

Wisconsin Council on Forestry  
**Forestland Biomass Harvesting Guideline Advisory Committee**  
February 12, 2008 - 9:00 AM-3:00 PM (1st Meeting)  
Dreyfus University Center, UW-Stevens Point

**Minutes**

Committee Members present: Jim Hoppe – WI Council on Forestry; Matt Dallman – The Nature Conservancy; Dave Tormohlen for Pete Coutu – Plum Creek Timber; Mark Fries – NewPage; Jeff Barkley – WDNR Forestry; Geoff Chandler – USFS; David Mladenoff – UW-Madison Dept of Forest and Wildlife Ecology; Marshall Pecore – MTE; Neil Paisley – WDNR Wildlife; Ed Moberg – WOAA; Earl Gustafson – WI Paper Council; Dave Hvizdak – NRCS; Don Peterson – Consulting Foresters Association; Jane Severt – Wisconsin County Forests Association.

Technical Team Members present: Darrell Zastrow; Eunice Padley; Joe Kovach; Carmen Wagner; Allison Hellman; Sarah Herrick.

Guests: Fred Souba – WI Council on Forestry

**Welcome and Introductions**

Jim Hoppe welcomed the Advisory Committee (AC) members to the kick off meeting, asked for introductions.

Everyone present introduced themselves and who they were there to represent.

Jim explained that addressing biomass is part of the Council on Forestry's mission to ensure long-term sustainability in Wisconsin forests. The Council has charged the WDNR with developing biomass harvesting guidelines and has asked him (Jim Hoppe) to act as chair of the stakeholder Advisory Committee. Jim introduced Fred Souba – Chairperson of the WI Council on Forestry.

Fred Souba thanked participants on behalf of the Council on Forestry. Biomass was on the Council's agenda when it was formed in 2004. It is part of the Council's mission to ensure that biomass harvesting is done in a way that is sustainable to the resource and to biomass as a forest product.

New markets and capacity for woody biomass are developing rapidly in Wisconsin, which lends a new urgency to the effort to develop guidelines. Originally the council wanted the guidelines completed by June 2009, currently the council would like the Advisory Committee to complete its work and deliver the approved guidelines to the Council on Forestry by September 2008. Fred highlighted the timeline and encouraged the Advisory Committee to work hard to meet the timeline, and reach consensus. Landowners will have to be educated about the new role for woody biomass.

## Scoping Document

Jim Hoppe introduced the scope document, and indicated that much of the rest of the meeting will walk the Committee through this document.

The objective of the guidelines is to provide guidance to forest resource managers, loggers, equipment operators, contractors, and landowners in Wisconsin.

The Committee had no questions/comments about the objective.

Jim turned the Committee's attention to page 7 of the scoping document which highlights the responsibilities of the Advisory Committee:

- Support the charge of the Wisconsin Council on Forestry to develop site-level guidelines for the harvest of woody biomass on Wisconsin's forestlands by June 2009.
- Recognize the responsibility of the WDNR Division of Forestry to develop and implement programs that protect and sustainably manage the state's forest resources.
- Recognize that scientific information about the effects of biomass harvesting on forest ecosystems is limited. Uncertainty, resulting from a lack of knowledge or scientifically supported theories, particularly concerning long-term ecosystem dynamics, may necessitate the application of precautionary principles and practices.
- Act as a liaison between the Advisory Committee and constituencies. Share new information developed at meetings with the constituencies and work to develop understanding with these groups.
- Be respectful of other Committee members' viewpoints.
- Work with the Technical Team to resolve concerns and develop guidelines in a timely manner.
- Attend and be an active participant in meetings. Be prepared for meetings by having read or reviewed necessary materials or drafts.

No questions/comment about Advisory Committee responsibilities.

Timeline – Originally the Department proposed to the Council that the guideline process be completed by June 2009, with no knowledge of funding or how this process would rank in staff priorities. Fred Souba challenged the Advisory Committee to improve on the timeline. Jim made a request to the WDNR Technical Team to revisit the original timeline, which resulted in a September 2008 deadline. Many people are anxious to see some standards for biomass harvest, but if the September deadline will compromise the quality of the product the deadline for the Advisory Committee to deliver completed guidelines to the Council could be pushed to December 2008.

No questions/comments on timeline.

