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February 11, 2020

To: Bill Westbrook
Attention: Zigzag Integrated Resource Project
Zigzag Ranger District
70220 E. Highway 26
Zigzag, OR 97049

I am writing to participate in public comment on the proposed Zigzag Integrated Resource Project. I am a recreational user of the project area. I depend on the forest of the project area for air quality and drinking water. I depend on the forest of the project area for carbon sequestration, the most urgent need of humanity worldwide.

On pages 1-2 of the Zigzag IRP Information Sheet, the Management Theme description of Riparian Reserves reads, in part, "...unstable or potentially unstable areas where the conservation of aquatic and riparian-dependent terrestrial resources receives primary emphasis.... Enhance habitat conservation for organisms dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for terrestrial animals and plants..."

I request clarification, with current scientific evidence, of how these Management Theme goals will be met by the proposed actions of this project. Specifically, **I question the adequacy of these assumptions:**

- That timber harvest on "unstable or potentially unstable areas" will "enhance habitat conservation for organisms dependent on the transition zone,"
- That timber harvest on "unstable or potentially unstable areas" will "improve travel and dispersal corridors for terrestrial animals and plants,"
- That timber harvest on "unstable or potentially unstable areas" will support "conservation of aquatic and riparian-dependent terrestrial resources..." **I am concerned that there are inconsistencies** between the purpose and need and this proposed action.

On page 2 of the Zigzag IRP Information Sheet, the Management Theme description of Wild and Scenic Rivers reads, "Protect or enhance the outstandingly remarkable values of the Salmon and Sandy Rivers." **I request clarification**, what specific actions are being proposed to take place on 79 acres

of Wild and Scenic Rivers land allocation, and how will those actions protect or enhance the outstandingly remarkable values of the Salmon and Sandy Rivers? The table on page 4 of the Zigzag IRP Information Sheet lists, under Vegetation Proposed Actions, 565 acres proposed for Variable-density thinning within Riparian Reserves, with the goal to “Improve diversity and move stands toward Late-Successional characteristics”. **I request clarification** regarding how this action will meet these goals; including proposed diameter limits for each species.

I also request an action alternative that does not include commercial logging within Riparian Reserves. **I am concerned that there are inconsistencies** between the purpose and need, and this proposed action.

Additionally, this proposed action is inconsistent with the conditions described on page 6, under Stream Habitat Enhancement – Large Woody Debris: “Due to past fires and *management practices*, large trees are lacking adjacent to project area streams.” This proposed action will exacerbate that situation.

The proposed unit maps available to the public do not show all existing riparian areas. On a trip to field-survey unit 62 with other members of the public, we located two unmapped streams on extremely high-angle slopes. **I request that all riparian areas mapped and documented by the public**, and provided to the Forest Service during the Preliminary Assessment comment period, will be included in the EA unit maps and given adequate buffers.

The table on page 4 of the Zigzag IRP Information Sheet lists, under Vegetation Proposed Actions, a total of 2,195 acres proposed for Variable-density thinning or regeneration harvest. Current available science shows that these treatments result in significant reduction of carbon storage that does not recover in any meaningful time scale. **I request a carbon analysis** of the impact that this treatment will have. **I also request an action alternative** that does not include these treatments. Below, I provide information relevant to this Proposed Action, excerpted from the 2018 Oregon Global Commission Forest Carbon Accounting Report:

Current analysis suggests that treatments which include medium to heavy thinning result in reduced carbon stores that do not recover in any meaningful time periods. Forest managers may elect to pursue thinning and other restoration treatments to achieve other goals, but to align these activities with forest carbon goals, they should be seeking methods that involve the least loss of carbon stores and the earliest recovery of these stores.

While there are multiple sources of data and different analytical approaches to assessing forest carbon stocks, the data presented in this report is based on USDA Forest Service Forest Inventory and Analysis (FIA) 2001-2010 data, and is similar to the approach used for national reporting to the Intergovernmental Panel on Climate Change (IPCC) on U.S. forest carbon stocks; and where indicated on subsequent Net Ecosystem Carbon Balance (NECB) data and analysis by scientists from the Oregon State University School of Forestry.

Based on credible evidence today, forest harvest does not appear to result in net carbon conservation when compared to carbon retention in unharvested forests. The evidence is that significant amounts of carbon are lost at each stage in timber harvest and processing into wood products, and in decomposition at the end of useful product life. Meanwhile, trees remaining in forests are actively withdrawing carbon from the atmosphere. The forest stores and conserves carbon more effectively and for longer periods of time than do most products derived from harvested trees. 11 While individual trees will die and release their carbon, the forest can continue to renew itself, maintaining and adding to its quantities of sequestered carbon.

