



October 11, 2021

Nathan Heibel
Land Commissioner
Koochiching County
715 4th Street
International Falls, MN 55802

Mr. Heibel,

Minnesota Forest Industries, Inc. (MFI) is an association representing Minnesota's primary forest product companies. MFI and its member companies encourage conservation, proper forest management, and industry development that foster sound environmental stewardship, multiple use of timber lands, and sustainable, long-term timber supply.

MFI members include Bell Timber Inc., Boise Paper a subsidiary of Packaging Corporation of America, Hedstrom Lumber Company, Louisiana-Pacific Corporation, West Fraser, PotlatchDeltic Land and Lumber, Sappi Fine Paper North America, Savanna Pallets and UPM Blandin.

MFI member companies are part of a \$16.8 billion gross sales per year forest products industry which provides for the livelihoods for nearly 68,000 Minnesota families. MFI and the forest products economy are reliant on continuous and year-round supply of timber harvested from the forests of the state.

MFI supports Koochiching County's efforts to sustainably manage its forest resources. In general, we feel that the Draft Long Range Plan for the Management of Tax-Forfeited Land and Forest Resources of Koochiching County (Plan) does a good job of incorporating current conditions, Native Plan Communities, wildlife habitat, the fiduciary responsibilities of the Land Department, forest certification standards and desired future forest conditions. We also applaud the county for utilizing Remsoft Woodstock software in forest management planning.

Please consider the following detailed comments:

Economic

The report does an excellent job of using available data to demonstrate the importance of timber and wood products industries to the county's economic well-being. While the sector percentage of employment has decreased, it is worth noting that without it there would be far less work in all other sectors, with the possible exception of government. And any further losses within the forest products industry would exacerbate the population trend and projections for the County.

Social

We appreciate the Plan's recognition of the social context of forests to County residents, as noted in the following passage, "...residents within the County place great value on the forested landscape for their economic livelihood and sense of place. While other forest-based values are important to County residents, the tight, historic connection between the forest and economic survival is the defining characteristic". The forest resources and the industry that utilizes them have had a symbiotic relationship with the County for over 125 years.

Hunting is the primary social use of the forest landscape in northern Minnesota. The Land Department's active management creates and maintains young forest hunting habitat that is unique in the Eastern Deciduous Forest.

General

- Table 7 clearly demonstrates the need to address the backlog of old age class conifers on County lands. But it also shows what a good job the Land Department has done addressing the huge amount of older age class aspen over the past 20-30 years.
- Timber sales offerings have been dominated by Intermediate Auctions (65%). MFI members would like to see a greater proportion offered as Regular Auctions.
- Riparian management zones are important travel corridors for migrating birds, including American woodcock, who feed heavily on worms in moist soils along rivers and lakes. Therefore, it is important to management for both young and old forest in RMZs as allowed within the context of the voluntary Site-Level Guidelines.
- While we understand the thought that total acres of harvest of all cover types will decline slightly relative to the current 5-year average (page 44), we feel that the Remsoft Woodstock program will help the Land Department find that it is possible to maintain, and perhaps even increase the cords of timber output from historical levels. For example, harvesting aspen at ecological rotation ages has been shown to produce more volume than at extended rotations. MFI members also report that while there are more handling costs to small diameter wood there is potential offset because it is higher quality fiber with less rot.
- MFI would like to see fiber volume output estimates by major species for the coming decade.

Cover Type Management

- Ash-Lowland Hardwoods: The Plan does a good job of recognizing the need to increase harvesting aspen patches within this forest type, as well as the threat EAB poses to pure black ash stands. Addressing the latter may require creative management in the face of shorter winter harvest seasons. Consider trying new techniques or being creative in managing these forests. For example, rutting standards may have to be relaxed, some wood could be used as matting to support operations, or alternative harvesting equipment

explored for swamp logging. The potential permanent impact of these stands converting to non-forested wetlands warrants extreme measures to ensure they remain forested.

