



CONSERVATION STEWARDSHIP PROGRAM

CONSERVATION ENHANCEMENT ACTIVITY

E666B

Converting loblolly and slash pine plantations to longleaf pine

Conservation Practice 666: Forest Stand Improvement

APPLICABLE LAND USE: Forest

RESOURCE CONCERN ADDRESSED: Plants, Animals, Water

ENHANCEMENT LIFE SPAN: 10 YEARS

Enhancement Description

Longleaf pine has greater wildlife habitat value, is more resistant to insects and disease, and is better able to withstand hurricane-force winds than other southern pines, particularly loblolly and slash pines. Because of rapid early growth, loblolly and slash pines have often been planted on soils and sites better suited to longleaf. Loblolly and slash pine plantations can be converted to longleaf by clearcutting and planting seedlings, but mature tree cover is then lost for 20 or more years. This enhancement will gradually convert an existing loblolly or slash pine plantation to longleaf while at the same time maintaining mature tree cover with the associated benefits of wildlife habitat and visual quality, and moderating effects on soil temperature, soil moisture and understory plants.

Criteria

- States will apply general criteria from the NRCS National Conservation Practice Standard Forest Stand Improvement (Code 666) as listed below, and additional criteria as required by the NRCS State Office.
- The enhancement will be applied to sites presently occupied by loblolly or slash pine but well-suited to longleaf pine. Loblolly/slash pine trees will be at least 15 years old but not more than 50 years old.

| | | |
|---|-------------|-------------|
| E666B Converting loblolly and slash pine plantations to longleaf pine | August 2019 | Page 1 |
|---|-------------|-------------|



CONSERVATION STEWARDSHIP PROGRAM

- Locate any existing openings in the loblolly/slash plantation and enlarge them to an average of $\frac{1}{2}$ acre (166 feet in diameter). Create additional $\frac{1}{2}$ acre openings, if needed, until about 20% of the plantation is in $\frac{1}{2}$ acre openings.
- Thin the remaining portions of the plantation, removing about 40% of the trees per acre or leaving a residual basal area of 60 sq. ft., whichever results in the greatest residual basal area. Reserve the most vigorous dominant trees with the best crown ratios.
- In the openings, apply appropriate site preparation and plant containerized longleaf pine seedlings as early in the planting season as possible at a rate of approximately 600/acre (6 x 12 or 7 x 10).
- Apply prescribed fire at 2-year intervals to control competing vegetation, especially loblolly/slash pine seedlings.
- Repeat the steps above at 10-year intervals, enlarging existing openings or creating new $\frac{1}{2}$ acre openings across another 20% of the plantation and thinning the remaining timber as described above. Plant seedlings and burn as above.
- An uneven-aged longleaf pine stand will be the final result when the last loblolly/slash trees are cut, with a 40-year difference between the youngest and oldest longleaf trees.
- It is assumed that each timber harvest will be commercial, so no financial assistance is offered for the cutting and removal of timber.
- Refer to WIN-PST criteria in NRCS Conservation Practice Standard Integrated Pest Management (Code 595), Brush Management (Code 314), or Herbaceous Weed Control (Code 315) and comply with applicable State and local laws if an herbicide will be used.
- Time tree felling to avoid buildup of insect or disease populations.
- Implement forest stand improvement activities in ways that avoid or minimize soil erosion, compaction, rutting, and damage to remaining vegetation, and that maintain hydrologic conditions.



CONSERVATION STEWARDSHIP PROGRAM

- Protect site resources by selecting the method, felling direction and timing of tree felling, and equipment operation. For temporary access use NRCS Conservation Practice Standard Forest Trails and Landings (Code 655), to protect soil and site resources from vehicle impacts.
- Use NRCS Conservation Practice Standard Access Road (Code 560) for more heavily used roads associated with forest stand improvement activities.
- Where slash and debris will be generated, use NRCS Conservation Practice Standard Woody Residue Treatment (Code 384), to appropriately treat slash and debris, as necessary, to assure that it will not present an unacceptable fire, safety, environmental, or pest hazard. Remaining woody material will be placed so that it does not interfere with the intended purpose or other management activities.
- Do not burn vegetative residues except where fire hazard or threats from diseases and insects are of concern or when other management objectives are best achieved through burning. When slash and other debris will be burned onsite use NRCS Conservation Practice Standard Prescribed Burning (Code 338).