Decision making process - The Advisory Committee will use a system of team consensus. Advisory Committee consensus is an agreement, but not necessarily complete agreement. It is an outcome which is "close enough" to be acceptable.

If the Advisory Committee cannot reach consensus on some issues, those issues will go to the Council on Forestry for a decision. Timeline could be pushed back to December 2008 if major difficulties arise, but this is not ideal.

No questions/comments on Advisory Committee decision making process.

Allison Hellman explained that during Minnesota's biomass guideline development the scope document they developed was extremely important to guiding the process and keeping it on track. She points out that this is a draft document and that the Advisory Committee has the opportunity to change the scope if necessary.

Jane Severt asked why non-forest derived woody biomass will not be addressed, since it was included in the Minnesota process?

Darrell Zastrow explained that the "topics not to be addressed" will be covered later in the meeting.

### **Guideline Development Process**

Darrell gave a presentation on the guideline development process:

Explained timeline, and highlighted the Advisory Committee's role in the process. The AC role in this process differs from other Advisory Committee processes that some members may be involved with (i.e. the Water Quality BMP process; Forestry Invasive Species BMP process).

The Technical Team will gather information, and draft the guidelines, as well as a white paper that will explain the scientific rationale behind each of the proposed guidelines. The technical team will also be responsible for collecting comments from experts and the Advisory Committee and drafting revisions to the guidelines.

After the 1<sup>st</sup> draft of the guidelines is complete in April, they will be reviewed by experts in a variety of fields that may be impacted by woody biomass harvest. The AC has been provided with a list of experts that have agreed to review the guidelines, AC members are free to suggest additions to the expert list, but must take responsibility for contacting the additional experts and ascertaining their availability and willingness to review and comment within the timeline constraints.

**AC members should provide contact information for additional experts who have agreed to participate to Jim, Allison, or Sarah by March 15<sup>th</sup>.**

Darrell explained that this is a review of the technical and scientific aspects of the guidelines, and not an additional stakeholder review. The AC members will also be provided with the draft guidelines, but are not expected to comment until after expert review and subsequent revisions have been completed. Darrell's presentation concluded with an explanation of the process and timeline that MN used to develop their biomass harvesting guidelines. He highlighted some of the differences and similarities between the MN and WI processes, as well as our approach to using, discarding, or modifying MN guidelines in our draft guidelines.

Don Peterson asked whether the expert reviewers would be meeting or reviewing individually, and who the experts are that have been contacted but have not yet responded. Earl Gustafson asked whether the experts would be encouraged to discuss the guidelines with other experts. Darrell explained that at this time it is not anticipated that the experts will get together, that this is being approached as an individual review, but that if the experts wish to discuss the guidelines with others during their review, that wouldn't be a problem. Carmen Wagner indicated that Steve

Bertjens and Steve Bratkovich have been contacted as possible experts for the harvest systems and wood utilization categories.

Marshall Pecore commented that from the scope it appears that the guidelines are for someone who has already decided to do biomass harvest. Why is the focus on site-level management instead of a broader landscape focus? Darrell explained that there is limited information available even at the site level and that it would be hard to broaden the guidelines to the landscape level for this phase of development given available information and timeline constraints. However, these guidelines could serve as a building block which could help us broaden the discussion to include landscape level management concerns in the future. For instance, some landscapes are more susceptible to nutrient concerns than others, it would be nice to distinguish sands, clays, etc. We don't have the resources to fully address landscapes at this point.

Joe Kovach commented that the guidelines may allow for some exceptions. For instance, nutrient cycling could be addressed differently in some landscapes if you can explain how what you are doing is addressing the guideline. Marshall expressed some concern that the site-level focus does not allow for flexibility, but that he hears Darrell saying that landscape level management could be addressed eventually. Darrell re-iterated that if we could address it sooner we would, mentions landscape-level modeling such as the work that AC member David Mladenoff does. We are just not able to fully address the landscape issue at this time.

David Mladenoff expressed concern that the timeline is too ambitious. The technical team must have the 1<sup>st</sup> draft complete in a matter of weeks in order to meet the timeline for expert review. Is it wise to have only one round of expert review after such a quick drafting of the guidelines? Darrell notes that there is a slot for public review after the guidelines are sent to the Council. Additional expert review could take place as part of a constituency along with the AC, or as part of the public review.

