compare the existing condition to the desired condition? The same can be said of Standard 03, which requires “… ensure the ecosystem functions of the inner and outer RMZ are protected.” We fear the result will be the continued “no touch” approach to RMZ’s on the ground which will not meet the planning requirement of ecological integrity. A no touch zone adds to the risk of uncharacteristic fire behavior and effects
	7. We believe the objectives, standards and guidelines and possible actions (app 3) need to address the various tools and management actions (prescribed fire, harvesting, precommercial thinning )available in the different MA’s. Guidance needs to address the different parts of the linear transect that streams and rivers transect through the matrix of upland vegetation from headwaters to valley bottoms.
		1. MA 1-3 need to expressly address the use of prescribed fire to create the desired mosaic in the upland vegetation portion of the SMZ and avoid the use of fire in the actual riparian vegetation habitat areas. This can help achieve a combination of goals. The recruitment of old growth, snags and CWD in the RMZ, increase the potential for the riparian vegetation to serve as a fire refugia.
		2. To achieve the DC 02 and 03 requires RMZ objectives, standards and guidelines for MA 4-5 that describe the added role of harvesting and hand thinning can have in addition to prescribed fire in the upland vegetation portion of the RMZ. We recommend a minimum target of the largest trees in the upland portion of the RMZ be retained as determined by the delphi group of experts to assure the desired recruitment of large trees, snags and CWD and providing shade to help retain cool water habitat.
	8. We believe Guideline 02 should be based upon topographic/geomorphic criteria. Some streams have a flat bench 50’ above the stream and yet a 300’ buffer is required which could force equipment to operate in a less desirable situation in terms of ground disturbance and sediment generation.
	9. Appendix p. A3-18 under 3.1.8 provides no help in trying to interpret what STD 02 and 03 mean in the context of trying to achieve DC 03. The Delphi team described above could help develop a robust 3.1.8.