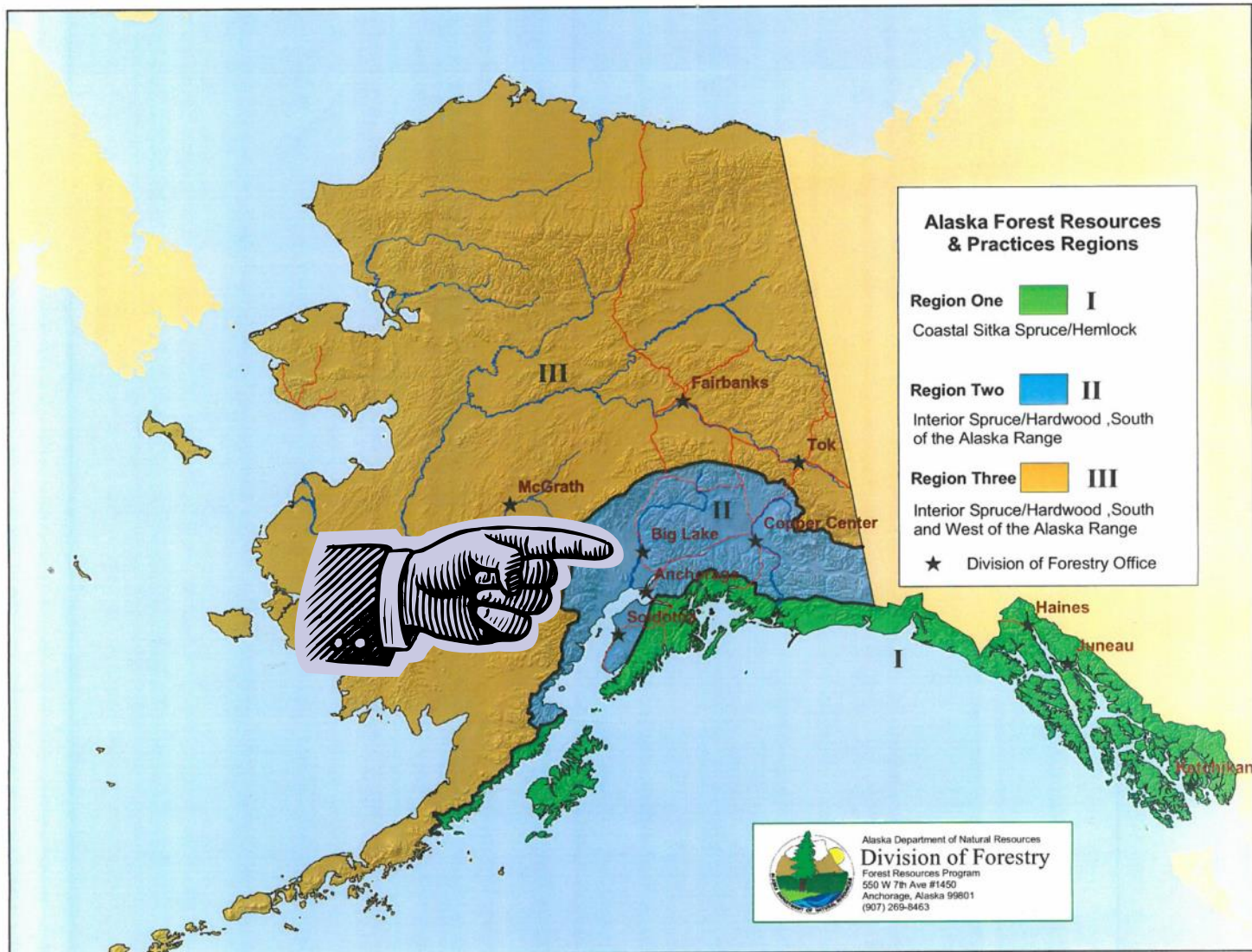


Science & Technical Committee—Reforestation Standards, Region II / III November 24, 2014 Region II Reforestation Presentation



