

## Lesson 4

# Project Administration and Monitoring

– an overview of the necessary steps and the intent

20 minutes

### Objectives:

1. The participants will be aware of the flow and intent of operational planning and contractual documents for commercial thinning projects.
2. The participants will be aware of the necessary fieldwork steps for data collection and layout and the timing and intent of each step.
3. The participants will discuss the choice of marking approaches and some issues associated with marking for commercial thinning.
4. The participants will be aware of the various approaches to collecting data for thinning quality (post treatment plots). The appropriateness of the various approaches under various situations will be discussed.

### Equipment Needs:

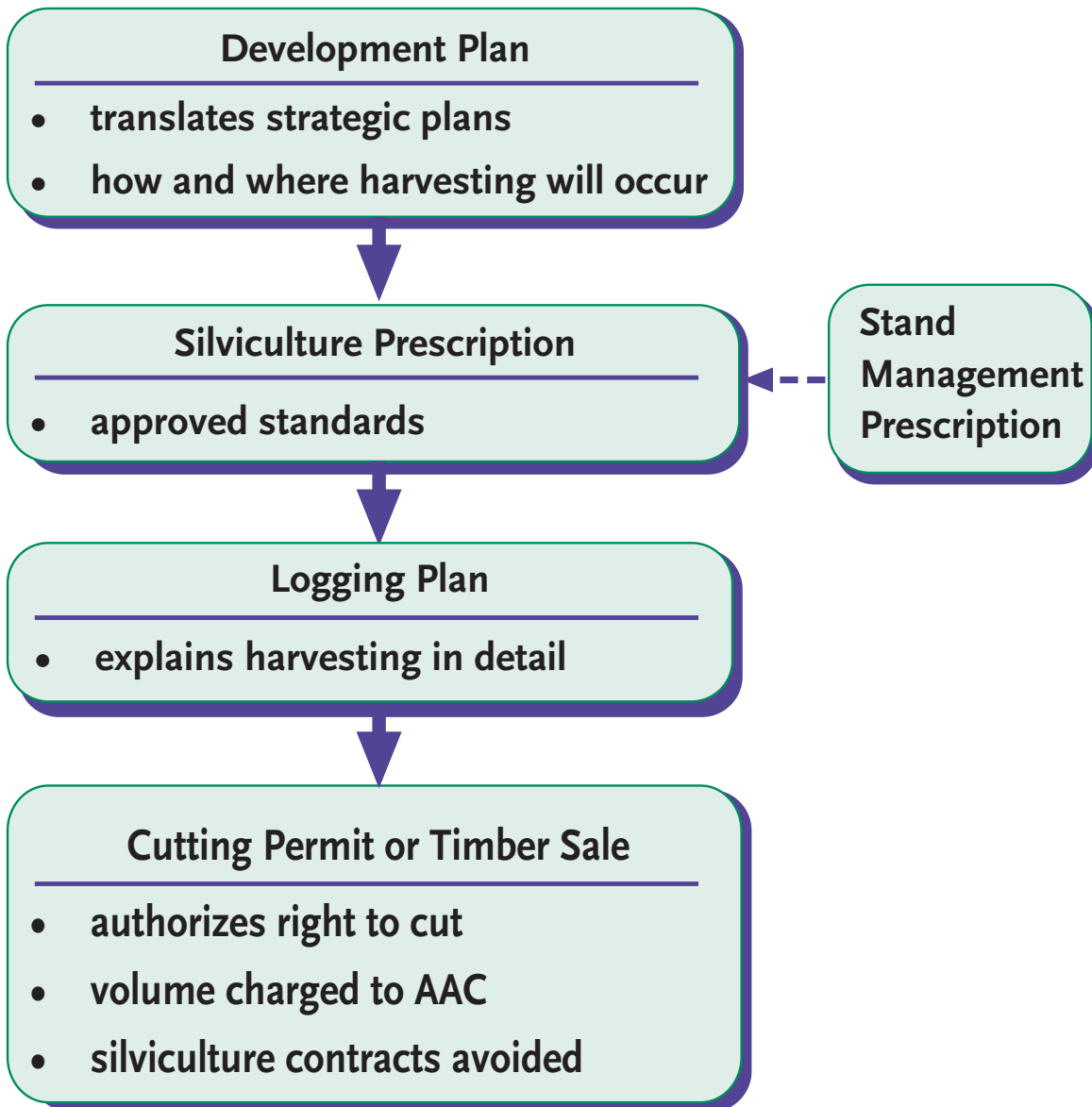
- ▲ overhead projector
- ▲ flip chart
- ▲ *Commercial Thinning Guidebook*

