B. Parker Jones
Law Offices of Charles M. Tebbutt, P.C.
941 Lawrence St.
Eugene, OR 97401
541-344-3505
parker@tebbuttlaw.com

Timothy M. Bechtold (PHV pending)
BECHTOLD LAW FIRM, PLLC
P.O. Box 7051
Missoula, MT 59807-7051
406-721-1435
tim@bechtoldlaw.net

Attorneys for Plaintiffs

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON

FOREST SERVICE EMPLOYEES FOR ENVIRONMENTAL ETHICS, Plaintiff, vs. DAVID WARNACK, Willamette National Forest Supervisor, and U.S. FOREST SERVICE, Defendants.	Case No. 6:21-cv-01228-MC **DECLARATION OF TRAVIS W. HEGGIE, Ph.D., FFTM RCPS (Glasg)**

Pursuant to 28 USC § 1746, I, TRAVIS HEGGIE, declare as follows:

1. My name is Travis W. Heggie. I am an expert in injury and disease prevention. My expertise and research specifically concentrate on the health, safety, and legal aspects of the travel, tourism, outdoor recreation, and hospitality industries. My research is primarily published in the Wilderness and Travel Medicine research literature and I sit on the Editorial Boards for the Journal of Travel Medicine, Travel Medicine and Infectious Disease, and the International Journal of Travel Medicine and Global Health. Professionally I am the former Public Risk Management Specialist and Tort Claims Officer for the National Park Service and the former Director of the Great Plains Injury Prevention Research Center. I am a Fellow of the Royal College of Physicians and Surgeons of Glasgow (Faculty of Travel Medicine) and Chair of the Expedition and Wilderness Medicine Special Interest Group in the International Society of Travel Medicine.
2. At present I am a Professor in the School of Human Movement, Sport, and Leisure Studies at Bowling Green State University in Ohio and an adjunct Associate Research Professor with the College of Public Health, Medical, and Veterinary Sciences at James Cook University, Australia. I am an Australian-American Fulbright Scholar. I hold a Ph.D. from Texas A&M University (Recreation, Park and Tourism Sciences) where I completed a dissertation titled, “The Epidemiology and Etiology of Visitor Injuries in Hawaii Volcanoes National Park.” I hold an M.S.

degree in Geosciences (Biogeography / Forestry emphasis) from Texas A&M University where I completed a thesis titled, "Rainforest Composition & Succession on a South Pacific Island (Island of Tutuila, National Park of American Samoa)." I hold a B.A. with Highest Honors in Geography and Environmental Science from the University of Hawaii at Hilo.

3. I have been asked by Forest Service Employees for Environmental Ethics for my expert opinion on risks of injury or death facing visitors to national forests from live, dead, and dying trees. I have reviewed the Forest Service's proposed action challenged in this case and photographs of some of the trees the Forest Service proposes to log. I am also generally familiar with western Oregon and its national forests, including the Willamette National Forest.

4. Risk is a part of human life; no person can live in a totally risk-free environment. Any individual could be struck by lightning or hit by a falling tree. However, because the odds of being hit by a falling tree are so miniscule, trees are not generally considered to be hazardous let alone a recreational hazard. It is an inescapable fact of entropy that all trees fall down at some point during their existence. Most trees that fall down are alive when they fall; the remaining trees are dead when they fall. Across all federal lands in the United States, one percent (one person per year) of fatalities suffered by the visiting public are caused by

falling trees. In contrast, logging and cutting down trees (whether dead or alive) is one of America's most dangerous professions. When fallers cut a tree, the chance they are in the potential kill zone is a 100% certainty. When extreme weather or other natural forces cause a tree to fall, the odds that anyone is in the potential kill zone are minimal.

5. In recreational areas such as national forests, falls while hiking or climbing are the leading cause of backcountry deaths (40%). Avalanches account for 15%, drowning incidents account for 10%, and heart attacks account for 10%. National Park Service ("NPS") statistics demonstrate a similar pattern. NPS units, like national forests, are very safe recreational areas. For example, the NPS human mortality rate is 0.1 deaths per 100,000 recreational visits. This is much lower than the mortality rate of the overall U.S. population (844 deaths/100,000 people). Motorized vehicle crashes (26%), drowning (23%), and hiking / climbing incidents (16%) are the leading causes of unintentional deaths in NPS units. This trend has been consistent since at least 1999. Dying or being injured by a tree is so rare as to not even warrant a separate statistic in NPS reporting. This is notwithstanding the fact that there are millions of dead and dying trees across our national parks. Dead trees are found along trails and roads. They are found

in the backcountry where people hike, drive, and snowmobile. Moreover, they are found in the front country where people walk, picnic, camp, and sightsee.

6. An example of NPS management post-fire comes from the 1988 Yellowstone Fire, which burned across 800,000 acres in Yellowstone National Park impacting one-third of the park's total land area. Following the fire, NPS removed few of these dead trees. Tree removal was limited to campgrounds, trees in close proximity to visitor centers, and trees in high-visited areas such as geyser viewer sites. With about 4 million visitors annually, Yellowstone dwarfs the Willamette National Forest's public visitation record. Yet notwithstanding Yellowstone's millions of dead trees and millions of visitors, the odds of dying from being hit by a tree at Yellowstone are miniscule. Not zero, but very, very small.

7. The Forest Service's logging decision challenged in this case relies on an internal handbook called "Field Guide for Danger-Tree Identification and Response along Forest Roads and Work Sites in Oregon and Washington." This handbook is primarily authored by tree disease specialists; none of the authors is an expert in outdoor recreation, visitor safety, or in risk analysis.

   The handbook is a sufficient tool to diagnose tree diseases. However, the handbook is of no use in evaluating safety risks to people from falling trees. The

handbook includes no data or research (nor does it cite any data or research) regarding public safety risks from trees.

8. In my expert opinion, the handbook's fundamental failing is illustrated by this key statement: "In this guide, a danger tree or hazard tree is any tree or its parts that will fail because of damage, defect, or disease and cause injury or death to people or property." As I stated above, all trees, whether by virtue of "damage, defect, or disease" or by virtue of wind, snow, earth movement, or gravity, or a combination of the above, will fall over. No tree stands forever. A bona fide risk assessment combines the falling potential of a tree with the likelihood that someone is under a tree, in the strike zone, when it falls. The handbook fails to do this analysis.

9. In summary, outdoor recreational visitor safety data are very clear. Tree falls pose an extremely low risk to public safety. Logging the trees proposed by the decision challenged here is not going to improve public safety in any measurable degree. The public safety risk from falling trees is already so low that it cannot practically get any lower. There may be other reasons to cut down these trees, but public safety is not a rational justification supported by any data or facts.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 16 day of September, 2021 in Bowling Green, Ohio.

Travis W. Heggie