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Comments: Hello planning team,

Thanks for your work to make a new forest plan. After careful reading, we observe the draft forest plan fails to include any mention of fungi, and only mentions mushrooms tangentially to OFP (Other Forest Products, widely known as Non Timber Forest Products)

To merely whine about absence is pointless. Therefore I'm outlining below a few specific examples of places in the draft forest plan that rely upon or impact fungi and fungal processes where these organisms are not mentioned, using acronyms as employed in the document. The USDA publications we offered the team during the assessment phase and in comments 5662-29 and 5229-33 suggest ways to incorporate and expand the role fungi must necessarily play in any ecosystem model, especially here in Region 1 where ectomycorrhizal fungi are key to the survival and thrival of pine and fir species!

To ignore the role of fungi in forest ecosystems is to ignore 50 years of peer-reviewed science and a mushrooming public awareness of mycology that is exemplified by the recent National Geographic magazine cover story (April 2024) that mirrors the science we present here. In the face of unprecedented climate changes, it is key to understand the fungal processes that forests have employed and depended upon for millennia to accommodate and mitigate change. And further, recognizing basic causes of mycorrhizal fungal mortality such as soil temperature and compaction is necessary for any meaningful forest modeling.

This forest plan can reflect the expanded understanding of fungi gained in the last decades and establish a path forward using best scientific methods to help conserve water in the face of rising global temperatures, and gaining the foraging public's respect by acknowledging the previous 1985 plan's shortcomings due to incomplete information about these essential mycorrhizal life partners to the trees we so value. There is an opportunity to bring policy more in line with the biological realities we all must face in the future, and correct an oversight before it blindsides us.

1.8 BASI forest wide ecological roles.. mycorrhizae?

1.9 Assessing relevant information

VEGF desired conditions

05 snags

06 moisture retention

07 fire refugia

08 hardwood spp associates

10 CWD levels, relative to fungal metabolic needs

OG

03 carbon sequestration

VEGN

FFW no mention of BCR, no soil C due to fungi

WTR/RM2. riparian

(see accessory info RE american rivers)

2.1.2 Species Diversity, fungi unmentioned, see species of special interest in reference documents

PRISK role of fungi in whitebark pine mitigation

2.2.1 Ecosystem Services

01 fungi unmentioned

02 add mushroom hunting

03 NTFP

CC no fungi, vital role of soil compaction and soil temperatures ignored

CARB no fungi, which account for 51+% of soil carbon

SOIL-GDL

06 BCR, CWD, vital role in moisture control unmentioned

2.2.2 Recreation

PUB goal of educating public about fungi

RIVER veg management for fungi impacted by riparian habitat fragmentation

2.2.6 Designated Areas. Need to maintain NTFP reserves that are excluded from the timber base.

ALR mushroom mitigation

GRAZ GDL

O4

O5

O6

OFFP

O1

FW TIM GDL

O1

O2

O3

Chapter 3

3.2.3 Other Designated areas of NTFP RESERVES

3.2.8 recreation

3.3.5 no opportunity for mushroom gathering

3.6.2 has considerable history/importance for mushroom gathering

3.7 has considerable historical and NTFP (ofp) values

Chapter 4

MA1 suit

O3

O4

4.2

4.3 MA backcountry

pg 176 OFP

184 Desired Plant Communities: soil carbon, mycorrhizae

184 Soils need more informed discussion

186 IRA

190 no definition of Brown Cuboidal Rot (BCR) the trees' primary moisture source for 60+ days/year, no mention of fire-retardant organic matter, etc

192 fuel definition: Fuels reduction must include fungal/metabolic reduction, not only fire

Finally, BIOCHAR or CHARCOAL is not addressed in the document. Burned wood is a primary source of cation exchange, and functions as an electron sink, attached as it is to miles of electronegative fungal hyphae. In ways we do not understand, cation exchange is negotiated over large tracts of living forest.

Forest management can greatly influence the amount of biochar created. Simply top lighting rather than bottom lighting slash piles creates double the biochar, enhancing nutrient exchange in the recovering forest. Other more efficient techniques are equally low cost or low tech.

Private industry, especially the fracking industry, have had a heavy demand for charcoal to decontaminate fracking fluids, and the price of charcoal has been steadily climbing. For more about biochar, info@biochar-us.org

Our purpose here is to illustrate the far reaching impacts that fungi have on tree growth, nutrient and water availability, soil and watershed management, and forest diversity, their vulnerability to soil compaction and high soil temperatures, and to promote practices that encourage a healthy rhizosphere.

Regards,

Larry Evans

Director Western Montana Mycological Assn.

