

BC Ministry of Forests Coast Area SNC Update

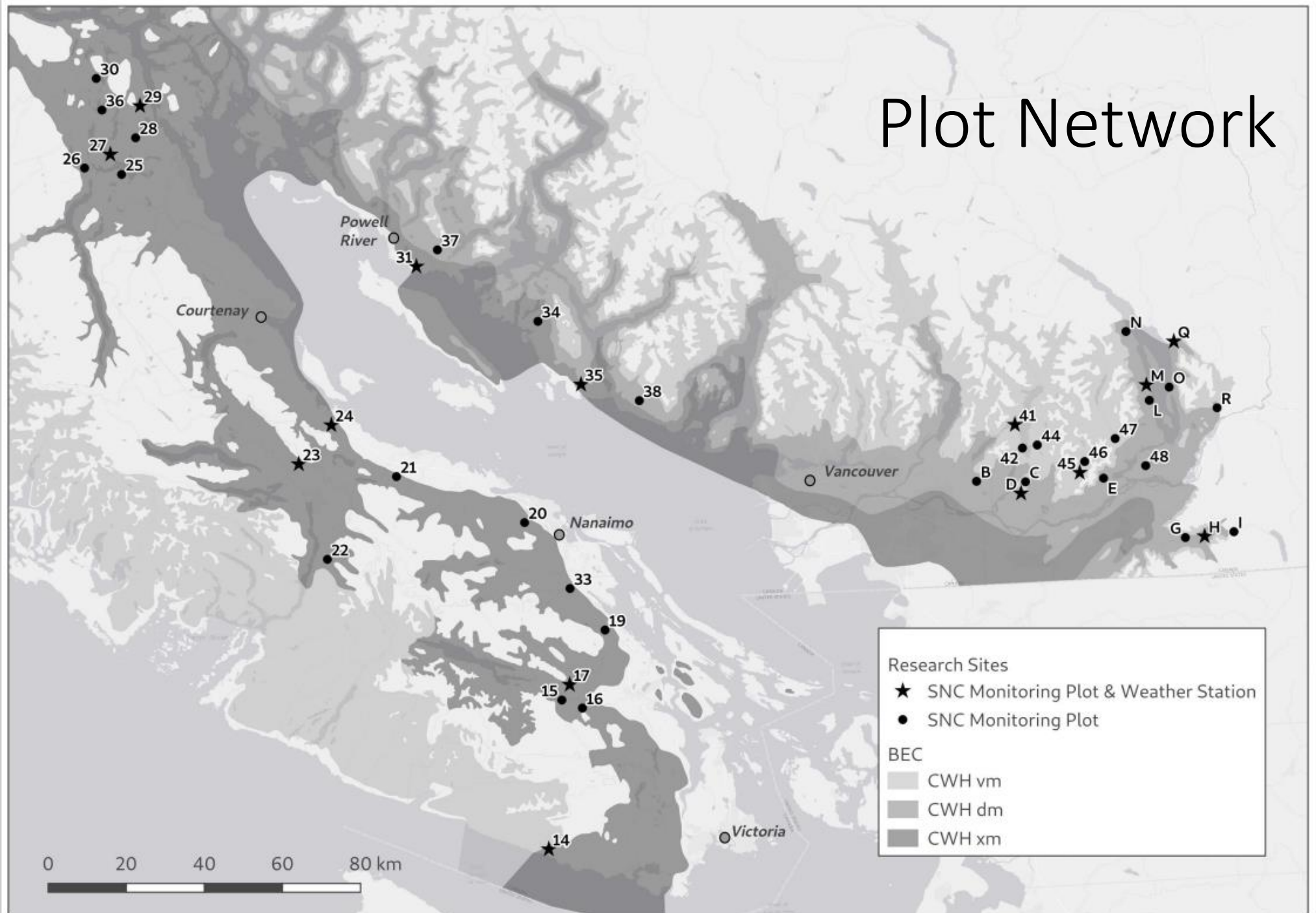
Initial plotting of 5-year data for CWHxm and CWHdm plots (Now I'm
really confused!)