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



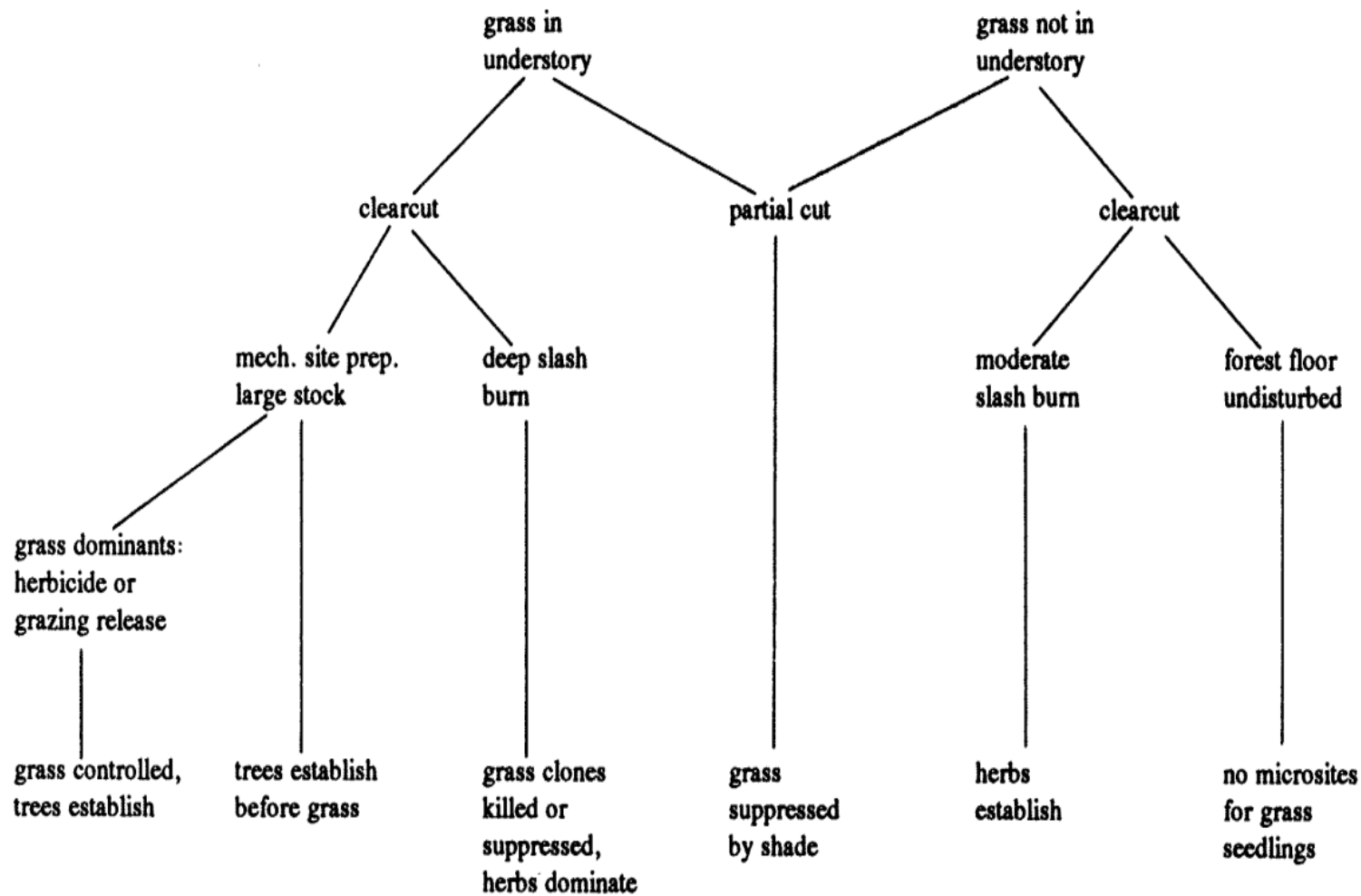


FIG. 2. Management strategies for control of *Calamagrostis canadensis* in boreal mixed-wood forest.

