

Open Letter to President Biden and Members of Congress from Scientists: It is essential to Remove Climate-Harming Logging and Fossil Fuel Provisions from Reconciliation and Infrastructure Bills

October 28, 2021

Dear President Biden and Members of Congress,

As scientists with expertise in ecology, forest management, biodiversity, and climate change, we are writing to urge you to remove from the Budget Reconciliation and Infrastructure provisions that promote logging and fossil fuels because such measures will only make worse the global climate and biodiversity crises. As an initial matter, we note that, even under optimistic expert estimates, the clean energy provisions in these bills are insufficiently bold and would, by themselves, only achieve a fraction of what we would need to reach the Administration's minimum climate crisis mitigation target of a 50% reduction in annual U.S. greenhouse gas emissions from 2005 levels by 2030.¹ Making matters worse, the bills contain numerous logging provisions that would dramatically increase annual carbon emissions from logging for lumber, forest biomass energy, and wood pellets on public and private forestlands nationwide, which would undermine natural climate solutions and our forests' carbon storage and sink capacities. The Reconciliation Bill is in jeopardy unless the cost can be reduced. Removing these compromising logging provisions and the subsidies for logging, bioenergy and fossil fuels would help accomplish that goal.

As hundreds of climate and forest scientists warned Congress last year, logging in U.S. forests emits 723 million tons of uncounted CO₂ into our atmosphere each year—more than 10 times the amount emitted by wildfires and tree mortality from insects combined.² Greenhouse gas emissions from logging in U.S. forests are now comparable to the annual CO₂ emissions from U.S. coal burning, and annual emissions from the building sector.³ Most of the carbon in trees removed from forests through logging is emitted almost immediately, as branches and tree tops are burned at biomass energy facilities, and mill residues are burned at the sawmills, typically for energy production⁴—emitting more CO₂ than burning coal, for equal energy produced.⁵ Logging conducted as commercial “thinning,” under the rubric of fire management, emits about three times more CO₂ than wildfire alone.⁶

The Reconciliation Bill currently contains \$14 billion in new subsidies for logging on federal public lands—more than double existing levels—as well as billions in new logging subsidies on private forestlands. The Reconciliation Bill further proposes nearly \$1 billion in new subsidies for forest biomass energy, wood pellet facilities, and mass timber (cross-laminated timber) under the heading of “wood innovation.” This ignores the advice of hundreds of climate and forest scientists who have previously informed Congress that these industries substantially increase emissions and worsen the climate crisis.⁷

The Infrastructure Bill includes a legislative mandate for 30 million acres of additional logging on federal public lands over the next 15 years, in addition to misdirecting billions of dollars in new subsidies for the fossil fuel industry and an exemption from environmental analysis for new oil and gas pipelines across federal lands. It also includes provisions that would roll back the National Environmental Policy Act by creating new “categorical exclusion” exemptions from

environmental analysis and disclosure of adverse impacts of this logging on our climate and forest biodiversity, while eliminating the public's right to file administrative objections on logging proposals. Further, the Infrastructure bill includes \$400 million for destructive post-fire clearcutting on public lands, and \$400 million in new subsidies for forest biomass and wood pellet facilities, which not only harm our climate and forest ecosystems but also disproportionately adversely affect communities of color with increased particulate and toxic pollution.⁸ In addition, there are \$18 billion in new subsidies in the bill for the forest biomass/pellet and fossil fuel industries to promote carbon capture and storage (CCS) and biomass energy with carbon capture and storage (BECCS), and construction of a massive network of CO₂ pipelines. Hundreds of climate scientists, and conservation and environmental justice organizations, have decried this as a false climate solution that can actually increase net carbon emissions and energy consumption while increasing pollution in communities of color.⁹

In both bills, logging provisions are promoted as wildfire management and climate solutions measures, but commercial logging conducted under the guise of “thinning” and “fuel reduction” typically removes mature, fire-resistant trees that are needed for forest resilience. We have watched as one large wildfire after another has swept through tens of thousands of acres where commercial thinning had previously occurred due to extreme fire weather driven by climate change. Removing trees can alter a forest's microclimate, and can often increase fire intensity.¹⁰ In contrast, forests protected from logging, and those with high carbon biomass and carbon storage, more often burn at equal or lower intensities when fires do occur.¹¹

We urge Congress to move in the opposite direction by shifting from more logging toward natural climate solutions that store carbon in mature and older forests and allow naturally regenerating forests to continue growing for greater carbon accumulation. For example, protecting U.S. federal public forestlands from logging would not only reduce direct carbon emissions but would also increase annual drawdown of atmospheric CO₂ by 84 million tons per year.¹² We do not wish to follow our Canadian neighbors where some of their managed forests have become a source of emissions because they followed many of the proposed policies in these Bills. There is a path toward meeting the vital 2030 climate crisis mitigation goals, but not with the Reconciliation and Infrastructure Bills as currently written.

