



## DNR'S ROLE IN BIOMASS FROM GRASSLAND RESOURCES

### What is Grassland Biomass?

The short answer is hay used for energy. Yet grassland biomass production systems can look different based on varying management goals. When grass is grown as a “dedicated energy crop”, the primary land management goal is yield and the secondary goal is conservation. When grass is grown on conservation lands, a biomass harvest is a secondary benefit of primary conservation management goals.

Biomass energy crops are increasingly being viewed as a means to mitigate greenhouse gases, to decrease dependence on foreign energy supplies, and to enhance rural development opportunities. The federal Renewable Fuel Standard (RFS) calls for enormous increases in biomass production, and energy crops are needed to meet that mandate.



### Grassland Biomass Opportunities

Markets for grass biomass are in the early stages of development. A strong biomass market for grass would present opportunities to enhance management on existing grasslands, retain existing lands in grass and perennial vegetation and present an opportunity for integrated perennial

production systems into Minnesota agriculture.

Biomass harvesting can be used to mimic the disturbance of fire or grazing on existing conservation lands. Minnesota DNR has worked with partners to complete pilot harvesting on hundreds of acres of Wildlife Management Areas to improve habitat conditions and study the impacts of harvesting. These treatments do appear to provide desired resource benefits. Developing markets for these resources can help to expand disturbance management on public and private grasslands.

Increased commodity prices in the past several years have intensified the long term pressure to convert agricultural lands from hay or pasture into annual crops. Development of a market for biomass would provide a countervailing market pressure to keep these private production lands in grass.

Finally, integrating new grass-based biomass crop acres can provide improved soil quality and stability, improved water quality, habitat for wildlife, and lower inputs of energy, water, and agrochemicals. Planting perennial grasses will provide significant soil and water benefits. The more these perennial crops look like native plant communities, the greater the benefit to wildlife and broader ecological functions.

Achieving Minnesota's conservation goals for clean water, healthy habitats, sustained wildlife populations and quality recreational experiences will require extensive grassland habitat reconstruction.

The Minnesota DNR alone cannot administer enough land to meet all of



## DNR'S ROLE IN BIOMASS FROM GRASSLAND RESOURCES

Minnesota's natural resource goals. New grass-based economies, such as biomass cropping, may provide the incentives needed to create a new expansion of conservation benefits on privately owned farms. Using native prairie species for clean energy production holds promise to link conserving natural resources, providing outdoor recreation, and promoting sustainable commercial use of natural resources – Minnesota DNR's core mission.

### **Biomass Production on DNR Lands**

There are three primary reasons why grassland biomass harvesting is occurring on DNR lands:

1. Vegetation Management – The primary motivation is to improve habitat conditions while not diminishing any other natural resource values. Through thoughtful planning, haying for biomass can be used as a tool to improve habitat conditions. DNR harvest plans guide the appropriate timing, frequency and extent of harvest operations, helping to safeguard the soil, water and habitat values of DNR grasslands. DNR biomass projects focus primarily on prairie restoration sites and not tracts of high quality, remnant native prairie.
2. Research and Demonstration – While the DNR recognizes the potential for perennial biomass crops, we acknowledge that more research is needed to better understand the environmental and natural impacts and responses to varied biomass production methods. The DNR's existing network of grasslands provides researchers with readymade field research sites needed to

study and enhance the Best Management Practices (BMP's) for biomass production. DNR grasslands can also serve as demonstration sites for new equipment and the development of sustainable commercial-scale harvest operations. Engaging in these activities places the DNR in a position to help establish industry standards for growing and harvesting biomass.

3. Jump-starting a sustainable grass-based energy industry – The DNR recognizes that it has a resource base that can help to jump start this emerging enterprise. DNR sees its role as one to initiate and catalyze the broader development of a sustainable perennial grass industry. It does not see itself as a primary grass biomass resource over the long-term.

### **For further information contact:**

Mark Lindquist  
Biofuels Program Manager  
MN Department of Natural Resources  
261 Hwy 15 South  
New Ulm, MN 56073  
507-259-5130  
[mark.lindquist@state.mn.us](mailto:mark.lindquist@state.mn.us)

For more information see:

[http://files.dnr.state.mn.us/aboutdnr/reports/legislative/prairie\\_veg\\_wma.pdf](http://files.dnr.state.mn.us/aboutdnr/reports/legislative/prairie_veg_wma.pdf)

<http://www.dnr.state.mn.us/aboutdnr/reports/pspb/index.html>