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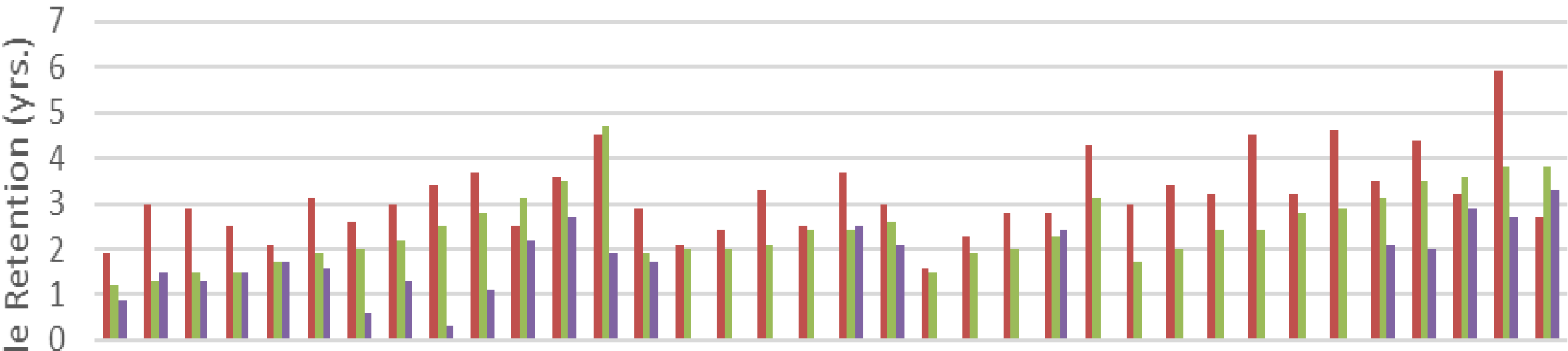
Plot Network - similar plots to SNC cooperative

- 43 plots established over 3 years on Vancouver Island and Fraser Valley
- 3 ecological zones (BEC)
- 15 plots have weather stations
- Plots installed in year three just had 5-year growth and yield data collected this summer and foliar retention will be done in the spring
- 1st year plots in the Coastal Western Hemlock dry maritime (CWHdm) 13 in the Fraser Valley a 2 on the Sunshine Coast (n=15) elevation 61-372m transitional to very wet maritime (2024 plots)
- 2nd year plots in the CWHxm (very dry maritime) mostly low elevation on southeastern Vancouver Island and 3 close to sea level on Sunshine Coast (n =21) elevation 57-435m

