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Appendix I



Surveillance Notification Letter and Audit Schedule



October 04, 2013

Re: Confirmation of 2013 SFI Recertification and FSC Surveillance Audits, Michigan DNR

David Price - MI DNR Forest Resources Division
Michigan Department of Natural Resources
1990 US-41 South, Marquette, MI 49855

Dear Mr. Price:

We are scheduled to conduct the Annual Surveillance Audits of the Michigan DNR on Monday October 7 to Friday October 11, 2013. This is a full review of your SFI Program to confirm that it continues to be in conformance with the SFI Standard and that continual improvement is being made. The audit also includes a similar review of the FSC Requirements. The FSC audit will be described in more detail in a separate document.

The audit team will consist of Michael Ferrucci, NSF Lead Auditor, JoAnn Hanowski, NSF Team Auditor, Dr. Robert Hrubes, SCS Lead Auditor and Kyle Mister, SCS Team Auditor.

We have worked together to develop the following tentative schedule:

- Review all of the non-field components of your SFI program per these Performance Measures:
 - Objective 1. Forest Management Planning
 - Objective 14. Legal and Regulatory Compliance
 - Objective 15. Forestry Research, Science, and Technology
 - Objective 16. Training and Education
 - Objective 17. Community Involvement in the Practice of Sustainable Forestry
 - Objective 18: Public Land Management Responsibilities
 - Objective 19. Communications and Public Reporting
 - Objective 20. Management Review and Continual Improvement

Multi-Site Sampling Plan

The DNR is being audited as a multi-site organization per “Requirements for the SFI 2010-2014 Program: Standards, Rules for Label Use, Procedures, and Guidance, Section 9, Annex 1”. There are 15 Forest Management Units. This Recertification Audit must cover the requirements of the central organization and four of the units selected: SOO FMU, PRC FMU, Grayling FMU and Roscommon FMU. These sites were selected based on proximity and due to length of time since previous audits.

Logistics

- As during the certification audit we should plan to have lunch on site to expedite the visit.
- We will travel in your vehicle(s) each day during the audit.
- We ask that you provide hardhats.

Field Site Selections

We randomly selected initial sites and you have provided additional suggested sites and developed an itinerary that seems appropriate. On the day of each site audit we would ask your local forestry staff to tell us about any sales that are being worked at that time, and we would add one or two of these if possible. Thus there may be more sites than we can get to, so the lead auditors will help shorten the list if needed.

Documentation Requested

When we arrive each day please provide documentation for the selected sites as was done during the certification audit (maps, project descriptions, and at least one example contract per day). The team must review the Timber Sale Contract Field Inspection Report, R-4050 for any sales visited where harvesting has been done or completed. We also need copies of the compartment plans and any other information that would help us determine conformance to the certification requirements and closure of the CARs. Please email some of this material in advance.

In addition please provide:

- Documentation for Internal Audit Reports and Management Review
- Harvest levels vs. planned (SFI Indicator 1.1.2)
- Revised procedures or work instructions
- Any other information that would be helpful to show conformance

The tentative schedule should be reviewed by all participants. This schedule can be adapted either in advance or on-site to accommodate any special circumstances. If you have any questions regarding this planned audit, please contact either of us.

Sincerely yours,

Norman Boatwright

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Appendix II



2013 Michigan DNR SFI Summary Recertification Audit Report

The SFI Program of the Michigan DNR has achieved continuing conformance with the SFI Standard®, 2010-2014 Edition, according to the NSF-ISR SFIS Certification Audit Process.

NSF-ISR initially certified Michigan DNR to the SFIS in 2005 and recertified the organization on November 9, 2010. This report describes the second recertification audit designed to focus on changes in the standard, changes in operations and practices, the management review system, and efforts to respond to identified “Opportunities for Improvement”. In addition, all of the SFI Standard elements applicable the MI DNR SFI program were reviewed, including Objectives 1-7 and Objectives 14-20.

The recertification audit was performed by NSF-ISR on October 7-11, 2013 by an audit team headed by Norman Boatwright, Lead SFI Auditor supported by Dr. Robert Hrubes, who led the simultaneous FSC Annual Audit. Additional audit team members included JoAnn Hanowski, SFI Team Auditor and Kyle Meister, FSC Team Auditor. Audit team members fulfill the qualification criteria for conducting SFIS Certification Audits of “Section 9. SFI 2010-2014 Audit Procedures and Auditor Qualifications and Accreditation” contained in Requirements for the SFI 2010-2014 Program: Standards, Rules for Label Use, Procedures, and Guidance.

The objective of the audit was to assess conformance of the MI DNR’s SFI Program to the requirements of the Sustainable Forestry Initiative® Standard, 2010-2014 Edition.

The scope of the SFIS Audit included land management operations. Forest practices that were the focus of field inspections included those that have been conducted since the previous field audit conducted in October, 2012. Practices conducted earlier were also reviewed as appropriate (regeneration and BMP issues, for example). In addition, a subset of SFI obligations to promote sustainable forestry practices, to ensure appropriate training of people involved in the forest management program, to seek legal compliance, and to incorporate continual improvement systems were reexamined during the audit. Use of the SFI logo and the requirement to provide a public of audit reports were also reviewed.

The audit reviewed the central management and field practices at four of the fifteen Forest Management Units (FMUs): Sault Ste. Marie (West), Pigeon River Country, Grayling, and Roscommon.

