#8

Biomass Energy in Jefferson County

Purpose:

To create a biomass energy system that is local, restorative, precautionary and cost effective over time.

Today's Purpose:

Explain how it aligns with LWCC mission and goals,

"Working Together to Protect & Enhance the Environment"

Explain the biomass potential in Jefferson County: What, where, why, how, who, when,

Ask for a resolution in support.

1

A Holistic Approach

Holism

The whole is greater than the sum of its parts.

Holistic

...relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts.

The Systems

- ***Ecological***
- ***Social***
- ***Economic***

2

Biomass Energy in Jefferson County

What we propose is to use local biomass to heat and, maybe, electrify the new Hwy shop.

The biomass fuel would be grown locally, in a restorative manner (building natural capital - capturing nutrients, solar energy and water), using Permaculture principles.

- Perennial (lives more than 2 years),
- Poly-culture (multiples species, producing: biomass, flowers, nuts, fruit, habitat and cover)
- Fast growing (willow, box elder, basswood, hazel and mulberry are examples)
- Coppicable (able to be cut off at ground level and multiple stems will grow back)
- Utilize alley cropping (planting in long narrow bands)
- On contour lines where possible (using Key-line techniques).

3

Permaculture Principles

1. ***Observe and Interact***
2. ***Catch and Store Energy***
3. ***Obtain a yield***
4. ***Apply Self Regulation and Accept Feedback***
5. ***Use and Value Renewable Resources and Services***
6. ***Produce No Waste***
7. ***Design From Patterns to Details***
8. ***Integrate Rather Than Segregate***
9. ***Use Small and Slow Solutions***
10. ***Use and Value Diversity***
11. ***Use Edges and Value the Marginal***
12. ***Creatively Use and Respond to Change***

4

Where:

Local biomass could be grown in numerous private and public lands. The nature of this type of biomass plantings, lends itself to a great many soil conditions, many of them marginal or wet. Such places could be:

- Hwy right-of-ways (especially where they broaden for intersections or topography),
- In riparian areas subject to erosion,
- Areas prone to flooding, Around retention ponds,
- Areas coming our of CREP (or other similar) programs
- Areas with steep topography,
- Wetlands

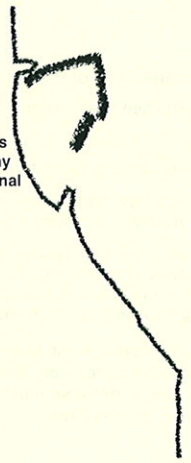
Areas chosen for biomass would be selected by a team to address concerns that may arise.

5

Where:

Local biomass could be grown in numerous private and public lands. The nature of these types of biomass plantings, lends itself to a great many soil conditions, many of them marginal or wet. Such places could be:

- Along bike paths for buffering,
- As buffering from industry
- In conservation parks,
- Areas with poor soils



6

Why Biomass?

The reasons and benefits of homegrown biomass for energy are many and can be divided into three categories.

The categories relate to the three systems of holistic management:

- **Ecological**
- **Social**
- **Economic**

Why? Ecological Benefits of Biomass:

- Creates water infiltration zones thru deep rooted roots systems caused by sluff-off after coppice. This creates a very porous and friable soil structure that acts like a sponge to absorb water,
- Becomes a nutrient storage battery (phosphorus, nitrogen, potassium, carbon become tied up in growing perennial environment),
- Creates organic matter. Organic matter is the basis for many symbiotic relationships that occur in healthy soil, storing water and eliminating the need for expensive and toxic inputs,
- Creates habitat and food source for animals, including bees and other beneficials
- Remediates pollution - Thru the filtration and mycological (mushrooms) actions
- Compliments wildlife corridors - Could be used in the GHA conservation lands and corridors, for buffer strips and cover,

Why? Ecological Benefits of Biomass:

- Is carbon *negative* - Perennial crops, especially coppiced woody plants, sequester carbon from the atmosphere and can be gasified to retain charcoal for soil enhancement and/or carbon credits,
- No or low sulfur and heavy metal emissions.
- Utilizes *perennial* agriculture - Perennial agriculture never exposes land to erosion, requires very little input and captures solar energy nearly year round, giving it a *huge advantage* over annual agriculture,
- Retains water - Perennial agriculture slows water down and allows for infiltration and de-sedimentation, thereby, mitigates flooding,
- It is *restorative* in nature - Biomass is one of the only energy sources that can be practiced in a way that is actually *good* for the environment. Most others are either destructive (fracking, deep water, tar-sands) or neutral (wind, solar),