Plot Network



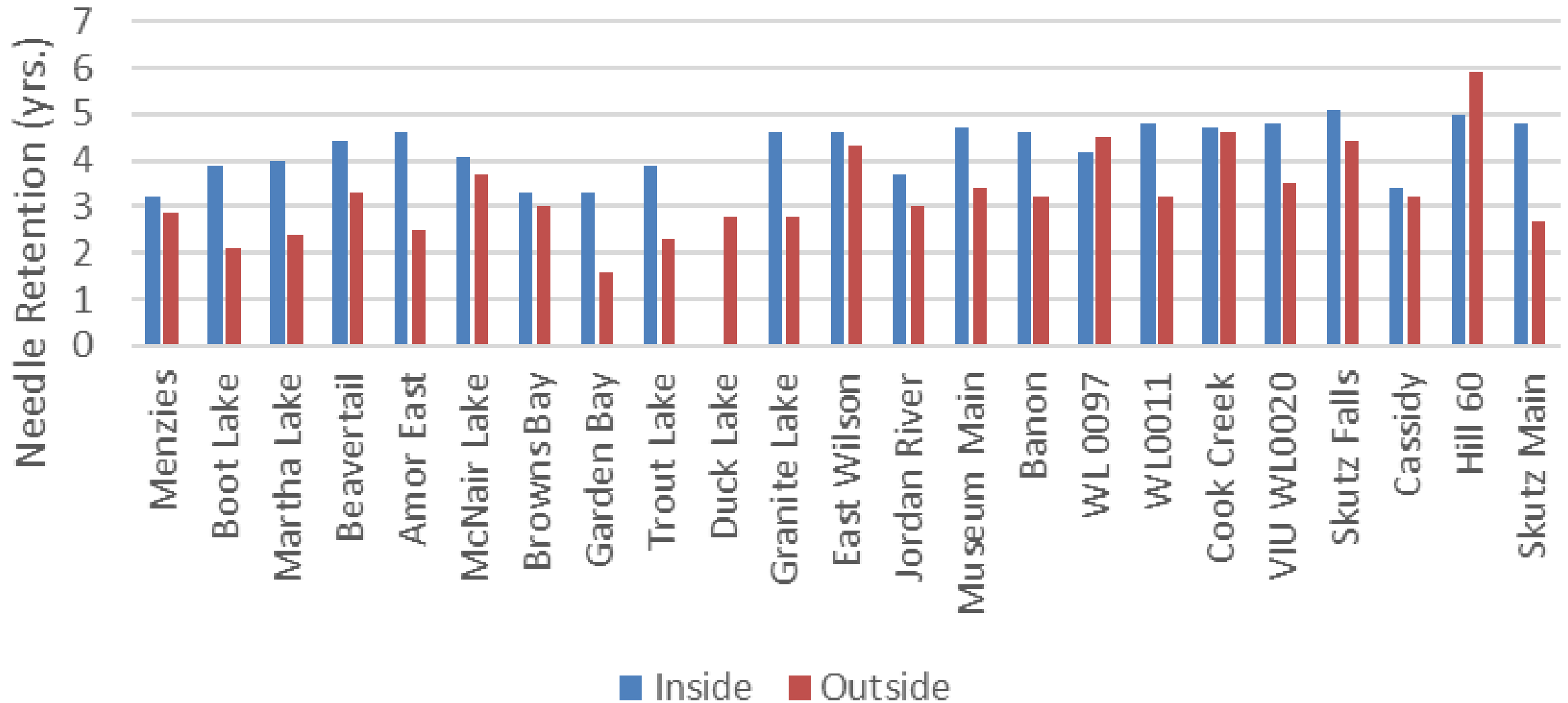
Needle Retention by Crown Third



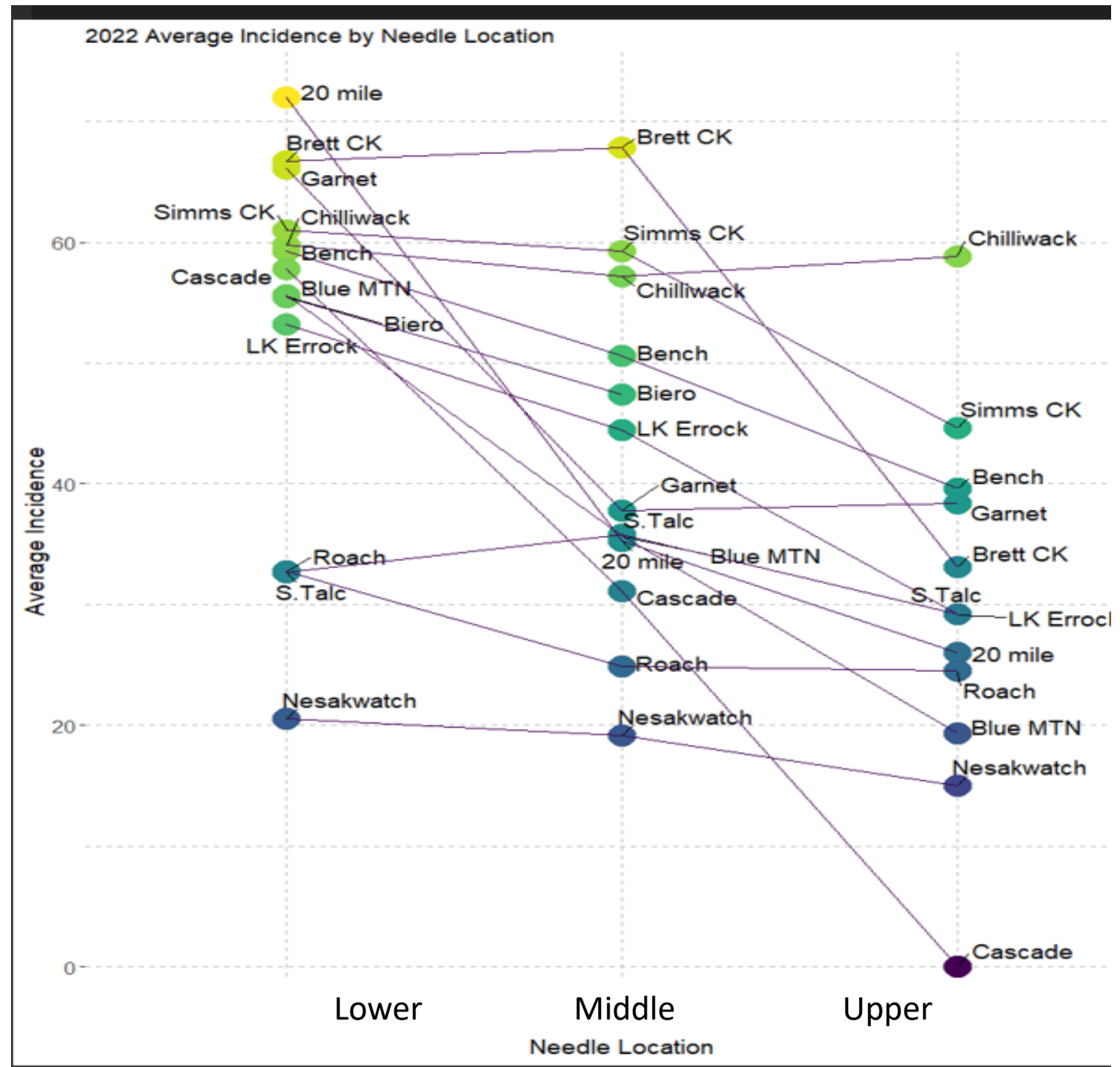
Fraser Valley (dry and wet maritime)	Campbell River (very dry)	Sunshine