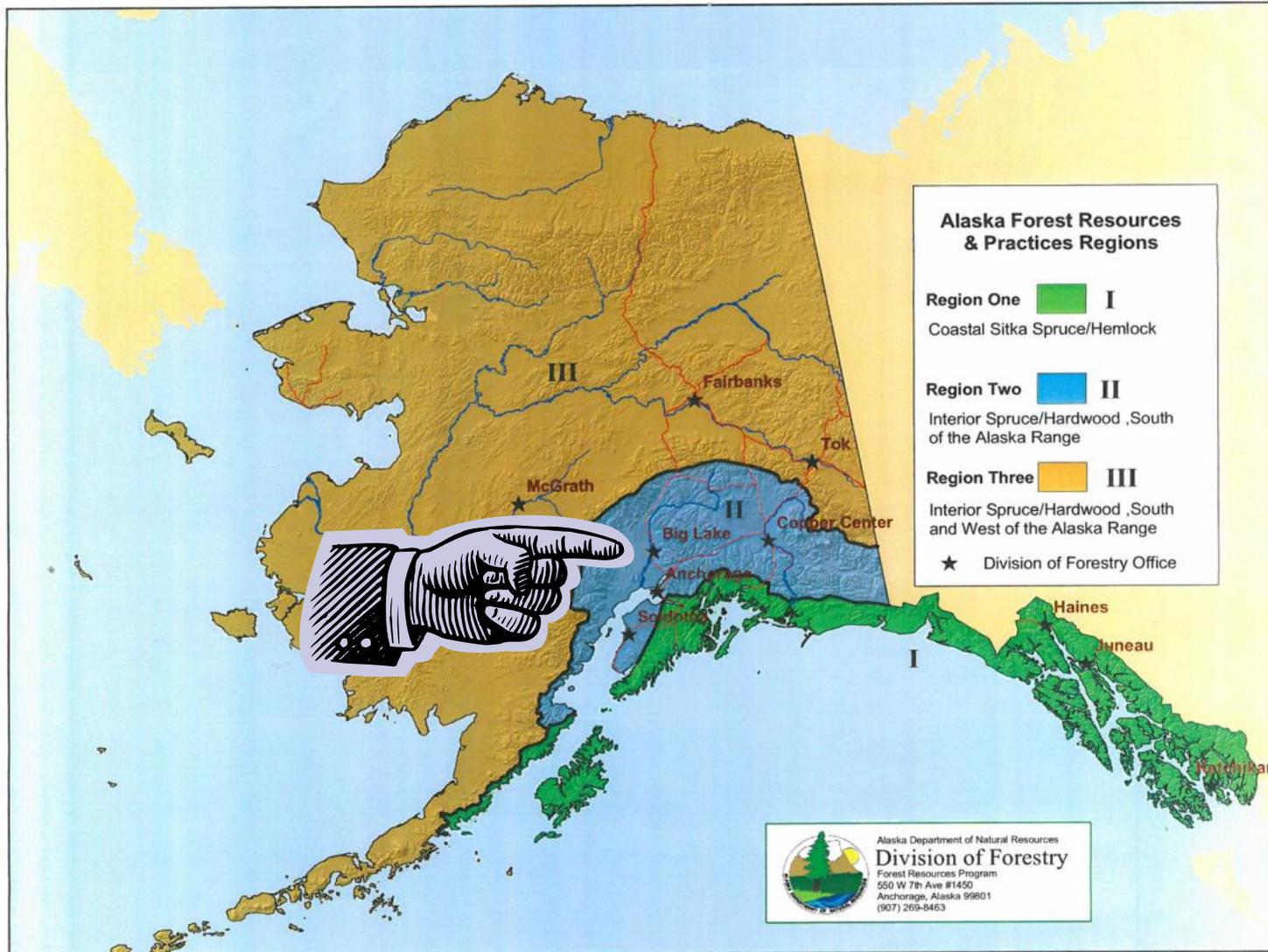


Science & Technical Committee—Reforestation Standards, Region II / III November 24, 2014 Region II Reforestation Presentation



United States Department of Agriculture

Reforestation Experiences across FRPA Region II



Information from consultation with:

- Gary Mullen—Area Forester, Division of Forestry Valdez/Copper River Area Office, Glennallen
- Ben Seifert—Bureau of Land Management—Glennallen

