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Comments:

As a member of the Southeast Alaska science community, and a person who is devoting his life to stave off the worst of the extinction crisis, I implore you to NOT rescind the protections of the Tongass and Chugash National Forests.

We have learned the hard way already. Trees are the infrastructure of a forest, creating stable microclimates, fostering a fungal superhighway underfoot, offering the habitat requirements for every other plant, bird, insect, mammal, rodent, fungus, and soil organism. Everywhere pristine ecosystems have been ruined by the extraction of trees, the cascade of consequences has become even clearer in hindsight. As we look ahead to a permanent global climate emergency, extremes of precipitation, temperature and wind, rapidly warming and acidifying oceans, and the many stresses of a ballooning human population, the necessity of intact contiguous ecosystems has never been more obvious. As the industrial extraction age dawned, we were assured that the forests would grow back, but it is now clear that the removal of trees sets in action an unraveling of the dynamic equilibrium at all trophic levels, which make it improbable that those forests will survive into the future. Just because trees usually grow back DOES NOT mean the forest returns. Consider:

- * the loss of genetic diversity within species that results from thousands of years of natural selection,
- * the loss of complexity of structure and age,
- * the loss of microclimatic conditions and moisture retention in large woody debris and a rich forest floor,
- * the loss of fungal diversity and a dense mycorrhizal network mediating the nutrient cycles and informatics of the forest,
- * the loss of FIRE resilience, characterized by open forests of large, thick-barked trees with high branches
- * the loss of hydrological cycles, as trees are water towers, and along with understory flora and funga, they mediate moisture levels. Logging roads permanently disrupt hydrology and cause sedimentation of anadromous fish habitat.
- * the loss of continuity and ability of wildlife to roam,
- * the loss of the beauty and inviting qualities that keep local populations sane and invested in their shared home

All of these things negatively affect the ability of a forest to sequester carbon, at a time where healthy forests have been deemed essential to maintaining an inhabitable planet by international bodies of scientists. Up to 12% of the nation's carbon storage is in these spectacular rainforests of the Tongass.

Forestry policy in the past has been driven by short-sighted economic gains, and the illusion of inexhaustible plenty. Policy makers today have access to the research of a devoted scientific community that is screaming for you to connect the dots, to free yourselves of the dangerous myths and ignorances that have done irreparable damage to 96% of ancient forests already, and to enshrine the protections of our last, best intact forests.

I have had the honor of speaking in depth with Tlingit elders. They relate the enormity and multiplicity of the threats against their ways of life. Industrial logging has already fragmented the forests of the Tongass, on which they rely for hunting, gathering, and the life cycle of the salmon. Cultural practices also rely on intact forest landscapes, and are essential for creating a sense of pride and belonging that youth need to remain in the villages, and continue as stewards. Spruce-root weaving relies on old-growth forest conditions for root

gathering. Canoe carving relies on old-growth cedar trees of specific characteristics. Sitka black-tailed deer rely on lowland groves of massive trees to overwinter and find herbaceous forage. Dense young growth shades out understory plants and causes virtual dead-zones. The ramifications of all these depletions converge into a positive feedback loop that tips an ecosystem into a downward spiral, towards desert.

This pattern is very old, and largely normalized, but deadly. Deforestation has been the greatest error of human civilization, from the fertile crescent, to the Andes, to the Sahara, deserts result from the short-term economic justifications that each society made. As we rail against Brazil and Southeast Asia for deforesting their rainforests, how can we propose to revive a moribund logging industry in our last oldgrowth rainforests? How can we justify \$30-\$40M/year in subsidies and ongoing road maintenance costs for 1% of the economic sector, mainly comprised of aging loggers and mill workers. Meanwhile 25% of the local economy falls in fishing and tourism, both of which will suffer from further invasions into wild spaces. Why not pay a fraction of those subsidies to cover lost wages, and devote the rest to needed restoration projects, biodiversity enhancement, decommissioning useless roads, and supporting the habitat needs of declining salmon?

The Roadless Rule already allows for exemptions, and so far 48 exemptions have been granted to provide essential services for local communities. An overwhelming majority agree that the current Rule is working to balance development and conservation. The representatives of the State of Alaska and Federal civil servants, should you care about the future of our nation, it is imperative that you heed the wishes of your constituents and the collective wisdom of generations of scientists and indigenous people.

March Young

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