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BCAP PEIS  
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Re: Comments regarding the Draft Programmatic Environmental Impact Statement (PEIS) for the administration and implementation of the Biomass Crop Assistance Program (BCAP) enacted by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill).

Dear sir or madam:

Please accept the following comments on behalf of Heartwood, Inc., regarding the Draft Programmatic Environmental Impact Statement (PEIS) for the administration and implementation of the Biomass Crop Assistance Program (BCAP) enacted by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill).

**Eligible Material Owners:** 1.3.2.1 *These (NFS) contracts and permits include timber sales contracts, stewardship contracts or agreements, service contracts or permits and other applicable Federal land contracts or permits. While timber sale contracts are included under NEPA for public review, comment and the ability to file administrative appeals, and seek remedies, service contracts and Forest Service permits, including special use permits, are normally not. We submit that actions on public lands under this program and that all harvesting and collection of eligible materials should not be exempt from NEPA analysis and review and that the public should be informed and involved in the process. Cumulative effects of this program, in conjunction and in proximity in space and time with other FS projects, need to be assessed both at a programmatic and project level.*

**Federal Permits, Licenses and other Entitlements:** 1.3.4.2 USDA USFS Special Use Permit. *Normally NFS land is not made available if the overall needs of the individual or business can be met on nonfederal lands. We submit that this is important for all actions on public lands under this program and that all harvesting and collection of eligible materials should adhere to this regulation. It should not*

be applied only to special use permits. This should be a required part of any application and scoping process, to include but not be limited to timber sales, wildlife openings, fuel load removal and restoration projects.

**Cooperating Agencies-Forest Service:** 1.3.5.3 *The Forest Service is directly involved in the BCAP implementation due to the potential for woody biomass to be used as a crop type. We submit that woody biomass either is or is not a crop type. While it may be appropriate for woody biomass to be considered a crop type on private lands, it is not appropriate for public lands. Woody biomass should not be considered a crop type on public lands since the value of forested public lands for clean air, pure water, soil retention and creation, and recreation always surpasses the value of any consideration of primary crop and crop rotation, resulting in degradation of these values.*

**BCAP Eligible Crops:** 1.4.2 *The 2008 Farm Bill defines Eligible Crops under BCAP as a crop of renewable biomass with the exclusion of any crop that is eligible to receive payments under Title 1 of the 2008 Farm Bill or any plant that is considered invasive or noxious or has the potential to become invasive or noxious. The irony of this is that, on public lands, virtually any road construction or reconstruction, canopy or vegetation removal creates conditions which make these areas for vectors for increased population and range of invasive or noxious plants. We submit that it is neither the intention of this program nor an acceptable byproduct of the program to increase the range or population of noxious or invasive plants, even though these plants may be considered to be an “eligible crop.” Any use of invasive or noxious crops from public lands under this program should be done with the primary long-term goal of significantly reducing the range and populations of these “eligible crops.” All necessary biological and mechanical (not chemical) precautions should be undertaken to guarantee this.*

**Forest Resources:** 1.4.3 *Woody biomass are the trees and woody plants, including limbs, tops, needles, leaves and other woody parts, grown in a forest, woodland or rangeland environment, that are by-products of forest management. It should be noted that this definition limits woody biomass to those “trees and woody plants, including limbs, tops, needles, leaves and other woody parts, grown in a forest, woodland or rangeland environment” that are byproducts of forest management and does not apply to those which are naturally occurring or for naturally diverse forests undergoing natural succession.*

**Logging Residue:** 1-13. *Woody biomass are the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the byproducts of forest management*

The soil quality of many of these lands is highly degraded. Some NF districts, especially in the southeast, have experienced 3rd and 4th generation logging regimes in the 100-150 years, and are in bad need of a recharge in humus and topsoil. Stumps, limbs, needles, leaves, etc. are the only source for this. To further deprive these lands of valuable decomposable vegetable matter and nutrients is to further degrade these already depleted soils. Maintaining and sustaining even the current degraded forest quality which will certainly necessitate the call for more expensive applications of commercial fertilizers following logging and replanting of stands. Yet even fertilizers are no replacement for the complex of benefits that a healthy layer of humus/topsoil provides to a healthy and biologically diverse forest.

