

APPENDIX R

Potential Pine Woodlands Areas

Potential Pine Woodlands Areas Planning Process

Background

Below is a map of the Potential Pine Woodlands Areas in the CP and PMOP and management suggestions for these Areas. The map identifies areas where FDc12, FDc23, FDc24, FDn12, and FDn33 Woodland Native Plant Communities (NPC) are likely to occur based on soils and land cover data. These five communities are generally dominated by jack pine but also contain significant components of red pine, aspen, bur oak, birch, and/or white pine. Identifying Potential Pine Woodland Areas was prompted by concern and interest in jack pine because it is a unique and declining habitat/community, it is difficult to regenerate in much of the CP and PMOP, and the CP-PMOP SFRMP establishes aggressive goals to increase jack pine cover type acres during the life of the Plan.

Planning Process

The map was created by starting with a base soil survey layer, which consisted of the STATSGO Soil Survey Polygons layer for Crow Wing county and the SURGO Soil Polygon layer for all other counties, and then selecting certain entisol soil polygons from it. Each of these soil polygons was scored: 2 points for entisols that were well, somewhat excessively, or excessively drained, 1 point for entisols with drainage of moderately well, or 1 point for other soils with a major component of entisols and drainage of moderately well or better. The resulting soils layer was then overlaid with Pre-settlement Vegetation (Marshner's Map) and Gap Analysis Program (GAP) Land Cover layers. In the next step, an additional point was added to the scored soil polygons that contained at least 10% Jack Pine Barrens & Openings from the Pre-settlement Vegetation layer. In the last step, 2 points were added to scored soil polygons that contained at least 5% GAP Jack Pine or 1 point for soil polygons that contained at least 5% GAP Red Pine with less than 5% GAP Jack Pine from the GAP Land Cover layer. This resulting map consists of soil polygons with combined scores of 1 up to 5 (the Woodland NPCs mentioned above are more likely to occur in the areas scoring higher).

Management Suggestions: Potential Pine Woodland Areas

- Common woodland NPCs in the CP-PMOP include FDc12, FDc23, FDc24, FDn12, and FDn33
- Manage for pine woodland conditions where opportunities exist
 - more open conditions (25-100% canopy closure with a longer stand establishment period)
 - predominately early growth stages (normal rotation ages)
 - mostly jack pine with red pine, aspen, bur oak, birch, and/or white pine
- Promote natural regeneration through seed tree and small gap harvests for non-serotinous jack pine, conduct brush and sod control when necessary, manage for prairie grasses and forbs (ground layer) in appropriate NPCs, and use prescribed burning (understory and light slash burns) when possible
- When artificially regenerating a site, use local seed source or unimproved stock (local origin), leave scattered live trees for seed sources and shade, and discourage establishment of invasive or cool-season sod-forming grass species
- Accept lower stocking levels and allow for 10 to 30 year recruitment window with acceptable levels by 5 and/or 10 years
- Separate treatment/prescription types by northern and central floristic regions
- Manage Jack Pine stands that occur in FDc12 and FDn12 NPCs on a longer rotation when possible (can hold these normal rotation stands longer or ERF stands closer to maximum rotation age)

Pros

Restore and enhance unique and declining community/habitat
Reduces regeneration standards for jack pine (certification and cover type DFFCs)
Less site preparation and planting costs
Greater within stand structural complexity
Grow jack pine on appropriate sites, which are generally drought prone
Takes advantage of jack pine's ability to produce seed at early age (~12 years)
Natural pine regeneration is less susceptible to deer depredation
Lower rotation ages prevent serious jack pine budworm losses

Cons

Possible loss of fiber production
Focus on jack pine rather than red pine and other conifers in these areas
Later stand establishment and potentially longer intervals between final harvests
Younger cohorts within stand may be more susceptible to jack pine budworm
Older stands/trees may not provide sufficient seed source.

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