CONSERVATION STEWARDSHIP PROGRAM

Documentation and Implementation Requirements:

Participant will:

- Prior to implementation, review the following NRCS Conservation Practice Standards that contain information needed to meet criteria for this enhancement.
 - Forest Stand Improvement (Code 666)
 - Tree/Shrub Establishment (Code 612)
- Prior to implementation, obtain a current or updated Forest Management Plan (FMP) that includes activities required to implement this enhancement. The FMP will provide documentation that the site is well-suited for a gradual conversion to longleaf pine. The FMP will be available for NRCS review.
- Prior to implementation, acquire all necessary approvals and permits (i.e. local, state, or federal, as applicable).
- Prior to implementation, develop an understanding of the process of converting a loblolly/slash pine stand to longleaf pine through gradually removing overstory trees and planting longleaf pine in the understory.
- Prior to implementation, recognize that other NRCS Conservation Practice Standards may be needed to apply this enhancement. These may include:
 - Brush Management (Code 314)
 - Herbaceous Weed Control (Code 315)
 - Integrated Pest Management (Code 595)
 - Forest Trails and Landings (Code 655)
 - Access Road (Code 560)
 - Woody Residue Treatment (Code 384)
 - Prescribed Burning (Code 338)
- Prior to implementation, review state's Forestry Best Management Practices (BMPs), and if prescribed burning will follow tree removal, obtain a prescribed burn plan.
- Prior to implementation, arrange to have a forestry specialist mark trees to be removed around existing openings and in tree thinning throughout the site.



CONSERVATION STEWARDSHIP PROGRAM

- During implementation, follow state-approved Forestry Best Management Practices (BMPs) to protect streams, water quality, and minimize soil loss.
- During implementation, follow site preparation guidelines in the FMP to provide suitable conditions for planting longleaf pine seedlings.
- During implementation, reduce the number of trees as described in enhancement criteria and specifications.
- During implementation, ensure that trees are planted correctly following NRCS Conservation Practice Standard Tree/Shrub Establishment (Code 612) specifications.
- During implementation, ensure that trees selected for planting are in good condition and handled properly.
- During implementation, protect desirable existing vegetation from damage.
- During implementation, control or reduce significant piles of woody debris.
- During and after implementation, ensure that planted trees are properly protected.
- After implementation, follow specifications for determining tree survival rates and, if necessary, replant according to specifications.
- After implementation, conduct prescribed burning when the longleaf pine seedlings have become established, as needed.
- After implementation, delineate treated acres, note dates completed and methods, and document representative treatments with digital photos.

NRCS will:

- Prior to implementation, provide assistance with interpretation of a current or updated FMP for sites where this enhancement will be applied, including an explanation of the process for converting loblolly/slash pine stands to longleaf pine stands over an extended period of time.
- Prior to implementation, provide and explain the following NRCS Conservation Practice Standards as they relate to implementing this enhancement.
 - Brush Management (Code 314)
 - Herbaceous Weed Control (Code 315)
 - Forest Stand Improvement (Code 666)
 - Forest Trails and Landings (Code 655)



CONSERVATION STEWARDSHIP PROGRAM

- Prescribed Burning (Code 338)
 - Woody Residue Treatment (Code 384)
 - Access Road (Code 560)
 - Integrated Pest Management (Code 595)
- As needed, prior to implementation, NRCS will provide technical assistance in:
- Guiding the proper sequence and timing of plantation conversion activities and related practices.
 - Preparing specifications for applying this enhancement for each site using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.
- Prior to implementation, ensure that the participant has an appropriate prescribed burn plan, herbicide recommendations from an approved source, and an understanding of how these practices will be applied on the property.
- During implementation, provide technical assistance if requested by the participant.
- During implementation, evaluate any planned changes to verify they meet the enhancement criteria.
- After implementation, certify that the enhancement was completed according to criteria in the enhancement, and specifications for NRCS Conservation Practice Standards Forest Stand Improvement (Code 666) and Tree/Shrub Establishment (Code 612).