We need the Administration and Congress to enact policies that will substantially *reduce* annual greenhouse gas emissions from logging, and from fossil fuels, and increase accumulation of carbon in our forests. The recent IPCC AR6 report released in August makes clear the urgent need to reduce emissions by at least half by 2030 to avoid large increases of devastating heat domes, prolonged droughts, wildfires that can impact communities, intense precipitation events, and catastrophic storms. The logging and fossil fuel subsidies and policies in the Reconciliation and Infrastructure Bills will only intensify the rate and intensity of our changing climate.

Lead Signatories

** Affiliations listed for identification purposes only*

William R. Moomaw, Ph.D.
Emeritus Professor

The Fletcher School Co-director Global Development and Environment Institute Tufts
University
Medford, MA, USA

Chad T. Hanson, Ph.D., Forest Ecologist
Earth Island Institute Berkeley, CA, USA

Dominick A. DellaSala, Ph.D., Chief Scientist
Wild Heritage, a project of the Earth Island Institute
Talent, OR, USA

Beverly Law, Ph.D., Professor Emeritus, Global Change Bio. and Terrestrial Systems Science
Department of Forest Ecosystems & Society Oregon State University
Corvallis, OR

William Ripple, Ph.D.
Distinguished Professor of Ecology
Oregon State University, Corvallis, OR

William L. Baker, Ph.D.
Emeritus Professor
Program in Ecology
University of Wyoming
Laramie, WY 82071

John Talberth, Ph.D.
Center for Sustainable Economy
Portland, OR

Michael Dorsey, Ph.D.
Yale University, School of Forestry, CT

Mary S. Booth, Ph.D., Director
Partnership for Policy Integrity
Pelham, MA

Derek Lee, Ph.D.
Associate Professor, Penn State University, PA

Monica Bond, Ph.D.
Wild Heritage Institute, Concord, NH

Robert L. Beschta, Ph.D.
Professor Emeritus
Forest Ecosystems and Society, Oregon State University
Corvallis, OR 97333

Thomas T. Veblen, Ph.D.
Distinguished Professor, Emeritus
University of Colorado Boulder, CO

Stuart Pimm, Ph.D.
Doris Duke Chair of Conservation Duke University
Durham, NC

Mark E. Harmon, Ph.D., Professor Emeritus
Department of Forest Ecosystems & Society
Oregon State University
Corvallis, OR

Steven Green, Ph.D.
Senior Professor Emeritus
University of Miami, Coral Gables, FL

Tonja Chi, M.S., Wildlife Ecologist
Campbell, California

Maya Khosla, M.S.
Wildlife Biologist and Toxicologist
Rohnert Park, CA

Richard W. Halsey, M.A.
California Chaparral Institute

Bryant Baker, M.S., Conservation Director
Los Padres ForestWatch
Santa Barbara, CA

Additional Signatories

Carlos Carroll, Ph.D.
Klamath Center for Conservation Research
PO Box 104
Orleans, CA 95556

Tina Rhea, M.S.
Greenbelt, MD

Neville Winchester, Ph.D.
Adjunct Assistant Professor

SLI, Biology Department
University of Victoria
Board member International Canopy Network

Craig C. Downer, A.B. (UCB), M.S. (UNR), Ph.D.c. (UDurhamUK)
Andean Tapir Fund
P.O. Box 456
Minden, NV 89423 USA

Mitchell M. Johns, Ph.D.
Professor Emeritus of Soil and Plant Science
College of Agriculture
California State University
Chico, CA 95929-0310

John Harte, Ph.D.
Professor of the Graduate School
Ecosystem Sciences
ERG/ESPM
University of California
Berkeley, CA 94720

Garry Rogers, Ph.D., President
Agua Fria Open Space Alliance, Inc.
Humboldt, AZ

Rob Mrowka, M.S.
Landscape Ecologist, retired
Machias, NY

Alan Stemler, Ph.D.
Professor Emeritus
Plant Biology Department
University of California-Davis
Davis, California USA

Bitty A. Roy, Ph.D.
Professor Emerita
Inst. of Ecology and Evolution
University of Oregon

John W. Schoen, Ph.D.
Wildlife Ecologist, retired
Anchorage, Alaska

David F. DeSante, Ph.D.