Likewise, timber sale treatments are proposed and tracked in a computerized system that is also in the process of being rewritten and updated to improve functionality. Treatments and other management actions tracked in both these systems are proposed, reviewed, and approved in a formal process with formalized policies, procedures, and approvals that involve an increasing amount of public involvement at various levels from proposal through treatment completion. These efforts are ongoing at this time.

Status of Planning

The Annual Plan of Work is derived from the 10-year planning cycle for forest compartments. The Annual plan of work is operationally implemented by Operations Inventory and Compartment Review Procedures, as contained in Forest, Resources Division (FRD) Policy and Procedure 441 dated January 10, 2000. Annual compartment reviews by year of entry are conducted at the Forest Management Unit level, and the aggregate of all forest prescriptions from compartment reviews are contained in the Annual Plan of Work, which represents the tactical level of planning for State Forest operations.

Draft Regional State Forest Management Plans have been written for the Northern Lower, Eastern Upper, and Western Upper peninsula ecoregions, and are currently being reviewed by the public. The MDNR has many other plans that are related to specific program areas, including the Michigan's Wildlife Action Plan, the Michigan Off-Road Vehicle Plan, the Michigan State Comprehensive Outdoor Recreation Plan, Natural River plans, and others.

Policy & Procedures

Formal policies and procedures exist and are documented in policy manuals for MDNR-FRD and Wildlife Division, as well as other Natural Resources Commission policies. These are not all maintained in an up-to-date condition, and some gaps likely exist vis-a-vis forest certification standards. The MDNR forest certification internet site has links to MDNR policy and procedure and other information related to this RFP (see "Forest Certification Audits") at: http://www.michigan.gov/dnr/0,1607,7-153-30301_33360---.00.html

Forest Certification Work Instructions

Work instructions are new or updated Department operational procedures initially developed in 2005 that helped close the forest certification gaps at that time and ensured compliance with all indicators in the forest certification standards. All proposed actions identified in the Department's Forest Certification Action Plan were implemented through 21 work instructions.

Work instruction implementation is an important focus of the MDNR's management review system, and is an important focus of MDNR internal audits. The work instructions make forest certification more manageable for Department staff and they are refined as needed in order to maintain conformance with forest certification standards. Current versions of the work instructions can be found on the MDNR internet:

http://www.michigan.gov/dnr/0,1607,7-153-30301_33360-144865--.00.html

SFIS Surveillance Audit Process

The review was governed by a detailed audit protocol designed to enable the audit team determine conformance with the applicable SFI requirements. The process included the assembly and review of audit evidence consisting of documents, interviews, and on-site inspections of ongoing or completed forest practices. Documents describing these activities were provided to the auditor in advance, and a sample of the available audit evidence was designated by the auditor for review.

During the audit NSF-ISR reviewed a sample of the written documentation assembled to provide objective evidence of SFIS Conformance. NSF-ISR randomly selected a number of field sites to visit at each FMU and MI DNR personnel selected field sites for inspection based upon the risk of environmental impact, likelihood of occurrence, special features, and other criteria outlined in the NSF-ISR SFI-SOP. NSF-ISR also selected and interviewed stakeholders such as contract loggers, landowners and other interested parties, and interviewed employees within the organization to confirm that the SFI Standard was understood and actively implemented.

The possible findings for specific SFI requirements included Full Conformance, Major Non-conformance, Minor Non-conformance, Opportunities for Improvement, and Practices that exceeded the Basic Requirements of the SFIS.

Overview of Audit Findings

The SFI Program of the Michigan DNR has achieved continuing conformance with the SFI Standard®, 2010-2014 Edition, according to the NSF-ISR SFIS Certification Audit Process.

Two new minor non-conformances were identified and no opportunities for improvement were identified.

1. *Core Indicators 3.1.1 (BMP implementation) and 3.2.4 (protection of non-forested wetlands)*. The site visit to the active Russell Lake Aspen timber sale (sale #71-005 Roscommon FMU) identified BMP issues on 2 vernal ponds in an area that had recently been harvested (the ponds were not painted out). Two (2) trees were cut and dropped in one (1) of the ponds and approximately 80% of the tree canopy around both ponds was removed. The MIDNR BMP manual "*Sustainable Soil and Water Quality Practices on Forest Land*" (Rev. 2/24/2009) on page 29 under the Vernal Pools, Seeps, and Intermittent Steams Section, states: "All equipment, trees and tops should be kept out of this area" and "Timber harvesting can occur in the area, but the canopy closure should not be reduced to less than 70% to minimize the effect of sun and wind". A larger vernal pond in the harvested area had been painted out and had no issues.
2. *Core Indicator 4.1.5 (landscape level habitat management)*. The Living Legacies initiative (formerly the Biodiversity Conservation Planning Process) has suffered from numerous delays since at least 2008. Completion of the initiative, including key tasks such as delineating Living Legacy areas on the state forests and identifying compatible land uses for them, has not been accomplished.

Objective 6. Protection of Special Sites - To manage lands that are ecologically, geologically, or culturally important in a manner that takes into account their unique qualities.

Summary of Evidence – Foresters use data from the Michigan Natural Features Inventory and consult with the Office of the State Archeologist as part of the program to protect special sites. Field observations of completed operations, records of special sites, training records, and written protection plans were all assessed during the evaluation.

Objective 7. Efficient Use of Forest Resources - To promote the efficient use of forest resources.

Summary of Evidence –Field observations of completed operations which showed good utilization of harvested trees, contract clauses, and discussions with supervising field foresters and with loggers provided the key evidence.