Earl Gustafson asked what AC members should do if they have problems with the first draft that is sent to the expert reviewers and they are having difficulty stifling themselves. If there is an issue like this, it may hold up the whole process if members have to wait until expert review and revision is complete to comment. Being able to comment sooner could help keep the AC meet the timeline more easily. Darrell explained that if there is a fatal flaw in the April draft we would want to know what it was and what the AC member thought could be done to remedy it as soon as possible. We would then let the experts go through their process and come back to the table with everyone's comments. Darrell also noted that we have a precedent and that we are not suggesting any major departures from MN, so if AC members don't see any fatal flaws in the MN document it seems unlikely that this would be an issue. Marshall noted that any fatal flaws should come out in the consensus process. A "fatal flaw" would be a stop for that process. Earl commented that in the woody biomass taskforce they spent a significant amount of time discussing what consensus meant. Darrell noted that in this case consensus means "can you live with it".

Geoff Chandler asked what this would look like 3 years from now when guidelines are complete. What does it look like in terms of monitoring and compliance? Do we expect the same level of cooperation as with the Water Quality Best Management Practices (BMP)? Darrell explained that he sees a difference between BMPs and Guidelines. The Office of Forest Sciences spends a significant amount of time developing technical guidance. We ask our cooperators to consistently implement guidelines like the ones found in the Silviculture Handbook, but there is no monitoring component and we do not ask for buy in from stakeholders. BMPs are broader and have an additional step in that we ask stakeholder groups to agree to implement the BMPs with their

constituencies, and BMPs usually include education and a monitoring or compliance mechanism. These guidelines are more like technical guidance in that they do not include a monitoring or compliance approach. This could become a BMP process in the future, but it is not at this point. Darrell also noted that the biomass guidelines could end up in the Silviculture Handbook. DNR could also encourage the Natural Resources Board to include them in the Site-level Forest Management Guidelines. MN's guidelines are included in their FMG's and they are monitoring for compliance.

David Mladenoff asked how the guidelines will relate to certification. Darrell responded that they will have a direct impact. He explained that MFL is being looked at more closely by FSC, and woody debris and green tree retention standards are needed to address a CAR. DNR will use these guidelines to implement their certification. Jeff Barkley indicated that these guidelines will essentially be mandatory in light of certification. If they are mentioned in an FSC audit or in management plans they will be expected to comply. He expects that some monitoring will likely be required in the future. The development of the guidelines will satisfy the certifiers for now, but more will be needed. Geoff Chandler asked about SFI. Jeff indicated that during the County Forest audit this was an "opportunity for improvement" under SFI and a "corrective action" under FSC, so SFI is expecting it too, but is less stringent than FSC.

Don Peterson asked if this will be incorporated into mandatory practices for MFL. He noted that it has not been talked about, but it is not too much of a stretch to see it going that way. Ed Moberg commented that some landowners are already upset with MFL and that this is likely to upset many of them further. Darrell noted that most private lands are not under MFL and it's voluntary. He also commented that mandatory implementation under MFL has not been talked about, but it is possible.

Marshall Pecore noted that FSC certifiers told the state to meet a standard, and asked whether FSC came forward with the standard or if they wanted the state to develop standards. Jeff Barkley explained that the FSC certifiers asked the state to develop a standard. The CAR specifically indicated that the state should develop standards. Geoff Chandler offered that the auditors don't necessarily see a problem, but rather the problem is that there is no standard. Auditors want quantifiable standards.

## **Biomass Guideline Topics to be Addressed**

### **Biodiversity**

Joe Kovach gave a presentation on guidelines related to biomass harvesting impacts to biodiversity and wildlife which included a discussion of MN's rationale and biodiversity related guidelines. Biomass harvesting removes more wood than a traditional timber harvest, and as more wood is removed these areas have less resemblance to natural disturbance regimes and stand development processes. Possible impacts of increased wood removal on wildlife and biodiversity include reduction or loss of species and community types, reduced ecological complexity, and altered processes and functions. MN's rationale for guidelines related to biodiversity include the documented benefits of preserving biological legacies (live trees, snags, CWD (coarse woody debris), the importance of retaining FWD (fine woody debris), and the lack of data on the impacts of variable levels of retention. MN's guidelines prohibit biomass harvest on sensitive sites or when endangered or threatened species are present. Leave trees, pre-existing CWD, snags, stumps, 20% of small trees and brush, and 1/3 of FWD are to be retained on site. 20% of FWD is to be intentionally retained and scattered. Wisconsin's guidelines are likely to focus on retention of down CWD, green trees, snags, and FWD and the protection of NHI element occurrences.