Why? Social Benefits of Biomass:

- Creates local jobs,
- Supports local economy
- Provides open space for recreation
- Provide buffers to traffic noise and pollution.
- Distributed power reduces transmission costs hazards and impacts
- Creates local resilience
- Creates local energy security
- New model for restorative energy
- Provides clean air and healthy environment

Why? Economic Benefits of Biomass:

- Competitive with other forms of energy
- Cheaper than Natural Gas,
- Creates local jobs,
- Initiates a energy industry model - the anchor tenant
- Keeps energy expenditures local which triggers the 'local multiplayer effect',
- Local sovereignty of resource (Homegrown biomass does not have to be imported thru middlemen from elsewhere, which is costly and vulnerable to interruption and cost spikes. Being local adds stability and sustainability,
- Biomass resource will become more productive and available as crops mature, more land is planted, and infrastructure develops in our community. This will cause biomass costs to drop, as fossil fuel prices continue to rise.

Conclusion:

Biomass plantings can be good for the environment and support land and water conservation.

Biomass can be a part of our community.

Biomass can be a part of Jefferson County's energy budget.

Questions?

#9

Jefferson County Board Report
3/19/2014

EQIP practices in progress

- NRCS is in the process of contacting 13 - 2013 planned NMP's to receive the final plan for review and payment
  - NRCS has received 7 plans so far
  - Trying to complete this process by April 15, if possible
- Brendon is working on designs for spring of 2014 construction projects

2014 EQIP signup

- Application deadline was December 20, 2013
  - 23 applications were received
- Ranking deadline was the week of 1/21/2014
  - This is earlier than normal (February)
    - Only Preliminary news has been provided, as of yet, to the field offices on who was selected
  - NRCS is still struggling with the new Toolkit 7 upgrade to plan out the applications
- The obligation date of 2014 contracts is still not known
  - Could be anytime from May till September

Conservation Stewardship Program (CStP)/Conservation Security Program (CSP)

- All CSP/CStP payments have been completed
- February 17th was the CStP, new application, deadline
  - Jefferson County only received 1 new application

General

- Wetland/HEL Determination requests to complete:
  - ~6-7 have yet to be looked or are being reviewed, but not yet completed
  - 2-3 are waiting to be digitized
  - 0 are waiting to be approved/signed
    - With the growing season over, it may not be possible to complete determinations that need field investigations.
- The past month has consisted of: EQIP contract reviews, 2014 EQIP application designing in toolkit, 2014 EQIP planning, completed final CSP payment, Preliminary WRP (Wetland Restoration Program) monitoring review work
- The next month should consist of: 2014 EQIP planning, WRP monitoring (Office reviews and field reviews (If weather allows)), spring 2014 design work, 2013 NMP reviews/payments, 2014 Compliance Review preparation work
- Zachary Thayer has been volunteering for the Jefferson NRCS office during the past month
  - Working Fridays and Monday afternoons
  - Zach is a junior at UW Whitewater
- Laura Watson (SC) has accepted the Luxemburg, WI SC position
  - Laura will work until she goes on maternity leave (~late April)
- With the new Farm Bill there is still much uncertainty
  - This will cause many delays in 2014
    - IE -No contract obligation can occur at this time amongst other work
- Toolkit 7 upgrade
  - National deployed Toolkit 7 upgrade on 2/4/14
    - This was a national mandate with no state or field office input
      - We are aware of many issues, but getting answers from national has been difficult and we are uncertain when/if fixes will be resolved as field offices have requested

Jefferson County Farmland Preservation Program Overview

Wisconsin Farmland Preservation Program is a tax credit that is provided to landowners through their Wisconsin Income Taxes.

Qualifications:

- Land must be zoned A-1
- Land must produce gross farm receipts of at least $6,000 per year
- Landowner must pay Wisconsin Income Taxes

Prior to 2010, the program was based on a formula using income vs. property taxes.

In 2010, the program changed to a straight $/ac basis. In Jefferson County we have Exclusive Agriculture zoning (A-1) so our landowners qualify for $7.50 per acre. Additionally, there is a small area near Palmyra that has been approved as an Ag Enterprise Area. If landowners in this area sign a 15 year agreement with the state, they can claim $10 per acre as their tax credit. Only one landowner has done this so far.

