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666 – NH Forest Stand Improvement Implementation Requirements (10 year lifespan) REHABILITATION OF DEGRADED STANDS

Purpose: characterize degraded forest stands in NH that are appropriate for NRCS financial assistance. Requirements and considerations for assistance in NH are on page 2 of this sheet. The cost to implement an improvement harvest in degraded stands may equal or exceed the revenue generated from stumpage. Rehabilitation of these stands using commercial silvicultural techniques is challenging due to economic constraints and may require an up-front financial investment by the landowner.

Areas needing rehabilitation: High-grading, diameter limit cuts, or other harvest practices are made without silvicultural intent and may result in degraded forest stands. Natural events such as ice storms can also sometimes result in stands needing rehabilitation. These sites contain a high percentage of poorly formed, diseased, or undesirable trees called Unacceptable Growing Stock (UGS) and few desirable, well formed trees that will increase in value and volume, called Acceptable Growing Stock (AGS).

What to look for in a degraded stand:

- Understocked
- Dominated by undesirable tree species (over or understory)
- Low quality, poorly formed, diseased, suppressed, and/or damaged trees
- Stands are often dominated by shade tolerant species (e.g., beech and hemlock) where desirable regeneration may be inhibited by shade or lack of appropriate seed source

Examples seen in NH

- Repeated diameter-limit cuts that have resulted in a stand with poor quality beech in the over and understory
- Former pastures that grew up into malformed, low quality trees (mostly suitable as pulp or chip products), but may have quality hardwoods below to be released
- Stands dominated by poorly formed trees with no potential for sawlogs (mostly firewood, pulp, or chip products)

Management considerations

- These sites are often irregular and patchy, so a Forest Management Plan and good marking is critical
- Group, patch, and clear-cuts can remove poor quality stands and allow for a diverse mix of desirable regeneration. Look for advanced regeneration and release it when it is present.
- Poorly formed trees may have value for wildlife, so consider landowner goals in these degraded stands

Growing stock here is largely unacceptable, poorly formed trees from pasture abandonment. Diameters may be large but there is not quality growing stock.

Typical NH high-graded stand with beech understory. Large patch cuts can reduce beech competition and reset the stand allowing space for desirables to grow.

Is this a degraded stand suited to rehabilitation practice?

YES	NO
• Understocked stands	• Quality stands with adequate stocking
• Lots of UGS, few AGS	• Stands with trees of good form and vigor
• Good soils for regeneration	• Poor soils for regeneration

Requirements

(*all factors need to apply)*

- ✓ Current forest management plan approved by NRCS and/or UNH Cooperative Extension.
- ✓ Stands to be treated are described and mapped (with acreages) in forest management plan, addendum, or another approved document. A stand prescription must describe the silvicultural practice(s) to be utilized and the desired future stand condition.
- ✓ Marked by a Licensed NH Forester.
- ✓ This stand rehabilitation practice is not authorized for use to remove unacceptable growing stock (UGS) on the same footprint following a commercial harvest. If pre- or post-harvest follow-up work is needed, use traditional timber stand improvement or *Brush Management* (314).
- ✓ The ratio of Acceptable Growing Stock (AGS) to Unacceptable Growing Stock (UGS) in the stand is greatly improved after the cut.
- ✓ All undesirable trees (down to 1/2" diameter) are removed from clear cuts, patch cuts, shelterwoods or seed tree cuts, unless otherwise prescribed in an approved forest management plan.

Considerations

(*several of these should apply but some may be omitted by professional judgment*)

- ✓ Stand is lightly stocked with sawtimber or mat logs (typically less than 1mbf/acre) of desirable species. Forest products are primarily pulpwood and biomass.
- ✓ Cost of preparing and administering an improvement harvest (forestry, logging, access) would nearly equal or exceed timber revenue.
- ✓ Stands below C-line stocking (understocked) for the appropriate guide, especially stands with a high percentage of UGS, may be eligible for this practice.
- ✓ Silvicultural prescriptions may include, but are not limited to, clear cut, patch cut, seed tree harvest, shelterwood, group selection, variable thinning, weeding, or liberation of regeneration.
- ✓ Use this activity on Productive Soils. Important Forest Soil Groups IA and 1B for hardwoods. IC soils for white pine. IIB soils where where ledge is > 40” from surface. Site Index > 50 for desired species.
- ✓ Stands with longer skid distances (>2000 feet) on variable or steep terrain may be good candidates for assistance through this practice.

Distinguishing NH financial assistance scenarios for Rehabilitation of Degraded Stands

*Only one of these scenarios can be offered within 10 year lifespan on a footprint

Marking: In a degraded stand if the removal of forest products will be clearly commercially viable (result in a significant net income), then use the marking scenario by a professional forester to ensure that the silvicultural objectives are met. Must be done by a NH licensed forester. Fits stands stocked at A or B-line with desirable, acceptable growing stock trees.

