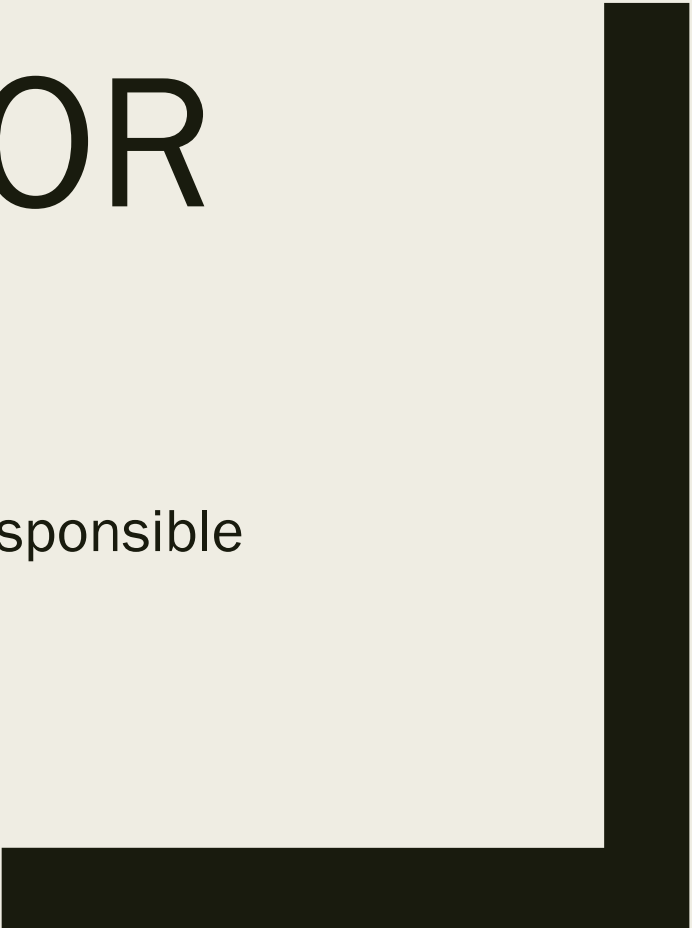




MANAGING FOR BIOMASS

How the biomass industry interacts with responsible
forest management in Vermont



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- I work for the Vermont Department of Forests, Parks and Recreation.
- I work primarily with private landowners, community groups and municipalities (not with State or Federal lands).



Vermont's Forests

- Vermont is approximately 73 – 78 % forested.
- Forest cover has been slowly declining since 2010.
- Individuals and families own approximately 80% of this forestland.



What Private Landownership Means for Management

- Increased need for generating financial outputs from our forestland.
- Forest landowners need to pay their taxes, management costs, etc.
- Economic outputs (harvesting forest products) beyond real estate lowers subdivision and development pressure.



Forest Management in Vermont

- Small scale (mostly)
- Managing for many benefits and services:
 - *Wildlife*
 - *Timber*
 - *Water*
 - *Ecological Integrity*
 - *Aesthetics*
 - *Recreation*



Vermont's Use Value Appraisal Program

- Also called “UVA” or “Current Use”
- Established in the late 1970's/early 80's
- Provides landowners with 25 acres or more a decreased tax assessment in exchange for:
 1. Not subdividing or developing their property
 2. Adhering to a forest management plan submitted every 10 years (approved by the county forester).
 3. Agreeing to actively manage their land for timber.
- UVA is a recognition of the importance of the forested landscape AND the forest products industry to Vermont.

Low grade wood= Low quality trees
High grade wood = High quality trees
(Usually)

- Strong low grade market = incentivizes the cutting of poor quality trees
- Weak low grade market = incentivizes the cutting of only (or mostly) high quality trees (high grading)
- Strengthening low grade markets increases the viability of high-quality forest management.

The Benefits of Biomass to the Forest Products Industry

- Any part of a tree can be chipped for biomass.
- Biomass is frequently supplied from branches and tops of trees, mill slabs, excess pulp or firewood trees.
- It can be made from the smallest, lowest quality trees in the forest.
- Biomass and fuel wood are most likely markets for low-grade wood that would previously have been pulp.



Benefits of Biomass to Vermont

- Local source of heat/energy.
- Preserves important cultural features – ‘the working landscape’.
- Encourages good forest management.
- Provides local jobs and economic benefits.
- Provides a renewable resource -- IF it can be extracted responsibly.



Whole Tree Extraction

- Whole tree harvesting is the process by which trees are often harvested for biomass.
- Consists of the harvesting of all above-ground portions of the tree, not just the logs and pulp.
- Branches and tops are harvested and chipped --- increased removal of nutrients/woody material from the site.
- More efficient for loggers, but margins are slim.



Conclusion...

- The increased development of biomass markets in Vermont is a tremendous opportunity that can:
 1. Support high quality forest management
 2. Support responsible forest landownership – decreased development and fragmentation.
 3. Provide a local and renewable source of energy in the state.
 4. Protect the cultural values of Vermont and the livelihoods of those dependent on the forest products industry.

- Biomass, coupled with responsible forest management, is very important opportunity for the state.

