Reforestation and Site Preparation Results
Region III State Lands

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Northern Region Region Fairbanks, Alaska

Includes Consultation with: Region III Delta Area Forester Al Edgren, Tok Area Forester Jeff Hermanns, and Brian Young
Fairbanks Management Area

Methods of Site Preparation

• Dozer Blade (Most Common)

Winter Scarification
Fairbanks Management Area

Methods of Site Preparation

• Dozer Blade (Most Common)
Fairbanks Management Area

Methods of Site Preparation

• Disc Trencher
Fairbanks Management Area

Methods of Site Preparation

- Paddle Trencher
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Methods of Site Preparation

• Broadcast burning
Scarification Techniques

• 50% of area scarified
• Mostly with dozer blade D-6 or smaller
• Scarification is increasingly required in birch units
• Scarification required on a case by case basis on mixed and pure spruce units.
Tree Planting Techniques

- Currently planting at 300 trees per acre (12 foot spacing), 313B styroblock plugs.
- Planting in spruce and birch sites, all spruce seedlings.
- Earlier years were planting at 680 trees per acre but were finding more than adequate regeneration.
- Tree planting key is to only plant in suitable planting sites where the seedling is likely to survive.
- Plant as soon after logging as possible.
Fairbanks Management Area

Tree Planting Techniques

Properly Planted Seedling

Fresh Logged Site

Styroblock 313B One Year Old Plugs
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Reforestation Geodatabase

Reforestation Geo-Database

Number Per Acre Total
- 0 - 200
- 201 - 449
- 450 - 25950

Stock Percent of 450
- 0.000000 - 0.500000
- 0.500001 - 576.000000

Identify

Location: 427,306.295 7,173,534.257 Meters

Field | Value
--- | ---
OBJECTID | 239
SHAPE | Point
SALE_NUMBER | NC-945
SALE_UNIT | NC-945-1
Unit | 1
DATE_SURVEY | 5/19/2008
PLOT_NUMBER | 46
NB_PLANTED_WS | 9
NB_NATURAL_WS | 0
NB_TOTAL_WS | 9
NB_NAT_D_PLOT | 5
NB_NAT_A_PLOT | 0
NB_NAT_BS_PLOT | 0
NB_NAT_EP_PLOT | 0
NB_PL_PD_PLOT | 0
NB_TOTAL_PLOT | 14
NB_ACRE_PI_WS | 450
NB_ACRE_NAT_WS | 0
NB_ACRE_TOT_WS | 450
NB_ACRE_NAT_B | 250
NB_ACRE_NAT_A | 0
NB_ACRE_NAT_BS | 0
NB_ACRE_NAT_BP | 0

Identified 1 feature
• Total Units sampled = 17
• Birch units overall average trees per acre = 1,229
• Percent of units where plot average is within 90% of 450 trees per acre = 62%
• Total Units sampled = 98
• Mixed units overall average trees per acre = 715
• Percent of units where plot average is within 90% of 450 trees per acre = 90%
• Total Units sampled = 90
• Spruce units overall average trees per acre = 770
• Percent of units where plot average is within 90% of 450 trees per acre = 80%
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Adaptive Management Strategies

• Birch stands should be scarified unless understory contains a significant spruce component
Adaptive Management Strategies

- Spruce floodplain stands should rely on natural regeneration if a seed source is present and moss layer is thin.
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Adaptive Management Strategies

• Spruce floodplain stand with heavy moss-poor regeneration after scarification and planting
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Adaptive Management Strategies

• Spruce upland stand-plant to increase spruce density
Other Observations

- Difficult regeneration if grass is a component of birch before harvest
- Note seed availability, if harvest is immediately after a good seed year may have successful natural regeneration
- Harvest of mixed spruce/balsam poplar floodplain stands will have adequate natural regeneration
- Scarification needs to only disturb the organic mat not total removal down to silt layer
- Harvest in spruce or mixed stands will generally have adequate natural regeneration of hardwoods
- Aspen regenerates well naturally from seed and/or roots
Fairbanks Management Area

- Aspen natural regeneration
Delta Management Area

Methods of Site Preparation

• Dozer Blade JD450 with angle blade
• Excavator
Delta Management Area

Tree Planting Techniques

- Spot planting 100 trees per acre
- Scarification by harvesting is sufficient
Delta Management Area

Observations

• Scarify on winter sales only
• No scarification on summer sales logging disturbance is sufficient
• Gerstle River area is problematic with grass
Tok Management Area

Methods of Site Preparation

- Dozer Blade
- Roller Chopper
- Disc Trencher
Tok Management Area

Observations

• Regeneration surveys overall show over stocked ground, but uneven distribution
• Require scarification on spruce timber sales though there are equipment access issues on winter sales
• Scarification improves stocking levels
• Roller chopper can also stimulate aspen root suckering
• Most cost effective manner of scarification equipment needs to be continually moving forward such as roller chopper or harrow disc.
Overall Observations Concerning FRPA

450 Trees per Acre after 7 Years

• Possibly high maybe half this amount
• More than adequate regeneration will fill in with enough trees over the rotation length especially first 20 years
• Should continue with the 7 year time period
• Standards maybe should vary depending on species harvested, (birch vs. spruce)
• Standards maybe should vary depending on site index so as not to invest heavily into poor sites