CONSERVATIVE
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SOLUTIONS

Getting to Know America's Revegetation and Carbon Sequestration (ARCs) Act

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KEY TAKEAWAYS:
1. **Natural climate solutions are important to reducing the risks of climate change, but its efforts are often hamstrung by regulatory and funding challenges.**
2. **The America's Revegetation and Carbon Sequestration (ARCs) Act makes key investments into revegetation efforts, forest management practices, and research activities.**
3. **While key funding is needed to accelerate conservation and forest management practices in the United States, establishing a more efficient permitting process and creating greater protections against costly litigation would bolster healthier management of federal forests.**

Natural solutions are integral to reducing the risks of climate change. Conservation, restoration and better land practices create more opportunities for forests, grasslands and wetlands to capture and store carbon dioxide. Additionally, active land management reduces the risk of wildfires. Globally, this summer's wildfires set a record for CO2 emissions, totaling the annual output of the world's third largest emitter, India.[1]

Senators Joe Manchin (D-WV) and John Barrasso (R-WY) recently introduced legislation to increase revegetation and reforestation on federal lands, address invasive species and promote active forest management. The America's Revegetation and Carbon Sequestration (ARCs) Act of 2021 contains several efforts that aim to improve federal forest and rangeland health. **Through focused revegetation programs and expediting timber harvesting practices, ARCs would enhance ecological restoration, promote better forest management and reduce the risk of wildfires. Fixing a broken regulatory process would also go a long way toward economically and environmentally beneficial management of federal forests and lands.**

REVEGETATION

Title I of ARCs would direct the Department of Interior and Forest Service (within the U.S. Department of Agriculture) to undertake a regionally-based revegetation effort in consultation with states, tribes and private property owners if applicable. The bill largely applies to federal land, and activity by private landowners would be purely voluntary. More specifically, Interior and Forest Service would develop a revegetation tool that would assess the needs of different regions, prioritizing areas that had been destroyed by wildfires, are at higher risk of invasive species and wildfires or offer great potential for carbon sequestration. The government would develop a 10-year revegetation plan that could be easily amended as conditions or circumstances change. The bill would also extend long-term contracts for tree and seed planting with local communities.

Importantly, the bill recognizes the importance of local and specialized knowledge. In the findings section of the legislation, Congress finds that "scientific knowledge should be combined with local knowledge, and site conditions should be taken into account, in developing revegetation projects, and ideally small-scale planting trials should take place before planting large numbers of trees." The bill also recognizes that there could be other higher valued uses of federal land other than revegetation. Having plans that are flexible, consider local needs and competing interests and are targeted in their approach have a better chance of achieving their desired environmental outcomes and avoiding unintended consequences.

Title I would also set up a pilot program to explore how to revegetate abandoned mine lands. Abandoned mines, mostly located in the west, pose a public health and safety risk. **While revegetation efforts can turn that land from an environmental liability to an asset, policymakers should also fix the laws and regulations that discourage reclamation.**[2]

IMPROVED FOREST MANAGEMENT AND TACKLING INVASIVE SPECIES

Active management of federal forests is long overdue. In an April 2021 report, the Property and Environment Research Center (PERC) noted that **the Forest Service has a restorage backlog on more than 40 percent of the 193 million acres of land it manages, and 63 million acres are at risk or very high risk of wildfires.**[3] Regulatory red tape, excessive litigation and inadequate funding contribute to less forest management than what is necessary to maintain resilient forests and reduce wildfire risk.

Title II of the bill would establish a carbon credit program where revenue collected for carbon credits would be used by the Forest Service for projects such as prescribed burns, thinning or timber harvesting to reduce the intensity of wildfires. In effect a business would purchase credits for an activity on U.S. Forest Service land that sequesters additional carbon, increases long-term storage in durable wood products or avoids carbon dioxide emissions. The would be supplemental to any appropriations the Forest Service receives for these activities.

Purely voluntary carbon markets can be a cost-effective way for companies and individuals to reduce their climate footprint. Instead of forcing a business to install costly emissions control technologies, that business could offset its emissions by purchasing credits from another business where the cost of reducing emissions is lower. Challenges can arise if projects do not materialize in the way they say they would (i.e., a wildfire destroys a reforestation project). Another challenge is verification, which third-party verifiers are addressing by improving methodologies to more accurately measure the emissions avoided or reduced. Yet another challenge with offset markets is proving additionality. In other words, was the offset project something the Forest Service was going to do anyway. For this carbon credit market, additionality may be easier to prove if the project is fully dependent on the carbon credit transaction.