**Corn Stover:** 1-15 *Crop residues can be found throughout the U.S., but are primarily in the Midwest because of corn stovers preeminence.*

Corn stover is a critical part for maintaining soil tilth and fertility. To encourage the removal of this valuable element in farming is to reject one of the few elements of farming that all schools of agriculture agree upon.

**Air Quality-Existing Conditions 3.3.** *Current management of agriculture and forest lands represent baseline conditions.* Biomass projects only make sense when the gross carbon dioxide, nitrous oxide and other air pollutants and greenhouse gas emissions relative to electricity generation are reduced.

Burning biomass for energy emits large amounts of air pollution and endangers human health. Biomass incinerators produce hundreds of tons of nitrogen oxides and volatile organic compounds, two ingredients of the ground-level ozone dangerous to human respiratory health and the environment (Environmental Protection Agency, [www.epa.gov/particles/](http://www.epa.gov/particles/)).

Biomass burning also produces tons of fine particulate matter, a pollutant associated with asthma, heart disease and cancer for which no safe level is known. Biomass emits as much matter per KWH as coal, and more than either natural gas or fuel oil. Particulates are considered more responsible for global warming than CO<sub>2</sub> alone. This is bad for the climate and really bad for humans, animals and all things that like to breathe.

Biomass burning emits 1.5 times as much carbon monoxide (considered a toxic air pollutant) and 1.5 times as much carbon dioxide (the most important and damaging of greenhouse gasses) as coal.

*Carbon in crops...is...considered to have zero carbon dioxide emissions.* Burning wood releases at least as much carbon dioxide and particulates as burning coal. The argument that wood is carbon neutral because the carbon dioxide released will be used to grow new trees is fallacious because it assumes that new trees grow at the same rate as they are being cut and burned, which will not be the case if the many biomass power generators that are currently planned go into operation

*Forest products used for bioenergy purposed are considered to have a similar cycle...carbon dioxide taken up and emitted by the growth of...forest biomass is hereby considered net zero and is not further considered.* We submit that this is an erroneous and arbitrary assumption. The use of biomass incineration is a far cry from being “carbon neutral.” In addition to increasing greenhouse gasses, the carbon released takes decades to re-sequester, a fact recognized by the Intergovernmental Panel on Climate Change (IPCC, 2008). Young trees that grow back after logging sequester just a fraction of the carbon that’s been removed and even after 25 years after cutting, new growth on a site is less than half of what was removed (Hubbard Brook Long Term Ecological Research, [www.hubbardbrook.org](http://www.hubbardbrook.org)).

**Soil Quality: 3.4** - In forests as well as farms, erosion is happening ten to twenty times faster than the rate topsoil can be formed by natural processes (Pimentel, David. Feb 2006. Soil Erosion: A Food and Environmental Threat. Journal Environment, Development and Sustainability.). Soil forms an integral part of the environment. All plants depend on it as a reserve of nutrients for healthy functioning, thus making soil essential for the production of food, crops, forests, maintaining biodiversity and for the landscape. Major nutrients contained in fertile soil are phosphorous, potassium, nitrogen, calcium, magnesium and sulfur. Dissolved, they are taken up through the roots of plants, incorporated into plant biomass and finally returned to the soil when plants die or shed.

The forest desperately needs its own source of biomass to regrow and be healthy. If take the dead trees out we are reducing the health and thereby the carbon soaking potential of the next forest. Indeed as others have noted the declining forest might have as much to do with a merely a less healthy woods due not only or even necessarily because of global warming but because we humans took one, two, three or more round of timber out thereby making a less and less healthy ecosystem, just a like garden that is never fertilized, one that gets sick, susceptible to pests, and finally fails miserably.

Logging slash left to decompose on site is not wasted wood. It provides an excellent source of carbon and nutrients for forest soil, badly needed after the extraction of large quantities of biomass in the form

of logs. Tree tops in particular are very rich in nutrients. If logging slash is used for green energy, it may give rise to the "vacuum cleaner" effect. Instead of going into a site and hauling out logs, timber operators would be encouraged to "vacuum" up and remove *all* woody material. Chipping trees for electric power generation is a terrible, low value waste of a resource that should be treated as precious. Forest land is far more valuable unused than it is if used for wood chips.