Ed Moberg commented that MN never addressed fire prone sites. Joe explained that in MN and in WI you would be advised to follow the FMG's for these sites. It is unlikely that there will be different biomass harvesting guidelines for different site types.

Matt Dallman asked whether the guidelines would address the piling of tops or the retention of more tops to prevent deer browse on regeneration. He indicated that less browse impact has been observed in areas where tops have been piled to keep the deer away. Joe indicated that it is unlikely that the guidelines will address this. It may be more appropriate for the site-level FMG's, since this strategy may work in some areas, but that deer will get around the tops if necessary.

Marshall Pecore asked whether longer rotations would be addressed. Joe indicated they would not, rotation age recommendations are already provided elsewhere.

Marshall expressed a concern that these guidelines prescribe the same treatment everywhere, and that they direct site-level management actions even if the element is prevalent at the landscape level. He gave the example of red-shouldered hawks being prevalent enough at the landscape level that directive site-level management may not be needed. Jeff Barkley agrees with Marshall. There should be some flexibility, and discussion of when it would be appropriate to deviate from the guidelines? Joe and Darrell pointed out some differences between Menominee and most other ownerships. Joe comments that with natural disturbances there are small site-level areas with lots of wood on the ground within the larger landscape, guidelines would be appropriate for most sites. Darrell notes that some large landowners have control at the landscape level, but most don't. The guidelines need to focus on the average situation. Certifiers will focus on the site-level.

Don Peterson had 3 comments/questions: 1) Where MN recommends no harvesting are they going to a 4" top? There are different levels of utilization, not all biomass users are in the same category. Carmen Wagner indicated it is 3" for cordwood, 6" for listed saw species, and 10" other hardwood saw species. 2) Intentional scattering is not typically done, so this will be a new requirement. 3) Don disagreed with Joe about the relationship of leaving tops and regeneration in deer areas. Regeneration is much better where tops are left.

### **Soil Productivity**

Eunice Padley gave a presentation on soil productivity guidelines, which included a discussion of MN's guidelines and rationale. Concerns related to the impact of biomass harvesting on site nutrients and biological cycling include the potential for nutrient depletion and reduced productivity, changes in populations of microorganisms that utilize dead woody material and cycle nutrients, and reduction of soil nutrient capital which is inconsistent with concepts of sustainability. Two documents form the basis for MN's soils nutrient guidelines:

Forest Soils: A Technical Paper for a Generic Environmental Impact Statement on Timber Harvesting and Forest Management in Minnesota. Prepared by David Grigal and Peter Bates for Jaakko Pöyry Consulting, Inc., 1992.

An Update of Forest Soils: A Technical Paper for a Generic Environmental Impact Statement on Timber Harvesting and Forest Management in Minnesota. Prepared by David Grigal for Laurentian Energy Agency, 2004.

MN's rationale also includes a detailed analysis of soil nutrient capital, including a nutrient budget for Ca based on 50 year aspen rotations (WI typical rotation for aspen is often 40 years).

Eunice demonstrated that these nutrient budgets can vary widely based on the initial assumptions about nutrient inputs and outputs. MN's guidelines recommend avoiding biomass harvest on ombrotrophic peatland sites, and shallow soils over bedrock and recommend retaining forest floor, roots, tops from 20% of harvested trees, FWD (<6" diameter) resulting from breakage, and 20% of brush and small trees. Wisconsin's guidelines will likely include consideration of differences between WI and MN soils -nutrient inputs and outputs, uncertainty, minerotrophic wetlands, cover types with differing nutrient demands, season of harvest, and harvest of invasive trees and shrubs.

Marshall Pecore asked about the effects of longer rotations. Eunice explained that while the allocation of biomass changes (succession from aspen to other species), above ground biomass levels off after a certain point.

