



## **Putting Biofuels on the Right Track:** Renewable Fuels Standard safeguards protect wildlife and the environment

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**The verdict is in: Do biofuels right, or they will cause more harm than good. Fortunately, the 2007 Energy Bill (the Energy Independence and Security Act of 2007, or EISA) puts biofuels on the right track. EISA's Renewable Fuels Standard (RFS) program was carefully designed to ensure that federal biofuels policies result in renewable energy that mitigates dangerous climate change, while avoiding costly and harmful unintended consequences to wildlife and the environment. These RFS safeguards are the best way to ensure that biofuels don't become just another dirty fuel.**



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### Renewable Fuels Standard Ensures Plentiful Supplies of Feedstock

Biomass refers to crops that can be converted to fuel. The EISA allows for biofuels to be sourced from a high percentage of viable biomass, while ensuring sensitive lands, important wildlife habitat, and public resources are protected. Eligible feedstock sources include:

- All crops and crop residue from current agriculture land and non-forested, fallow land
- All crops and crop residue from any non-forested land cleared prior to the enactment of EISA, including newly established tree plantations
- All trees and logging residue from privately owned tree plantations, except those converted from natural forests after passage of EISA
- Responsibly sourced slash and pre-commercial thinnings from privately owned natural forests
- All material removed from the immediate vicinity of homes and communities at risk from wildfire, on public or private lands
- Animal waste and animal byproducts
- Waste material, including separated yard waste, food waste, and cooking and trap grease

### Safeguards Make the RFS Effective

The Renewable Fuels Standard includes protections for wildlife, forests, and grasslands by defining eligible renewable biomass. In addition, the RFS also established the first-ever, minimum lifecycle greenhouse gas emissions performance standards. These standards ensure that new biofuels required under the RFS reduce global warming pollution when compared to gasoline and diesel.



### Wildlife Safeguards

**What the Safeguards Do:**  
**Ensure the RFS does not encourage sourcing from forestland that is home to rare wildlife.**

The Energy Bill uses the State Natural Heritage programs to identify rare, imperiled, and critically imperiled wildlife habitat. The Natural Heritage programs are readily accessible, widely recognized, and embraced by all 50 states<sup>1</sup>. They are the leading sources on the precise locations and conditions of rare and threatened species and ecological communities found within each state. These databases and ranking systems are used effectively for forest management and in partnership with many forest-product industry leaders.

**What's At Stake:** The ecosystems identified by the RFS as off-limits are home to our most **rare, threatened, and imperiled wildlife**. While plantations and young forests are increasing in parts of the United States, older forests that provide critical wildlife habitat are disappearing faster than they are being regrown, both nationally and globally, and loss of native habitat is the greatest threat to biodiversity here and abroad. Animals are currently going extinct at a rate nearly 1,000 times higher than they have historically, and under current trends that may increase to 10,000 times over the next century.<sup>2</sup> Moreover, as global warming escalates, wildlife is increasingly threatened by loss of safe harbors and migration routes, making habitat protection even more important.<sup>3</sup>

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## Forest and Grassland Safeguards

**What the Safeguards Do: Prevent the RFS from providing incentive for the clearing and conversion of native grasslands and forests, including our few remaining non-federal old-growth forests.**

All material from private and state-owned existing tree plantations and new plantations established on land cleared prior to the enactment of the EISA is eligible for credit. In addition, responsibly sourced slash and pre-commercial thinnings from natural forests are eligible. Small-diameter trees constitute the lion's share of what would typically be harvested by a landowner for biomass. No tree species is excluded.

The definition of eligible material ensures that the RFS does not result in the loss of our native forests and the important environmental values they provide, such as wildlife habitat and water quality. At the same time, it is broadly inclusive of the kind of material that typically provides the biggest source of biomass, assuring diverse opportunities for landowner participation.

Similar safeguards are already being implemented in the forestry sector. Sustainable forestry practices that identify and protect high conservation values such as old-growth or late successional forest and specific wildlife habitat, and avoid conversion, are well established. These practices allow natural forests to remain working forests, without sacrificing critical wildlife habitat and other important environmental values. For example, Forest Stewardship Council certification, the global standard used in the forest products industry, incorporates these considerations.<sup>4</sup>



**What's At Stake: Native grasslands** represent one of the most threatened ecosystems in the world. Less than 4 percent of our country's original native prairies exist today. These imperiled ecosystems represent a last remnant of our natural heritage and provide invaluable habitat for migrating birds and other endangered species. And our **remaining natural forests and old-growth trees** are under severe threat from unsustainable logging practices, global warming, and real estate development.

While woody biomass represents an important feedstock for next-generation biofuels, it is critical that federal policy not make a bad situation worse. Loss of forests is one of the greatest threats to biodiversity worldwide and a major contributor to global warming. While deforestation is the most dramatic example of this growing crisis, equally critical is the conversion of natural forests to single-species plantations. Plantations may look like "forests," but they are biological deserts when compared to the natural forests that they replace—lacking the diversity of species, structure, and ecological functions that make natural forests so important. The Energy Bill wisely encourages next generation biofuels—including wood-based biofuels—while protecting against the loss and degradation of our precious forest resources.