Objective 14. Legal and Regulatory Compliance -

Compliance with applicable federal, provincial, state and local laws and regulations.

Summary of Evidence – Field reviews of ongoing and completed operations were the most critical evidence. Programs are in place to carefully plan and review all activities in advance, in part to assure legal compliance.

Objective 15. Forestry Research, Science, and Technology - To support forestry research, science, and technology, upon which sustainable forest management decisions are based.

Summary of Evidence – Support for research as confirmed by review of records of research and research summaries.

Objective 16. Training and Education -To improve the implementation of sustainable forestry practices through appropriate training and education programs.

Summary of Evidence – Training records of selected personnel, records associated with harvest sites audited, and logger interviews were the key evidence for this objective. The team also reviewed training records associated with revised programs, such as the legacy tree effort and the draft silviculture manual.

Objective 17. Community Involvement in the Practice of Sustainable Forestry -

To broaden the practice of sustainable forestry by encouraging the public and forestry community to participate in the commitment to sustainable forestry, and publicly report progress.

Summary of Evidence – Conformance was supported by interviews with staff and stakeholders in the community. The Michigan DNR has an extensive outreach program through extension.

Objective 18: Public Land Management Responsibilities -

To support and implement sustainable forest management on public lands.

Summary of Evidence – Interviews with MDNR staff and with stakeholders, as well as review of documents were used to confirm the requirements.

Appendix III



Audit Matrix

Objective 1. Forest Management Planning

To broaden the implementation of *sustainable forestry* by ensuring *long-term forest productivity* and yield based on the use of the *best scientific information* available.

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
1.1	Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models.	NB	13						
Notes	<p>13: A summary of the department’s planning approach “A Comprehensive Summary of the Department of Natural Resources Planning Processes for Natural Resource Management in Michigan” including links to the plans is on the website http://michigan.gov/dnr/0,4570,7-153-30301_30505-146029--,00.html . The three Draft Regional State Forest Management Plans are complete and undergoing a final public review, beginning on October 14, 2013.</p> <p>13 Plans include sustainable harvest levels which appear to be slightly conservative but which are consistent with growth models and with the ecosystem-management approach being implemented. Proposal is increase allowable cut from around 53,000 to 61,000 acres/year.</p>								

	2010-2014 Requirement (Performance Measures bold)	Audit or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
1.1.1	Forest management planning at a level appropriate to the size and scale of the operation, including: <ol style="list-style-type: none"> a. a long-term resources analysis; b. a periodic or ongoing forest inventory; c. a land classification system; d. soils inventory and maps, where available; e. access to growth-and-yield modeling capabilities; f. up-to-date maps or a geographic information system; g. recommended sustainable harvest levels for areas available for harvest; and h. a review of non-timber issues (e.g. recreation, tourism, pilot projects and economic incentive programs to promote water protection, carbon storage, bioenergy feedstock production, or biological diversity conservation, or to address climate-induced ecosystem change). 	NB	13						
Notes	<p>13 The State Forest Plan Harvest levels are based on area control; thinning or selection intervals are conservative; rotation lengths are appropriate.</p> <p>13 Wildlife Division has completed a strategic plan (GPS) and updated the Elk Management Plan.</p>								
1.1.2	Documentation of annual harvest trends in relation to the sustainable forest management plan in a manner appropriate to document past and future activities.	NB	13						

Notes	<p>13 62,022 acres offered 2103 FY with a volume of 965,408 cords.</p> <p>13 Monitoring reports on the Michigan DNR’s web site (Performance and Monitoring Reports) provide evidence of harvest and volume trends.</p> <p>2004- 53,522 acres; 721,579 cds 2007- 42,784 acres; 629,367 cds 2010- 58,476 acres; 901,721 cds</p> <p>2005- 50,744 acres; 732,112 cds 2008- 49,352 acres; 746,732 cds 2011- 43,529 acres; 828,117 cds</p> <p>2006- 39,922 acres; 587,211 cds 2009- 47,745 acres; 736,272 cds 2012 – 45,444 acres; 696,900 cds</p> <p>There is also language in statute to report acres and cords harvested from state forest land: <i>“Part 525, P.A. 451, 1994, as amended. Sec. 52506. By January 1 of each year, the department shall prepare and submit to the commission of natural resources, the standing committees of the senate and the house of representatives with primary jurisdiction over forestry issues, and the senate and house appropriations committees a report that details the following from the previous state fiscal year: ... The number of acres of the state forest that were harvested and the number of cords of wood that were harvested from the state forest.”</i> Source: Michigan DNR Timber Harvest Determination Process provided to audit team in 2010.</p>								
	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
1.1.3	A forest inventory system and a method to calculate growth and yield.	NB	13						
Notes	<p>13 The “2011 Michigan State Forest Timber Harvest Trends Report” provides an analysis of trends in long-term harvest levels: “Combining current information about the nature and extent of the proportion of the State Forest managed for timber with recent age class and timber sale trends, it appears likely that there may be a modest increase of three to five thousand acres prepared for harvests over the next decade, largely due to more harvests in the red pine and aspen types. Given the increases in these two types, volumes harvested will increase more than the rate of increase in acres prepared”.</p> <p>13 Also reviewed the “Maximum Sustained Yield Estimate - based upon combining State Forest Inventory acres with FIA growth estimates” Source: “MI DNR State Forest Growth and Yield 2011_TAC_FMAC” which estimated annual net growth on the lands available and suited to harvest to be Annual Working Forest Net Growth 840,164 cords (Est. Current Annual Net Growth - weighted average adjusted for limited lowland forest)</p>								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
1.1.4	Periodic updates of forest inventory and recalculation of planned harvests to account for changes in growth due to productivity increases or decreases (e.g. improved data, long-term drought, fertilization, climate change, forest land ownership changes, etc.).	NB	13						