- Aspen-Balm of Gilead: MFI does not support encouraging succession of productive aspen stands by retaining hardwoods or conifers when the stand is “trending” in those directions. As an early successional species aspen is always “trending” towards some other climax community, especially when it is past ecological rotation age. Minnesota has lost nearly 600,000 acres of aspen in the past 40 years through either benign neglect or active conversion to other forest types. Retaining scattered hardwoods and conifers can inhibit regeneration and reduce the productivity of the future stand. MFI member companies use 22% more aspen than all other species combined. Given the importance of aspen to the industry, its unique role in creating young hardwood forest habitat and its importance for wildlife we ask that aspen be regenerated to type with full sunlight and nutrients. Stand diversification is better in leave tree clumps and RMZs.
- Birch: While the County has little pure birch, consider regenerating it using seed tree harvest with soil scarification (through whole tree skidding or anchor chaining).
- Northern Hardwood-Oak: It is extremely rare to produce quality hardwood sawlogs in northern Minnesota due to freeze-cracking. MFI is very concerned about the passive conversion of productive timberlands to less productive maple-dominated stands (especially red maple) – a trend throughout the Eastern Deciduous Forest. That said, sugar maple is important for social aspects (fall colors and maple syruping) and oak is an important food resource for wildlife.
- Red/White Pine: The Land Department’s general strategies for pine management are sound, and MFI is pleased to see that there will be more attention paid to this resource in the future. There are significant acres over the Plan’s rotation age and many younger stands in need of intermediate treatment. In older stands being considered for intermediate treatment consider using a diameter maximum – cutting trees before they reach 20” dbh. There are few markets in the state that can take trees over that diameter and cutting them beforehand will maximize the return to the County. Also keep in mind that the paper industry has zero tolerance for char, therefore (even though it is not referenced in the Plan) MFI does not support conducting prescribed burning in conifer stands except after final harvest as a site preparation technique.
- Jack Pine: Jack pine is an important cover type for both industry and for biological diversity, and one that we are losing in Minnesota. Managers must understand that it takes intensive management to regenerate this fire-dependent species. It must be clearcut (including all timber) and site-prepped through piling slash and anchor chaining, or by prescribed burning it to prepare the seedbed and open cones. There are 850 acres over rotation age in the Plan. We encourage the Land Department to regenerate it to type.
- White Spruce: No comment
- Balsam Fir: We are a bit confused about the Plan’s direction on balsam fir. On one hand it acknowledges that markets have declined due to mill closures but on the other hand it

calls for increasing it on the landscape. Balsam fir is a late successional tree that comes into early successional forests as they age and the canopy closes – giving it a competitive advantage. Seeding into aspen stands likely will not increase its presence any earlier than what would naturally occur.

- Black Spruce: No comments.
- Tamarack: See comments on creative harvesting of ash and lowland hardwoods.
- White cedar: We urge caution harvesting white cedar given its importance for biodiversity and wildlife. In general, consider the local deer population when scheduling harvest and regeneration of preferred browse species like white cedar, jack pine and white pine. Koochiching County deer populations are very susceptible to killing winters. After a year or two with deep snow and extreme cold (monitored by DNR at <https://www.dnr.state.mn.us/mammals/deer/management/wsi.html>) there is typically a 3-5 year window of opportunity to regenerate these “ice cream” trees without excessive deer depredation.

In closing, MFI appreciates the opportunity to comment on the draft Long Range Plan for the Management of Tax-Forfeited Land and Forest Resources of Koochiching County. We feel that the Land Department has done an exceptional job planning for future management of their forest resources. Please contact the MFI office if you have questions regarding our comments.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rick Horton". The signature is fluid and cursive, with a large initial "R" and "H".

Rick Horton
Vice President of Forest Policy



October 12, 2021

Nathan Heibel
Koochiching County Land Commissioner
715 4th Street
International Falls, MN 56649

Dear Mr. Heibel:

The PCA Paper Mill in International Falls has been making quality paper products out of raw materials sourced from Northern Minnesota forests since 1910. The mill is the largest contributor to the local economy in Koochiching County, and positively impacts all of Northern Minnesota.

The PCA Mill is dependent on a continuous and stable wood fiber supply that comes from active and sustainable management of Minnesota forests. To this end, PCA is supportive of the 2021 Koochiching County Forest Plan Update.

Please consider the following detailed comments:

1. Certification – PCA is supportive of the county's goal to remain dual certified under both the Sustainable Forest Initiative (SFI) and Forest Stewardship Council (FSC) programs. These certifications allow the county to assure the public and consumers of products from the forest that their lands are being managed in an environmentally, economically, and socially sound manner. This is important for mills that source fiber from these lands.
2. Aspen Management – PCA applauds the county for their work under the previous 10-year forest plan to target the abundance of old aspen forests for management. Aspen is the single most important commercial timber species in Minnesota and is dependent on active forest management to sustain it and keep these forest stands healthy. In addition, young aspen forests provide critical wildlife habitat for a multitude of species including deer, moose, and ruffed grouse. We appreciate the county's efforts to work towards a balanced-age class distribution, and believe the small decrease in aspen acres managed annually will be offset by the increase in volume and fiber quality of younger forest stands being offered for management.
3. Pine Management – PCA is supportive of the county's goal to increase the amount of management in their red and jack pine forests. Jack pine is an early-successional tree species that succumbs to natural mortality and fiber decay if held past rotation age. Due to the amount of overmature jack pine on county land, it is practical to increase the harvest to return these stands to a younger age class and keep these forests healthy. Red pine forests are set up for longer-rotation silviculture with more intermediate treatments possible. We are supportive of the county's goal to maintain or increase the amount of red pine forests on their lands, and support multiple thinning treatments prior to final harvest. We would support additional harvest of red pine stands past rotation age with the goal of returning these stands



to viable young red pine plantations. We encourage the county to use all the available tools to reestablish these stands once they have been harvested.

