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Portland Eugene Bend Enterprise

16 July 2025

TO: OSU College of Forestry, Research Forests

VIA: McDonaldDunnPlan@oregonstate.edu

CC: trustees@oregonstate.edu

Subject: 2025 McDonald-Dunn Forest (draft) Plan — comments

Please accept the following comments from Oregon Wild concerning the 2025 McDonald-Dunn Forest Plan, <https://cf.forestry.oregonstate.edu/our-forests/mcdonald-dunn-forest-plan-draft>. Oregon Wild represents 20,000 members and supporters who share our mission to protect and restore Oregon's wildlands, wildlife, and water as an enduring legacy. Our goal is to protect areas that remain intact while striving to restore areas that have been degraded. This can be accomplished by moving over-represented ecosystem elements (such as logged and roaded areas) toward characteristics that are currently under-represented (such as roadless areas and complex old forest).

This proposed plan for the McDonald-Dunn Forest involves the following changes from the status quo:

- A slight increase in forests managed for late successional conditions, from ~350 acres to a total of 1,140 acres (from ~4 to 10% of the forest). (Though the new plan diminishes protections for older trees and stands by removing the previous (160-year) cutting limit throughout the forest, giving considerable discretion to OSU's forest managers to cut older trees.)
- An increase in the acreage devoted to experimental restoration including tribal partnerships.
- An increase the acres managed as structurally and compositionally complex.
- A slight decrease in the acres managed for even-aged short rotations. (Though the draft plan allows clearcuts of 40 to 80 acres compared to the 2005 plan which limited the size of cuts in the southern portion of the McDonald Forest to four acres in size.)
- A new focus on managing forests for resilience to climate change.
- The average volume of timber harvested will slightly decrease, from 5.2MMBF to 4.3 MMBF annually.

Our primary concerns with the draft plan for the McDonald-Dunn Forest are:

Failure to protect enough mature and old-growth forests. Mature and old-growth forests provide a wide-range of essential ecosystem services, including clean, cool water; stable water flows; high quality habitat that helps provide hunting and fishing opportunities, recover

endangered species, and support indigenous cultures; carbon storage that mitigates global climate change; microclimate refugia for wildlife trying to escape climate extremes; soil and slope stability; resilience to wildfire; diverse recreation opportunities, and quality of life that forms the foundation of Oregon's diverse economy.

Before European settlement, the Coast Range was about 2/3 covered by mature and old-growth forests, but through decades of overcutting just a small fraction of the Coast Range is now covered in older forests, and all those ecosystem services are suffering as a result. Private forest lands are not providing mature and old-growth habitat at scale, so the burden falls on public lands to make up for the lack of mature and old-growth habitat across the landscape.

The McDonald Dunn Forest Plan should be revised to reflect overwhelming community sentiment and protect at least 50% of the forest as mature and old-growth reserves. Restoring and conserving these forests is a great focus for research. We already know how to clearcut and grow forests, but we have a lot to learn about the complex task for restoring complex forest ecosystems.

The plan should also be amended to remove the loopholes that allow logging that degrades mature and old-growth habitat conditions. As recognized in the Northwest Forest Plan, once stands reach 80 years old they have all the building blocks and the natural processes needed to develop high quality habitat without intervention. See Doug Heiken 2009. The Case for Protecting Both Old Growth and Mature Forests. Version 1.8 April 2009.

<https://www.dropbox.com/s/4s0825a7t6fq7zu/Mature%20Forests%2C%20Heiken%2C%20v%201.8.pdf?dl=0>.

Undue emphasis on an industrial/agricultural model of forest management and the lack of recognition that an ecological approach to forest management is needed.

The agricultural model of forestry is to convert natural forests to tree farms (via clearcutting and tree planting) and then repeat harvests on a regular intervals. An ecological forestry model would recognize the values of ecological diversity in all its forms, the value of the full sequence of succession through old growth conditions, and would seek to minimize and mitigate the adverse effects of logging by mimicking natural processes as much as possible.

The draft plan fails to define what constitutes "sustainable forestry" and conflates the term with sustaining timber production. Fiber is but one of the values in the forest that need to be sustained. It is essential to sustain mature and old-growth habitat, viable populations of fish & wildlife, clean water, carbon storage, scenery/recreation, fire safety, and other values from the forest.