Matt Dallman indicated that most of the guidelines seem to refer to even-aged management. What about single tree harvests or uneven-aged management? Eunice explained that the MN guidelines seem to indicate that tops of 20% of trees harvested should be left, regardless of even or uneven-aged management. Don Peterson commented that a logger he spoke with in Michigan was doing a biomass harvest and was told to leave 25%, which seems in line with what Minnesota is doing.

Jeff Barkley is interested in finding out what process led up to the MN requiring that 20% of tops and limbs be re-scattered on the site. Does this need to be a separate activity or can they just be left at the time of harvest? Eunice agreed that this is difficult operationally, and commented that during a selective harvest the tops could just be left at the harvest site.

**Items for Follow up with MN:**

- 1) Single tree and selective harvest – how does the 20% of tops rule apply?
- 2) How was the re-scatter requirement received and what led up to it?
- 3) Under the MN guidelines, is there any time under which re-entry to a site for the removal of tops for biomass is allowed?

**Someone will contact MN with these questions and respond to AC with answers via e-mail**

**Water Quality and Soil Structure**

Carmen Wagner gave a presentation on biomass harvest guidelines that relate to water quality and soil structure, including a discussion of MN's guidelines and whether guidelines are needed, above and beyond existing Forestry BMPs for Water Quality, to protect water quality and soil structure during biomass harvesting. Possible impacts of increased harvest of woody material include increased soil saturation, increased runoff volume, increased water velocity, and increased compaction and rutting of soil. MN's rationale for including water quality guidelines is based on issues not addressed by their site-level FMG's including re-entry to recover biomass and the removal of stand components like small diameter trees, CWD and brush within filter strips and riparian management zones (RMZ). Minnesota's guidelines allows the harvest of tops and limbs from trees normally taken from RMZs and filter strips during a standard timber harvest, but additional biomass harvest is to be avoided in filter strips, RMZs, dry wash buffer, and erosion prone areas. Re-entry into sites is discouraged, but if necessary should be carefully planned for wetland areas and sites that are planted or under going regeneration. Many of the water quality and soil structure guidelines from MN are similar to Wisconsin's BMP's for Water Quality. Wisconsin's biomass guidelines are likely to address protection of regeneration and plantings and rehabilitation of roads, landings, skid trails.

Jeff Barkley asked Carmen to define RMZs and filter strips since we do not use filter strips in Wisconsin. Riparian management zones are a fixed length from the water's edge. Filter strips are buffer zones that change on sliding scale based on slope – the steeper the slope, the wider the filter strip.

Marshall Pecore wondered how skid trails were defined by the guidelines. Carmen explained that guidelines are referring to primary and secondary skid trails, primary being those that are used for 3 or more passes and secondary those that are used for 1 or 2 passes.

Jane Severt asked whether re-scattering the 20% of harvested tops would be considered a re-entry. Carmen thought that re-entry refers to going back to a site after 1 or 2 years when there is no longer an active harvest going on.

Don Peterson asked if it is preferable to armor a skid trail with slash to prevent rutting before taking it for biomass and if this would be considered scattering. Carmen did not know if this would be considered scattering but thought that armoring the skid trail to prevent rutting and compaction would be an appropriate use of the tops and limbs.

### **Topics Not to be Addressed**

Darrell Zastrow gave short presentation on topics that will not be addressed by the guidelines at this time. These topics include short rotations intensive culture of trees for biomass, hybrid poplar plantations, urban forests and trees, non-forest derived woody biomass, non-woody biomass, specific species or sites, education, training, or monitoring. Issues were excluded due to precedent in other states, lack of information, issue complexity, timeline etc. Some of these issues could be addressed by later phases of guideline development,

There were no comments/questions following Darrell's presentation.

### **Scope Document Wrap-up**

Jim Hoppe proposed that the committee discuss accepting the scope document.

Matt Dallman expressed concern that the Water Quality BMP's are very difficult to change or update, and, given the level of uncertainty about the impacts of biomass harvesting, wants to be sure that these guidelines can be updated as better information becomes available. He would like the scope to further explain why we are not addressing some topics, and to make it clear that guidelines are a work in progress based on the best available information, and will be revised as more information becomes available.

Marshall Pecore agreed with Matt and would like to know how the issue of flexibility and adaptability will be addressed. Darrell explained that Wisconsin's Site-Level FMG's are to be reviewed and revised every 5 years and the Silviculture Handbook undergoes periodic review as well. There is a definite opportunity for this type of automatic evaluation and revision mechanism to be included in the biomass guidelines.