4. Black Spruce Management – PCA is supportive of the county's goal to maintain the level of black spruce forest and work toward a more balanced age structure.
5. Tamarack Management – PCA would ask the county to continue to look for opportunities to target and manage viable tamarack stands prior to eastern larch beetle infestation.

PCA would like to recognize the Koochiching County Land Department for being an important source of fiber for the International Falls Paper Mill.

Thank you for the opportunity to comment on the 2021 Koochiching County Forest Plan Update.

Sincerely,

John Berglund
Wood Procurement

October 12, 2021

Nathan Heibel, Commissioner

Koochiching County Land Department

nathan.heibel@co.koochiching.mn.us

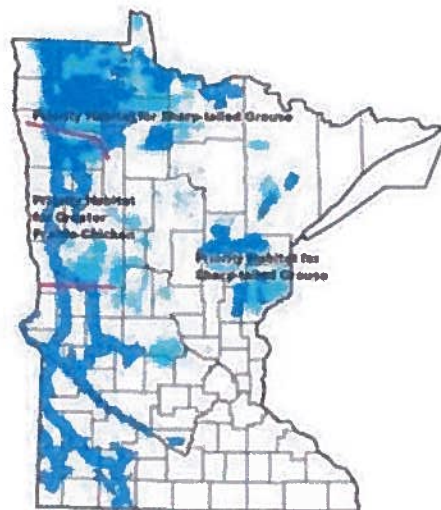
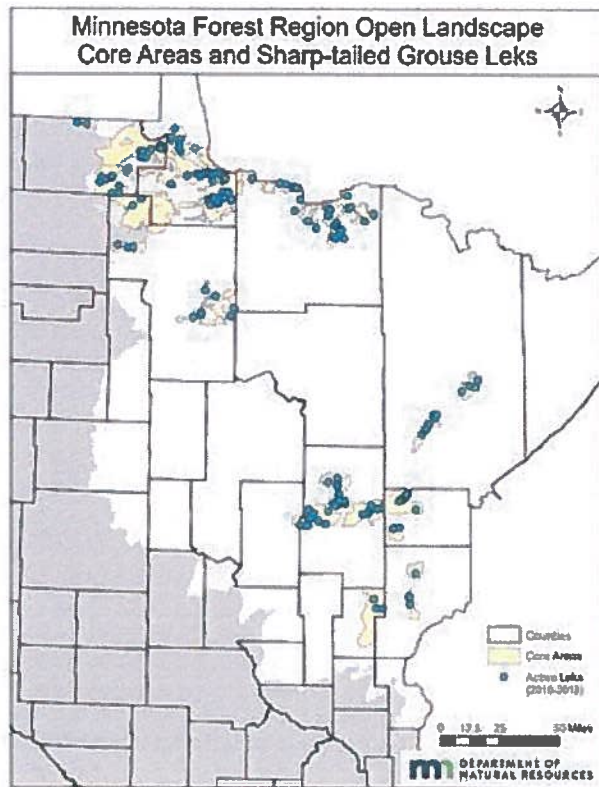
Dear Nathan:

Northeast Region DNR staff were asked to review the draft Updated Koochiching County Forest Management Plan you provided.

The plan draft was made available to DNR staff in the NE region and comments were requested. The Department has a few comments to offer:

- Overall DNR feels this is a comprehensive, well-written plan.
- We support your plan for managing ash; it includes diversifying both age and species in ash and planting/recruiting new species to ash stands prior to harvest and before emerald ash borer arrives, and it also suggests tactics to keep ash stands from “swamping out”.
- We would like to see the value of hunting, fishing, and other forest-based recreation included in the discussion of economic impacts.
- Consider including the County’s goals for older forest in the plan.
- It isn’t clear what retention objectives are on harvest units less than 15 acres.
- The plan notes increasing the conifer component where applicable along streams and rivers for shading and stability of RMZ. Our Fisheries staff recommend this practice in most areas along streams in Northern Minnesota.
- Koochiching County has large acreages in cover types projected to decline under the influence of climate change; how the county intends to deal with that was limited in discussion in the plan. Typical strategies include planning for diversification with species projected to fare better under climate change, shifting some regeneration efforts towards those species projected to fare better, and more.
- Below are some recommendations that benefit habitat for fisheries and wildlife. If you have questions or would like more information, feel free to reach out.
 - Consider retaining large leaf trees for those species that need larger cavities.
 - Jack Pine is an important winter cover type for wildlife and has other values for wildlife as well. Although the county doesn’t currently have significant acres, what you have has high value to wildlife. Consider retention of jack pine if possible.
 - Upland white cedar and cedar at the upland/lowland interface is very important for winter cover. Winter cover acreage has declined in Koochiching County in recent years and this cedar now plays a larger role in providing winter habitat than it has in the past. The plan discusses a limited harvest for cedar. Consider retaining upland cedar and limit harvest in interface areas. Consider identifying and enhancing regenerating cedar growing under other cover types where feasible.
 - We like the mention of encouraging other species to regenerate under mature red pine. Where thinning is planned, consideration of variable density thinning—which retains more wildlife habitat potential than traditional row thinning—is encouraged.