Bioenergy production from forests and forest residues can affect the naturally balanced nutrient cycles leading to degradation of soil fertility. Removing nutrients when trees are harvested especially in the case of rapid-growing soft woods (with low btu content) and complete removal of logging residues ultimately interrupts the natural process by which decomposing plant matter would replenish soil nutrients and effectively makes the soil less fertile. Adverse affects on the community of microorganisms responsible for nutrient cycling or chemical and physical changes in the soil causing nutrients to be converted into compounds less usable to trees also contribute to the decreased soil fertility.

The most prudent course, clearly, is to continue to recycle most crop residues back into the soil, where they are vital in keeping organic matter levels high enough to make the soil more open to air and water, more resistant to soil erosion, and more productive" (Sampson, R. 1981. *Farmland or Wasteland. A time to choose. Overcoming the threat to America's farm and food future.* Rodale Press.).

**Climate Change - Soil Carbon Sequestration: 3.4.2.3** The FEIS fails to consider the effects that climate change is likely to have on carbon sequestration. Soils contain twice the amount of carbon found in the atmosphere, and three times more carbon than is stored in all the Earth's vegetation (Jones, T. Oct 2006, *The Scoop On Dirt Why We Should all Worship the Ground We Walk On*, Emagazine.com). Given that *climate change* could increase soil loss by 33% to 274%, depending on the region (O'Neal, M. et al. 2005. *Climate change impacts on soil erosion in Midwest United States with changes In crop management*, Catena 61:165-184), and the increased sedimentation and erosion of biomass sourcing areas, the ability of soils to sequester carbon would be significantly reduced and impaired by any woody biomass sourcing on public lands.

**Water Quality and Quantity – Surface Water Quality: 3.5.2.1.** The FEIS fails to adequately assess the effects of this program on water quality. A large scale biomass plant requires close to a million gallons a day for cooling. Hundreds of thousands of gallons of this water are vaporized in the cooling process. Plant cooling needs and water takings are greatest in the summer when high temperatures already reduce river flows and stress native fish. In addition, impacts of water takings will worsen as climate warming and droughts further stress our rivers and water resources.

Biomass operations contaminate local rivers and water supplies. Heavily contaminated "boiler water" rinse water gets pumped back into rivers at unnaturally high temperatures. This and all cooling water is taken from nearby sources. To minimize transportation costs, biomass plants are located near their sourcing areas. Therefore, decisions regarding biomass sourcing from national forests would directly impact the very streams and water sources which find their headwaters in those forests.

Of course, clearcutting, vegetation clearing and roading which would accompany any biomass sourcing will simultaneously compact and erode soils, increase sediment loss and loads in streams and significantly impair the water quality and temperature of streams on national forest lands. The site specific and cumulative impacts of this program on water quality should be considered both at the programmatic and project level.

**Environmental Consequences – Genetically Engineered Organisms: 4.73** *The resulting GE organisms are not necessarily plant pests, however, the review process for demonstrating that they are*

*not plant pests has not been completed. (APHIS 2006). We submit that, because GE organisms are not native species and exhibit all of the intrusive, characteristics common to invasive species with the additional risk of genetic drift among species, that site specific introduction should be prohibited on public lands in conjunction with the BCAP program.*

**Environmental Consequences** – *Because the specific locations of the BCAP project areas and the numbers of participants are not known...conditions under which particular component actions of the BCASP would have the potential for significant environmental impact will require site-specific environmental reviews and compliance with applicable environmental laws...4.73* We agree with this finding and submit that the cumulative effects of all projects falling under the auspices of the BCAP be assessed in total for their cumulative environmental impacts in addition to their site specific (by plant) and project specific impacts.

**Range of Alternatives:** There exists no alternative that combines the range and scope of Alternative 1 (2 commercial and 5 demonstration BCFs) that places their locations outside of the 50 mile radius parameter of public lands. This would result in an alternative which would remove public lands from the sourcing areas of these BCFs and focus the project exclusively on private lands. Only Alternative 1 has the potential of doing this but, in and of itself, it is insufficient to address our concerns.

The “broad scope” of Alternative 2 does not allow a sufficient PEIS review, as the vagueness or absence of specific parameters does not allow any meaningful analysis. Therefore, it should be categorically dismissed.

Thank you for receiving our comments. Please keep us informed on any subsequent action taken regarding this program.

Sincerely,

Davis Mounger, Heartwood Forest Watch Coordinator, on behalf of  
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