

*Minnesota Forest Resources Council*  
DRAFT Minutes  
Cedar Creek Ecosystem Science Reserve, East Bethel, MN  
March 16, 2016

**Members Present:** Kathleen Preece (Chair), Forrest Boe, Wayne Brandt, Alan Ek, Shaun Hamilton, Bob Lintelmann, Gene Merriam, Dave Parent, Susan Solterman Audette

**Members Absent:** Greg Bernu, John Fryc, Darla Lenz, Bob Owens, Deb Theisen, Tom McCabe, Shawn Perich

**Staff Present:** Calder Hibbard, Lindberg Ekola, Rachael Nicoll, Rob Slesak

**Guests:** Jennifer Corcoran (MN DNR), Forest Isbell (UMN), Jon Nelson (MN DNR), Dick Rossman (MN DNR)

**Chair's Remarks**

Kathleen Preece opened the meeting with a round of introductions. She explained that a subcommittee of Council members held the first MFRC strategic planning meeting and added that more details would be provided later in the meeting.

**Approval of Meeting Minutes\***

Wayne Brandt approved, and Dave Parent seconded, the meeting minutes. The minutes were unanimously approved.

**Approval of Agenda\***

Wayne Brandt approved, and Dave Parent seconded, the draft meeting agenda. The agenda was unanimously approved.

**Executive Director Remarks**

Calder Hibbard remarked that the governor's office has not yet approved any Council member appointments. The approval process may take another few months. Calder also noted that the MFRC submitted a letter to the U.S. Environmental Protection Agency stating the Council's position on the proposed use of woody biomass under the Clean Power Plan. Finally, Calder mentioned that Kathleen Preece and he will meet with DNR leadership on March 23 to discuss the MFRC's shared services charges.

Calder yielded his time to Rachael Nicoll who provided an update on the MFRC website, content strategy, and process to hire a new MFRC student worker.

**Committee Reports**

*Personnel and Finance*

Kathleen Preece reported that the committee has not met, but discussions from the January 5 Personnel and Finance Committee meeting have resulted in the meeting with DNR leadership that Calder spoke about in the Executive Director Remarks.

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\* Action item

### *Site-Level*

Dave Parent reported that the committee has not met.

### *Landscape Planning/Coordination*

Shaun Hamilton reported that the committee met on March 3. The committee discussed the North Central Plan revision process, the MFRC strategic planning process, and a proposed update of the LSOHC 25-year vision.

### *Information Management Committee*

Kathleen Preece reported that the committee has not met.

### **Staff reports**

Kathleen announced a new standing agenda item, MFRC staff reports. This item is meant to provide an opportunity to exchange information and ideas between staff and Council members. Rob Slesak spoke about the Site-level Program's recent focus on the Timber Harvesting and Forest Management Guidelines monitoring report. Rob has continued to work on the research and data analysis projects he presented at the last MFRC meeting. The Canadian Journal of Soil Science accepted the LiDAR assessment of landing recovery research paper with revisions. Rob has been working collaboratively with the DNR, University of Minnesota, and other partners to develop LCCMR proposals, which are due March 21. He is hopeful for funding for a project evaluating soil operability to expand the harvesting season and access.

Lindberg Ekola remarked that all six regional landscape committees are very active. As stated previously, the North Central Landscape is preparing to update its landscape plan. Lindberg highlighted a project in the Southeast Landscape: a federally funded contract with The Nature Conservancy to support collaboration between landscape stewardship projects and the Southeast Landscape Plan. Similar efforts are occurring in other regions.

Dave Parent asked about the plan to monitor implementation of the North Central Plan. Lindberg explained that the plan will outline implementation monitoring metrics. It is an area that needs to be updated. Dave also asked if the plan will include landowner objectives. Lindberg explained that the committee is pursuing this.

Rachael Nicoll had already discussed the more visible aspects of her work during the Executive Director Remarks. However, with the support of a new student worker to complete administrative priorities, she hopes to ramp up her support of the Policy Program.

Gene Merriam shared that he is working with the Audubon Society, Minnesota Chapter, on a citizen science project monitoring redheaded woodpeckers, a species of special concern. Cedar Creek is one of the best redheaded woodpecker habitats in the state. Very significant research and banding efforts have taken place at Cedar Creek, and Audubon is looking to also use GPS locators to track the birds.