- The draft plan proposes retaining 60 basal area within riparian zone for trout streams; we would also recommend that foresters contact the Area Fisheries supervisor for consultation of harvest near and along trout streams. Kevin Peterson is the Fisheries Supervisor in International Falls, he can be reached at kevin.peterson@state.mn.us or 218-286-5220.
- We'd suggest consideration of wildlife habitat in salvage decisions—both to mitigate potential for habitat degradation and to take advantage of what can often be an opportunity to improve habitat through patterns of cutting and amounts removed.
- Koochiching County provides important open landscape habitats for wildlife such as sharp-tailed grouse. Where feasible, forest management practices that maximize and manage for those landscapes is highly encouraged. Please contact Wildlife staff if you would like additional information, including shape files used to produce the maps below.



Priority open landscape habitats in MN for sharptail and prairie chicken. Dark blue reflects primary habitat (MN Prairie Plan core areas and corridors plus additional core habitat areas identified by DNR wildlife managers). Light blue reflects secondary habitat (priority open landscapes identified in DNR Section Forest Resource Management Planning).

The plan is comprehensive, meeting the criteria of forest stewardship certification. It is also iterative in that it includes status of recommendations from the 2010 version of the plan. Generally, the plan is consistent with forest management as practiced by Minnesota Department of Natural Resources.

Thanks for the opportunity to comment on this plan.

Sincerely yours,
Angela Aarhus-Ward
 Angela Aarhus-Ward, Acting Director
 Northeast Region
 MN Department of Natural Resources

Digitally signed by Angela Aarhus-Ward
 Date: 2021.10.12 13:28:38 -05'00'

Koochiching County Long-Range Forest Management Plan Revision

November 2021

Background

In January 2020, The Koochiching County Board authorized the Land Department to begin the process of revising the current Long-Range Forest Management Plan, including utilizing a consultant in aiding with forest harvest modeling. In August 2021, The Koochiching County Board set a public comment period of August 30, 2021-October 12, 2021 to accept written public and stakeholder comments on the draft revision document. A public meeting was also set for 1:30p.m. on October 12, 2021 in the 3rd Floor Courtroom to accept questions and comments on the draft plan. Notices of the comment period were posted in local newspapers, the Land & Forestry's website, the official Courthouse Notice Board, and letters were sent directly to numerous stakeholders.

The public meeting began at 1:36p.m. on October 12, 2021 in the 3rd Floor Courtroom. In attendance were Commissioners Sjoblom, Adee, Pavleck, and Skoe. Others in attendance included the County Administrator, Land Commissioner, Assistant Land Commissioner, Tim Mack-Forest Modeling Consultant, and Kenneth Olson. The meeting began with the Land Commissioner providing and introduction and overview of the plan process and draft revision document. Mr. Mack provided background information on the Remsoft modeling software that was utilized in the process and the different constraints that were included in the modeling. There was then a call for questions or comments from the public. Commissioners had questions and comments on the complexity of the modeling. Commissioner asked question relative to markets for pine sawtimber. No comments or questions from the public were received at the public meeting.

Following the closing of the written public comment period of October 12, 2021, the Land Department received 3 separate written comments from organizations/stakeholders. The comments are summarized below with responses.

Comment Number	Date Comment Received	Individual/Organization Submitting Comment	Comment	Comment Response
1	10/11/2021	Minnesota Forest Industries- Rick Horton, VP of Forest Policy	<p><i>The report does an excellent job of using available data to demonstrate the importance of timber and wood products industries to the county's economic well-being. While the sector percentage of employment has decreased, it is worth noting that without it there would be far less work in all other sectors, with the possible exception of government. And any further losses within the forest products industry would exacerbate the population trend and projections for the County.</i></p>	<p>Thank you for the comment. The County recognizes that the forest products industry is vital to our local communities and Koochiching County. The sector still accounts for nearly 50% of the County's total economic output. Specific to the County and the forested lands it is responsible for managing, we understand the importance of the forest products industry in Minnesota and the revenue that is derived from the lands under management for the local taxing districts and the benefits and services that it helps to provide.</p>
2	10/11/2021	Minnesota Forest Industries- Rick Horton, VP of Forest Policy	<p><i>We appreciate the Plan's recognition of the social context of forests to County residents, as noted in the following passage, "...residents within the County place great value on the forested landscape for their economic livelihood and sense of place. While other forest-based values are important to County residents, the tight, historic connection between the forest and economic survival is the defining characteristic". The forest resources and the industry that utilizes them have had a symbiotic relationship with the County for over 125 years. Hunting is the primary social use of the forest landscape in northern Minnesota. The Land Department's active management creates and maintains young forest hunting habitat that is unique in the Eastern Deciduous Forest.</i></p>	<p>We agree that most County residents have close ties to the natural resources within the County whether it be from an economic, environmental, or social aspect and is evident in the Department's mission statement of "Manage tax-forfeited land on a multiple-use, sustained yield basis to provide for the protection, enhancement, and utilization of the various natural resources for the benefit of county residents with consideration for others impacted by its management."</p>