Notes	<p>13 Foresters interviewed report that the inventory work (10% of the land base each year) is prioritized and is being completed.</p> <p>13 Harvests are planned using area control to determine acres treated. These are recalculated prior to developing harvest prescriptions.</p> <p>13 The inventory system is based on compartments of 1-3,000 acres. 10% of the compartments are considered for treatment each year. Harvest levels are based on up-to-date qualitative compartment inventory (IFMAP) conducted 1-2 years prior to development of compartment plans and stand prescriptions. Changes in growth, or unexpected growth increases or decreases are factored in immediately during development of compartment plans and stand prescriptions. Also see indicators above, which cover inventory methods. The audit team confirmed the continued, robust use of these inventory and harvest planning approaches across the system by means of interviews and review of documents for selected compartments.</p>
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	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
<i>1.1.5</i>	Documentation of forest practices (e.g., planting, fertilization, and thinning) consistent with assumptions in harvest plans.	NB	13						
Notes	<p>13 Area control is used; there is no “allowable cut effect”. The harvest plans do not assume accelerated growth based on fertilization or other intensive stand silvicultural practices. The key assumptions that might affect harvest levels are that stands will be regenerated promptly and planted stands will be released as needed; forest practices associated with these assumptions are well documented, both in the compartment planning process and in the associated forest treatment process. This includes Forest Treatment Proposals (FTP) and Forest Treatment Completion Reports that provide acres treated, treatment method, objectives, cover types, basal area removed if appropriate, equipment and materials used, and cost.</p> <p>13 Completed forest practices are documented in IFMAP. Completion reports are completed by the field office level.</p>								

Objective 2. Forest Productivity.

To ensure *long-term forest productivity*, carbon storage, and *conservation* of forest resources through prompt *reforestation*, *soil conservation*, *afforestation* and other measures.

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1	Program Participants shall promptly reforest after final harvest.	NB	13						
<i>Notes</i>	13 Michigan DNR has a comprehensive program to ensure regeneration after final harvests. Foresters in the field units conduct recon, do inventories, and develop and implement prescriptions. Each district has a Timber Management Specialist available to provide advice and to support any site preparation or planting needs. The Wildlife Division supports this program, with investments in some difficult to regenerate species having special habitat value (for example Hemlock). Also see indicators.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1.1	Designation of all harvest areas for either natural regeneration or by planting.	NB	13						
<i>Notes</i>	13 Confirmed by field observations and interviews that regeneration approach is determined during planning for all harvest sites. Forest Treatment Proposals (FTP) were also confirmed for regeneration harvests for which planting and/or site preparation was expected to be needed, based on the Compartment Review – approved treatment prescription. Reviewed some planting sites and the processes for planning overseeing planting. Confirmed designation of regeneration method for sites visited, and for other sites where paperwork was requested but time did not allow field visits of planting sites.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1.2	Reforestation, unless delayed for site-specific environmental or forest health considerations or legal requirements, through planting within two years or two planting seasons, or by planned natural regeneration methods within five years.	NB	13						
<i>Notes</i>	13 Regeneration delays are uncommon in the FMUs audited in 2013; most sites visited had good stocking levels.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
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2.1.3	Clear criteria to judge adequate regeneration and appropriate actions to correct understocked areas and achieve acceptable species composition and stocking rates for both planting and natural regeneration.	NB	13						
Notes	<p>13 Standards exist for all regeneration treatments. Criteria for regeneration by species or forest type are found in the “Regeneration Survey Manual”. For artificial regeneration, stocking is checked at years 1 and 3 (data gathered includes # planted. # natural by species.</p> <p>13 Deer impacts to regeneration are highly variable, but are reported as being significant in some areas. Auditors observed no such areas during the 2013 audit.</p> <p>13 For natural regeneration, checks for stands that were originally prescribed for a regeneration harvest under the OI system are scheduled using the regeneration time clock spreadsheet. The time clock spreadsheet is maintained until the stands have successfully regenerated AND compartments have been converted to IFMAP. For the IFMAP system, a list of stands requiring a walk through regeneration survey is provided to stand examiners by the FMU at the Pre-inventory meeting.” The appropriate actions are in place.</p>								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1.4	Minimized plantings of exotic tree species, and research documentation that exotic tree species, planted operationally, pose minimal risk.	NA							
Notes	Exotic tree species are not planted.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1.5	Protection of desirable or planned advanced natural regeneration during harvest.	NB	13						
Notes	<p>2012: Field observations confirmed good results in this indicator.</p> <p>2011: Field observations confirmed good results in this indicator. An effective system is in place to ensure that this indicator is met. The pre-timber sale checklist, a key part of the timber sale planning process, has question 20: “Is desirable (advanced) natural regeneration present?” If yes, then the “Related Sale Spec” #3.4.1 is checked and the specification is inserted into the timber sale contract. The specification provides for financial penalty if too much regeneration is disturbed during harvest.</p>								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>