Coast (very dry - dry)	South Vancouver Island (very dry)
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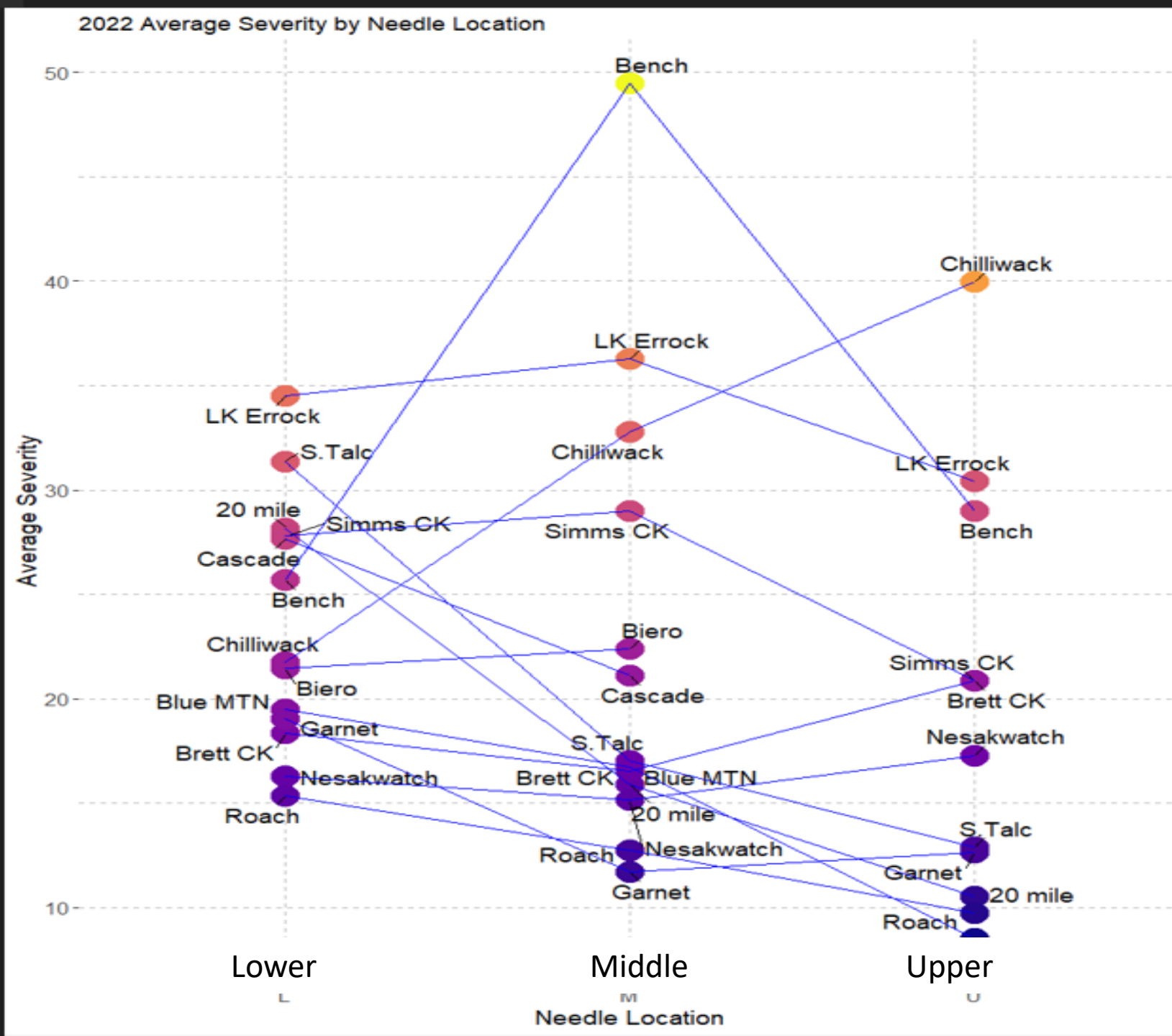
Needle Retention (bottom third inside and outside)