The draft plan promotes a skewed biodiversity metric which relies on a limited number of taxa, rendering the conclusions arbitrary. The plan should identify species that are most sensitive to the effects of logging, especially species associated with mature and old-growth forests and dead wood habitat. Wildlife evolved in a world where every tree that grew in the forest died in the forest and stayed in the forest until it either burned or decayed. Every tree had two lives- one while living and growing, and another during decades or centuries of death and decay. Wildlife

evolved to take advantage of dead wood in many ways, from nesting, roosting, feeding, breeding, microclimate moderation, etc. See Rose, C.L., et al. 2001. Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management, Chapter 24 in Wildlife-Habitat Relationships in Oregon and Washington (Johnson, D. H. and T. A. O'Neil. OSU Press. 2001) <http://web.archive.org/web/20060708035905/http://www.nwhi.org/inc/data/GISdata/docs/chapter24.pdf>.

Rose et al. (2001) also describes a wide variety of ecosystem services provided by dead wood that need to be sustained, such as capturing, storing, and releasing energy, sediment, water, and wood, in both aquatic and terrestrial environments. Unfortunately, logging captures mortality and exports large wood, which deprives wildlife and ecosystems of a wide variety of vital ecological functions. Logging needs to mitigate for this effect by not only retaining more live and dead wood during logging, but also leaving large unmanaged areas where natural processes related to dead wood can flourish. See this online slideshow which shows the modeled effects of thinning on dead wood habitat. Heiken, D. 2010. Dead Wood Response to Thinning: Some Examples from Modeling Work. https://www.dropbox.com/s/m4671mhsstg61ss/dead_wood_slides_2.pdf?dl=0

Our view of “variable retention regeneration harvests” (VRH) is that they are just clearcuts, with a little bit of mitigation, but not nearly enough to consider them a responsible way to manage public lands, especially given the current shortage of mature and old-growth across the landscape, and the continued industrial approach in most of the Coast Range. In short, VRH applied to public lands is *too little too late*.

Under the draft plan, 71% of the McDonald-Dunn will continue to be managed following industrial forestry practices, with the majority of forest subject to clearcutting or regen harvest. Regen harvest is the removal of most of the trees on a site, creating conditions for the establishment of a new cohort of trees on the site. As shown below, clearcutting/regen is not responsible forest management. The plan needs to carefully consider (and avoid and mitigate) a variety of problems with clearcutting, including variable retention harvest:

- **Clearcutting does not mimic natural processes.** It is often said that clearcutting mimics wildfire. This is so misleading as to be nonsense. Natural disturbance processes kill lots of trees but does not build roads and skid trails or remove the vast majority of the biomass, nor does it require replanting the truncates the complex early seral community that typically follows natural disturbance with diverse plant species providing diverse food sources (pollen nectar, berries, seeds, nuts, foliage, +fungi) which supports diverse wildlife. Even when logging is intended to result in conditions that are “structurally and compositionally complex” the results are often highly compromised compared to natural forests. Dominick A DellaSala 2019. “Real” vs. “Fake” Forests: Why Tree Plantations Are Not Forests. Reference Module in Earth Systems and Environmental Sciences 2019. <https://doi.org/10.1016/B978-0-12-409548-9.11684-7>; D.J. McRae, L.C. Duchesne, B. Freedman, T.J. Lynham, and S. Woodley, 2001. Comparisons between wildfire and forest harvesting and their implications in forest management. Environ. Rev. 9. 223-260 (2001); DOI: 10.1139/er-9-4-223. https://www.researchgate.net/publication/237154364_Comparisons_between_wildfire_and_forest_harvesting_and_their_implications_in_forest_management; Jerry Franklin, David Perry, Reed Noss, David Montgomery, Christopher Frissell. 2000. SIMPLIFIED FOREST MANAGEMENT TO ACHIEVE WATERSHED AND FOREST

HEALTH: A CRITIQUE. National Wildlife Federation.