3	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>Table 7 clearly demonstrates the need to address the backlog of old age class conifers on County lands. But it also shows what a good job the Land Department has done addressing the huge amount of older age class aspen over the past 20-30 years.</i></p>	<p>We feel the proposed revisions in the draft plan will further address the comment regarding older aged conifers moving forward while still balancing other forest values. We understand older stands are susceptible to outbreaks of insect and disease such as dwarf mistletoe and eastern larch bark beetle. In particular, the white cedar type is heavily weighted to older age classes simply due to historical markets and regeneration challenges and may be a challenge moving into the future. White cedar is very important in providing many other forest values.</p>
4	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>Timber sale offerings have been dominated by Intermediate Auctions (55%). MFI members would like to see a greater proportion offered as Regular Auctions.</i></p>	<p>This offering guidance has been general policy of the County for many years and is viewed by the County, and other public land managers in Minnesota as small business set aside sales to help smaller businesses better access timber.</p>
5	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>Riparian management zones are important travel corridors for migrating birds, including American woodcock, who feed heavily on worms in moist soils along rivers and lakes. Therefore, it is important to management for both young and old forest in RMZs as allowed within the context of the voluntary Site-Level Guidelines.</i></p>	<p>The County will continue to follow the Minnesota Voluntary Site Level Guidelines (https://mn.gov/itc/programs/forest/guidelines) when it comes to management within RMZs. The County has carried out management in lowland brush areas to promote woodcock habitat and is open to specific</p>

				site projects for further habitat enhancement.
6	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<i>While we understand the thought that total acres of harvest of all cover types will decline slightly relative to the current 5-year average (page 44), we feel that the Remsoft Woodstock program will help the Land Department find that it is possible to maintain, and perhaps even increase the cords of timber output from historical levels. For example, harvesting aspen at ecological rotation ages has been shown to produce more volume that at extended rotations. MFI members also report that while there are more handling costs to small diameter wood there is potential offset because it is higher quality fiber with less rot.</i>	Based on Remsoft modeling, this comment should generally hold true. Moving forward, volume outputs for the next ten-year period should be similar to recent historical outputs based on yields of mature versus over-mature stands.
7	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<i>MFI would like to see fiber volume output estimates by major species for the coming decade.</i>	This information has been provided.
8	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<i>Ash-Lowland Hardwoods: The Plan does a good job of recognizing the need to increase harvesting aspen patches within this forest type, as well as the threat EAB poses to pure black ash stands. Addressing the latter may require creative management in the face of shorter winter harvest seasons. Consider trying new techniques or being creative in managing these forests. For example, rutting standards may have to be relaxed, some wood could be used as matting to support operations, or alternative harvesting equipment explored for swamp logging. The potential permanent impact of these stands converting to non-forested wetlands warrants extreme measures to ensure they remain forested.</i>	Koochiching County agrees that within ash stands, management that potentially can increase species diversity will help to mitigate the consequences of emerald ash borer (EAB) when it arrives to the area. The County has been flexible within the constraints of the Minnesota Voluntary Site Level Guidelines (https://mn.gov/frc/programs/forest/guidelines) when it comes to operating in wetter ash/lowland hardwood stands. This is a topic we feel will take a concerted effort on the part of all involved in the natural resource community.
9	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<i>Aspen-Balm of Gilead: MFI does not support encouraging succession of productive aspen stands by retaining hardwoods or conifers when the stand is "trending" in those directions. As an early successional species aspen is always "trending" towards some other climax</i>	The management guidance related to this comment in the plan is not intended to convert aspen stands to other cover