Thinning for Wildlife and Forest Health and/or **Patch Cuts:** Non-commercial or marginally commercial cutting practices that are used to improve the growth of desirable trees. May be done with hand tools or harvest machinery within the above guidelines. These practices are aimed at rehabilitating a stand where there is little to no commercial value and mostly chips, pulp, and/or firewood are coming out of the forest, or material is left on-site. This scenario includes the cost of marking and trees must be marked by NH licensed forester.

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Producer:		**Contract/App:**	
Location:		**County:**	
Forester:		**Tract Number:**	
Forest Management Plan Date:			

Definition

The manipulation of species composition, stand structure, or stand density by cutting or killing selected trees or understory vegetation to achieve desired forest conditions or obtain ecosystem services.

Practice Purpose

This practice is used to accomplish one or more of the following purposes (check all that apply):

- ☐ Improve and sustain forest health and productivity
- ☐ Improve wildlife and pollinator habitat
- ☐ Restore or maintain natural plant communities
- ☐ Increase/maintain carbon storage
- ☐ Initiate forest stand regeneration
- ☐ Reduce damage from pests

b l Requirements

- Meets general criteria in Conservation Practice Standard 666.
- Stand(s) with prescriptions must be included in current FMP or addendum.
- Trees must be marked prior to cutting, or in regenerative (e.g. patch) cuts, boundary marked.
- No cutting may occur in June or July to protect Northern Long Eared Bats.
- Follow NH Best Management Practices for Erosion Control on Timber Harvesting Operations (2016).
- Reviewed for State and Federal Threatened or Endangered Species and Cultural Resources

Additional Criteria/Considerations (select applicable to this plan)

- ☐ Retain snags, den trees, and downed wood for wildlife/to increase retention of carbon on-site.
- ☐ Increase quantity and quality of important mast (seeds, catkins, fruits, nuts) for wildlife.
- ☐ Shift to uneven aged management to improve carbon sequestration and increase complexity and resiliency.
- ☐ Protect vernal pools, wetlands, streams and other sensitive resources by minimizing water crossings, and leaving vegetated buffers to these resources.

Brief project description including any additional BMPs or Timing Considerations:

Plan meets Standards and Specs:

Designer Signature: _____ *Date* _____

Landowner agrees to install practice to specs in plan:

Landowner signature: _____ *Date* _____

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The Forest Management Plan (FMP) should contain a description of existing stand conditions and prescriptions. It should also contain information on basal area, DBH, stocking levels, targeted trees, desired future condition, and a schedule of operations.

Stand Specific Information (print more pages as needed)

☐ **Include Practice Location Map**: Attach map or sketch showing aerial view of where practice(s) is to be installed. Or confirm this map exists within plan.

Stand Number: Acres to be Treated: Year to be Completed:

Scenario	Pre-Cut Stocking Level	Crop Tree Species	Harvest Strategy	Cutting Method
☐ Thinning for Wildlife and Forest Health	☐ Overstocked	☐ White Pine	☐ Shelterwood	Hand crew:
☐ Patch Cuts	☐ Fully Stocked	☐ Red Oak	☐ Patch cut or clearcut	☐ Brush saw
☐ Marking only	☐ Understocked	☐ Birch spp.	☐ Pre-commercial thinning	☐ Chainsaw
		☐ Sugar Maple	☐ Group selection	Mechanized:
		☐ Red Spruce	☐ Seed Tree cut	☐ Conventional
Trees to be marked prior to cutting Yes ☐ No ☐ N/A ☐		☐	☐ Mast tree release (> 20/ac)	☐ Cut-to-length
*AGS to UGS ratio to be improved Yes ☐ No ☐ N/A ☐		☐	☐	☐ Whole-tree

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*AGS=Acceptable Growing Stock
UGS=Unacceptable Growing Stock

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ADDITIONAL PRACTICES IN FMP

Forest Trails Needed:	☐ Yes	☐ No	*If **Yes,** refer to the appropriate practice standards and implementation requirements sheet for the respective practice(s).
Temp Stream Crossings Needed:	☐ Yes	☐ No	
Wetland Crossings Needed:	☐ Yes	☐ No	
Brush Management Needed:	☐ Yes	☐ No	
Access Road Needed:	☐ Yes	☐ No	
Access Control Needed:	☐ Yes	☐ No	
Wildlife Practices Recommended:	☐ Yes	☐ No	

NOTES:

CERTIFICATION **(NRCS Completes this section)**

Practice(s) were implemented as defined above: ☐ **Y** ☐ **N**

Before Pictures on File ☐ **Y** ☐ **N** ☐ As Built Map and Digital Photos Attached

GPS Points Collected ☐ **Y** ☐ **N** UNH Extension assisted to: ☐ Certify ☐ Plan ☐ Both

Certification Notes:

I certify that the installation meets NRCS standards and specifications.

Inspector

Date

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