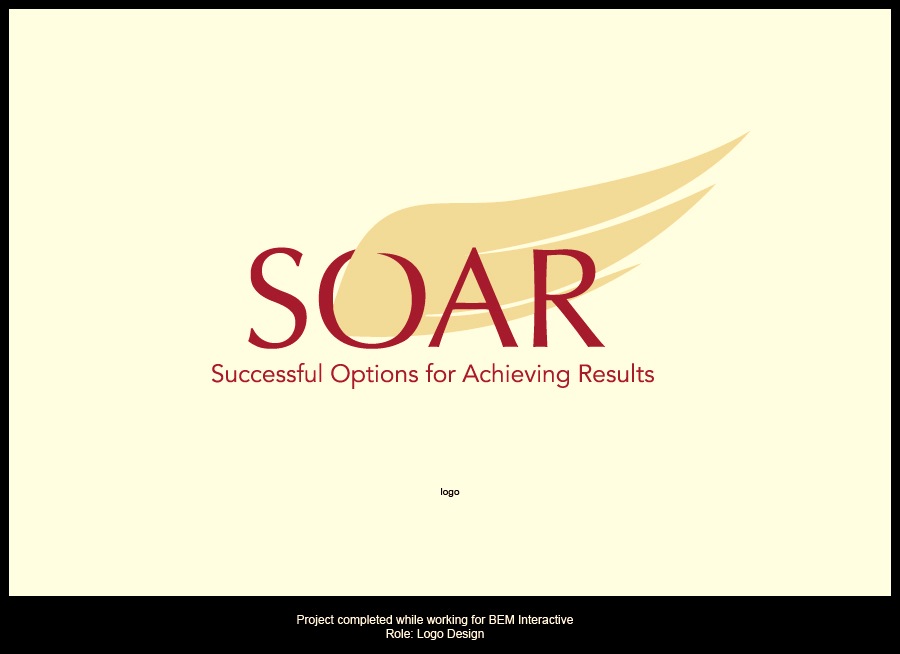
**Grassbasket Ground-Truthing**

**Report**

**2012 SOAR Interns**

**July 2012**



Starting in May 2012, the SOAR Interns began field work to ground truth the predictions of GIS model, developed with Stone Environmental, designed to identify fields in Randolph Vermont that could be used for energy grass production. The GIS model classified open land that might be suitable for grass energy production into three types: abandoned fields; mown fields; and fields growing back into scrub.

**GOALS**

The SOAR Grassbasket mission for summer 2012 was to “ground-truth” all of the fields identified as suitable for energy grass production by the GIS model. We wanted to see how well the model had properly predicted a number of parameters, both physical and functional. Physical parameters included slope, mowing obstacles, surface water, and access. Functional attributes were use and or development of fields, and whether suitable fields were proximal to one another.

**INITIAL SURVEYS**

We completed initial “drive-by” or “windshield” surveys in mid-May and found that most fields were being utilized for farming, apparently cropped for hay or haylage. Because all of the fields identified by the GIS model were visible from roads we could easily see either tire marks from mowing or mowing lines that allowed us to come conclude that fields were being used for hay or haylage production. Windshield survey results from Randolph are shown below:

Chart 1: Results from Mid-May Survey

After analyzing this data, we decided to conduct another windshield survey around the time of first cut of hay. In early July, we went back out on the road and looked at all the same fields again. We could tell which fields had been harvested for hay by looking for absence of (or removal of) cut material. Our results were exactly the same as the previous survey with 15% of the fields being unused.

Chart 2: Results from Early July Survey

So, while the Grassbasket GIS model excluded prime agricultural soils, we have determined that even “marginal” open land is being used for agriculture. In Randolph, it seems very clear that any flat open area that is cultivatable is being utilized for agricultural purposes and most likely by farmers. A quick GIS evaluation and windshield survey of Woodstock suggests that this may be true across Central Vermont.

**NEXT STEPS**

We believe that this summer’s field work indicates that fields that we had hoped would be suitable for energy grass production are not available for that purpose since they appear to be in use and are not abandoned or mowed only to keep trees at bay. We plan to create and administer a survey to confirm this conclusion and to determine what role these fields, particularly those not owned by farmers, play in Vermont’s agricultural economy. Some believe that Vermont has at least 100,000 acres of unused (or formerly) agricultural land that could be used for biomass energy production. Our work suggests that, in our part of Central Vermont, this land may not be unused and may play an important role in supporting our current agricultural economy.

**Survey Goals:**

* Confirm ownership of fields beginning with the data in the Stone study;
* Is the land in any programs?
  + Land use?
  + Conservation program?
  + Land trust?
* Determine who is cropping the fields that are in use?
  + The landowner?
  + A farmer?
    - If so, how close is the farm?
  + Other (non-farmer)? Specifics?
* What is the hay or biomass being used for?
  + For feed by the harvestor?
    - For dairy cattle?
    - For beef cattle?
    - For sheep or goats?
    - For horses?
  + For sale for one of the purposes listed above?
    - Local sale?
    - Out-of-state sale?
* Time of first harvest?
  + Month and week?
  + Single harvest
  + Multiple harvests? How many?
* What are the economics of current field use?
  + - Free use?
    - Leasing?
      * Fee per acre or per year?
    - Barter?
      * Approximate worth?
    - Paid to mow (if the biomass is not removed)?
      * Fee?
* If you are paying to have your field mowed and the biomass is not being used:
  + Would you be interested in participating in a biomass / biofuel program?
  + Under what conditions?