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

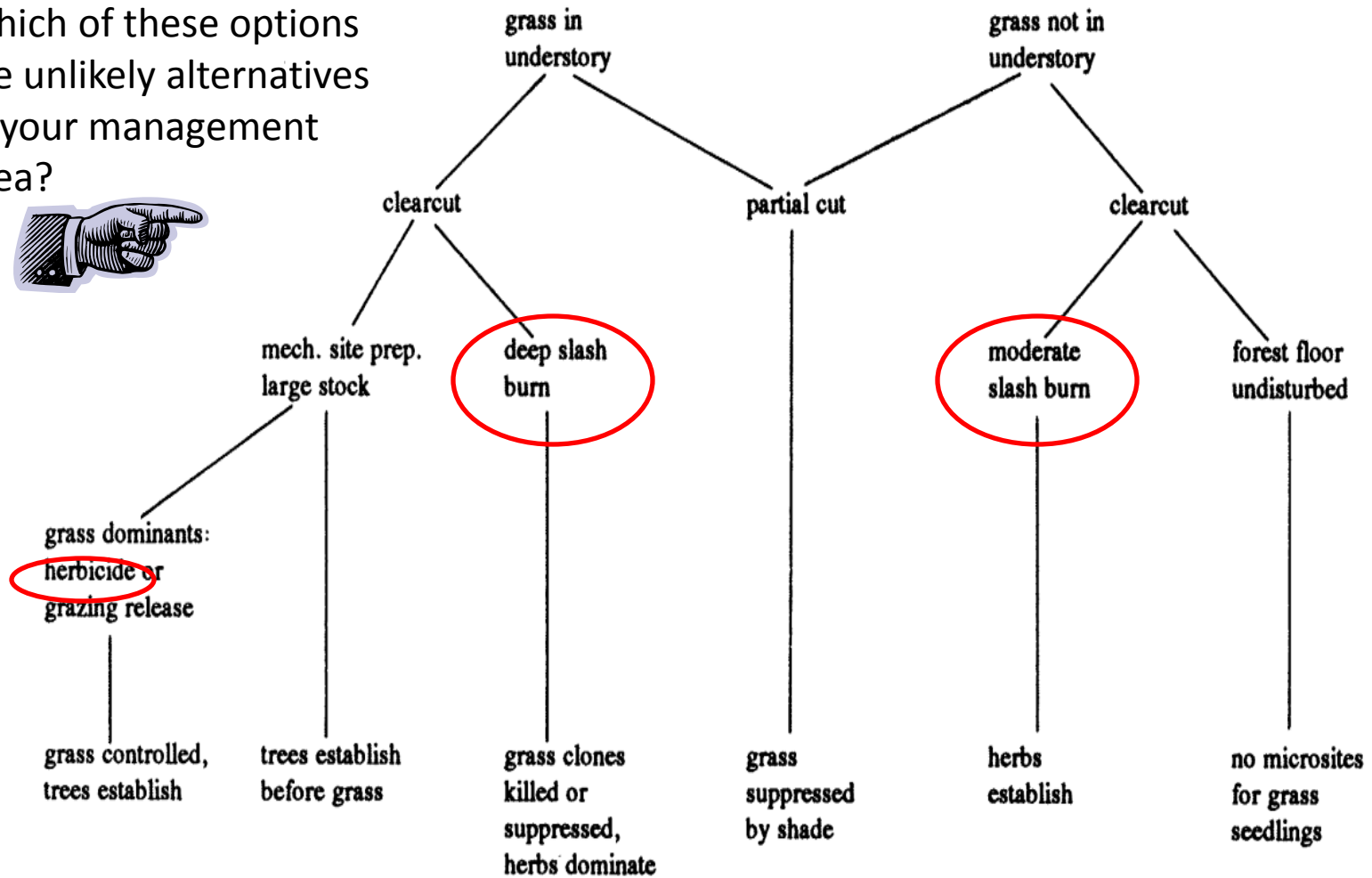


FIG. 2. Management strategies for control of *Calamagrostis canadensis* in boreal mixed-wood forest.

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