<https://web.archive.org/web/20061008082841/http://www.coastrange.org/documents/forestreport.pdf>

- **Clearcutting creates hazardous fuel conditions.** The dense conifer reprod that establishes after regen logging is among the most hazardous fuel conditions because it is dense, resin-filled vegetation close to the ground that is spatially contiguous. Mature forests on the other hand are known to be more resistant and resilient to wildfire due to thick bark, high canopies, and cool/moist microclimate. Harold S. J. Zald, Christopher J. Dunn. 2018. Severe fire weather and intensive forest management increase fire severity in a multi-ownership landscape. *Ecological Applications. Online Version of Record before inclusion in an issue.* 26 April 2018. <https://doi.org/10.1002/eap.1710>. Also, <https://phys.org/news/2018-04-high-wildfire-severity-young-plantation.html>; Lesmeister, D. B., S. G. Sovern, R. J. Davis, D. M. Bell, M. J. Gregory, and J. C. Vogeler. 2019. Mixed-severity wildfire and habitat of an old-forest obligate. *Ecosphere* 10(4):e02696. 10.1002/ecs2.2696. <https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.1002/ecs2.2696>.
- **Clearcutting causes significant greenhouse gas emissions.** Logging and conversion to wood products or biomass energy transfer vast amounts of carbon from the forest to the atmosphere. Even if the forest regrows and re-absorbs most of the carbon, (i) there is a recapturing the carbon involves a very long lag time, which means there is a long period during which the atmosphere had excess carbon due to logging, and (ii) in the logged forest there is a significant forgone opportunity to capture and store more carbon if the forest was NOT logged and allowed to continue growing. Science is very clear that there is no bonus carbon from thinning or fuel reduction. William R. Moomaw, Susan A. Masino, and Edward K. Faison. 2019. Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good Front. *For. Glob. Change*, 11 June 2019 | <https://doi.org/10.3389/ffgc.2019.00027>; <https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full>; Kun, Z., DellaSala, D., Keith, H., Kormos, C., Mercer, B., Moomaw, W.R. and Wiezik, M. (2020), Recognising the importance of unmanaged forests to mitigate climate change. *GCB Bioenergy*. Accepted Author Manuscript. doi:10.1111/gcbb.12714 <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/gcbb.12714>.
- **Clearcutting removes important microclimate refugia** for wildlife that are seeking places to escape climate extremes. Jes Burns 2016. Old-Growth Forests Provide Temperature Refuges In Face Of Climate Change: Study. OPB/EarthFix | April 22, 2016 <http://www.opb.org/news/article/forest-refuges-climate-change/> citing Sarah J. K. Frey, Adam S. Hadley, Sherri L. Johnson, Mark Schulze, Julia A. Jones, Matthew G. Betts. 2016. Spatial models reveal the microclimatic buffering capacity of old-growth forests. *SCIENCE ADVANCES*. 22 APR 2016 : E1501392. <http://advances.sciencemag.org/content/advances/2/4/e1501392.full.pdf>.
- **Clearcutting causes unnatural peak flows immediately after harvest, then causes unnatural low summer stream flows** which persist for many decades after dense tree farms are planted. Grant, Gordon E.; Lewis, Sarah L.; Swanson, Frederick J.;

Cissel, John H.; McDonnell, Jeffrey J. 2008. Effects of forest practices on peak flows and consequent channel response: a state-of-science report for western Oregon and Washington. Gen. Tech. Rep. PNW-GTR-760. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 76

p. http://www.fs.usda.gov/pnw/pubs/pnw_gtr760.pdf; Perry, T. D., and Jones, J.

A. (2016) Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. *Ecohydrology*,

doi: [10.1002/eco.1790](https://doi.org/10.1002/eco.1790). <http://onlinelibrary.wiley.com/doi/10.1002/eco.1790/full>.