- Rick Jandreau—Area Forester Division of Forestry / Mat-Su Area Office, Palmer
- Chris Olson—Resource Forester Division of Forestry/ Mat-Su Area Office, Palmer

- Wade Wahrenbrock—Forester – Kenai Peninsula Borough and formerly Division of Forestry, Kenai/Kodiak Area Office, Soldotna
- Hans Rinke—Area Forester, Division of Forestry, Kenai /Kodiak Area Office, Soldotna
- Mike Fastabend—Forester– Kenai Peninsula Borough

Copper River

- Few difficulties achieving FRPA stocking levels within 7 years
- Natural regeneration reliably occurs after logging and associated site disturbance

Mat_Su

- Past harvest targeted spruce. Residual birch resulted in reforestation compliance
- Scarification after harvest resulted in adequate natural regeneration
- Grass is a problem in personal use firewood sites due to slower harvest rates, with more time for grass to establish
- DOF is monitoring reforestation to see if compliance issues are developing

Kenai Peninsula

- Grass competition a significant widespread reforestation obstruction
- As timber died during the beetle infestation, more sunlight enabled more grass establishment
- Grass readily occupies and overtake harvested sites
- Scarification is necessary to enable natural regeneration or improved planting sites.
- Natural regeneration occurs –even to FRPA stocking levels—along skid trails, and within 100 feet of retention fringes. Large, under-stocked areas are common.

Common Reforestation Approaches

- **Harvest—no scarification natural regeneration**
- **Harvest—scarify—natural regeneration**
- **Harvest—scarify—planting**
- **Partial cutting**

Harvest—no scarification natural regeneration

- Where it works, do it
- No/Low Cost
- Logging may provide enough site disturbances
- Under-stocking due to competition likely
- May miss out on timber stand improvement opportunities by not establishing superior stock

Harvest—scarify—natural regeneration

- Competing vegetation encroachment is held at bay
- Desired seedlings must grow fast enough to withstand eventual competing vegetation, and not be overtopped
- Scarification is an added cost that should be weighed against the need to apply it: “Is grass competition really that bad?”

Harvest—scarify—planting

+Competing vegetation is held at bay

+Reforestation can be initiated with superior stock, and the larger planted seedlings have a head start on recruitment

-Scarification and planting are added costs that may exceed commercial value of the timber, especially for salvage

Partial cutting

-No reforestation efforts necessary if residual stand meets 11 AAC 95.375 (b)(4) standards:

Average DBH	Minimum Stocking (trees/acre)
> 9"	120
6" to 8"	170
1" to 5"	200

- Compliments salvage/sanitation operations. Some firewood operators only want dead trees
- Partial harvest not usually limited by terrain in Region II
- Requires finesse by the operators, and/or smaller equipment
- Requires more land manager scrutiny and preparatory work (marking trees, close inspections)
- May be a lack of high-quality trees
- Recruitment may be hindered by competing vegetation

Talking Points

Rank the reforestation approaches in your area, based on overall effectiveness and within budget

Site Preparation

Expose mineral soil, but more importantly, abate competing vegetation especially: *Calamagrostis canadensis*