2.1.6	Planting programs that consider potential ecological impacts of a different species or species mix from that which was harvested.	NB	13						
Notes	13 Consideration of composition goals for regeneration is a routine part of sale planning, with site analysis tools available and widely used. Biologists are involved in planning of harvests, most of which do not change species composition. When changes in species composition are intended they are often accomplished by natural regeneration, but also can be done by planting. Either way the decision is based on soil types, the Kotar habitat classification, ecological considerations (habitat needs, stand development pathways), and a robust review process that includes silviculture and wildlife specialists.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.1.7	Afforestation programs that consider potential ecological impacts of the selection and planting of tree species in non-forested landscapes.	NA							
Notes	No afforestation is being conducted. Instead, some forested areas are converted to open or brush landscapes, but only after multi-disciplinary review and only if there is a demonstrated habitat need, often to support populations of rare, threatened, or declining species. In some areas adjacent or nearby small patches of forest and non-forested cover types are “swapped” to consolidate small patches into large patches while also attempting to more closely match vegetation to soil and site potential. These efforts are based on careful analysis and are primarily driven by ecological goals, but have ancillary economic benefits including more efficient management and harvesting.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2	Program Participants shall minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public and the environment, including wildlife and aquatic habitats.	NB	13						
Notes	See indicators below.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2.1	Minimized chemical use required to achieve management objectives.	NB	13						
Notes	13 Chemicals are used in right of ways, site prep and invasive control. 13 Site visits included 2 site prep herbicide applications. Both used an herbicide labeled for forestry use at appropriate rates. There is ample documentation of pre application planning, conditions during the application and post application follow up.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2.2	Use of least-toxic and narrowest-spectrum pesticides necessary to achieve management objectives.	NB	13						
<i>Notes</i>	13 Review of herbicide use on the FMUs visited indicates they meet this requirement.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2.3	Use of pesticides registered for the intended use and applied in accordance with label requirements.	NB	13						
<i>Notes</i>	13 Site visits and review of application documentation confirms this requirement is met.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2.4	Use of integrated pest management where feasible.	NB	13						
<i>Notes</i>	<p>Forest health staff helps ensure that insect pests are detected and treated early and only when and where necessary.</p> <p>Forest silviculture specialists review FTP requests and prepare detailed plans for herbicide use, and supervise their implementation. They have developed expertise that allows them to ensure that herbicide treatments are used only when necessary and cost-effective.</p> <p>Non-chemical site preparation is extensively employed, particularly mechanical scarification and/or disc-trenching.</p>								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.2.5	Supervision of forest chemical applications by state- or provincial-trained or certified applicators.	NB	13						
<i>Notes</i>	13 Review of herbicide application contract for 2 site prep treatments visited indicates the applicator must be licensed.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
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2.2.6	<p>Use of management practices appropriate to the situation, for example:</p> <ul style="list-style-type: none"> a. notification of adjoining landowners or nearby residents concerning applications and chemicals used; b. appropriate multilingual signs or oral warnings; c. control of public road access during and immediately after applications; d. designation of streamside and other needed buffer strips; e. use of positive shutoff and minimal-drift spray valves; f. aerial application of forest chemicals parallel to buffer zones to minimize drift; g. monitoring of water quality or safeguards to ensure proper equipment use and protection of streams, lakes and other water bodies; h. appropriate storage of chemicals; i. filing of required state or provincial reports; and/or j. use of methods to ensure protection of threatened and endangered species. 	NB	13						
Notes	<p>13 Chemical use is outlined in the work instructions. Certified applicators are required.</p> <p>13 Standard practices prescribed in the work instructions include</p> <ol style="list-style-type: none"> 1. Herbicide applications are supervised by certified applicators. While not directly tied to environmental issues the certification assures a certain level of training has been met. The certification testing involves measures to protect the environment 2. Herbicide prescriptions intentionally minimize the use of pesticides (application rates, extent of application area) to achieve objectives 3. Pesticide application plans (PAP's) are required prior to application. PAP's include site specific information about environmental risks such as proximity to water bodies, human dwellings, livestock, recreation areas and public roads. PAP's specify buffer requirements, road control measures, presence and distance to dwellings etc. PAP's also specify acceptable weather conditions for application, normally in terms of maximum wind speed. Reentry intervals for personnel are also listed in the PAP. 4. Spill kits are required on site both in contractor vehicles and state vehicles. 5. Proper PPE is required. <p>Pesticide applications on state owned utility ROW's are handled through use permits which specify buffers on wetlands and water, herbicide selection and rates and application method. And, of course following label instructions is mandatory on all applications.</p>								

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2.3	Program Participants shall implement forest management practices to protect and maintain forest and soil productivity.	NB	13						
Notes	See indicators.								

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2.3.1	Use of soils maps where available.	NB	13						
Notes	13 Soils are a layer in GIS and are considered in the Timber Sale Proposal Checklist.								