- **Clearcutting prevents forests from growing into mature and old forest conditions that are rare on the landscape and provide great ecosystem services.** Nonaka, Etsuko, Spies, Thomas, Wimberly, Michael, Ohmann, Janet. 2004. *Historical range of variability in biomass dynamics and stand disturbance history: A simulation approach*. <http://abstracts.co.allenpress.com/pweb/esa2004/document/35104>. NONAKA, ETSUKO AND THOMAS A. SPIES. 2005. HISTORICAL RANGE OF VARIABILITY IN LANDSCAPE STRUCTURE: A SIMULATION STUDY IN OREGON, USA *Ecological Applications*, 15(5), 2005, pp. 1727–1746. http://www.fs.usda.gov/pnw/pubs/journals/uncaptured/pnw_2005_nonaka001.pdf. http://www.fsl.orst.edu/clams/download/pubs/2005EA_nonaka_spies.pdf; Doug Heiken 2009. The Case for Protecting Both Old Growth and Mature Forests. Version 1.8 April 2009. <https://www.dropbox.com/s/4s0825a7t6fq7zu/Mature%20Forests%2C%20Heiken%2C%20v%201.8.pdf?dl=0>.
- **Clearcutting removes habitat necessary to conserve ESA-listed species like the northern spotted owl**, reduces populations of important owl prey species, and exacerbates adverse competitive interactions with invasive species. Forsman, E.D., Anthony, R.G. et al 2011. Population Demography of Northern Spotted Owls. University of California Press. No. 40 in Studies In Avian Biology by the Cooper Ornithological Society; See also, Wiens, J.D., Anthony, R.G., and E.D. Forsman. 2014: Competitive Interactions and Resource Partitioning Between Northern Spotted Owls and Barred Owls in Western Oregon. *Wildlife Monographs* 185:1–50; 2014; DOI: [10.1002/wmon.1009](https://doi.org/10.1002/wmon.1009). <https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/48214/AnthonyRobertFisheriesWildlifeCompetitiveInteractions.pdf>; Wilson, Todd M.; Forsman, Eric D. 2013. Thinning effects on spotted owl prey and other forest-dwelling small mammals. In: Anderson, Paul D.; Ronnenberg, Kathryn L., eds. Density management for the 21st Century: west side story. Gen. Tech. Rep. PNW-GTR-880. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station: 79–90. https://www.fs.usda.gov/pnw/pubs/pnw_gtr880/pnw_gtr880_009.pdf;
- **Clearcutting significantly depletes snag and dead wood habitat.** Snags are an essential feature of Oregon forests. A large number of species depend on abundant snags which serve a variety of life functions. Regen logging not only removes virtually all of the snags within the harvest area but also in surrounding areas where snags may pose a hazard to workers. In addition, regen logging removes the vast majority of the green tree population which serves as the recruitment pool for snag habitat. This causes a significant and long-lasting gap in snag recruitment. USDA Forest Service. 2007. Curran

Junetta Thin EA. Cottage Grove Ranger District, Umpqua National Forest. June 2007. <https://usfs-public.app.box.com/v/PinyonPublic/folder/158152590920>; Heiken, D. Thinking About Dead Wood in Managed Landscapes. 2012. <https://www.dropbox.com/s/5gofctjdgx5t3t/dead%20wood%20slides%202012.pdf>.