With this change came additional conservation requirements. Previously the landowner was only required to have a conservation plan showing their cropland meet tolerable soil loss limits. Now landowners must comply with NR151 rules.

NR151 rules require farmers to:

- Have and follow a conservation plan
- Have and follow a nutrient management plan
- Comply with livestock regulations that include:
    - Maintaining existing manure storage structures to prevent overflow
    - Meet NRCS standards if altering or building a new system (new meaning anything constructed after 2002
    - Properly close unused manure storage
    - Prevent runoff from feedlots or stored manure from entering waters of the state
    - Maintain self-sustaining vegetation where livestock have access to stream banks
    - Divert clean water from contacting feedlots and/or manure storage areas within water quality management areas
    - Not stacking manure in a water quality management area

Originally NR151 rules could not be enforced unless cost sharing was offered. By adding these requirements to Farmland Preservation eligibility, cost sharing is no longer required. However, if a landowner refuses to comply, they will become ineligible for the tax credit.

Since 2010, our department has been evaluating landowners for compliance with NR151 rules. We revamped our status review procedure from a once every six year cycle in a shot gun pattern to once every four years (as now required) and divided up the County into quarters. We started with the Palmyra quarter in 2010 and worked our way around the County clock-wise. 2011 was the first year we started the full livestock evaluation of participants.

Currently in Jefferson County we have:

- 694 participants
- Covering 115,832 acres

All participants must complete an annual certification. There is a $25 fee to process the annual certification. Any certifications received after April 15th are subject to a late fee of $10 per month up to a maximum of $75, as approved by the Committee on December 15, 2010. If the certification is not returned by October 31st, a Notice of Non-compliance is issued. To date we have 389 Certifications in or 56%.

Landowners can regain their eligibility by paying a fee of $50 to cancel the notice, however, they must be in full compliance with all conservation standards. If they are in full compliance, we need to issue them a Certificate of Compliance to attach to their Income tax form. There is a $20 fee for this certificate.

Counties were given an option of accepting the State mandatory deadline of December 31, 2015 for compliance of all conservation standards. Our Department established the following deadlines:

- January 1, 2010, everyone must have and follow a conservation plan.
- September 30th, 2012, everyone must have and follow a nutrient management plan.
- December 2014, all livestock producers must be in compliance with the livestock regulations.

In order to assist farmers in meeting the nutrient management requirements, Joe Strupp and I have taught 8 full nutrient management farmer training classes training 70 people to write their own plans. UW Extension Agent Heidi Johnson assisted us with many of the initial trainings. Joe and I now handle all training ourselves. In addition to the full classes, we have held 8 one-day update classes. Farmers who don't write their own nutrient management plans have private industry crop consultants write theirs.

Through Farmland Preservation we have identified 8 manure storage structures that need to be properly closed. Three were completed with 5 hopefully to be completed before the end of this year. We have identified three feedlots that needed gutters to divert clean water. Two projects have been completed. We have identified two streambanks that need livestock crossings, both have EQIP contracts and hopefully will be completed this year.

In 2013 we conducted 190 on farm status reviews with 48 of them needing livestock reviews.
For 2014, we will check 113 farms with 31 of them needing livestock checks.

Prepared by:
Nancy L Lannert
Resource Conservationist
March 19, 2014

DRAFT RESOLUTION
THE WISCONSIN LAND AND WATER CONSERVATION ASSOCIATION (WLWCA) OPPOSES CHANGES TO EXISTING REGULATION OF HIGH CAPACITY WELL PERMITS UNTIL THE COMPLETION OF DNR INITIATED GROUNDWATER STUDIES

WHEREAS, adequate quantities of groundwater are critical to the sustainability of agriculture, industry, municipal and private drinking water supplies, and healthy ecosystems, and

WHEREAS, demand for groundwater usage continues to increase throughout the state.