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2.3.2	Process to identify soils vulnerable to compaction, and use of appropriate methods to avoid excessive soil disturbance.	NB	13						
Notes	<p>13 Soils maps, Kotar Habitat/Vegetation Classification System, topographic maps, and air photos are used during planning. Combined with field evaluations of the sites these tools help foresters to plan harvest units to avoid wetlands and vulnerable soils within upland units or to specify that harvesting can only occur during frozen conditions.</p> <p>13 The pre-timber sale checklist, a key part of the timber sale planning process, has provisions for recording risk of soil compaction and/or rutting. If these risks are identified then seasonal restrictions and/or related sale specifications (5.4.1, 5.4.2, 5.4.3, 5.4.4, 5.4.5, or, 5.4.6) can be inserted into the timber sale contract and enforced during harvest administration.</p>								

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2.3.3	Use of erosion control measures to <i>minimize</i> the loss of soil and site productivity.	NB	13						
Notes	<p>13 Site visits did not identify any erosion issues.</p> <p>13 The Resource Damage Report (RDR) process continues to be the primary mechanism to identify, inventory, prioritize, and track sites which have significant erosion or other resource issues. Two impressive RDR-related road repairs or upgrades were inspected during the audits.</p>								

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2.3.4	Post-harvest conditions conducive to maintaining site productivity (e.g. limited rutting, retained down woody debris, minimized skid trails).	NB	13						

Notes	13 Field observations confirmed limited rutting, retained down woody debris, and minimized or well-planned skid trails. Where rutting was observed it was within the contract specifications (did not exceed 12-inch depth for more than 50 feet) and was well documented on the Timber Sale Inspection forms.								
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	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.3.5	Retention of vigorous trees during partial harvesting, consistent with scientific silvicultural standards for the area.	NB	13						
Notes	13 Confirmed by field observations that proper silvicultural methods are employed in thinning treatments. When conducting thinning treatments foresters mark to remove overtopped or intermediate crown class trees first, as well as crooked, forked, or damaged trees.								

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2.3.6	Criteria that address harvesting and site preparation to protect soil productivity.	NB	13						
Notes	<p>13 All contracts have “General Conditions & Requirements...Clause 5.4 Soil Protection: The Purchaser shall avoid operating equipment when soil conditions are such that excessive damage will result as determined by the Unit Manager or their representative”.</p> <p>13 Rutting criteria are available in the form of additional “Sale Specific Conditions & Requirements”. These specify (5.4.1) “Operations are to cease immediately if equipment and weather conditions result in rutting of roads and skid trails which is 12 inches or greater in depth and 50 feet in length. The Unit Manager or his/her representative may restrict hauling and/or skidding if ruts exceed the specified depth. With the Unit Manager or his/her representative’s approval, the Purchaser may return to the area when risk of rutting has decreased.”</p>								

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2.3.7	Road construction and skidding layout to minimize impacts to soil productivity and water quality.	NB	13						
Notes	<p>13 Log decks and skid trails are determined during the required preharvest consultation with the logger.</p> <p>13 Site visits did not identify any issues with road or skid trail location.</p>								

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2.4	Program Participants shall manage so as to protect forests from damaging agents, such as environmentally or economically undesirable wildfire, pests, diseases and invasive exotic plants and animals, to maintain and improve long-term forest health, productivity and economic viability.	NB	13						
<i>Notes</i>	See indicators.								

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2.4.1	Program to protect forests from damaging agents.	NB	13						
<i>Notes</i>	<p>13 Foresters with forest protection training are involved in all phases of vegetation management. Specialists are available. Training is provided as needed, such as when new pests emerge, or existing pests flare up.</p> <p>13 Forest Management Division Policy 591: Forest Pest Management specifies a program consistent with Performance Measure 2.4 and the Indicators.</p> <p>13 Foresters are aware of the normal forest pest issues, and have ready access to forest health specialists.</p>								

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2.4.2	Management to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.	NB	13						
<i>Notes</i>	<p>13 Field observations confirmed that management promotes healthy and productive forest conditions to minimize susceptibility to damaging agents. Most stand types (exceptions are for some lowland types) are rigorously maintained within desired stocking and rotation-length parameters, with allowance for ecosystem management goals and for access issues.</p>								

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2.4.3	Participation in, and support of, fire and pest prevention and control programs.	NB	13						
<i>Notes</i>	<p>13 Fire: Continued very clear conformance. Each FMU has several fire officers and an impressive collection of fire control vehicles.</p> <p>Pests: Specialists are available.</p>								

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2.5	Program Participants that deploy improved planting stock, including varietal seedlings, shall use sound scientific methods.	NB	13						
<i>Notes</i>	See indicator below.								

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
2.5.1	Program for appropriate research, testing, evaluation and deployment of improved planting stock, including varietal seedlings.	NB	13						
<i>Notes</i>	13 Michigan Tree Improvement Center in Brighton, Michigan has a tree improvement program. 13 MIDNR have identified resistant beech trees, propagated disease-resistant cultivars at a nursery in Ohio, and began out-planting.								

Notes	13 Foresters, wildlife biologists, and fisheries biologists work collaboratively to set up (foresters), review, and approve (all three disciplines) all proposed treatments and infrastructure development projects. Site-level planning commences with the forest inventory work in each compartment on the “year of entry” cycle. Resource conditions are discussed during compartment “pre-review”; proposed treatments are developed and then shared with the public; and treatments are finalized during compartment review. All three divisions (Forest Management, Wildlife, and Fisheries) are involved in these three planning stages. A focus is on protection of streams, lakes, other water bodies and riparian zones.								
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	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
3.2.2	Mapping of rivers, streams, lakes, and other water bodies as specified in state or provincial best management practices and, where appropriate, identification on the ground.	NB	13						
Notes	13 Streams, lakes, etc. are shown on maps and sale offering and administrative documents (contract specifications). They are generally identified on the ground by paint marks on trees.								

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3.2.3	Implementation of plans to manage or protect rivers, streams, lakes, and other water bodies.	NB	13						
Notes	13 Field observations, supplemented by documents reviewed and interviews, confirmed that most streams, lakes, and other waterbodies are protected during all operations, in most cases by leaving significant uncut buffer areas.								

