British Columbia

SOIL DISTURBANCE SURVEY

TRANSECT SURVEY CALCULATION CARD

SURVEYOR	DATE Y M D	IDENTIFICATION NO.

	A	B	C	D	E	F	G	H	I	J	K
GRID CENTRE	COUNTED PRODUCT (H) x (I)	DISPLACE. PRODUCT (H) x (J)	SKIDROAD PRODUCT* (H) x (K)	TOTAL POINTS SQUARED	COUNTED DISTURBANCE SQUARED	DISPLACE. SQUARED	SKIDROADS SQUARED*	TOTAL POINTS SURVEYED	COUNTED DISTURBANCE	TOTAL DISPLACE.	SKIDROADS
1. Total											
2. Mean											
3. Proportion											
4. Proportion^2											
5. Mean %											
6. SE %											
7. LCL %											

*Calculate these numbers only if Skidroad Disturbance is > 6% and you are on a site with a High Displacement or Erosion Hazard, where the prescription was approved under the 1994 Silviculture Practices Regulation.

CALCULATION PROCEDURE (retain four decimals in intermediate calculations):

1. Total each column in Row 1.

2. Calculate the mean number of surveyed points per grid centre in Cell H2.

3. Use the cell references in brackets to calculate the proportion of the total points surveyed with Counted Disturbance, Total Displacement and Skidroads.*

$$\text{Proportion Counted Disturbance} = \frac{[I1]}{[H1]} \qquad \text{Proportion Total Displacement} = \frac{[J1]}{[H1]} \qquad \text{Proportion Skidroads} = \frac{[K1]}{[H1]}$$

   where the text in square brackets specifies the cell references on the form (e.g., [H1] = Total of Points Surveyed).

   * For Forest Practices Code surveys, calculate Counted Disturbance and Total Displacement.

   For areas with prescriptions approved under the 1994 Silviculture Practices Regulations, if you are on a site with a High Soil Displacement or High Surface Erosion Hazard, also calculate Skidroads.

4. Calculate the square of the proportions (Proportion^2).

5. For Counted Disturbance, Total Displacement and Skidroads, calculate: Mean % = 100% x Proportion (from Step 3).

6. Calculate the Standard Error (SE %) for Counted Disturbance, Total Displacement and Skidroads, using the cell references shown in the formulas below (the text in square brackets indicates the cell references on the form (e.g., [H2] = Mean of Points):

$$SE_{\text{Counted \%}} = 100\% \times \sqrt{\frac{E1 - (2 \times [I3] \times [A1]) + ([I4] \times [D1])}{n \times (n - 1) \times [H2]^2}}$$

$$SE_{\text{Displacement \%}} = 100\% \times \sqrt{\frac{F1 - (2 \times [J3] \times [B1]) + ([J4] \times [D1])}{n \times (n - 1) \times [H2]^2}}$$

$$SE_{\text{Skidroads \%}} = 100\% \times \sqrt{\frac{G1 - (2 \times [K3] \times [C1]) + ([K4] \times [D1])}{n \times (n - 1) \times [H2]^2}}$$

   where n = number of grid centres.

7. Calculate the Lower Confidence Limit (LCL %): LCL% = Mean % - t x SE

   where 't' is the value from the t-Table shown on the Traverse Survey Calculation Card (FS 881).