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Comments: Hi there Amanda and crew. First off, thank you immensely for committing to leading the revision team through this lengthy and complex process. What a meaningful undertaking and a challenging one, I'm sure. My name is Cathryn Raan and for the last six years I have been working for the Western Montana Mycological Association, though I had been a member for years prior. I coordinate and lead events of all kinds to cultivate community around our collective love of fungi and our forests. I also have a business, Wild Wanders, where we teach wild food and medicine, nature connection and makery classes. I have been working as an herbalist for Meadowsweet Herbs in Missoula as well where we work with quite a few locally wildcrafted plants. I am in love with Montana and spend so much time in the Lolo National Forest. I thoughtfully harvest wild food, medicine and mushrooms of all kinds for my own use, for others and for education. I also spend ample time helping others get outside and get to know their surroundings in new and empowering ways. I do so much more than recreate on this land and care deeply for its strengthened preservation.

Part of our mission at the WMMA is to encourage responsible and ethical mushroom harvest and to preserve and protect mushroom habitat which is why I am writing you today. Being that mycology is a relatively new science, it is still grossly underrepresented in academic and political realms, including forest policy. Fungi became globally recognized as a kingdom separate from flora and fauna in the 1960's but still have not been given the attention and protection they deserve and the revision process in the Lolo is a beautiful opportunity to be a leader in changing this paradigm for the benefit of ourselves, our forests and the planet. With increased use in our forests and the escalating impacts of climate change becoming an ever-present threat, we have a responsibility to act with urgency. Fungi are an ally and employing management practices now that include their protection could have massive benefits at little to no cost to employ. As stated by the Flora Fauna Fungi Initiative sponsored by the NYU School of Law and the Fungi Foundation, "Fungi make up one of life's kingdoms - as broad a category as "animals" or "plants" - and provide a key to understanding our planet.... Nonetheless, fungi have received only a small fraction of the attention they deserve and represent a meagre 2% of global conservation priorities". I plead with you to consider the opportunity you have before you now and the organizations that exist to enthusiastically support you in implementing forward-thinking management practices.

Not only are fungi a crucial and nutritious food source for wildlife, they are important food and medicine for humans as well. Local fungi are a huge part of my diet with different species helping to restore nervous system function and cognitive function and strengthen the immune system. Their medicinal qualities are diverse and vast and more is being learned about their immense gifts all the time. I know so many people in our community who depend on local mushrooms for their subsistence, their livelihoods and their genuine love of our home. I grew up in Montana and a huge part of the reason I continue to stay is because our forests are so special. Our access to public land that is undisturbed or relatively untroubled is rare and precious. Through my work with the community over the years I know hundreds of amateur mycologists, hobby mushroom pickers and fungi enthusiasts of all kinds would be lost without the protection of our abundant but declining habitat that provides immense physical, mental, emotional and spiritual benefits.

Fungi are our planet's decomposers, with some even having the power to digest toxic compounds. At the WMMA we have a project where we collect particleboard, a huge source of toxic waste in our landfill, and mix it in with spent oyster mushroom substrate which has two massively important results. First, the mycelium eats the particle board and reduces the overall volume of the particleboard drastically but in addition, the mycelium digests the urea formaldehyde in the product, making the finished product into a compostable item rather than a toxic waste product. They are excellent remediators, capable of cleaning up toxic waste such as oil or converting radiation into chemical energy for growth. There are fungi that remove copper, zinc, iron, cadmium, lead and nickel from

aqueous solutions through absorption. There is so much potential to work with fungi in our forests to remediate soils and more. Through their miraculous power of decomposition they recycle all organic matter on the planet! There are fungi that can even decompose plastic and petrochemicals. There are vast scientific research and resources to support this and this science should absolutely be applied in the Lolo.

Another important role fungi have in our forests is that they are the carbon reservoirs of nature, and play a vital role in the prevention of accelerated climate change. Thanks to their mutualistic relationship with trees, they receive carbon from them through the roots, which helps them grow. Thus, carbon is kept in the mycelium (underground) and not in the atmosphere. There is so much crucial carbon lost through current management practices that could be easily modified to incorporate these important ecological services.

Much of life on land is dependent on plants' interactions with mycorrhizal fungi, which expand the amount of soil that trees can explore with their roots by using their network of filaments (mycelium) to reach into smaller pores, allowing trees to access water and nutrients that would otherwise be unavailable to them (source: State of fungi 2020). It is all connected and fungi are the conduit. If these networks are continually harmed or removed entirely, it will have devastating and irreversible impacts on our planet.

I could go on at great length and detail about the importance of acting with urgency regarding the protection of fungi but I would like to move on to what I would like to see in the draft documents.

- * I would like to see fungi included in the language of the document alongside flora and fauna, recognizing fungi as a crucial kingdom deserving of the same level of consideration and protection.

- * Acknowledge that fungal health is impacted by rising soil temperatures and compaction and mitigation of these impacts should be included in management objectives.

- * Fungi should be considered as an ally in the need for carbon sequestration in our forests to mitigate the effects of climate change.

- * Brown cuboidal rot holds up to 5x its weight in water and is the key to moisture retention in the northern rockies and should be protected.

Below I will attach some reputable and easily digestible resources for your team to consider. I urge you to take action here. Fungi have not even been included as a thing that exists in the forest plan of the last 38 years and it would be a tragedy to not address the hazardous implications of this. We have the chance, in the Lolo National Forest right now, to be celebrated as trailblazers, nationally and beyond. To set an example for what an innovative forest plan can and should look like. This opportunity only exists here and now so please do not hesitate. Thank you so much for your consideration and for your continued and amplified protection of something so special. Please know that you have the support of many behind you, from mycologists, researchers and bioremediators to mushroom-pickers and mushroom lovers all over. Change is absolutely necessary AND exciting!

Very sincerely,
Cathryn Raan

State of the World's Fungi, Fungi Foundation 2023 <https://www.kew.org/science/state-of-the-worlds-plants-and-fungi>

Fauna, Flora... and Funga: The Case for the Protection of Fungi Under National and International Law. Article by the Center for Human Rights and Global Justice from the NYU School of Law <https://chrgj.org/2021/04/27/fauna-floraand-funga-the-case-for-the-protection-of-fungi-under-national-and-international-law/>

Flora Fauna Funga Initiative <https://faunaflorafunga.org/>