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3.2.4	Identification and protection of non-forested wetlands, including bogs, fens and marshes, and vernal pools of ecological significance.	NB				13			
Notes	<p>13 Non-forested wetlands are identified on aerial photos and on harvest area maps and are excluded from harvest areas; when they are enclosed within a harvest area they are usually painted out.</p> <p>13 Minor CAR (in conjunction with 3.1.1): The site visit to the active Russell Lake Aspen timber sale (sale #71-005 Roscommon Area) identified BMP issues on 2 vernal ponds in an area that had recently been harvested (the ponds were not painted out). Two (2) trees were cut and dropped in one (1) of the ponds and approximately 80% of the tree canopy around both ponds was removed. The MIDNR BMP manual “Sustainable Soil and Water Quality Practices on Forest Land” (Rev. 2/24/2009) on page 29 under the Vernal Pools, Seeps, and Intermittent Steams Section, states: “All equipment, trees and tops should be kept out of this area” and “Timber harvesting can occur in the area, but the canopy closure should not be reduced to less than 70% to minimize the effect of sun and wind”. A larger vernal pond in the harvested area had been painted out and had no issues.</p>								

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3.2.5	Where regulations or best management practices do not currently exist to protect riparian areas, use of experts to identify appropriate protection measures.	NA							
<i>Notes</i>	NA, BMPs do exist.								

Objective 4. Conservation of Biological Diversity including Forests with Exceptional Conservation Value.

To manage the quality and distribution of wildlife habitats and contribute to the conservation of biological diversity by developing and implementing stand- and landscape-level measures that promote a diversity of types of habitat and successional stages, and conservation of forest plants and animals, including aquatic species.

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4.1	Program Participants shall have programs to promote biological diversity at stand- and landscape-levels.	JH	13						
<i>Notes</i>	<p>The revised “Living Legacies” initiative to develop a network of Biodiversity Stewardship Areas (BSAs) was assessed by the audit team. This revised approach is consistent with the requirements under both Objective 4 (Conservation of Biodiversity) and Objective 6 (Protection of Special Sites). The audit team reviewed these documents:</p> <ul style="list-style-type: none"> • Quick Summary of Living Legacies Milestones and Current Status • Michigan DNR ‘Living Legacies’ Communications Plan • Michigan DNR Revised Living Legacies Implementation Process <p>Also see indicators below.</p>								

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4.1.1	Program to promote the conservation of native biological diversity, including species, wildlife habitats and ecological community types.	JH	13						
<i>Notes</i>	<p>13 Michigan Department of Natural Resources’ wildlife habitat biologists participate in Forest Compartment exams that are conducted by each Forest Management Unit yearly to plan future harvest sites. This compartment-level review guides most tactical planning involving timber harvests and other vegetation management at the stand level. At larger spatial scales a combination of species plans, special habitat initiatives, and the Regional State Forest Management Plans using featured species to identify a diverse set of habitat indicators, as well as the Wildlife Division Strategic Plan (Guiding Principles and Strategies) guide habitat biologists.</p> <p>13 Michigan DNR spent over 7 million dollars in 2012 for wildlife habitat improvements, focused on grasslands, openings, savannas, wetlands and forests.</p>								

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4.1.2	Program to protect threatened and endangered species.	JH	13						

Notes	13 The Wildlife Division of MDNR and Michigan Natural Features Inventory, house biologists that have assignments for protection of threatened and endangered species of wildlife and plants.. Field audits confirmed that biologists check this database prior to forest management activities on the site. Noteworthy accomplishments of endangered species recovery are illustrated by Kirtland Warblers and Gray Wolves, two species where populations now exceed recovery goals. The Department has developed forest management plans for a number of T And E species including the Red-shouldered Hawk and field staff have been trained to identify and report locations of stick nests
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	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
4.1.3	Program to locate and protect known sites associated with viable occurrences of critically imperiled and imperiled species and communities also known as Forests with Exceptional Conservation Value. Plans for protection may be developed independently or collaboratively, and may include Program Participant management, cooperation with other stakeholders, or use of easements, conservation land sales, exchanges, or other conservation strategies.	JH	13						
Notes	13 Michigan DNR has a GIS layer that identifies “Biodiversity Areas” including ecological reference areas, high conservation value areas, and special conservation areas. The audit team visited several sites during the audit; each had a site-specific analysis and recommendations. For example, Grindstone Creek is a special conservation area that has been designated a potential old growth forest.								

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4.1.4	Development and implementation of criteria, as guided by regionally appropriate best scientific information, to retain stand-level wildlife habitat elements such as snags, stumps, mast trees, down woody debris, den trees and nest trees.	JH	13						
Notes	<p>13 Michigan DNR has a new “Within-Stand Retention Guidance” (previous version 10/05/06). A new guidance document was completed and distributed to staff in Jan 2012.</p> <p>13 Most sites visited in 2013 appear to meet guidelines and was ample and varied at sites visited during the audit. Efforts to retain some Aspen (generally all harvested to promote sprouting) to grow old and eventually die were evident, although more could be done. In addition, the department could officially adapt a policy to track retention islands that are located at the edges of stands so that they are protected from harvest until the next rotation.</p> <p>13 The Pre-Timber Sale Checklist includes an item for stand level habitat elements and a selection of three pre-written sale specifications that can be checked and then inserted into the “Sale Specific Conditions and Requirements” for the timber sale contract.</p>								

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4.1.5	Program for assessment, conducted either individually or collaboratively, of forest cover types, age or size classes, and habitats at the individual ownership level and, where credible data are available, across the landscape, and take into account findings in planning and management activities.	NB				13			
<i>Notes</i>	2013: Minor CAR - The Living Legacies initiative (formerly the Biodiversity Conservation Planning Process, BCPP) has suffered from numerous delays since at least 2008. Completion of the initiative, including key tasks such as delineating Living Legacy areas on the state forests and identifying compatible land uses for them, has not been accomplished.								