President, The Institute for Bird populations
Petaluma, CA 95953

Paul Schaeffer, Ph.D., Associate Professor of Biology
Miami University
Oxford, OH

Mary V. Price, Ph.D.
Professor of Biology, Emerita
University of California, Riverside

Don Charles, Ph.D.
Academy of Natural Sciences
Drexel University

Melanie Szulczewski, Ph.D.
Associate Professor of Environmental Science
University of Mary Washington, Fredericksburg VA

Thomas Michael Power, Ph.D.
Professor of Economics, Emeritus
The University of Montana

Michael C. Swift, Ph.D.
Assistant Professor Emeritus of Biology
St. Olaf College

David W. Roberts, Ph.D.
Professor Emeritus
Department of Ecology
Montana State University
Bozeman, MT 59717-3460

K. Greg Murray, Ph.D.
Professor Emeritus of Biology
Hope College
Holland, Michigan

Gretchen North, Ph.D.
John W. McMenemy Endowed Professor of Biology
Occidental College
Los Angeles, CA 90041

Glenn E. Walsberg, Ph.D.
Professor Emeritus
School of Life Sciences

Arizona State University

Timothy P. Spira, Ph.D.
Emeritus Professor, Ecology
Clemson University

Barbara C. (Kitti) Reynolds, Ph.D.
Professor Emerita, Department of Environmental Studies
University of North Carolina at Asheville
Asheville, NC 28804

Richard A. Bradley, Ph.D,
Associate Professor, Emeritus
The Ohio State University, Columbus, OH

George Robinson, Ph. D.
Emeritus Professor of Biological Sciences
State University of New York at Albany

Susanne C. Moser, Ph.D.
Susanne Moser Research & Consulting
University of Massachusetts-Amherst

Mary S. Tyler, Ph.D.
Professor Emerita of Zoology
University of Maine, ME

Matthew J. Rubino, M.S.
Research Scholar
NC State University Department of Applied Ecology

Richard S. Ostfeld, PhD
Distinguished Senior Scientist
Cary Institute of Ecosystem Studies
Millbrook, NY 12545, USA

John F Weishampel, Ph.D.
Professor of Biology
University of Central Florida

Dr. Faisal Moola, PhD
Associate Professor
Department of Geography (347 Hutt).
College of Social and Applied Human Sciences
University of Guelph
Guelph, Ontario

Judith S. Weis, Ph.D., Professor Emerita
Rutgers University
Newark, NJ

Alan Dickman, Ph.D.
Professor Emeritus, Environmental Studies and Biology
University of Oregon

Nicanor Saliendra, Ph. D.
USDA Agricultural Research Service
Mandan, ND

Paula M Schiffman, Ph.D.
California State University, Northridge

Stacey Harmer, Ph.D.
Professor, Department of Plant Biology
University of California Davis

Robert M. Pyle, Ph.D.
Founder, The Xerces Society for Invertebrate Conservation

Peter Stacey, Ph.D.
Research Professor (retired)
Department of Biology
University of New Mexico
Albuquerque, NM 87507

Thomas L. Fleischner, Ph.D.
Senior Advisor & Director Emeritus, Natural History Institute
Faculty Emeritus, Prescott College

Melissa Savage, Ph.D.
Professor Emerita
University of California Los Angeles
Los Angeles, CA

Allen G. Gibbs, Ph.D.
Professor, University of Nevada, Las Vegas

James R. Strittholt, Ph.D., President
Conservation Biology Institute
Corvallis, OR

Philip J. Nyhus, Ph.D.

Professor of Environmental Studies
Colby College, Waterville, ME

Thomas W. Sherry, Ph.D., Professor
Department of Ecology and Evolutionary Biology
Tulane University

John Ratti, Ph.D.
Professor and Research Scientist, Retired University of Idaho
New Meadows, Idaho

Malcolm K. Cleaveland, Ph.D., LTC USAR (Ret.)
Professor Emeritus of Geosciences
University of Arkansas - Fayetteville
Department of Geosciences

Brett R Riddle, Ph.D.
Professor
Life Sciences
University of Nevada, Las Vegas
Editor-in-Chief, Journal of Mammalogy

Karen Holl, Ph.D.
Professor of Environmental Studies
University of California, Santa Cruz