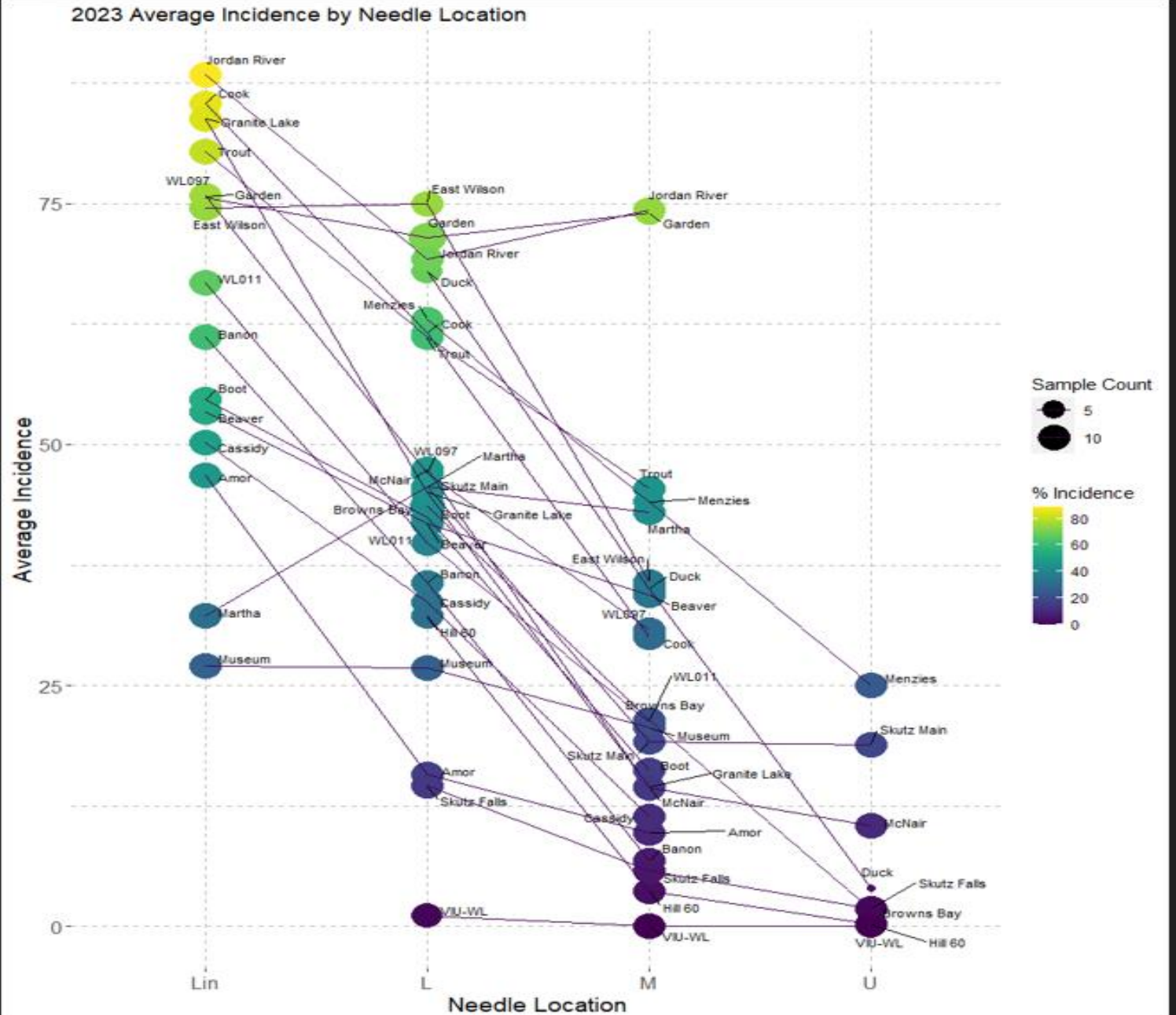
% Incidence by
Crown 1/3 for
CWHdm plots in
2022: decreases
as you move up
the crown



