

2. APPLICATION OF SIA IN TIMBER SUPPLY ANALYSIS

The following documentation summarizes the application of SIA estimates in conjunction with the biophysical model for the wet-belt region of the Okanagan TSA.

Site index scenarios presented

For the biophysical model in the wet-belt, the Ministry of Forests previously expressed concern over the application of conversion equations for spruce leading stands, as well as over the reliability of site index elevation models to estimate potential growth of stands in the ESSF. To address these concerns, estimates of site index in the wet-belt have been separated into three components in the current timber supply analysis.

- a. Statistically adjust potential site index for lodgepole pine and Douglas-fir leading polygons in the ICH and IDF BGC zones
- b. Apply site index conversion equation to spruce leading polygons in the ICH and IDF BGC zones based on statistically adjusted lodgepole pine site index as the reference species
- c. Assign unadjusted potential site index for lodgepole pine, Douglas-fir, and spruce leading polygons in the ESSF

These three components have been separately quantified into three timber supply scenarios, as described in the following table:

SI Source Selection Priority	Scenario 1	Scenario 2	Scenario 3
Statistically adjust potential site index for lodgepole pine and Douglas-fir leading polygons in ICH and IDF	X		
Apply site index conversion equation to spruce in ICH and IDF from statistically adjusted lodgepole pine as reference species	X	X	
Assign unadjusted potential site index for lodgepole pine, Douglas-fir, and spruce leading polygons in the ESSF	X	X	X

Site Index scenario combination used for Uplift AAC request

For the wet-belt, scenario #3 was included as the composite uplift request. The basis for this decision was that

- a. Site index conversion equations are an accepted component of timber supply analysis, as they are used whenever species conversion is defined as part of the silviculture regimes, and are applied to TIPSYS managed stand yield tables for all species other than the leading species.
- b. A review of independent paired site index data showed that the MOF's 'pine to spruce' conversion equation reasonably described the relationship between pine and spruce site index.

- c. The likelihood of unadjusted PSI's to overestimate site index in high elevation areas is expected to be low. This is supported by a limited number of random samples that were collected.
- d. The use of unadjusted PSI's in high elevation areas has been acknowledged by the MOF who assigned partial credit to similar components in the recently completed Adams Lake innovative analysis.

Further discussions on risk and uncertainty for the wet-belt region are discussed in depth in section 8 of the 'SIA for the Wet-Belt Portion of the Okanagan TSA' report included in this appendix.