### **Written Communication to the MFRC**

None.

### **Committee of the Whole: Approval of North Central Landscape Plan revision\***

Shaun Hamilton provided information on a letter proposing the update of the North Central (NC) Landscape Plan submitted by the NC Committee to the MFRC Landscape Committee. The NC Committee has charged the Landscape Committee with five actions developed in response to the Northeast planning process: 1) ensure adequate resources to prepare the plan (e.g., staff time and budget); 2) know the timeline and sequence of planning ahead of time; 3) have a plan to develop a diverse, balanced, and committed membership; 4) ensure opportunities for the public to participate, and 5) develop a clearly defined decision-making process. Lindberg Ekola said that the Landscape Committee will work with staff to address the NC Committee's directive and has begun this work over the past few months.

Twenty-three of 31 membership slots are filled, but Jake Frie will soon step down as NC Committee chair due to his changing work responsibilities. Several candidates are interested in this leadership role. Jon Nelson noted the importance of finding someone with the energy and dedication of Jake. Lindberg explained that planning meetings will occur on the second Wednesday of each month. In terms of funding resources, the MFRC budget is strong. This has allowed the committee to contract with a plan writer.

Susan Solterman Audette asked about attrition of membership during the Northeast planning process. Shaun responded that this did happen, but the NC Committee is developing a 12 to 15 month timeline that will encourage consistent membership and an expectation of participation. Committee members are committed to meeting monthly. Much of the background work is already accomplished. Wayne Brandt expressed three concerns about the Northeast planning process: 1) the length of the process led to attrition in participation, 2) participants didn't have adequate time to absorb information prior to meetings, and 3) public sector participation didn't suffer from attrition. But, he added that the NC Region is inherently easier than the Northeast Region. Lindberg responded that the NC Committee is considering these issues and will have a committee chair and external plan writing services. The committee is also considering working with a facilitator. In response to a question, Jon noted that the DNR representatives that served on the Northeast Committee had very different areas of expertise and opinions. If a single voice from the DNR is desired, the agency will have to consider that. Wayne added that there was disproportionate DNR involvement at the end of the process as the committee worked in small groups. He encouraged the DNR to exercise restraint in involvement in sub-committee processes.

Gene Merriam inquired about reviewing the efficacy of the first generation NC Plan. Lindberg responded that this could have been done better in the Northeast and Southeast plans, but the NC plan will more comprehensively review changes in forest management goals, land cover, and composition. Shaun added that the NC Conditions and Trends report could track the state of the forest on a regional scale and be used as report card.

Susan inquired about funding allocated to NC landscape planning. Lindberg replied that the budget is through the General Fund, but there is no specific allocation. Susan emphasized the need to focus on monitoring and knowing the resources required before starting the process.

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\* Action item

Susan noted to Jon that the expertise and input from DNR staff was appreciated by members of environmental boards. Jon thanked her, and he communicated that he understands the issues that arise with disproportional membership. He clarified that participation and decision-making are two different things. Susan expressed concern about adequate participation incentives for environmental group staff. Lindberg responded that he and the committee address these issues on a case-by-case basis and are willing to help people participate.

Wayne Brandt moved to approve the resolution to approve the North Central Landscape Committee's request to revise the North Central Landscape Plan, and Dave Parent seconded the motion. The motion passed unanimously.

### **Site-level monitoring report**

Kathleen Preece introduced Dick Rossman, DNR Forestry Best Management Practices Program Coordinator. Dick provided a summary of 2014-2015 monitoring results that are detailed in a new DNR report. He thanked Rob Slesak and Jennifer Corcoran for their significant contributions to the report. He also thanked the Clean Water Council for funding support. It was noted that continuous improvement is a goal, and implementation of most guidelines reflected this. However, improvement is needed in some guidelines. A fundamental change was monitoring by watershed. This new monitoring scale has improved understanding of implementation, increased efficiency, reduced costs of monitoring, and will enhance our focus on areas to improve implementation. Monitoring also considered which version of the Site-level guidelines were used. There was a lag in using the new 2013 version of the guidelines. The report recommends reinforcing implementation of the revised guidelines.