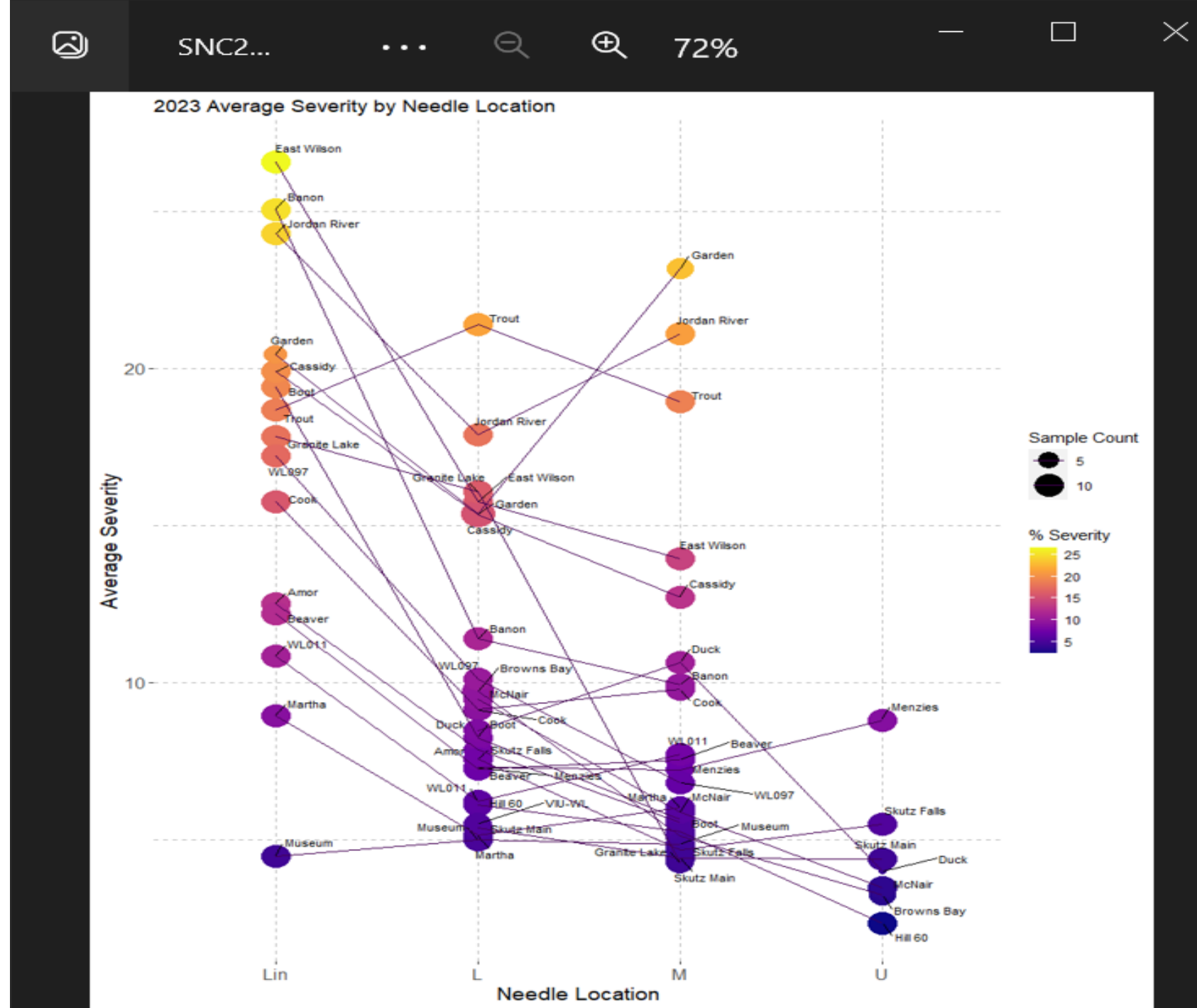
% stomata occluded on infected needles by crown 1/3 for CWHdm in 2022: varied depending on plot