Anthony Snider, Ph.D.
Associate Professor of Environmental Sciences
University of North Carolina Wilmington
601 S. College Rd., Dobo 2038-D
Wilmington, NC 28403-5949

Rick Van de Poll, Ph.D.
Ecosystem Management Consultants of New England, LLC
30 N. Sandwich Rd
Center Sandwich, NH 03227

Joshua Schimel, Ph.D., Professor, Environmental Studies
University of California Santa Barbara

Craig Benkman, Ph.D.
Distinguished Chair in Ecology
University of Wyoming

James R. Blauth, Ph.D., Professor of Biology
University of Redlands

1200 E. Colton Ave.
Redlands, CA 92373

John G. Robinson, Ph.D.
Joan L. Tweedy Chair in Conservation Strategy
Wildlife Conservation Society

Esther C. Peters, Ph.D. || Associate Professor
Environmental Science & Policy, George Mason University
4400 University Drive, MS 5F2, Fairfax, VA 22030-4444

Jack A. Sobel, M.S.
Bethesda, MD 20816

Chris Myers, Ph.D.
Professor of Biology
Miami University

Terry L. Root, Ph.D., Senior Fellow Emerita
Stanford Woods Institute for the Environment
Stanford University

Tony Povilitis, Ph.D.
Wildlife Biologist
Life Net Nature
Bozeman, MT USA

Edward Huang, Ph.D., AICP, LEED AP, CGBP, CGREP, QWEL
Principal Researcher, California Institute of Environmental Design & Management
Arcadia, CA

Brian T. Miller, Ph.D., Professor
Department of Biology
Middle Tennessee State University
Murfreesboro, Tennessee 37132

Jessica Dawn Pratt, Ph.D.
Associate Professor of Teaching
Ecology & Evolutionary Biology
Conservation & Restoration Science Program
University of California at Irvine

Stephen T. Tettelbach, Ph.D.
Professor Emeritus of Biology
LIU Post
720 Northern Blvd.

Brookville, NY 11548-1300

Barry R. Noon, Ph.D.
Professor Emeritus
Department of Fish, Wildlife and Conservation Biology
Colorado State University

Roger A Powell, Ph.D.
Department of Applied Ecology
North Carolina State University
PO Box 918, Ely, Minnesota 55731

Paul C. Paquet, Ph.D.
Raincoast Conservation Foundation
Senior Scientist & Professor Adjunct
Applied Conservation Science Lab
University of Victoria
Victoria, BC Canada

Gary D. Grossman, Ph.D.
Fellow, American Fisheries Soc.
Fellow, The Linnean Soc.
Professor of Animal Ecology
Warnell School of Forestry & Natural Resources
University of Georgia
Athens, GA, USA 30602
Affiliate Professor Haifa University

John Swaddle, Ph.D.
Faculty Director, Institute for Integrative Conservation
William & Mary, Williamsburg, VA

James A. Quinn, Ph.D.
Professor Emeritus
Rutgers University
New Brunswick, NJ

Roger W. Ruess, Ph.D.
Professor Emeritus, Senior Research Associate
Institute of Arctic Biology, University of Alaska
Fairbanks, AK 99775

WS Armbruster, Ph.D.
University of Portsmouth, UK
& University of Alaska Fairbanks, USA

Dan Spencer, Ph.D.
Professor, Environmental Studies
The University of Montana

Kathleen McCarthy, M.S.
Restoration Ecologist

John R. Cannon, Ph.D.
Conservation Biologist,
Consultant to the International Whooping Crane Recovery Team

Michael Rosenzweig, Ph.D.
Professor emeritus,
University of Arizona

Thomas Rooney, Ph.D.
Department of Biological Sciences
Wright State University
Retired

James R. Karr, Ph.D., Professor Emeritus
School of Aquatic and Fishery Sciences
University of Washington, Seattle, WA

Donald M. Waller, Ph.D.
Former J.T. Curtis Professor of Botany
University of Wisconsin-Madison
Madison, WI 53706 USA
Chief Scientist, Superior Bio Conservancy

Curt Bradley, M.S., Senior Scientist
Center for Biological Diversity
Tucson, AZ

References

1: Larsen, J., et al. 2021. Pathways to Build Back Better: Nearly a Gigaton on the Table in Congress. Rhodium Group, New York, NY. Accessed at: <https://rhg.com/research/build-back-better-congress-budget/>

2: (a) Moomaw, W.R., et al. 2020. Scientists concerned about climate and biodiversity impact of logging. Accessed at: <https://johnmuirproject.org/2020/05/breaking-news-over-200-top-u-s-climate-and-forest-scientists-urge-congress-protect-forests-to-mitigate-climate-crisis/>; (b) Harris, N.L., et al. 2016. Attribution of net carbon change by disturbance type across forest lands of the conterminous United States. Carbon Balance Manage. 11: Article 24.