Overall compliance with filter strips guidelines was very high and improved significantly since the previous monitoring report. Most non-compliant sites were due to pre-existing roads, and no active erosion was occurring from them. The report recommends improvement to existing roads so that they meet current standards. Wayne Brandt asked about ownership patterns. Dick replied that he hasn't yet evaluated ownership as this report is on a watershed scale. Filter strip effectiveness was 99 percent. The revised guidelines are not used in a majority of riparian management zones (RMZs), but 80 percent of RMZs fully met recommendations. This is an improvement from previous reports. An additional 13 percent of sites "substantially attempted" to meet the recommendations.

Crossings and approaches are by their nature susceptible to water quality impacts. Most impacts were on skid trails, 28 percent were avoidable, and all of these were on non-open water wetlands. 20 percent of these were rutted. Wayne Brandt asked if any of these were due to identification issues—it can be difficult to delineate a wetland in winter conditions. Dick replied that he believed this was happening. MLEP could try to address this issue. Rutting on non-open water wetland crossings occurred on 23 percent of crossings. This improved from 33 percent in last report. Half of the rutting occurred on just four sites. Implementation is impacted by the characteristics of the watershed (e.g., large, open wetlands versus small and numerous non-open water wetlands). Dick noted the challenge and lack of compaction monitoring.

None of the stream crossings were considered avoidable. Wayne asked if sediment was measured at approaches. Dick replied that only a small number had sediment moving into stream. Ninety-three percent of approaches were not vulnerable to erosion. A third required erosion control, but only 1 in 5 had erosion control implemented. This resulted in sediment movement into water on 16 sites. Some site-scale rutting occurred on 20 percent of all sites. Rutting occurred on less than one-half of the site on most of these sites. The largest areas of rutting occurred on skid trails in general harvest area.

Eighty-two percent of sites met 2012 harvesting infrastructure recommendations—a large improvement from the previous report. The average percentage of each site occupied by infrastructure decreased from the 2009 report. Twenty percent of landings were located entirely or partially in wetlands, filter strips, or RMZs where an alternative location was available.

Eighty-four percent of sites met leave tree recommendations. This was consistent with the previous report. Eighty-four percent of sites met the guidelines for leave tree retention. Typically, these leave trees were good to excellent species, and species richness and presence of large trees was variable. Biomass retention guidelines for coarse woody debris and snags were met on 69 percent of sites.

Overall, implementation of the guidelines generally improved, but there are still opportunities to improve in some areas. There has been a slow conversion to using the revised guidelines. Watershed-based monitoring was a positive change and a good strategy. There is a lot of future potential for this data. The report includes recommendations such as outreach to non-industrial private forest landowners and the loggers working with them and an introduction to the guidelines for new foresters and loggers.

Gene Merriam inquired about differentiation between sites with and without certified forests. Dick responded that he has not done this, but he could differentiate the data by ownership to a certain extent with input from industry. Wayne commented that the only non-industrial private landowners that are certified are Tree Farm. Discussion ensued about use of the report in certification audits. Dick explained that he has discussed the report with auditors, but compliance by ownership is not detailed in the report. Susan asked about reporting back to landowners, and Dick responded that this is something that should be done.

Wayne asked if implementation monitoring was completed for cultural resources. Dick replied that this information was collected but is not included in the report because cultural resources occur on such a small percentage of sites. Landowners of affected sites are aware of and are implementing the guidelines.

Kathleen thanked Dick for the report and commented that recommendations for outreach and education are important. She initiated a discussion regarding the responsibility of implementing the recommendations. Dick noted that statute mandates the report to be sent first to the

MFRC. The MFRC will add the report to its website and distribute it to its mailing list. Dick will also distribute the report to a list he has developed, which includes the Legislative Library but not the governor or legislature. His program cannot do all of the necessary outreach, but partners can help. Kathleen suggested that an outreach plan could be helpful.

Rob added that there hasn't been a plan in the past, but previous coordinated outreach has worked well. Developing a plan now could tie into the strategic planning process. He noted that the Minnesota Forest Resources Partnership is the official body designated to implement MFRC recommendations. Dave Parent suggested an addendum to the annual report to distribute a summary of the report.