Photo by Wade Wahrenbrock



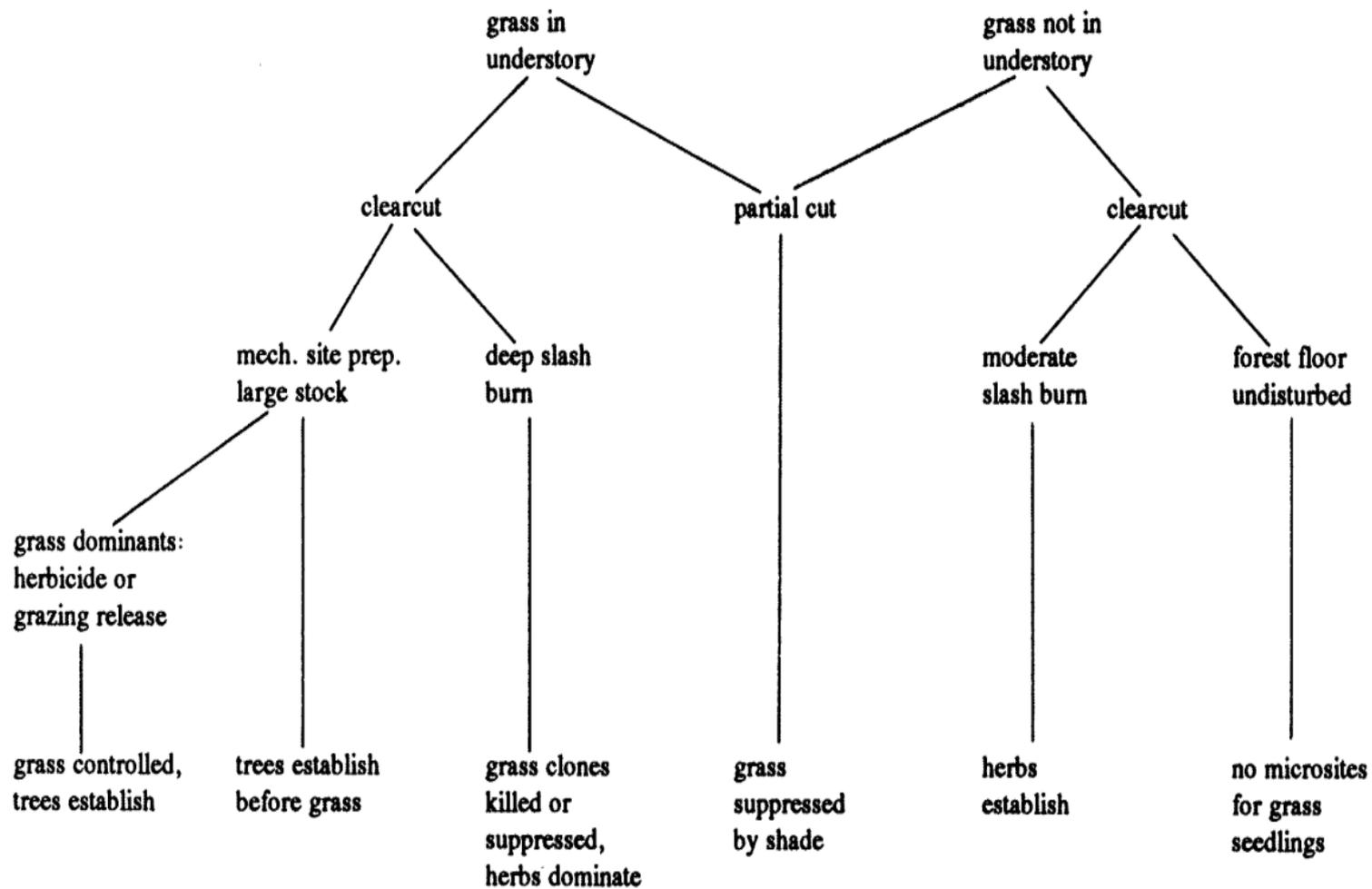


FIG. 2. Management strategies for control of *Calamagrostis canadensis* in boreal mixed-wood forest.

Which of these options are unlikely alternatives in your management area?