- **Clearcutting creates an early seral habitat type that is ecologically simplified and vastly over-represented.** Most of the wildlife that live in early seral habitat are NOT threatened & endangered because they are generalists, opportunists, and/or highly mobile. There are vast areas of early seral habitat in western Oregon, created by industrial clearcutting. This may not be high quality early seral, but it partially makes up for low quality with high quantity. VRH is NOT high-quality early seral habitat. VRH is compromised in a variety of ways, it's just not quite as bad as traditional clearcutting. The compromises include soil and water impacts, dead wood habitat removal, reduce carbon, and managers tend to replant and truncate the diverse early seral stage of succession because they are unwilling to tolerate the long process of conifer re-establishment. High quality early seral habitat is created by wildfire and other natural disturbances. This habitat is being created by wildfire and global climate change. There is no need to artificially create more. Swanson, M.E., 2012. Early Seral Forest in the Pacific Northwest: A Literature Review and Synthesis of Current Science. http://ncfp.files.wordpress.com/2012/06/swanson_20120111.pdf; Oregon Wild 2011. Scoping Comments on the Wagon Road and Roseburg BLM Secretarial Pilots. http://www.oregonwild.org/oregon_forests/forest-management/in-your-forests/files-for-eyes-on-the-agencies/Wagon_Road_and_Roseburg_Pilots_scoping_6-29-2011_BLM.pdf.
- **Clearcutting requires roads and skid trails that have significant adverse effects** on soil, water, carbon, weeds, fire hazard and ignitions risk, and habitat for fish and wildlife. Beschta et al. 1995 "Cumulative Effects of Forest Practices..." prepared for ODF <https://digitalcollections.library.oregon.gov/nodes/view/119928>.
- **Clearcutting creates a significant risk of weeds** by opening the canopy and disturbing the soil. The McDonald-Dunn already has significant weed problems, such as False brome. Parendes, L. A. and J. A. Jones. 2001. Role of Light Availability and Dispersal in Exotic Plant Invasion along Roads and Streams in the H. J. Andrews Experimental Forest, Oregon. Conservation Biology. Vol. 14, No. 1 (Feb., 2000), pp. 64-75.
- **All these negative effects from clearcutting are cumulative and interact unfavorably with global climate change**, and the weather extremes it is causing. Dalton, M.M., K.D. Dello, L. Hawkins, P.W. Mote, and D.E. Rupp (2017) The Third Oregon Climate Assessment Report, Oregon Climate Change Research Institute, College of Earth, Ocean and Atmospheric Sciences, Oregon State University, Corvallis, OR. http://www.occri.net/media/1042/ocar3_final_125_web.pdf.

The McDonald-Dunn Forest could serve an important and under-served role in forest science by focusing on research regarding the conservation and restoration of mature and old-growth, and thinning in young stands to meet those goals.

The draft plan fails to reflect the best available science on forests, carbon, and climate change which shows that:

(a) Forest conservation helps store carbon and mitigate global climate change.

Forest conservation is incremental but it adds up to significant carbon storage and climate benefits at a global scale. Duncanson, L., Liang, M., Leitold, V. et al. The effectiveness of global protected areas for climate change mitigation. Nat Commun 14, 2908 (2023).

<https://doi.org/10.1038/s41467-023-38073-9>, <https://www.nature.com/articles/s41467-023-38073-9.pdf>; Beverly E. Law, Tara W. Hudiburg, Logan T. Berner, Jeffrey J. Kent, Polly C.

Buotte, Mark E. Harmon. 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. Proceedings of the National Academy of Sciences Mar 2018, 201720064;

DOI: 10.1073/pnas.1720064115.

<https://web.archive.org/web/20180727130028/http://www.pnas.org/content/pnas/115/14/3663.full.pdf>; Krankina, O. N., D. A. DellaSala, J. Leonard, and M. Yatskov. 2014. High-Biomass

Forests of the Pacific Northwest: Who Manages Them and How Much is Protected?

Environmental Management 54:112-121.

<https://www.oregon.gov/ODF/ForestBenefits/Documents/Forest%20Carbon%20Study/High-Biomass-Forestry-of-the-PNW-Who-manages-them-and-how-much-is-protected-Krankina.pdf>.

(b) Forest conservation provides microclimate refugia for wildlife seeking shelter from weather extremes.

As the climate warms forests, especially natural forests, become an increasingly important refuge for mammals. Tourani et al 2023. Maximum temperatures determine the habitat affiliations of North American mammals. PNAS December 4, 2023. 120 (50) e2304411120 <https://doi.org/10.1073/pnas.2304411120>,

<https://www.pnas.org/doi/pdf/10.1073/pnas.2304411120>; Sarah J. K. Frey, Adam S. Hadley, Sherri L. Johnson, Mark Schulze, Julia A. Jones, Matthew G. Betts. 2016. Spatial models reveal the microclimatic buffering capacity of old-growth forests. SCIENCE ADVANCES. 22 APR 2016 : E1501392. <http://advances.sciencemag.org/content/advances/2/4/e1501392.full.pdf>.

(c) Logging and wood products are a source greenhouse gas emissions; they are not a climate solution.