### Method:

- ▲ lecturette with discussion

# Operational Planning and Commercial Thinning

Higher level plans provide guidance



**Overhead: Operational Planning and Commercial Thinning**

**Facilitator:** Review the overhead – reinforce the importance and fit of each administrative step with the other. Be sure to emphasize that higher level plans should provide guidance for the operational plans.

**Note:** While this information is important it does not differ from normal procedures (i.e., harvesting other than CT). Therefore it can be skimmed over or left out if time is limiting.

**Key Points:**

**The Development Plan**

- ▲ The development plan guides the planning process over the next five-year period. It translates higher level strategic plans (objectives and strategies) for resource management areas or zones of emphasis where various resource objectives have been ranked in an LRMP (TSA level) or management plan (TFL).
- ▲ Where landscape unit plans have been developed on a drainage-by-drainage basis, development plans will incorporate all of the detailed strategic planning for FENs, old-growth reserves, riparian areas, and other special areas, as well as the objectives and strategies for various resource management zones.
- ▲ The development plan will demonstrate where and how harvesting activities will occur over the next five-year period, including all planned commercial thinning blocks.

**The SMP and SP**

- ▲ The SMP (if one was developed) may include a strategy for commercial thinning at the stand level, together with all other incremental activities. These plans are developed well before commercial thinning (usually at the time of spacing) so that they will eventually feed into the SP required for the commercial thinning harvest. This progression will not be apparent for some time.
- ▲ An SP approved by the DM is required prior to harvesting under a cutting permit in a commercial thinning block (or any cutblock).



## The Logging Plan

- ▲ The logging plan (approved by the DM) is also required prior to harvesting under a cutting permit.
- ▲ The logging plan is required under the *Act* to be consistent with the development plan and the SP. The *Act* takes the logging plan beyond a contractual agreement (as it used to be) and makes it a legal requirement, with administrative penalties attached for non-compliance with key content requirements.
- ▲ The logging plan differs from the SP in that it adds details to the direction for harvesting in an approved development plan and SP. It describes how harvesting will actually be carried out in explicit detail at a cutblock-by-cutblock level. All harvesting actions required to meet the SP requirements are detailed.

## The Cutting Permit or Timber Sale Licence

- ▲ The cutting permit or timber sale authorizes the right to harvest timber within a specified time period. The cutting permit is the document that is used for woodlot licences and major licences.
- ▲ All wood harvested under the approved utilization standards will be charged to the AAC of the licensee.
- ▲ **Note:** The MoF policy is to use standard CPs and TSLs to authorize commercial thinning. SBFEP blocks should be logged under a competitively awarded TSL. Silviculture contracts should be avoided. There are, however, some exceptions.
  - ~ **Ask the participants from the MoF for the exceptions.**
  - ~ If no applications for the advertised timber sale are received and the DM determines that non-economic reasons justify the continuation of the project (e.g., forest health).
  - ~ The DM in such a case will enter into a silviculture contract, but will generally retain the ownership of the decked logs to be sold competitively. There may be exceptions to this as well – *read the project administration section of the Commercial Thinning Guidebook for more information.*
- ▲ The suitability of the operator's equipment should be made available during the tendering phase for SBFEP timber sales. It is critical that the timber sale is awarded to the contractor with the right equipment to meet requirements in the logging plan and SP.