			<p>community, especially when it is past ecological rotation age.</p> <p>Minnesota has lost nearly 600,000 acres of aspen in the past 40 years through either benign neglect or active conversion to other forest types. Retaining scattered hardwoods and conifers can inhibit regeneration and reduce the productivity of the future stand. MFI member companies use 22% more aspen than all other species combined. Given the importance of aspen to the industry, its unique role in creating young hardwood forest habitat and its importance for wildlife we ask that aspen be regenerated to type with full sunlight and nutrients. Stand diversification is better in leave tree clumps and RMZs.</p>	<p>types, but in instances where these other species are present, it is meant to encourage species and structural diversity within the aspen stand. We understand the commercial and ecological importance of aspen in Minnesota. Related to leave trees and reserve clumps, the County intent is to follow the MN Site Level Forest Management Guidelines.</p>
10	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p>Birch: While the County has little pure birch, consider regenerating it using seed tree harvest with soil scarification (through whole tree skidding or anchor chaining).</p>	<p>Thank you for the comment. This management strategy is a viable option to consider in regenerating birch.</p>
11	10/11/221	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p>Northern Hardwood-Oak: It is extremely rare to produce quality hardwood sawlogs in northern Minnesota due to freeze-cracking. MFI is very concerned about the passive conversion of productive timberlands to less productive maple-dominated stands (especially red maple) – a trend throughout the Eastern Deciduous Forest. That said, sugar maple is important for social aspects (fall colors and maple syruping) and oak is an important food resource for wildlife.</p>	<p>We agree that we are at the northern edge of the “quality” northern hardwood range. Northern Hardwood stands in Koochiching County are often made up of basswood, birch, and poorer quality maple. Typically, saw material produced from these stands is in the form of birch or basswood bolts. We also understand the other values that these stands have on the landscape from social and ecological aspects as mentioned in the comment.</p>
12	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p>Red/White Pine: The Land Department’s general strategies for pine management are sound, and MFI is pleased to see that there will be more attention paid to this resource in the future. There are significant acres of the Plan’s rotation age and many younger stands in need of intermediate treatment. In older stands being considered for intermediate treatment consider using a maximum diameter-</p>	<p>Thank you for the comments. We understand and note in the draft plan that markets for large diameter pine are limited. In accordance with this and providing multiple forest values,</p>

			<p>cutting trees before they reach 20" dbh. There are few markets in the state that can take trees over that diameter and cutting them beforehand will maximize return to the County. Also keep in mind that the paper industry has zero tolerance for char, therefore (even though it is not referenced in the Plan) MFI does not support conducting prescribed burning in conifer stands except after final harvest as a site preparation technique.</p>	<p>the County would manage stands of artificial regeneration origin at a younger rotation age than natural origin stands, and these areas make up +70% of the red pine acres managed by the County. The County does not currently utilize prescribed burning in its management, nor does it intend to as it does not have the resources needed to carry out these activities.</p>
13	10/11/2021	Minnesota Forest Industries- Rick Horton, VP of Forest Policy	<p><i>Jack Pine: Jack pine is an important cover type for both industry and for biological diversity, and one that we are losing in Minnesota. Managers must understand that it takes intensive management to regenerate this fire-dependent species. It must be clearcut (including all timber) and site-prepped through slash piling and anchor chaining, or by prescribed burning it to prepare the seedbed and open cones. There are 850 acres over rotation age in the Plan.</i></p>	<p>Thank you for the comments. We concur that jack pine is an important cover type both in terms of ecological and economic aspects. The Northern Landscape Plan calls for maintaining or increasing jack pine on the landscape. This is a goal the County has had for years too. This cover type on County lands is weighted to older age classes and is at risk through natural succession of converting to other cover types. For the next ten years, accelerated management should reset these older stands and keep them as jack pine. Typical jack pine management on County lands following harvest includes anchor chaining and aerial seeding to ensure adequate regeneration. Please see comment above regarding prescribed burning on County lands.</p>

14	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>Balsam Fir: We are a bit confused about the Plan's direction on balsam fir. On one hand it acknowledges that markets have declined due to mill closures but on the other hand it calls for increasing it on the landscape. Balsam fir is a late successional tree that comes into early successional forests as they age and the canopy closes-giving it a competitive advantage. Seeding into aspen stands likely will not increase its presence any earlier than would naturally occur.</i></p>	<p>Thank you for the comment. We agree that balsam fir markets have been challenging recently. The management strategy for this cover type is to try and maintain its occurrence on the landscape and/or encourage it where appropriate in other types such as RMZs and even possibly ash/LH types to add diversity. Understanding it is highly site specific, balsam as a component in aspen types can provide important ecological benefits. Balsam fir as a cover type on County managed lands makes up a small proportion of the forested acres. Many current balsam fir stands are mixed species and would likely become aspen stands following harvest.</p>
15	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>Tamarack: See comments on creative harvesting of ash and lowland hardwoods.</i></p>	<p>The County has tried to identify and immediately salvage tamarack stands that show initial signs of Eastern Larch Bark Beetle presence before too many acres of the tamarack type are considered unmerchantable to perpetuate this type on the landscape.</p>
16	10/11/2021	Minnesota Forest Industries- Rick Horton; VP of Forest Policy	<p><i>White cedar: We urge caution harvesting white cedar given its importance for biodiversity and wildlife. In general, consider the local deer population when scheduling harvest and regeneration of preferred browse species like white cedar, jack pine, and white pine. Koochiching County deer populations are very susceptible to killing winters. After a year or two with deep snow and extreme cold (monitored by DNR at</i></p>	<p>Thank you for the comment. We agree that white cedar can be particularly difficult to regenerate in northern Minnesota due to deer browse, water tables, and ensuring adequate natural seeding.</p>