- 3: USEIA. 2021. How much of U.S. carbon dioxide emissions are associated with electricity generation? U.S. Energy Information Administration (2020 data). Accessed at: <https://www.eia.gov/tools/faqs/faq.php?id=77&t=11>
- 4: (a) Harmon, M.E. 2019. Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions. *Environmental Research Letters* 14: Article 065008; (b) Hudiburg, T.W., 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. *Environmental Research Letters* 14: Article 095005.
- 5: Serman, J.D., L. Siegel, and J.N. Rooney-Varga. 2018. Does replacing coal with wood lower CO2 emissions? Dynamic lifecycle analysis of wood bioenergy. *Environmental Research Letters* 13: Article 015007.
- 6: Campbell, J.L., M.E. Harmon, and S.R. Mitchell. 2012. Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? *Frontiers in Ecol. and Environ.* 10: 83-90.
- 7: Moomaw, W.R., et al. 2020. Scientists concerned about climate and biodiversity impact of logging. Accessed at: <https://johnmuirproject.org/2020/05/breaking-news-over-200-top-u-s-climate-and-forest-scientists-urge-congress-protect-forests-to-mitigate-climate-crisis/>
- 8: Koester, S, and S. Davis. 2018. Siting of Wood Pellet Production Facilities in Environmental Justice Communities in the Southeastern United States. *Environmental Justice* 11: 64-70.
- 9: (a) Art, H.W., et al. 2021. A Statement by Scientists and Economists on BECCS from Forest Biomass. Accessed at: <https://www.biofuelwatch.org.uk/wp-content/uploads/BECCS-letter-by-scientists-and-economists-1.pdf> ; (b) 350.org, et al. 2021. Carbon capture is not a climate solution. Accessed at: https://www.ciel.org/wp-content/uploads/2021/07/CCS-Letter_FINAL_US-1.pdf .
- 10: (a) Bradley, C.M. C.T. Hanson, and D.A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western USA? *Ecosphere* 7: article e01492; (b) Cruz, M.G., M.E. Alexander, and J.E. Dam. 2014. Using modeled surface and crown fire behavior characteristics to evaluate fuel treatment effectiveness: a caution. *Forest Science* 60: 1000-1004; (c) Cruz, M.G., M.E. Alexander, and P.A.M. Fernandes. 2008. Development of a model system to predict wildfire behavior in pine plantations. *Australian Forestry* 71: 113-121.
- 11: (a) Zald, H.S.J., and C.J. Dunn. 2018. Severe fire weather and intensive forest management increase fire severity in a multi-ownership landscape. *Ecological Applications* 28: 1068-1080; (b) Odion, D.C., and C.T. Hanson. 2008. Fire severity in the Sierra Nevada revisited: conclusions robust to further analysis. *Ecosystems* 11: 12-15; (c) Odion, D. C., M. A. Moritz, and D. A. DellaSala. 2010. Alternative community states maintained by fire in the Klamath Mountains, USA. *Journal of Ecology* 98: 96-105; (d) Bradley, C.M. C.T. Hanson, and D.A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western USA? *Ecosphere* 7: article e01492; (e) Dunn, C.J., et al. 2020. How does tree regeneration respond to mixed-severity fire in the western Oregon Cascades, USA? *Ecosphere* 11: Article e03003; (f) Meigs, G.W., et al. 2020. Influence of topography and fuels on fire refugia probability under varying fire weather in forests of the US Pacific Northwest. *Canadian Journal of Forest Research* early online 1-30. doi: 10.1139/cjfr-2019- 0406; (g) Lesmeister, D.B., Sovern, S.G., Davis, R.J., Bell, D.M., Gregory, M.J., and Vogeler, J.C. 2019. Mixed-severity wildfire and habitat of an old-forest obligate. *Ecosphere* 10: Article e02696.
- 12: Depro, B.M., et al. 2008. Public land, timber harvests, and climate mitigation: Quantifying carbon sequestration potential on U.S. public timberlands. *Forest Ecology and Management* 255: 1122-1134.