# Fieldwork



1. Stand Recce
2. SP data collection
3. Cruising and layout
  - ▲ include marking, prelocation of trails and reserves
4. Harvest monitoring
5. Compliance inspections
  - ▲ MoF enforcement officers
  - ▲ visual, with some plots
  - ▲ formal assessment if needed
6. Post-thinning plots
  - ▲ contract payment
  - ▲ reporting
7. Free growing assessment
  - ▲ 2+ years later

**Overhead: Fieldwork**

**Facilitator:** Review the requirements for fieldwork at the various critical stages for data collection, layout and monitoring.

**Key Points:**

**The Stand Recce**

- ▲ Initial stand-level data collection may occur even before the SP data collection – at the stand recce stage. Information from the stand recce may feed into development planning, SP development and the logging plan.

**The SP**

- ▲ The SP data are used to help determine and justify standards, harvesting methods and other future treatments.
- ▲ As previously mentioned the SP should include stand and stock tables and a windthrow hazard assessment for all soil types, timber types and changes in wind exposure.

**Cruising and Layout**

- ▲ The layout of the harvesting block should occur before the submission of the logging plan.
- ▲ This will include marking of timber (if required), prelocation of trails and demarcation of any reserves, special areas, and no-work zones.

**Harvest Monitoring (MoF or Industry Technician)**

- ▲ Should be every day during start-up and as required to facilitate meeting the requirements of the SP and logging plan.

**Compliance Inspections**

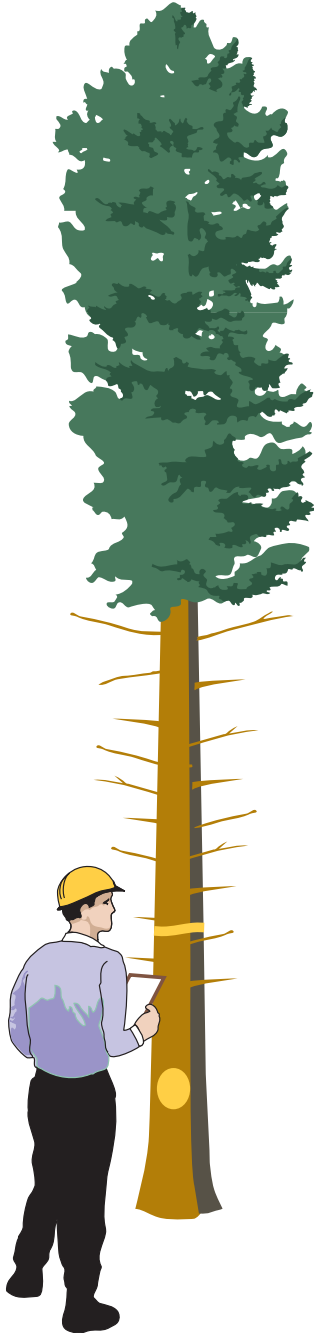
- ▲ May occur throughout the harvesting operation and as a minimum will occur afterwards.
- ▲ Generally these will initially include a visual inspection followed by formal compliance surveys if deemed necessary. More on this later with regards to soil conservation and stand damage.







# Marking approaches



1. Fallers choice
2. Mark-to-leave
3. Mark-to-cut

*Consider advantages and limitations of each.*

- ▲ Build in flexibility for faller substitution
- ▲ Assessment of marking quality is a must before falling begins.

## **Overhead: Marking Approaches**

**Facilitator:** Review the appropriate application of the three approaches and the advantages and disadvantages of each. Cost may be a factor – a possible option is to mark a portion of the block to train the fallers, and have the faller select on the remainder. More supervision may be required with this approach.