			<p>https://www.dnr.state.mn.us/mammals/deer/management.wsi.html there is typically a 3-5 year window of opportunity to regenerate these "ice cream" trees without excessive deer depredation.</p>	<p>Understanding the ecological importance of white cedar, the goal would be to try and foster an increase in younger age classes of this type so it is maintained in the future. Over 90% of this type is older than age 80 on County managed lands due to historically limited markets and challenges associated with ensuring adequate regeneration.</p>
17	10/12/2021	Packaging Corporation of America-John Berglund; Wood Procurement	<p>Certification- PCA is supportive of the county's goal to remain dual certified under both the Sustainable Forest Initiative (SFI) and Forest Stewardship Council (FSC) programs. These certifications allow the county to assure the public and consumers of products from the forest that their lands are being managed in an environmentally, economically, and socially sound manner. This is important for mills that source fiber from these lands.</p>	<p>Thank you for the comment. We understand that forest certification is important. The County intends to remain dually 3rd party certified at this time and will continue to monitor new certification standards as they are adopted.</p>
18	10/12/2021	Packaging Corporation of America-John Berglund; Wood Procurement	<p>Aspen Management- PCA applauds the county for their work under the previous 10-year forest plan to target the abundance of old aspen forests for management. Aspen is the single most important commercial timber species in Minnesota and is dependent on active forest management to sustain it and keep these forest stands healthy. In addition, young aspen forests provide critical wildlife habitat for a multitude of species including deer, moose, and ruffed grouse. We appreciate the county's efforts to work toward a balanced-age class distribution, and believe the small decreases in aspen acres managed annually will be offset by the increase in volume and fiber quality of younger forest stands being offered for management.</p>	<p>The aspen cover type accounts for 5.1% of the forested acres managed by the County and we agree it provides a multitude of benefits including ecological, economic, and social.</p>
19	10/12/2021	Packaging Corporation of America-John Berglund; Wood Procurement	<p>Pine Management – PCA is supportive of the county's goal to increase the amount of management in their red pine and jack pine forests. Jack pine is an early-successional tree species that succumbs to natural mortality and fiber decay if held past rotation age. Due to the amount of overmature jack pine on county land, it is practical to increase the harvest to return these stands to a younger age class</p>	<p>We agree and understand that in order to maintain our jack pine acres under management, we need to slightly accelerate our current harvest levels. In the red pine type, planted</p>

			<p><i>and keep these forests healthy. Red pine forests are set up for longer-rotation silviculture with more intermediate treatments possible. We are supportive of the county's goal to maintain or increase the amount of red pine forests on their lands, and support multiple thinning treatments prior to final harvest. We would support additional harvest of red pine stands past rotation age with the goal of returning these stands to viable young red pine plantations. We encourage the county to use all the available tools to reestablish these stands once they have been harvested.</i></p>	<p>stands will be managed more intensively including periodic thinning to promote increased tree growth before a final harvest.</p>
20	10/12/2021	<p>Packaging Corporation of America-John Berglund; Wood Procurement</p>	<p><i>Black Spruce Management – PCA is supportive of the county's goal to maintain the level of black spruce forest and work toward a more balanced age structure.</i></p>	<p>Thank you for the comment.</p>
21	10/12/2021	<p>Packaging Corporation of America-John Berglund; Wood Procurement</p>	<p><i>Tamarack Management – PCA would ask the county to continue to look for opportunities to target and manage viable tamarack stands prior to eastern larch bark beetle infestation.</i></p>	<p>The County will continue to utilize our most current remote sensing tools and on the ground observations by field personnel to identify early eastern larch bark beetle infestations to treat those stands before they are not merchantable.</p>
22	10/12/2021	<p>Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director</p>	<p><i>Overall the DNR feels this is a comprehensive, well-written plan.</i></p>	<p>Thank you for the comment.</p>
23	10/12/2021	<p>Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director</p>	<p><i>We support your plan for managing ash; it includes diversifying both age and species in ash and planting/recruiting new species to ash stands prior to harvest and before emerald ash borer arrives, and it also suggests tactics to keep ash stands from "swamping out."</i></p>	<p>Thank you for the comment.</p>
24	10/12/2021	<p>Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director</p>	<p><i>We would like to see the value of hunting, fishing, and other forest-based recreation included in the discussion of economic impacts.</i></p>	<p>We appreciate the comment related to economic impact of forest-based recreation. While we do not have data specific to this on County managed lands, we do understand the importance of them not only to our local economy but also the social aspect of these activities to County residents and non-</p>