*Photographs, from left: The Great Gray Owl's forest habitat is at risk; hemlock trees grow in a natural forest in North Carolina; the imperiled Pacific fisher is one species being threatened; a pine plantation, which lacks the biodiversity of a natural forest.*

### Biofuels Done Wrong Would Put Southeastern U.S. Forests at Risk

The Southern United States contains some of the most biologically rich forests in North America, housing an abundance of plant and animal diversity that can be found nowhere else in the world. Unfortunately, these unique forests are under increasing pressure from the wood products industry as well as urban sprawl and development. Pine plantations have been displacing natural forests for the past 50 years and now occupy 32 million acres (15 percent) of the current Southern "forest."<sup>5</sup> Seventy-five percent of the pine plantations established in the last two decades were carved out at the expense of natural forests. Moreover, 40 percent of the region's native pine forests have already been converted to single-species plantations, eliminating the rich diversity that the area is known for.



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### Public Forest Safeguards

**What the Safeguards Do:** Keep our federal forests, held in the public trust, from being converted to biofuels farms, while encouraging removal of woody biomass from the immediate vicinity of homes and communities to reduce wildfire risk.

**What's At Stake:** National forests, which are at risk of being mined for biomass. Proposals to use “thinnings” from national forests do not make economic or ecologic sense. At best, only a small amount of biomass from fuel treatments would be available from national forests, roughly the equivalent of 600 million gallons of biofuels.<sup>6</sup> This drop in the bucket, if feasible at all, could come at the expense of degraded forests and would establish an unsustainable industrial demand for continued commercial exploitation of public resources.

Moreover, the empirical evidence is mixed at best on whether backcountry logging and thinning effectively reduces fire risk.<sup>7</sup> In contrast, Forest Service research has shown conclusively that treating flammable material in the immediate vicinity of homes and communities protects them from wildfire and should thus be encouraged.<sup>8</sup> The Energy Bill wisely avoids providing incentive for backcountry thinning, while making eligible all material removed from the immediate vicinity of homes and communities at risk from wildfire on both public and private lands in order to support public safety.



### Global Warming Safeguards

**What the Safeguards Do:** Ensure that biofuels reduce global warming pollution by 1) setting mandatory minimum performance standards and 2) requiring that all parts of the biofuels production process are accounted for, including growing the biomass, emissions from direct and indirect land-use changes, converting the biomass into fuels, and using it in our cars and trucks.

Under the law, new conventional biofuels (including corn ethanol) must be at least 20 percent better than gasoline, advanced biofuels must be at least 50 percent better, and biofuels from cellulosic biomass must be at least 60 percent better.

**What's At Stake:** Not all biofuels are good for the climate. As the latest scientific research continues to confirm, without strong greenhouse gas standards the RFS could quickly move from providing real climate benefits to having none at all—or worse, contributing to global warming. Whether biofuels create global warming pollution or reduce it hinges to a large degree on land use—both direct and indirect. For example, if just 10 percent of the fuels came from or caused the clearing of tropical rainforests, the RFS would likely have no climate benefit at all. In other words, without the Energy Bill's climate provisions, the benefits of the RFS would rapidly decrease.

<sup>1</sup> <http://www.natureserve.org/aboutUs/index.jsp>

<sup>2</sup> *Environmental Science and Engineering for the Twenty-First Century: The Role of the National Science Foundation*. National Science Foundation, February 2000; Peter Raven, *Plants in Peril: What Should We Do?* Missouri Botanical Garden, 1999

<sup>3</sup> See Lovejoy, Thomas, *Climate Change and Biodiversity*, Yale University Press, August 2006.

<sup>4</sup> More than 232 million acres of forest are certified to FSC standards. Certificates have been issued in 84 countries, equivalent to 7 percent of forests identified as primarily for production purposes (2007 UNECE/FAO Forest Products Annual Review.) The supply of FSC-certified pulp in the market is estimated at a minimum of 4.7 million tons. This is about 9 percent of the total global supply. FSC is the fastest growing forest certification process, with nearly 50 million acres added in 2006 (a 33 percent increase) and a 2007 increase of nearly 10 million.

<sup>5</sup> USFS SFRA 2001 Summary—Section 3.2.2..

<sup>6</sup> Analysis based on data presented in the DOE “Billion Ton Study,” available at [http://www1.eere.energy.gov/biomass/pdfs/final\\_billionton\\_vision\\_report2.pdf](http://www1.eere.energy.gov/biomass/pdfs/final_billionton_vision_report2.pdf). Even these estimates may be optimistic due to economic costs, haul distances, and serious questions regarding ecological impacts of thinning.

<sup>7</sup> See for example, Carey, H. and M. Schumann. “Modifying Wildfire Behavior-The Effectiveness of Fuel Treatments.” *The Forest Trust*. p. 16. Available at [www.theforestrust.org/images/swcenter/pdf/WorkingPaper2.pdf](http://www.theforestrust.org/images/swcenter/pdf/WorkingPaper2.pdf).

<sup>8</sup> See Cohen, J. D. “Preventing Disaster: Home Ignitability in the Wildland-Urban Interface.” *Journal of Forestry*, 98 (2000):15-21. [nrdc.org/land/lan\\_07062801g.pdf](http://nrdc.org/land/lan_07062801g.pdf), and [www.firewise.org](http://www.firewise.org).