### **Key Points:**

#### **Faller's Choice (no marking)**

- ▲ When leave-tree selection is less important to the achievement of objectives and results can mainly be assessed by residual density and/or basal area.
  - use in very uniform stands where decisions are very straightforward
  - use where stand structural decisions and goals are very simple
  - some types of harvesting equipment can only work this way (i.e., single-grip harvesters do not work well in marked stands).
- ▲ Some other questions you should ask yourself before contemplating this method:
  - Do the fallers understand and care enough about your objectives to make the right choices?
  - Do the markers, or potential markers, know enough about falling in a stand like this to recognize safety or logistical falling problems?
  - Many classic European foresters do not agree with allowing the logger to make your most critical stand structural decisions. They see it as their role.
  - Do we have the resources to properly monitor and supervise the fallers?
  - With the right people doing the falling, well-trained, with your objectives as a priority, this method has been made to work.

#### **Mark-to-leave**

- ▲ The classical European method to approach partial cutting.
- ▲ Best when more basal area will be cut than is left.
- ▲ **Advantage:** Forces the marker to focus on the leave trees for decisions.



- ▲ Easier to preplan the stand for roads and trails.
- ▲ Removes uncertainty with SBFEP sales (as does mark-to-cut).
- ▲ It defines what looks good, which is often used as a rule of thumb. If it looks good it likely is good (some truth to this).

### **Mark-to-cut**

- ▲ Best when less basal area is cut than is left.
- ▲ **Advantage:** Quick – cut stems are often easy to choose (small, poor form, defective).
- ▲ **Limitations:** Tough for marker to visualize the residual stand. But again, with trained markers it has worked well in all sorts of stand structures and harvesting regimes.
- ▲ An advantage for aesthetics is that all marked trees are harvested. Therefore there are no unsightly paint marks on the leave trees – this may be important in high visibility areas. The opposite may be true for demonstration areas where you wish to show that the block was commercially thinned and specific trees were left (i.e., marked).

### **Substitutions for marked trees**

Flexibility must be built into logging plans, contracts and cutting permits to allow fallers to substitute similar leave trees close by when a marked tree presents an unacceptable falling situation.

Lots of latitude should be allowed in previously unmanaged stands, while less latitude may be included in managed stands that are more open and uniform. In all marking situations some latitude must be allowed. Often this may be determined by working with input from the contractor at the pre-marking stage.

### **Assessing marking quality**

**Remember:** Marking is the critical stage in determining the residual stand characteristics.

Many managers will favour no marking to avoid this extra step in the fieldwork and will therefore have to place responsibilities and possible contractual obligations on the logging contractor to ensure compliance with SP standards.

Some managers will see marking as an opportunity for a “first stab” at creating the structure described in the SP. If the marking is inadequate, changes can still be made.



**Overhead: Post-thinning plots**

**Facilitator:** Review the basic procedure

**Key Points:**

The following data should be collected:

- ▲ The number of trees in the plot (or “IN Trees” for the prism) by diameter classes, by species. Stems may be further broken into vigour classes, however these must be well defined.
- ▲ Sample tree data – heights, exact diameters, % live crown and any other noted conditions for sample trees of all species in all diameter classes.
- ▲ All damaged stems should be categorized by amount and type of damage according to the standards. If these plots are to be relied on for assessment of damage, more plots may have to be established to get a reliable estimate.

**Methods of Data Collection:**

- ▲ There are 3 choices of data collection methodologies for collection of information regarding post-treatment stand structure and thinning quality:
  1. Fixed radius plots
    - of sufficient size to achieve a minimum of 6 trees per plot.
    - minimum of 5 well distributed plots per stratum or standards unit (SU), however more plots are recommended in variable stands until an adequate comfort level with the data is achieved.
  2. Prism plots
    - use a BAF to achieve a minimum of 6 trees per plot.
    - minimum of 5 well distributed plots per stratum or standards unit (SU), however more plots are recommended in variable stands until an adequate comfort level with the data is achieved.
    - often 10–20 plots can be done relatively quickly with the prism method.
  3. Strip cruise
    - total cruise of trees within uniformly spaced strips of variable width, based on the desired sampling intensity and the size of the area. See the *Commercial Thinning Guidebook* for more information.
    - Sampling intensity will depend on the variability of the unit.
    - This method is borrowed from the Newfoundland Forest Service.