MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Forest Certification Work Instruction

☐ **DRAFT** ☒ **FINAL**

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Work Instruction Title: 2.1 Reforestation

Work Area Group: 2 **–** Forest Regeneration and Chemical Use

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Purpose: To define forest regeneration requirements on State Forest Land.

Work Instruction:

1. Desired Future Condition:

Forest regeneration will contribute to a distribution of successional stages, age classes, and community types at the appropriate scale and intensity. Silvicultural practices will encourage regeneration that moves the stand toward its desired future condition as determined by the management objective agreed to at compartment review. Broad genetic and species diversity as well as the ecological impacts of planting must also be considered.

Reforestation of difficult to regenerate stands or endemic species will be a consideration when a stand is prescribed for harvest. Stand examiners need to make comments in the narrative section of Operations Inventory (OI) or in IFMAP in the Treatments database (Next Steps comment field) reflecting an acceptable species mix should the stand not regenerate to the management objective and this must be agreed to at compartment review. If type conversion occurs without this pre-approval, after-the-fact approval is acceptable. Stands that can not be regenerated to the desired management objective or approved alternative will not have a regeneration harvest prescribed. When desirable advanced regeneration is present within a stand, comments should be included in OI or IFMAP that will lead to the inclusion of relevant timber sale contract specifications and the retention of this regeneration. Management guides and FMD Reforestation policy should be consulted in these regards as needed. Any regeneration work prescribed and approved will be documented on a Forest Treatment Proposal (FTP) Form R4048 in accordance with the reforestation policy.

2. Indication of Regeneration Method:

Forest inventory codes will be used to determine if a stand will be artificially or naturally regenerated. The OI manual provides guidance, beginning with the method of cut (MOC) section of the manual. The regeneration method for stands prescribed for regeneration harvests in IFMAP (Appendix B of the IFMAP manual has a breakdown of methods of cut) is indicated by the cover type management objective for the treatment. If a stand is being regenerated artificially, it will have a ”Planted…” (Level 3 code ‘421’). All other cover types are assumed to be naturally regenerating.

3. Exotics:

The FMD Reforestation policy addresses the planting of exotic (non-native) species. While the practice is discouraged and minimized, it is not prohibited. The same policy also outlines the documentation required for completion of the Forest Treatment Proposal Completion Report (R4048-1), which is required for all plantings, whether exotic, improved or from another source. All of the plantings must be summarized annually using the Planting Summary (R4046). The Forest Health Specialist in conjunction with the Nursery Manager (tree improvement specialist) and Timber Management

Specialist (TMS) are responsible to insure all stock meets policy and legal guidelines. These individuals shall also monitor or participate in any testing or application of improved planting stock or bioengineered species.

4. Timing and Adequacy of Regeneration:

Stands prescribed for a regeneration harvest will be regenerated within two growing seasons from the date of the timber cutting report if it is regenerating artificially and within five years if regenerating naturally. A timber cutting report (TCR) is the document that concludes a Timber Sale Contract.

Whenever a timber cutting report is generated, the contract administrator will update OI. The reforestation clock for regenerating the stands contained within the sale will begin when contract is completed. The Unit Manager will be responsible for the preparation and updating of regeneration lists. Those requiring TMS assistance will be forwarded to the TMS as needed, but at least once a the year. TMS will be required to provide any available regeneration information, such as shape files, regeneration counts, and FTP Completion Reports (R4048-1) before regeneration lists and OI can be updated.

The TMS will be responsible for completing artificial regeneration within two growing seasons of when the timber sale cutting report was completed or for documenting reasons for non-compliance. This regeneration must be the same type or species mix as agreed to at compartment review. If conditions after harvest are such that regeneration to the approved management objective cannot be obtained, the TMS must seek a change in management objective by going through the post review (change) process outlined in the OI manual, Chapter 7.

Minimum stocking levels for stands prescribed for natural regeneration will follow the Minimum Acceptable Regeneration & Height Table in the Regeneration Survey Manual. Minimum stocking levels for stands prescribed for artificial regeneration (planting, direct seeding and broadcast seeding) will follow the FMD Reforestation Policy or Silvicultural Guidelines, whichever is more stringent.

5. Regeneration Monitoring:

Artificially regenerating stands will be checked and treated within two years after the TCR is prepared and in accordance to the Forest Regeneration Survey Manual.