From a climate perspective, wood products represent net carbon emissions, NOT net carbon sequestration, because only a small fraction of the carbon in a logged forest ends up in wood products. Logging to create wood products causes the majority of forest carbon to be transferred to the atmosphere, not to wood products. Science clearly shows that carbon is more safely stored in forests, not in wood products. Carbon emissions from the forest sector are often reported as net emissions which account for forest growth. This is not a proper way to account for emissions. The emissions from logging and the wood products supply chain must be reported separately, because carbon uptake via forest growth occurs whether forests are logged or not. Carbon remains stored much longer in forests than in wood products. Much of the wood products which can reasonably be considered "durable" are in fact less durable than leaving the carbon stored safely inside a mature tree that might live to be hundreds of years old. Most of our wood products are disposable. It turns out that well-conserved forests on average store carbon more securely than our "throw-away" culture and economy does. Reliance on wood products prevents forests from reaching their full potential for carbon storage. Tara W Hudiburg, Beverly E Law, William R Moomaw, Mark E Harmon and Jeffrey E Stenzel 2019.

Meeting GHG reduction targets requires accounting for all forest sector emissions. 23 August 2019. Environmental Research Letters, Volume 14, Number 9. <https://iopscience.iop.org/article/10.1088/1748-9326/ab28bb/pdf>; Law, B. & M.E. Harmon 2011. Forest sector carbon management, measurement and verification, and discussion of policy related to mitigation and adaptation of forests to climate change. Carbon Management 2011 2(1). <https://archives.corvallisoregon.gov/public/ElectronicFile.aspx?dbid=0&docid=4256162>; Bysouth, D., Boan, J. J., Malcolm, J. R., & Taylor, A. R. (2024). High emissions or carbon neutral? Inclusion of “anthropogenic” forest sinks leads to underreporting of forestry emissions. *Frontiers in Forests and Global Change*, 6, 1297301. <https://doi.org/10.3389/ffgc.2023.1297301>; Polanyi, Skeene, and Simard 2024. LOGGING EMISSIONS UPDATE - Reported greenhouse gas (GHG) emissions from logging in Canada double after revision to government data. <https://naturecanada.ca/wp-content/uploads/2024/09/2024-Logging-Emissions-Update-Report.pdf>.

(d) Logging reduces forest’s and wildlife’s resilience to climate change by degrading the microclimate buffering that occurs in dense forests and by allowing the penetration of warm dry air, which increases vapor pressure deficit, and exacerbates the baseline drought stress caused by climate change. Atmospheric water demand, not soil moisture availability, appears to be the primary cause of tree water stress in the late summer. Temperature-driven increases in vapor pressure deficit from climate change are likely to reduce forest productivity regardless of soil moisture availability. Watts, Andrea; Wondzell, Steve; Jarecke, Karla; Bladon, Kevin. 2024. Hot air or dry dirt: Investigating the greater drought risk to forests in the Pacific Northwest. Science Findings 268. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 6 p. <https://www.fs.usda.gov/pnw/science/scifi268.pdf>. See also, Karla M. Jarecke, Linnia R. Hawkins, Kevin D. Bladon, Steven M. Wondzell 2023. Carbon uptake by Douglas-fir is more sensitive to increased temperature and vapor pressure deficit than reduced rainfall in the western Cascade Mountains, Oregon, USA. *Agricultural and Forest Meteorology*, Volume 329, 15 February 2023, 109267. <https://www.sciencedirect.com/science/article/abs/pii/S0168192322004543>. See also, Watts, Andrea; Wondzell, Steve; Jarecke, Karla; Bladon, Kevin. 2024. Hot air or dry dirt: Investigating the greater drought risk to forests in the Pacific Northwest. Science Findings 268. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 6 p. <https://www.fs.usda.gov/pnw/science/scifi268.pdf>.

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Please provide Oregon Wild with timely notice of any forthcoming comment opportunities, and any draft and final decisions on this project. If the agency discovers new information or changed circumstance or modifies the project or the analysis after the decision, Oregon Wild requests to be notified and provided an opportunity to comment.

Note: If any of these web links in these comments are dead, they may be resurrected using the Wayback Machine at Archive.org. <http://wayback.archive.org/web/>

Sincerely,

A handwritten signature in black ink that reads "Doug Heiken". The script is cursive and fluid, with the first name "Doug" and last name "Heiken" clearly legible.

Doug Heiken (he/him)
dh@oregonwild.org