### **Strategic vision for the MFRC**

Kathleen Preece covered membership of the committee and explained that the first committee meeting covered the process comprehensively, including desired outcomes and prioritization of issues. The group will continue to meet as a subcommittee and look to the full council for direction. Calder Hibbard explained that they are considering hiring a facilitator and hope to finish the process by the September meeting.

### **Dispersal capacity of gypsy moth larvae**

Rachael Nicoll explained that she has focused on the intersection of science and invasive species policy while pursuing her Master's degree at the University of Minnesota. She has studied the effectiveness of a specific mitigation measure of the gypsy moth quarantine in Minnesota. This work has been conducted in collaboration with her co-advisor, Brian Aukema at the University of Minnesota, and Scott Myers, an entomologist with USDA APHIS. Rachael explained that the gypsy moth is considered to be one of the most destructive invasive forest pests in North America. The larvae, or caterpillars, defoliate over 300 species of trees and shrubs. As the caterpillars grow in size, in several stages called 'instars,' they can eventually eat up to 11 square feet of foliage individually.

Lake and Cook are the only counties quarantined for gypsy moth in Minnesota. The quarantine requires maintenance of a 100-ft host vegetation-free buffer zone surrounding log decks, piles of wood stored for later processing and/or transfer. The purpose of the buffer zone is to prevent gypsy moth larvae crawling from log decks to adjacent forests and vice versa, especially the larger larvae in the last instars. However, the distance of the buffer zone is not based on any known scientific study, and its effectiveness is unknown.

To evaluate the buffer zone distance, Rachael and her collaborators assessed late instar gypsy moth larvae dispersal capacity at a paper mill lumber yard in Wisconsin. They released the larvae in the middle of an open area within the lumber yard, where they placed a 100-ft diameter plot. They visually tracked the larvae's movement for 12 hours, periodically measuring their distance and direction from the plot center. This visual assessment was supplemented with harmonic radar technology, a passive tracking system with promise for future research. A handheld transponders emits wavelengths that will bounce back at double the frequency if they

hit a small, lightweight diode attached to an insect. The handheld unit emits a series of audible beeps if this occurs. The equipment did not function properly in the field, so it was only used if a larvae was lost during tracking.

After a six-day period of tracking the insects, they found that gypsy moth larvae are capable of dispersing 100 feet, surpassing the buffer zone distance. In total, 20 percent of the larvae dispersed at least this distance, taking an average of four hours and 40 minutes. One larvae crawled to the plot boundary in only 78 minutes, and the maximum distance moved was almost 144 feet. Interestingly, the larvae moved in relatively straight patterns across the plot, possibly attracted to trees and other vegetation surrounding the plot while navigating by light patterns undetectable to the human eye.

These results demonstrate the need to further evaluate the buffer zone distance and ensure its effectiveness. The University with state and federal partners is looking to do an expanded study in the summer of 2016. The study would take place in a larger lumber yard area and would evaluate if differences in the configuration of trees and log decks around the plot effect larval orientation. Importantly, this research would also study how well containment measures, such as short fences painted with a sticky substance, trap larvae. The cost-effectiveness of these measures would also be taken into account. Rachael remarked that if these alternative containment measures are effective, they may allow industry stakeholders to remain compliant with more flexible regulations.

Shaun Hamilton asked why the larvae were released for 12 hours. Rachael responded that data collection was only possible during sunlight, but use of harmonic radar in the proposed follow-up study could allow for tracking larval movement overnight. He also asked if larvae moved through areas with vegetation. Rachael responded that the plot was covered with only bare soil and bark chips due to visual tracking constraints, but movement through grass and other short vegetation will be included in the next study, if possible. She observed anecdotally that short vegetation significantly restricted movement outside of the plot.

Kathleen noted the importance of the potential implications of this study. Rachael reiterated that she is hopeful that alternative containment measures will be effective, but at least the regulation will now be informed by science.

Forrest Boe commented that gypsy moth is managed under the national Slow the Spread Program by treating small populations developing in previously uninfested areas. The Minnesota Department of Agriculture is facing resistance from a group of citizens in Ely protesting aerial spraying in the area. Forrest explained that if the group successfully halts the spray, there could be new population establishment outside of the quarantine in Minnesota.