Stands prescribed for natural regeneration will be monitored until adequate regeneration is achieved. Naturally regenerating stands will primarily be checked during the next regularly scheduled compartment inventory to determine if regeneration has been successful. Regeneration checks for stands that were originally prescribed for a regeneration harvest under the OI system will be scheduled using the regeneration time clock spreadsheet. The timeclock spreadsheet will be maintained until the stands have successfully regenerated AND compartments have been converted to IFMAP. Stands prescribed under the IFMAP system must have a Regeneration Check scheduled as a ‘Next Step’ treatment after closing the sale, or completing the last cultural treatment step. A Next Step of Regeneration Check must be scheduled regardless of whether the regeneration is to be by artificial or natural methods or whether the regen check would occur at the next inventory cycle or sooner.

Stands of special concern will be scheduled for an out-of-entry-year survey if more than 6 years will elapse between timber sale completion and the next compartment inventory. Stands of special concern may oak, jack pine, and red pine prescribed for natural regeneration, or other locally defined stand types. In most cases, out-of-entry-year surveys for special concern stands should be scheduled at TCR date + 4 years. However, natural regeneration in all stands may be approved earlier than next inventory year or the calculated out-of-entry-year survey date providing minimum standards specified in the Regeneration Survey Manual are met.

Unit Managers will be responsible for tracking these stands and initiating follow up action in consultation with the TMS. Unit Managers are responsible for all reforestation activities on the Unit, however, the TMS shares in the responsibility for those stands forwarded to them.

All stands that are prescribed for a regeneration harvest will be progressively sampled. At a minimum, each stand will be checked for adequate regeneration in a manner consistent with IFMAP Stage 1 inventory procedures (i.e., remote calls, edge calls, and walk through examination are options), using the procedure outlined in the Forest Regeneration Survey Manual. Unit Managers will be responsible for the initial examination and for coordinating corrective actions. If regeneration is estimated to be inadequate, the stand will be referred to the TMS for further examination. The TMS will be responsible for conducting or coordinating any additional surveys using district personnel, contractors or students, and will provide program expertise to help prescribe options for corrective actions and ensure consistency. The TMS will provide information to the Unit Manager on status and results of surveys for any stands referred to them. Oversight and documentation of these surveys will be the responsibility of the Unit Manager.

Survey results must be recorded in the inventory database comments and coding updates. Stands that are found inadequately stocked may be rescheduled for a follow-up natural regeneration survey if the TMS and examiner think in-growth is likely. If in-growth is not likely, the stand may be prescribed for cultural treatments to improve the success of natural regeneration, or may be artificially regenerated according to the management objective of the stand as previously described. Once the decision is made to switch to artificial regeneration, the forest inventory coding will be updated to reflect artificial regeneration and the reforestation clock is updated to reflect a two year artificial regeneration deadline. The TMS assumes responsibility for regenerating the stand once the decision to regenerate artificially has been made.

Scope: (All State Forest Land and Affected Divisions): ☒ State Forest Land ☐ Other: _____

☒ DNR – FMD ☒ DNR – Wildlife ☐ DNR – Fish ☐ DNR – Law ☐ DNR – Parks

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Responsibility and Role: (Staff who will implement or supervise this instruction)

Job Title/Division	Role
Unit Manager / FMD	Supervise pre-harvest inventory, determination of stand management objective, monitor regeneration, and maintenance of related records.
Stand Examiners / FMD and/or WLD	Conduct pre-harvest inventory, make preliminary stand prescriptions, perform initial natural regeneration assessment, and maintain records.
Timber Management Specialist / FMD	Supervise & implement artificial regeneration activities, supervise formal artificial and natural regeneration surveys, and provide related records to Unit Managers.
Sale Contract Administrator / FMD	Protect advance natural regeneration and start the regeneration clock.
Nursery Manager (tree improvement specialist) / FMD	Ensure that planting stock conforms to policies and legal guidelines.
Forest Health Specialist / FMD	Recommend regeneration practices that minimize forest health impacts, and ensure that planting stock conforms to policies and legal guidelines.

Training/Skills: (Those required to accomplish work instruction)

Item	Brief Description of Skill or Course	Exists / New
OI coding training	Provide clarification and training in coding (paragraph 1 comments)	☒ E ☐ N
Regeneration survey training	Contents of Forest Regeneration Manual	☐ E ☒ N
Knowledge of work instruction	All managers and supervisors with responsibility to implement this work instruction.	☐ E ☒ N
Reforestation Data Base	Use of local reforestation database	☐ E ☒ N
		☐ E ☐ N

References:

- Act 451 1994
- NRC Policy 2204
- FMD Policy 241
- FMD Policy 251
- OI manual
- IFMAP Manual
- Forest Regeneration Survey Manual, Information Circular 4145

Monitoring: See section 4 of work instruction (below).

Records:

Completed records are kept in compartment files. Records to include:

- Forest Treatment Proposal (FTP) Form R4048
- Forest Treatment Proposal Completion Report Form R4048-1
- Planting Summary Form R4046
- reforestation database
- reforestation sampling records.