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4.1.6	Support of and participation in plans or programs for the conservation of old-growth forests in the region of ownership.	JH	13						
<i>Notes</i>	13 Procedures exist to protect existing old growth stands or old growth elements (such as individual “legacy trees”). Possible Type 1 old growth and potential old growth areas are designated as special conservation areas and are protected from harvest.								

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4.1.7	Participation in programs and demonstration of activities as appropriate to limit the introduction, impact and spread of invasive exotic plants and animals that directly threaten or are likely to threaten native plant and animal communities.	JH	13						
<i>Notes</i>	<p>13 Staff have been trained to identify and to report locations of invasive species. At least one invasive species treatment site was visited in 2013-herbicide was applied to a stand of Japanese Barberry. The Department is collaborating with Ohio State on EAB research and have projects to conduct research on beech bark disease, oak-wilt, Asian long-horn beetle, and hemlock woody adelphid.</p> <p>13 “Forest Management Division (FMD) Invasive Species Project 2011 (Ron Murray, 10-12-11)” summarized: FMD Invasive Species Projects (ARRA Funding, Pest & Disease Loan Funding, and Great Lakes Restoration Initiative Funding described separately); Training; and Application Development (“Forest Health Program Leader Roger Mech worked with Lisa Dygert, RAU, to develop a Forest Health Reporting application for Nomads and other handheld units that run Windows Mobile 5.0 or better. The application allows quick easy reporting of forest health symptoms and problems in a format that is easily imported into IFMAP. Lisa and others have also developed a similar application that easily allows reporting of Invasive Plants to MISIN in a format that is also compatible with IFMAP. Solo Forest software is required to run this application. A similar application is under development that will not require Solo Forest, but will give the same reporting functionality.”)</p>								

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4.1.8	Program to incorporate the role of prescribed or natural fire where appropriate.	JH	13						
Notes	<p>13 Fire is commonly prescribed when appropriate, especially in the management of Jack Pine communities, but also to maintain openings and grassland plant species (Site in Atlanta FMU). Prescribed fire is an essential activity in the management of Kirtland's Warbler, an endangered species. Managers would like to use fire on more sites, but personnel and financial resources limit further use.</p> <p>13 Auditors did not visit any burn sites in 2013, but interviews confirmed that the program continues. Michigan DNR has a strong fire control program, and this program is involved in prescribed burning when not busy with control of wildfires.</p>								

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4.2	Program Participants shall apply knowledge gained through research, science, technology and field experience to manage wildlife habitat and contribute to the conservation of biological diversity.	JH	13						
Notes	<p>13 Managers interviewed during field visits frequently demonstrated application of research results to the management of wildlife. Research occurs on the state forest lands; biologists are aware of such research and were able to discuss the results with the auditors. Copies of some of the published results of these studies were provided to the audit team.</p> <p>13 MDNR, in the Wildlife Division, has a small team of research biologists. More significantly, though, the Department funds the PERM program at Michigan State University, supporting two research faculty positions and graduate students. Faculty and graduate students from other universities also conduct research on State Forests.</p>								

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4.2.1	Collection of information on Forests with Exceptional Conservation Value and other biodiversity-related data through forest inventory processes, mapping or participation in external programs, such as NatureServe, state or provincial heritage programs, or other credible systems. Such participation may include providing non-proprietary scientific information, time and assistance by staff, or in-kind or direct financial support.	JH	13						
Notes	<p>13 Interviews and documentation show that the program continues to use the Michigan Natural Features Inventory database.</p> <p>13 DNRE supports the state Natural Features Inventory, in cooperation with Michigan State University, thus natural heritage information is readily available to staff in FMD.</p>								

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4.2.2	A methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions.	JH	13						
<i>Notes</i>	13 Michigan DNR employs professionally-trained biologists who specialize in both terrestrial and aquatic species. Field biologists (first line managers) are often specialists, or can consult with agency specialists. Most biologists are members of professional associations, and some present on their work at professional meetings. A science-based approach is evident throughout the program. Some examples of research projects are included in the Wildlife Division Annual Report for fiscal year 2012.								

Objective 5. Management of Visual Quality and Recreational Benefits.

To manage the visual impact of forest operations and provide recreational opportunities for the public.

	2010-2014 Requirement	Audit -or	<u>C</u>	<u>EXR</u>	<u>Maj</u>	<u>Min</u>	<u>OFI</u>	<u>Likely Gap *</u>	<u>Likely Conf. *</u>
5.1	Program Participants shall manage the impact of harvesting on visual quality.	NB	13						
<i>Notes</i>	13 Field observations helped confirm that Michigan DNR continues to manage the impact of harvesting on visual quality.								

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5.1.1	Program to address visual quality management.	NB	13						
<i>Notes</i>	13 Trained foresters plan all harvests; guidelines exist to address visual management; senior managers review all proposed treatments. Sale planning checklist includes visual provisions. 13 Visual management programs are in place and generally very effective – forests visited were being managed with visual considerations.								

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5.1.2	Incorporation of aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern.	NB	13						