### **Current projects at Cedar Creek Ecosystem Science Reserve**

Kathleen Preece introduced Forrest Isbell, Cedar Creek Ecosystem Science Reserve Associate Director. Forest covered the mission and strategy of Cedar Creek: to discover sustainable solutions to environmental challenges. Cedar Creek achieves its mission through research, outreach and education, and conserving natural ecosystems. It is a long-term ecological

research site with a large staff, including summer interns, graduate students, and postdocs. There are three large, ongoing research projects at Cedar Creek: 1) 'BigBio,' a long-term grassland biodiversity experiment established in 1994; 2) 'BioCON', a study of the effects of elevated CO<sub>2</sub> in combination with other factors, which was established in 1997; and 3) a more recent, 'nutrient network,' studying biodiversity and productivity response to fertilization on a global scale with standardized treatments.

Cedar Creek is also involved in K12 education on-site. Student-led hiking tours afford the opportunity to observe a high diversity of ecosystems that one might see throughout MN. Adult education occurs at the center through the Minnesota Naturalist Program and other programs. New University of Minnesota undergraduate and graduate courses will soon be offered as well.

Conservation is an essential facet of cedar creek. It is an important oak savanna area, an exceptionally rare ecosystem. Oak snags are important for red-headed woodpeckers and other wildlife. Work is being done to understand the preferred habitat of redheaded woodpeckers, but relatively few researchers have been engaged. Wolves have returned to Cedar Creek unassisted after 100 years. The apex predator could have an interesting effect at Cedar Creek.

Kathleen inquired about the origins of Cedar Creek. Forest explained that the land was turned over to the State of Minnesota in 1942. A University of Minnesota faculty member and Twin Cities physician recognized it as a unique location that should be conserved. Kathleen also asked about the size of the parcel. Forest answered that it is 5,500 acres. Unfortunately, some of this land was taken from neighboring landowners. In response to a question, Forest replied that elk were once at Cedar Creek, but reintroducing them is an unpopular idea due to concerns about disease transmission to wildlife. However, there is a proposal in place to introduce bison to reduce the encroachment of woody vegetation into oak savanna in combination with prescribed burning.

Shaun Hamilton asked about the relationship between the National Science Foundation (NSF) and Cedar Creek. Forest explained that the relationship started in 1982. NSF supplies more than half of the site's research funding. It has resulted in an exceptional group of researchers working at Cedar Creek, but it restricts the focus of the research. Forrest would like to see more research in forests and aquatic ecosystems rather than in grasslands and savanna.

Gene Merriam noted that The Nature Conservancy (TNC) owns adjacent property and asked if any coordination occurs between the sites. Forrest replied that they coordinate sampling and burning. Cedar Creek has some permanent plots set up in their savanna units. It has been a good partnership. TNC has fewer land management resources, and Cedar Creek has assisted them. Forrest Boe asked if there are issues with other landowners related to prescribed burning. Forest replied that there have been issues in the past, but relationships have improved dramatically. There are no current issues.

Gene also asked if any overwintering redheaded woodpeckers have been observed this year. Forest replied that he is not yet sure. Some of the data has not been analyzed due to a staff vacancy.

Following a discussion of public access, Forest noted that the public is welcome to access a walking trail around Fish Lake.

#### **Public Communications to the MFRC**

None.

#### **MFRC Member Comments**

Gene Merriam initiated a discussion of the Council's role in acting on the recent discovery of white-nosed syndrome (WNS) in Minnesota in Lake Vermilion - Soudan Underground Mine State Park. Forrest Boe said that while hundreds of bats have died, the federal WNS regulations will not change. Precautionary measures have already been put into place in the state park, and they will continue. Wayne Brandt added that the regulations have not changed because they go into full effect if the fungus that causes WNS is present. The fungus is already in the Soudan Mine and Forestville Mystery Cave State Park. From an industry standpoint, the regulations are workable, and industry does not want the invasion of WNS either. Harvesting is not permitted in June and July in there are known roost trees. Forrest remarked that the council could invite a speaker to talk about the regulations. In response to a question, Wayne said that outreach from the USDI Fish and Wildlife Service has been good. Forrest added that the DNR's WNS website is a good source of information.

Alan moved, and Wayne seconded, adjourning the meeting. The meeting was adjourned at 2:25 p.m.