Jim Hoppe asked whether any drafts of the scoping document contained explanations as to why some topics will not be included. Joe Kovach indicated that the technical team discussed these issues but did not include detailed explanations in the document. He also explained that not all the topics not to be addressed were excluded because of lack information. Some had to do with complexity, work load, and how the issue fits within sustainable forestry.

Allison Hellman proposed adding language under the “Guideline Description” section of the scope document stating the guidelines are based on best available information and that they will be revised as better information becomes available.

There was a general agreement that this language should be added.

Geoff Chandler asked whether the DNR has or will develop an outreach plan for this effort. Darrell explained that the DNR is developing these guidelines as a service to the Council on Forestry. Right now our charge is the development of the guidelines. Once the guidelines are complete and they go back to the Council, the Council may ask what the next step is. DNR may develop some suggestions at their request, but the whole forestry community would be involved. Jim Hoppe noted that the charge of the Woody Biomass Task Force was two-fold 1) guideline development and 2) outreach and education. Currently there is no specific plan for how the second priority will be accomplished, but it will be a later process.

**Note: Appendix A #7, timeline to be changed from July 09 to Dec 08.**

Earl Gustafson asked why the definition of Woody Biomass in the scoping document is different from the Council on Forestry’s approved definition of sustainable woody biomass.

**Council’s Definition:**

Sustainable Woody Biomass: 1) Trees grown for the purpose of energy production. 2) Trees or parts of trees that do not meet the utilization standards for pulpwood, posts, bolts, or sawtimber. 3) Brush, logging slash, or waste wood that is created by harvest, by pre-commercial timber stand improvement to meet silvicultural objectives, or by fire, disease, or insect control treatments, or watershed improvement. 4) Brush, trees, and other biomass harvested from within designated utility, railroad, and road rights-of-way.

**Definition in Scope Document:**

Woody Biomass: Wood materials, such as wood, bark, sawdust, timber slash, and mill scraps.

**Note: The woody biomass harvesting guidelines refer to woody biomass that comes directly from forestland harvest, i.e. wood, bark, etc.**

Allison and Darrell explained that the Council’s definition refers to biomass utilization incentives that seem outside of the scope of this process. Our focus is on providing technical guidance on the harvest of additional woody biomass from the woods – regardless of post-harvest utilization plans. The scope definition is more general and does not specify purpose. Don Peterson agreed that the bold note in the scope clarifies the definition and that the simpler definition is better for this purpose. Joe Kovach noted that all cellulosic material in the woods is woody biomass, not so in the Council definition. Allison also noted that the definition in the scope document is an existing dictionary definition, not made up by the technical team. Geoff Chandler agreed that this process should not take a position on utilization we are primarily concerned with harvest and what is left behind.

Earl Gustafson proposed that the definition remain as it is, but that it include a note with language indicating that the definition is “for the purpose of this document”. This way any future confusion or conflict with the Council’s definition can be avoided. There was general agreement that this language should be added.

**The Advisory Committee agreed to accept the scoping document with the following changes:**

- 1) Add language to the “Guideline Description” indicating that the guidelines will be revised as new information becomes available.
- 2) Add a note to the definition of woody biomass indicating the definition is “for the purposes of this document”, preventing any future conflict with the Council approved definition.

New language will be drafted and sent out to the Advisory Committee.

### Meeting Wrap-up

- 1) Advisory Committee members will send contact information for additional expert reviewers who have agreed to participate in the review to Jim, Allison, or Sarah by March 15<sup>th</sup>.
- 2) The technical team will send out PDFs of power point presentations to the Advisory Committee
- 3) The Technical Committee will explore the possibility of using a website (possibly the Council on Forestry website) to make reference material easily available to Advisory Committee members.
- 4) April Meeting:
  - Introduction to the 1<sup>st</sup> draft of the guidelines
  - More detailed presentation on soils
  - Presentation on biomass harvesting
    - Techniques/systems
    - Equipment
    - Levels of intensity
    - Projected demand/renewable portfolio mandates
  - Advisory Committee members will let Allison know by March 15<sup>th</sup> if there are any other topics they would like to see covered at the April meeting.
  - Advisory Committee Members will let Allison know what dates will **not** work for them in the last ½ of April, June, and August.