WHEREAS, empirical data has verified a connection between ground and surface waters; and

WHEREAS, the Wisconsin DNR is currently responsible for the evaluation and permitting of High Capacity Wells throughout the state of Wisconsin; and

WHEREAS , Wisconsin DNR is responsible for the protection or improvement of all waters of the state, groundwater and surface water; and

WHEREAS, the Wisconsin Supreme Court decision in Lake Beulah vs.Wisconsin DNR suggests that DNR consider the impact of not only the applicant's High Capacity Well, but that of surrounding existing High Capacity Wells in its permitting decision, and

WHEREAS, Wisconsin DNR has decided it does not have authority to consider cumulative impacts in its permitting decisions related to High Capacity Wells, but is under litigation to reverse that decision, and

WHEREAS, Wisconsin DNR has initiated a groundwater flow modeling study on the Little Plover river and a Central Sands Strategic Analysis to provide a scientific basis for groundwater management in the Central Sands, and

WHEREAS, the implications of the Lake Buelah decision, the DNR groundwater study, and the Central Sands Strategic Analysis will not be known for at least two years, now therefore

BE IT RESOLVED, WLWCA is opposed to passage and implementation of any new legislation related to High Capacity Well permitting at this time, and encourages the legislature to let the court's decision and future scientific studies come to fruition before passing any further regulations, and

BE IT FURTHER RESOLVED that a copy of this Resolution be sent to the Governor of Wisconsin, the Secretary of Wisconsin Department of Natural Resources, and all members of the state legislature as well as the Wisconsin Counties Association.

Proposed by the Wisconsin Land and Water Conservation Association Board on Monday, March 10, 2014.

#16

Jefferson County
Land & Water Conservation Totals

Date Ran 3/5/2014
Period 1
Year 2014

Business Unit	Description	Current Period Actual	Current Period Budget	YTD Actual	YTD Budget	Prorated Variance	Total Budget	Annual Remaining	Percentage Of Budget
7001 Land & Water	Revenue	(255.00)	(16,803.17)	(255.00)	(16,803.17)	16,548.17	(201,638.00)	(201,383.00)	0.13%
	Expenditures	49,411.01	44,466.92	49,411.01	44,466.92	4,944.09	533,603.00	484,191.99	9.26%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		49,156.01	27,663.75	49,156.01	27,663.75	21,492.26	331,965.00	282,808.99	14.81%
7002 Wild Life Crop	Revenue	1,668.49	(1,666.67)	1,668.49	(1,666.67)	3,335.16	(20,000.00)	(21,668.49)	-8.34%
	Expenditures	-	1,666.67	-	1,666.67	(1,666.67)	20,000.00	20,000.00	0.00%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		1,668.49	-	1,668.49	-	1,668.49	-	(1,668.49)	#DIV/0!
7007 Nutrient Manage	Revenue	(240.00)	-	(240.00)	-	(240.00)	-	240.00	#DIV/0!
	Expenditures	25.68	-	25.68	-	25.68	-	(25.68)	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		(214.32)	-	(214.32)	-	(214.32)	-	214.32	#DIV/0!
7008 County Cost Share	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7009 Hope Lake	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7010 Resources	Revenue	-	(4,000.00)	-	(4,000.00)	4,000.00	(48,000.00)	(48,000.00)	0.00%
	Expenditures	-	4,000.00	-	4,000.00	(4,000.00)	48,000.00	48,000.00	0.00%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7011 Non Metallic	Revenue	-	(1,330.83)	-	(1,330.83)	1,330.83	(15,970.00)	(15,970.00)	0.00%
	Expenditures	0.89	39.58	0.89	39.58	(38.69)	475.00	474.11	0.19%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		0.89	(1,291.25)	0.89	(1,291.25)	1,292.14	(15,495.00)	(15,495.89)	-0.01%
7012 Mud Lake	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7013 Rome Ponds	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7014 Gypsy Moth Program	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7016 Southern Area	Revenue	-	-	-	-	-	-	-	#DIV/0!
	Expenditures	-	-	-	-	-	-	-	#DIV/0!
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		-	-	-	-	-	-	-	#DIV/0!
7020 County Farm	Revenue	-	(7,725.83)	-	(7,725.83)	7,725.83	(92,710.00)	(92,710.00)	0.00%
	Expenditures	23.62	169.00	23.62	169.00	(145.38)	2,028.00	2,004.38	1.16%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Total		23.62	(7,556.83)	23.62	(7,556.83)	7,580.45	(90,682.00)	(90,705.62)	-0.03%
Total All Business Units	Revenue	1,173.49	(31,526.50)	1,173.49	(31,526.50)	32,699.99	(378,318.00)	(379,491.49)	-0.31%
	Expenditures	49,461.20	50,342.17	49,461.20	50,342.17	(880.97)	604,106.00	554,644.80	8.19%
	Other Sources	-	-	-	-	-	-	-	#DIV/0!
Grand Toat Land Conservation		50,634.69	18,815.67	50,634.69	18,815.67	31,819.02	225,788.00	175,153.31	22.43%