

Forest Stand Improvement

Conservation Practice Job Sheet

AK-666



Definition

The manipulation of species composition, stand structure, and stocking by cutting or killing of selected trees and understory vegetation.

Purposes

To increase the quality and quantity of forest products, e.g. sawtimber, veneer, wood fiber, poles, pilings, birch syrup, naval stores, nuts and fruits.

- Increase the quantity and quality of forest products by manipulating stand density, composition and structure
- Harvest of forest products
- Achieve a desired understory plant community
- Production of renewable energy
- Initiate forest stand regeneration
- Reduce potential damage from wildfire, pests, and moisture stress
- Restore natural plant communities
- Achieve or maintain a desired native understory plant community
- Improve aesthetic and recreation, values.
- Improve wildlife habitat
- Improve water conservation and yield
- Increase carbon storage in selected trees

Where Used

All forest land where improvement of forest resources is needed.

Forest Land Management System

Forest Stand Improvement is a practice that is part of an overall conservation management system for forest lands or lands that have established

seedlings/trees that need managing. The practice is used to manipulate an existing stand of trees to achieve a desirable composition; to control unwanted vegetation that is competing with the desired tree or shrub species; to harvest and extract trees; and to achieve a stand structure for desired regeneration. A post-treatment assessment is usually needed to determine if desired conditions were achieved and if future treatment is needed.

Plans and Specifications

Plans and specifications will be developed in each field or management unit where the practice will be applied. Depending upon the practice purpose the document will contain the tree specie being managed for, site index, current trees per acre, desired trees per acre, number of trees per acre to be removed; plant specie being controlled or removed; and treatment method. When harvesting trees the document will include the harvest method, logging system, road conditions/needs, skid trail and slash treatment needs.

It shall be the responsibility of the client to obtain all necessary permits and/or rights, and to comply with the Alaska Forest Resources and Practices Act and Regulation, (<http://www.dnr.state.ak.us/forestry/pdfs/07JuneForestResourcesPracticesAct.pdf>), and http://forestry.alaska.gov/pdfs/2009AFResourcesPracticesRegulations_June2007.pdf and local ordinances and laws pertaining to the application of this practice.

For chemical treatments, the landowner will provide the following:

- Dates of application,
- Rate of application,
- Chemical name,
- Any special techniques, timing, or other factors that need to be considered to ensure a safe and effective application.

Resource Management Systems

This practice may be used in conjunction with other forestry practices to plan a resource management system which will address all of the resource concerns inventoried. Along with practices Access Road (560), Forest Roads and Skidtrails (655), Critical Area Planting (342), Tree and Shrub Pruning (660), Use Exclusion (472), Upland Wildlife Habitat Management (645), and Pest Management (595); this practice would address all of the inventoried resource concerns on a particular forest unit.

Wildlife

Forest Stand Improvement can provide excellent opportunities to improve or enhance habitat for

selected species. Brush piles created from stand enhancement activities can create temporary habitat and food supplies for a variety of wildlife species. Refer to Upland Wildlife Habitat Management (645), for other enhancement opportunities. Maintaining an adequate riparian forest buffer is also an important consideration when enhancing and maintaining habitat (see Riparian Forest Buffer (391)).

Operation, Maintenance, and Safety

Periodic inspections during treatment activities are necessary to ensure that objectives are achieved and resource damage is minimized. Follow-up and ongoing management activities will be needed to obtain desired results.

Use Soil-Forestland interpretations to plan a systematic cutting and reforestation program and to determine the hazards and limitations that may be encountered. Restrict equipment use to periods when the soils are relatively dry or frozen. Insure the safety of on-site personnel by following all pertinent local, state and federal requirements.

Falling and Bucking – Remove harvested products from the site in a manner that will not damage remaining trees. Stumps will not be higher than one foot. Fell trees away from all fence lines, drainages, perennial streams, lakes and ponds.

Skidding – (see Forest Harvest Trails and Landings (655)).

Landings – (see Forest Harvest Trails and Landings (655)).

**Natural Resources Conservation Service
FOREST STAND IMPROVEMENT**

Land user: _____ **Field:** _____
Assisted by: _____ **Date:** _____
 Land use: (forest) (wildlife) (grazing) (Other _____)

Purpose (check all that apply)	
Harvest forest products <input type="checkbox"/>	Improve water conservation and yield <input type="checkbox"/>
Reduce wildfire hazard <input type="checkbox"/>	Achieve a desired level of crop tree stocking and density <input type="checkbox"/>
Improve forest health, reducing damage from pests, moisture stress or wildfire <input type="checkbox"/>	Restore natural plant communities <input type="checkbox"/>
Initiate forest stand regeneration <input type="checkbox"/>	Achieve or maintain a desired understory plant community <input type="checkbox"/>
Increase carbon storage in selected trees <input type="checkbox"/>	Renewable energy production <input type="checkbox"/>
Improve wildlife habitat <input type="checkbox"/>	Improve aesthetic, recreation, and open space values <input type="checkbox"/>
Increase the quantity and quality of forest products by manipulating stand density, composition and structure <input type="checkbox"/>	

Table 1: Field Conditions

Soil Mapping Units	Restrictions/Special Considerations for Soil Types:

Additional specifications and notes:

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FOREST STAND IMPROVEMENT (Harvesting/Thinning)

Forest Stand Improvement - Job Sketch or see attached map

Insert Toolkit plan map or sketch the field, showing any sensitive areas and required setback zones. Inside each sketched field, enter total field acres and net application acres. Other relevant information, such as complementary practices or adjacent field or tract conditions may be included.
Scale 1" = _____ ft. (NA indicates sketch not to scale.)

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DESIGN APPROVAL:

PRACTICE CODE NO.	PRACTICE	CONTROLLING FACTOR	UNITS
666	Forest Stand Improvement	Acres	Acres

Design Approved by: /s/ _____ Date: _____

Job Title: _____

CLIENTS ACKNOWLEDGEMENT STATEMENT:

The Client acknowledges that:

- They have received a copy of the specification and understand the contents and requirements and agree to install as designed.
- It shall be the responsibility of the client to obtain all necessary permits and/or rights, and to comply with all ordinances and laws (Alaska Forest Resources Practices Act and Regulations) pertaining to the application of this practice.
- That no changes will be made in the installation with prior concurrence from NRCS and also agree to maintain the installation for 10 years.

Client: /s/ _____

Date: _____

CERTIFICATION:

I have completed a review of the information provided by the client and certify this practice has been applied.

Certification by: /s/ _____

Date: _____

Job title: _____

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 Conserve, maintain, and improve our natural resources and environment.

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