Another worthwhile endeavor is addressing invasive species, which have adverse impacts on natural resources, native species and the ecology of a given region.[4] ARCs would charge the Forest Service, the Bureau of Land Management and the U.S. Geological Survey to develop a five-year plan to map and treat invasive species. **Importantly, the legislation directs the agencies to work with state and local government agencies, use the best available science, build on existing efforts and target high priority areas.**

RESEARCH ACTIVITIES

ARCs would also create and extend several forest and grassland research and data collection initiatives. It would formally authorize the experimental forest program, which consists of 76 experimental forests, 4 experimental ranges, and 4 experimental watersheds. These areas provide a hub for scientists to better understand and address issues like invasive species, root disease, old growth vegetation, wildlife habitat, fire resiliency and climate change. It would create a pilot program to expand the use of biochar (biomass-based charcoal) for animal health. The use of biochar has numerous documented health benefits for farm animals and soil health.[5] The bill would also establish programs to collect more data on carbon storage in buildings, the longevity of forest products and a mass timber[6] science and education program.

Advancements in research could accelerate the economic and ecological value of products like mass timber and better understand the environmental and climate benefits of active forest management. Mass timber construction uses lamination, nails or glue and is "built using a category of engineered wood products typically made of large, solid wood panels, columns or beams often manufactured off-site for load-bearing wall, floor, and roof construction."[7] Mass timber construction could be built faster, greener and with less congestion than alternative materials like concrete.[8] While research programs could ultimately unlock more economic opportunities for timber harvesting and small trees and woody biomass, it will be imperative for Congress to provide a predictable, efficient permitting path to improve the chances for federal timber harvesting to be successful.[9]

CONCLUSION

Improved land management is good economic and environmental policy. Restoration and timber production can create jobs, supply a valuable resource and be an effective climate mitigation tool. The America's Revegetation and Carbon Sequestration (ARCs) Act includes many practical measures to protect America's forests, create collaborative efforts with local governments and the private sector and provide research programs to better understand the economic, environmental and climate impacts of better forest and rangeland management. A more efficient permitting process and protection against excessive and time-consuming lawsuits would bolster the chances of more successful management of federal forests.

ENDNOTES

[1] Marlowe Hood, "Climate: summer wildfires emit record amount of CO2," Phys.org, September 21, 2021, https://phys.org/news/2021-09-climate-summer-wildfires-emit-amount.html (accessed September 29, 2021).

[2] Jonathan Wood, "Prospecting for Pollution: The Need for Better Incentives to Clean Up Abandoned Mines," The Property and Environment Research Center, February 2020, https://www.perc.org/wp-content/uploads/2020/02/prospecting-for-pollution-abandoned-mines.pdf

[3] Holly Fretwell and Jonathan Wood, "Fix America's Forests: Reforms to Restore National Forests and Tackle the Wildfire Crisis," The Property and Environment Research Center, April 12, 2021, https://www.perc.org/2021/04/12/fix-americas-forests-reforms-to-restore-national-forests-and-tackle-the-wildfire-crisis/

[4] U.S. Fish and Wildlife Services, Frequently Asked Question About Invasive Species, November 20, 2012, https://www.fws.gov/invasives/faq.html (accessed September 29, 2021).

[5] Ka Ya Man, et al., "Use of biochar as feed supplements for animal farming," Critical Reviews in Environmental Science and Technology, Vol. 51, Issue 2, 2021, https://www.tandfonline.com/doi/abs/10.1080/10643389.2020.1721980?journalCode=best20 and Chase O'Neal, et al., "Biochar: An emerging soil amendment," Michigan State University Extension: Soil Health, June 17, 2020, https://www.canr.msu.edu/news/biochar-an-emerging-soil-amendment (accessed September 29, 2021).

[6] reThink Wood, "Mass Timber in North America," https://www.awc.org/pdf/education/des/ReThinkMag-DES610A-MassTimberinNorthAmerica-161031.pdf

[7] Forestry Innovation Investment, "What is Mass Timber?", naturally:wood, https://www.naturallywood.com/topics/mass-timber/ (accessed September 29, 2021).

[8] reThink Wood, "Mass Timber in North America," https://www.awc.org/pdf/education/des/ReThinkMag-DES610A-MassTimberinNorthAmerica-161031.pdf

[9] Holly Fretwell and Jonathan Wood, "Fix America's Forests: Reforms to Restore National Forests and Tackle the Wildfire Crisis," The Property and Environment Research Center, April 12, 2021, https://www.perc.org/2021/04/12/fix-americas-forests-reforms-to-restore-national-forests-and-tackle-the-wildfire-crisis/