% Incidence
by Crown 1/3
for CWHxm
plots in
2023:
decreases as
you move up
the crown



% stomata occluded on infected needles by crown 1/3 for CWHxm in 2023: varied depending on plot



Molecular Ecology for CWHdm (Fraser Valley Plots)

- Only lineage 1 detected (no lineage 2)

Correlations by biogeoclimatic subzone (Nil means $r^2 < 0.1$)

Correlation	CWHdm	CWHxm
5-yr. growth vs. needle retention	Nil $r^2=0.008$	-ve $r^2=0.29$
5-yr. growth vs. 2 nd yr. needle incidence x severity	-ve $r^2=0.15$	Nil $r^2=0.15$
5-yr. growth vs. elevation	+ve $r^2=0.31$	nil
2 nd yr. needle incidence x severity vs. mid crown needle retention	Nil $r^2=0.008$	-ve $r^2=0.30$
Mid crown needle retention vs. elevation	+ve $r^2=0.31$	Nil $r^2=0.0003$
2 nd yr. needle incidence vs. elevation	-ve $r^2=0.13$	Nil $r^2=0.02$

Conclusion

- The relationships between needle retention, 2nd yr. needle incidence and severity, and elevation depend on the BEC subzone
- Incidence and severity were not correlated with mid crown needle retention in the CWHdm but were negatively correlated in the CWHxm
- There was an unexpected –ve correlation between 5 yr. growth and needle retention in the CWHxm
- Growth and needle retention in the CWHdm both increased with increasing elevation and SNC incidence decreased
- Needle retention and SNC needle incidence are both strongly influenced by crown position