

**Hazards are Minimal, Static, and Understood**

# COMPLEXITY

**Hazards are Numerous, Dynamic, Not Understood and/or Unstable**

Known Low Release of Energy    Release of Energy Known but May Require Series of Cuts    High Release of Energy Expected or Unknown

Fell to any lay

<1" Lift to Overcome Lean

1"-2" Lift to Overcome Lean

Fire Present

Fire Weakened

Hung or Limb Locked Trees

# A

Static Hazards

# B

Dynamic Hazards

# C

Clear Escape Paths

Escape Path or Cover Limited

Green or Sound Hinge

Compromised Hinge

Simple Binds

Multiple Compound Binds

Storm Damage or Jackstraws

Double Cut Undercut/Backcut

>Double Cut Undercut/Backcut

Moderately Sloping Ground

# QUALIFICATION

Steeply Sloping Ground

## Dynamic Factors Affecting Saw Operation

### Human Factors

Attitude, Fatigue, Stress, Unexpected Reactions, Plan Failure

### Environment

Wind, Fire, Precipitation, Soil, Overhead, Unknown Tree Defects

### Static Factors Affecting Saw Operation

Objective, Fiber, Lay, Terrain, Known Tree Defects

**Do these factors align with your ability and qualification?**

**If YES, Proceed**

**If NO, Reassess**

**STOP Reevaluate**

No Safe Lay  
No Escape Route  
No Escape from Hazards  
<30% Fiber at Hinge  
Base Won't Support Stem If Cut  
Cutting Plan ≠ Objective  
Cutting Plan Changed

## Five Step Cutting Process

Felling/Bucking/Limbing/Brushing

### Objective

Regardless of task, develop a plan to determine where you want the cut piece to end up.

- If felling, plan the most desirable placement or lay for the tree
- If bucking, plan where you want the bucked log or round to go
- If limbing, determine sequence and direction for large branches when cut
- If brushing, particularly in thick brush, plan how you will remove the brush when it is cut

### Hazards/obstacles

Develop a plan to identify the hazards/obstacles:

- That are overhead (fire, rotten top, widow makers and loose bark)
- That are in the piece of wood being cut (fire, rot and hinge wood integrity, hollow, bar/saw length compared to diameter, bees or poison plants)
- Springpoles
- Buildings, equipment or other trees you don't want damaged
- That are associated with people and cutting area control

### Leans/compression/tension

Since lay, cut piece placement, sequence or removal was determined in O develop a plan to:

- Determine lean of a standing tree. Calculate, in feet, the amount of head/back lean and side lean
- Determine binds in log to be bucked, springpoles, limbs or brush to be removed

### Escape path

Since leans and binds were determined in the previous step develop a plan to:

- Determine the 'good' and 'bad' side of the tree, log, springpole, limb or brush
- Determine and clear an escape route (or 2 routes if necessary for crosscut saw/axe work or situations that require two routes)

### Cut plan

Develop a cut plan to determine which technique will be used to remove wood fiber to achieve the desired result including:

- Face notch construction type (conventional, Humboldt, or open face)
- Hinge position, length of hinge, depth of hinge and amount of stump shot needed
- Back cut type (straight in from the back or chase, boring back cut and out the back, boring back cut with release or hold in wood or strap)
- Wedge placement including number of wedges and axe placement
- Sawyer communication to crew members, swamper or crosscut sawyer partner