

Wind Risk Assessment and Mitigation

The process to develop a silviculture prescription should take into consideration the local risk of wind damage (windthrow and breakage). The prescription should be modified accordingly if there is deemed to be a risk.

The following questions should be asked:

- ❖ Is there evidence of past damage on this site?
 - Are there natural openings, areas of blowdown, insect/disease damage, etc.
- ❖ Is the entire site (or a portion) wind exposed due to natural terrain?
 - Is there a steep slope, aspect, high elevation, etc.
- ❖ Is the site (or a portion) wind exposed due to an adjacent opening?
 - Is the neighbouring lot clear cut, etc.
 - Are there any changes to the adjacent landscape anticipated?
- ❖ Is there evidence that root masses are predominately shallow?
 - Consider the site history; if it was an old field it could have hard pan (a compressed soil layer) that could cause roots to stay shallow.
- ❖ Is the site poorly drained?
 - Is there standing water at certain times of year?
 - Is it impacted by spring runoff or seasonally wet?
 - Is the area covered with grasses/ferns/alders?
- ❖ Are the live crown ratios on crop trees generally < 35%?
- ❖ Are the height (in metres) to diameter (dbh in cm) ratios on crop trees generally >0.8?

If the answer to one or more of these questions is "yes" consideration should be given to modifying the prescription accordingly to mitigate risk. Depending on the severity of risk this may involve the incorporation of buffers, alignment of trails, reducing the percent of basal area (keep trees thicker), or prioritizing wind risk trees for removal. In some cases, partial harvest may not be recommended due to the excessive risk of opening the stand.

NOTE: Wind damage can occur in any stand type however mature balsam fir stands or stands with a high fir component are especially prone to damage. Shallow rooted spruce stands are also highly susceptible.