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

NRCS Technical Adequacy Signature Date

| | | |
|---|-------------|-------------|
| E666B Converting loblolly and slash pine plantations to longleaf pine | August 2019 | Page 6 |
|---|-------------|-------------|



SOUTH DAKOTA (SD) SUPPLEMENT TO CONSERVATION ENHANCEMENT ACTIVITY

CONSERVATION STEWARDSHIP PROGRAM

E666B

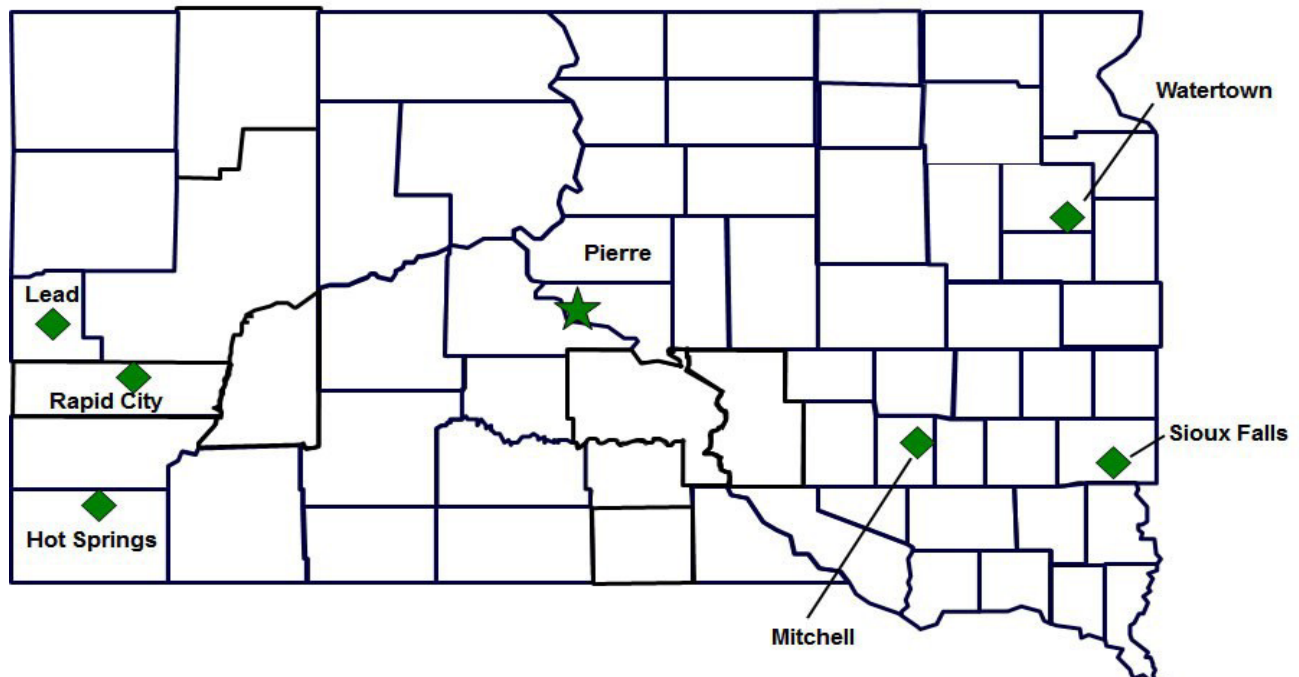
Converting Loblolly and Slash Pine Plantations to Longleaf Pine

Additional Criteria for SD:

In addition to the criteria specified in the national job sheet E666B the following additional criteria apply in SD:

- A Forest Stewardship plan will need to be developed. The SD Department of Agriculture will develop a plan with producers, and they can be contacted at:

Office Locations





CONSERVATION STEWARDSHIP PROGRAM

| | |
|---|---|
| Hot Springs - Field Office 2202 University Ave. Hot Springs, SD 57747-1802 605-745-5820 | Lead - Field Office 622 Hearst Avenue, Suite B Lead, SD 57754-1058 605-584-2300 |
| Mitchell - Field Office 1315 N. Main St., Suite #104 Mitchell, SD 57301-1302 605-995-8189 | Pierre - State Office 523 E. Capitol Ave. Pierre, SD 57501-3182 605-773-3623 |
| Rapid City - Field Office 3305 W. South St. Rapid City, SD 57702-8160 605-394-2395 | Sioux Falls - Field Office 4305 South Louise Ave, Suite #107 Sioux Falls, SD 57106-3115 605-362-2830 |
| Watertown - Field Office 2001 9th Ave. SW, Suite 500 Watertown, SD 57201-3503 605-882-5367 | |