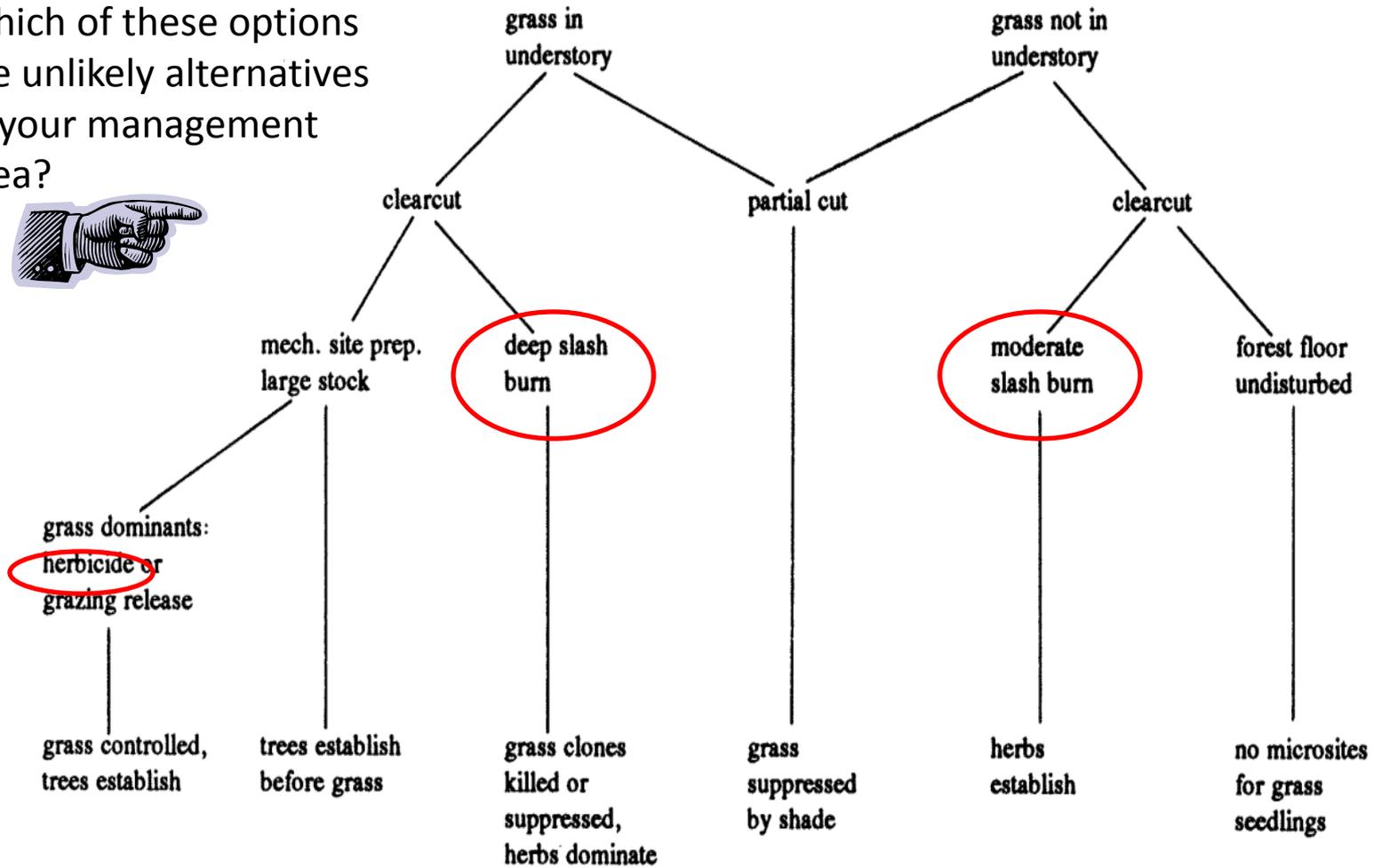


FIG. 2. Management strategies for control of *Calamagrostis canadensis* in boreal mixed-wood forest.

Lessons Learned:

- Site preparation effects are time-sensitive. Sites vary, but mechanically scarified sites on the Kenai have become nearly 100% occupied within 5 years
- Grass loves exposed mineral soil and grows faster than seedlings—especially naturals
- Grass is as a problem above and below ground; rhizome mats bind up available mineral soil leaving less nutritious subsoil for planting and seeding

Scarification costs at a glance:

Anchor Point Operator, 2014

Scarification costs: \$200/hour / **\$300/acre**

Factors:

Equipment Operation > 30 years

Logging Experience > 20 years

Scarification Experience > 15 years

Hourly Rate of a Large Excavator with thumb: \$200/hr

Scarification Coverage : 30%

Single, contiguous units are more efficient to treat. However, they also tend to have stocking deficiencies near the unit centers

Scarification Equipment and Techniques

Excavators

- +Reaching capabilities are effective
- +Enables slash piling for burning
- +Enables mounding technique (to be discussed in a few minutes)
- may be more expensive per hour than a dozer



Dozers

- +broadcast scarification effectively
- +used on the Kenai more extensively during the 1990's to blade and to tow trenchers
- create large piles and windrows (efficiency may be lost due to time moving debris out of the way)
- many operators on the Kenai reluctant to use them over excavators



Tracked vehicles with masticating heads (Fecon)

- +Efficient coverage

- +Maneuverable

- +Versatile applications in construction, landscaping, etc, may make them more available over time

- Does not scalp grass sod as thoroughly as excavators—
tree planters, 2011



Photo from Fecon, Inc

Final Points to Consider:

Are there alternatives to the 450 tpa/ 7-year requirements?

Have we learned enough about reforestation over the last 25 years to try site-specific approaches?

Based on :

- Inventories on State land
- Regeneration surveys
- Forest Management Goals