				<p>residents alike (see page 15 of the plan document). There are several other references to the importance of forest-based recreation within the plan. The County provides recreational amenities at no cost to the general public as described in Chapter 7 of the plan utilizing primarily other revenue streams from tax-forfeited lands.</p>
25	10/12/2021	<p>Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director</p>	<p><i>Consider including the County's goals for older forest in the plan.</i></p>	<p>Please see pages 57-58 of the plan document for projected future growth stages of the forest. As the management plan is revised in the future, these outcomes may change based on a number of factors. Old forest is an important consideration across the landscape.</p>
26	10/12/2021	<p>Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director</p>	<p><i>It isn't clear what retention objectives are on harvest units less than 15 acres.</i></p>	<p>Thank you for the comment. This statement is found on page 43 of the plan document and could be a bit confusing. Our intent is to adhere to the MN Site Level Forest Management Guidelines regarding leave tree retention (scattered or patches) on the majority of harvest sites. The exceptions to this would be for silvicultural reasons such as aerial seeding, dwarf mistletoe treatments in black spruce, small block harvesting for grouse habitat management, etc.</p>

27	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>The plan notes increasing the conifer component where applicable along streams and rivers for shading and stability of RMZ. Our Fisheries staff recommend this practice in most areas along streams in Northern Minnesota.</i></p>	<p>Thank you for the comment. We agree that maintaining conifers within RMZs provides many benefits such as shading the water body, wildlife habitat, etc.</p>
28	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>Koochiching County has large acreages in cover types projected to decline under the influence of climate change; how the county intends to deal with that is limited in discussion in the plan. Typical strategies include planning for diversification with species projected to fare better under climate change, shifting some regeneration efforts towards those species projected to fare better, and more.</i></p>	<p>As noted in the comment, the County manages large acreages of cover types that are projected to fare worse under climate change. Please see page 75 of the plan document related to climate change. The County intends to follow new research and management strategies related to climate change as they are applied across all ownerships in Minnesota. Limiting factors may be but are not limited to financial resources, manpower, etc. We are currently responding to negative effects of climate change by changing management strategies in Ash/LH and tamarack. Managing to increase forest health, diversity, and resiliency is important to the County.</p>

29	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<i>Consider retaining large leave trees for those species that need larger cavities.</i>	Thank you for the comment. The County intends to follow the MN Site Level Forest Management Guidelines when it comes to leave tree guidance (https://mn.gov/frc/programs/forest/guidelines).
30	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<i>Jack Pine is an important winter cover type for wildlife and has other values for wildlife as well. Although the county doesn't currently have significant acres, what you have has high value to wildlife. Consider retention of jack pine if possible.</i>	The goal for the jack pine cover type under the County's management is to maintain or increase it. Much of the County's total acreage is in older age classes and at risk of conversion to other types. Future management direction will slightly increase management of jack pine to help maintain it on the landscape.
31	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<i>Upland white cedar and cedar at the upland/lowland interface is very important for winter cover. Winter cover acreage has declined in Koochiching County in recent years and this cedar now plays a larger role in providing winter habitat than it has in the past. The plan discusses a limited harvest for cedar. Consider retaining upland cedar and limit harvest in interface areas. Consider identifying and enhancing regeneration cedar growing under cover types where feasible.</i>	Thank you for the comment. We agree that white cedar plays an integral role for wildlife, especially in the winter. We will take these comments under advisement when making site level management decisions. Our goal is to generally reserve cedar and follow the management advice that is mentioned in the comment.

32	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>We like the mention of encouraging other species to regenerate under mature red pine. Where thinning is planned, consideration of variable density thinning – which retains more wildlife habitat potential than traditional row thinning -is encouraged.</i></p>	<p>Thank you for the comment. We will take this comment under consideration when thinning red pine stands, especially natural origin stands. Variable density thinning has been used previously on County managed red pine stands.</p>
33	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>The draft plan proposes retaining 60 basal area within riparian zone for trout streams; we also recommend that foresters contact the Area Fisheries supervisor for consultation of harvest near and along trout streams. Kevin Peterson is the Fisheries Supervisor in International Falls, he can be reached at kevin.peterson@state.mn.us or 218-286-5220.</i></p>	<p>We will take these comments under advisement when making site level management decisions along designated trout streams.</p>
34	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>We'd suggest consideration of wildlife habitat in salvage decisions – both to mitigate potential for habitat degradation and to take advantage of what can often be an opportunity to improve habitat through patterns of cutting and amounts removed.</i></p>	<p>Wildlife habitat is considered in all site level management prescriptions.</p>
35	10/12/2021	Minnesota Department of Natural Resources- Angela Aarhus-Ward; Acting NE Regional Director	<p><i>Koochiching County provides important open landscape habitats for wildlife such as sharp-tailed grouse. Where feasible, forest management practices that maximize and manage for those landscapes is highly encouraged. Please contact Wildlife staff if you would like additional information, including shape files used to produce the maps below (submitted in comment letter).</i></p>	<p>We agree that there are areas within Koochiching County and on County managed lands that provide important habitat for sharp-tailed grouse and other open landscape species. The County has in the past conducted management activities in coordination with MN DNR Wildlife staff and other interested groups such as the Ruffed Grouse Society to conduct brushing and prescribed fire operations to improve sharp-tailed grouse habitat. The County will continue to look for these cooperative habitat efforts in the future as well.</p>