The 2011 OSU study (Clark et al, 2011) ... looked at the carbon consequences of different levels of thinning. Carbon accumulations continue under a “no thin” policy, while light thinning requires 15 years to recover pre-thin carbon levels. The analysis continues through an intermediate “financial break-even” thin (remove all trees less than 7” DBH and 20 percent of trees 7”-20” DBH) that required a 25 to 40 year carbon recovery period; and a heavy thin that fails to recover pre-thin carbon levels over a 50 year (or longer) period.

Based on this scientific evidence, **I question the adequacy of the assumption** that these treatments will meet a primary purpose of this project, “to improve the health and increase diversity of forested stands,” given the disruption to forest health that will result from rising levels of atmospheric carbon dioxide and subsequent climate disruption. **I am concerned that there are inconsistencies** between the purpose and need (increase forest health), and this proposed action (commercial logging, reduced carbon stores).

Additionally, this proposed action contributes to a cumulative effect that is not addressed in this information sheet; namely, the cumulative Forest-wide loss of carbon stores as a result of the total acreage within the Mt. Hood National Forest that is currently designated or proposed for Variable-density thinning or regeneration harvest, or has already been logged within the last decade (see table below). In light of the current scientific evidence regarding loss of carbon storage in harvested forests, the cumulative impact within MHNH will contribute to increased atmospheric carbon dioxide, which is already negatively impacting the health of the forest and its dependent species, through loss of glacial mass, decreased winter snow pack, and elevated summer temperatures that contribute to increased fire. Therefore, **I request an analysis** of Forest-wide loss of carbon storage due to cumulative impact of timber harvest.

Project Name	Acres of harvest (VDT/regeneration harvest)
Crystal Clear	12,000
North Clack	4,560
Lemiti Butte	1,400
Hunter	2,322

Grasshopper	5,600
Polallie-Cooper	1,188
Waucoma	3,263
Zigzag	2,195
Total	21,728

On page 3 of the Zigzag IRP Information sheet, the final paragraph addresses fire-origin stands containing fire-scarred legacy trees and large-diameter snags. The proposal states: “Snags would be retained unless they pose a safety hazard.” In consideration of the valuable role that large-diameter snags play in providing habitat for protected species such as the Northern Spotted Owl, **I request an alternative in which large-diameter snags receive adequate buffers** to provide for both safety, and also the retention of these valuable resources. **I also request an alternative** in which living large-diameter legacy trees without fire scars are retained.

On page 4 of the Zigzag IRP Information sheet, under Road Use and Management, and in the associated table on page 5, the document describes the construction of new temporary roads, and the reconstruction of roads on existing road alignments. The table lists a total of 11.4 miles of these roads. The final paragraph describes rehabilitation of these roads after use: “placement of one or more berms at the road’s entrance, construction of water bars, and/or placement of debris such as root wads, slash, logs or boulders where available.”

Throughout Mt. Hood National Forest, I have seen and documented scores of Forest Service roads which have been rehabilitated using these methods, but which are extensively used for illegal and destructive access, including unpermitted firewood cutting and OHV use. The proposed method of rehabilitation does not include de-compaction and re-vegetation, and under these methods, these temporary roads become permanent reservoirs of non-native and invasive plant species, including oxeye daisy and Himalayan blackberry. Therefore, **I request an alternative in which all 11.4 miles of constructed and reconstructed roads are fully decommissioned and restored after use**, including de-compaction and replanting, in addition to the placement of barriers to access that will exclude OHV and motor vehicle access. In addition, **I request clarification regarding contractor accountability** for restoration of roads after harvest.

On page 6 of the Zigzag IRP Information sheet, under Other Opportunities, the second bullet point discusses the acquisition of “fish logs” for Riparian Habitat Enhancement, and the potential strategy to acquire fish logs off-site. **I request**

clarification regarding whether those fish logs would be obtained from trees felled in harvest activities already proposed in other actions, or whether additional trees would be felled for use as fish logs. If the latter, according to what criteria would the trees be selected? **I also request clarification:** off-site logs are required for Riparian Habitat because past management practices have resulted in inadequate large trees adjacent to streams, while this project proposes to enact those same management practices, creating future conditions with inadequate large trees adjacent to streams. Please explain.

On page 6 of the Zigzag IRP Information sheet, under Other Opportunities, the third bullet point states: “Inside many of the vegetation management actions described above, fuel treatments will occur.” **I request clarification** regarding:

- **what** exactly those fuel treatments would consist of,
- **where** they would take place,
- **according to what criteria** the treatments and their locations would be determined,
- **current scientific evidence** for effectiveness of those fuel treatments in meeting the goal to “reduce the intensity of fire in the event of wildfire”.

Thank you for your consideration of these concerns.

Sincerely,
Mia P. [REDACTED]