

# Appendix 2

## Area 08 Chum Salmon

Coastland

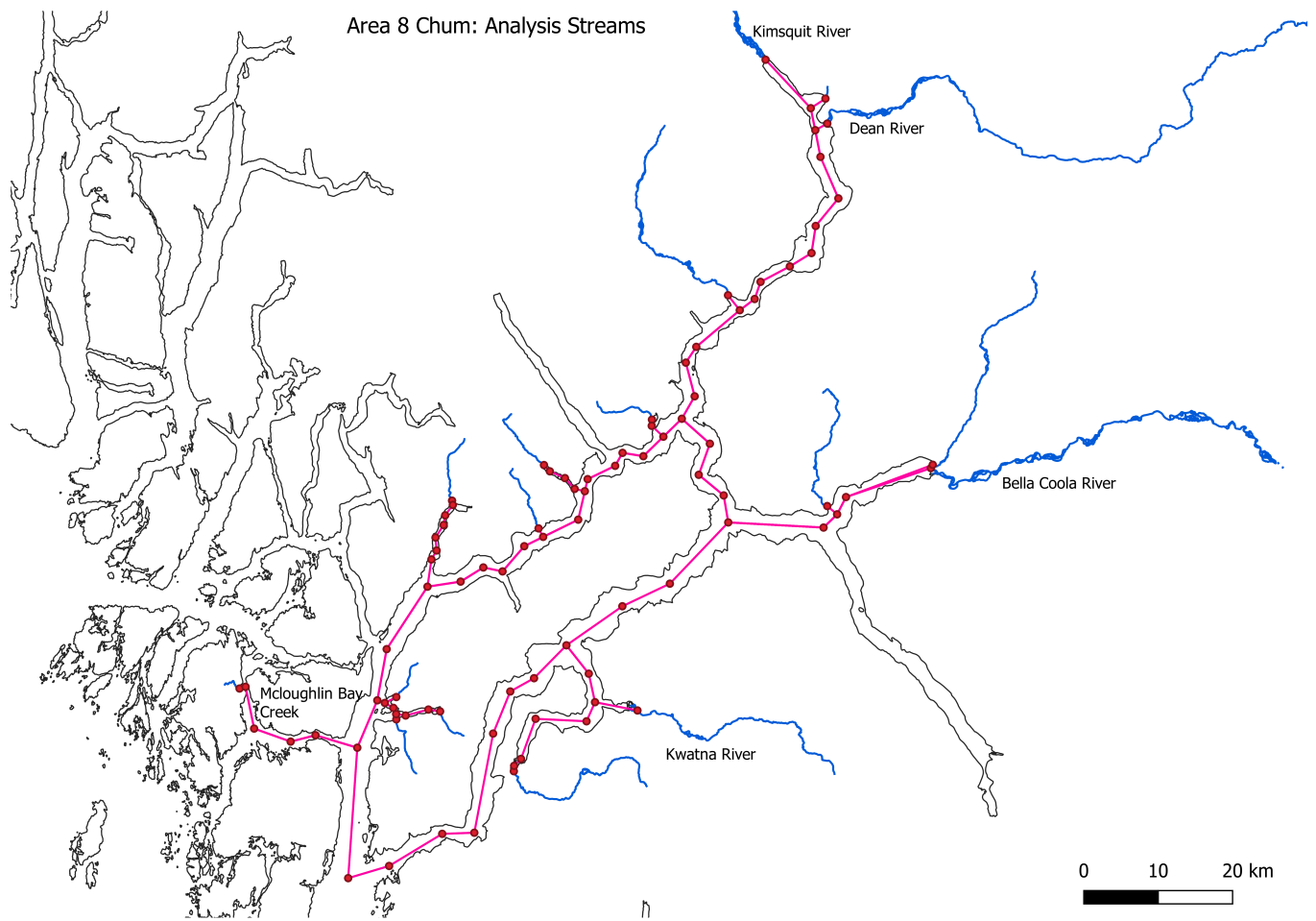
2022-12-03

### Contents

<b>Study area</b>	<b>2</b>
Area 8 . . . . .	2
<b>Summary statistics</b>	<b>3</b>
Bubbleplot of escapement by enhancement rank . . . . .	3
Plot of total releases to area . . . . .	4
Escapement by enhancement rank per system . . . . .	5
Moving average and LOESS fit on enhancement ranking of log escapements . . . . .	6
Escapement to streams by enhancement rank . . . . .	7
Facet plot of all releases in Area 8 . . . . .	8
Z-scores pre- and post-enhancement . . . . .	9
Recruits per spawner by system . . . . .	10
Log recruits per spawner by system . . . . .	11
Boxplot of log RPS by system . . . . .	12
<b>Correlation analyses</b>	<b>13</b>
Cross correlation plots . . . . .	13
Dendrogram clusters analysis . . . . .	14
Tanglegrams . . . . .	15
<b>Statistical models</b>	<b>19</b>
Table of log RPS candidate models and AIC selection . . . . .	19
Table of log escapement candidate models and AIC selection . . . . .	20
Effects plot of log RPS against releases from Bella Coola . . . . .	21
Effects plot of log RPS against releases from McLoughlin . . . . .	22
Effects plot of log escapements against weighted distance from Bella Coola . . . . .	23
Effects plot of log escapements against weighted distance from McLoughlin . . . . .	24

# Study area

## Area 8



## Summary statistics

### Bubbleplot of escapement by enhancement rank

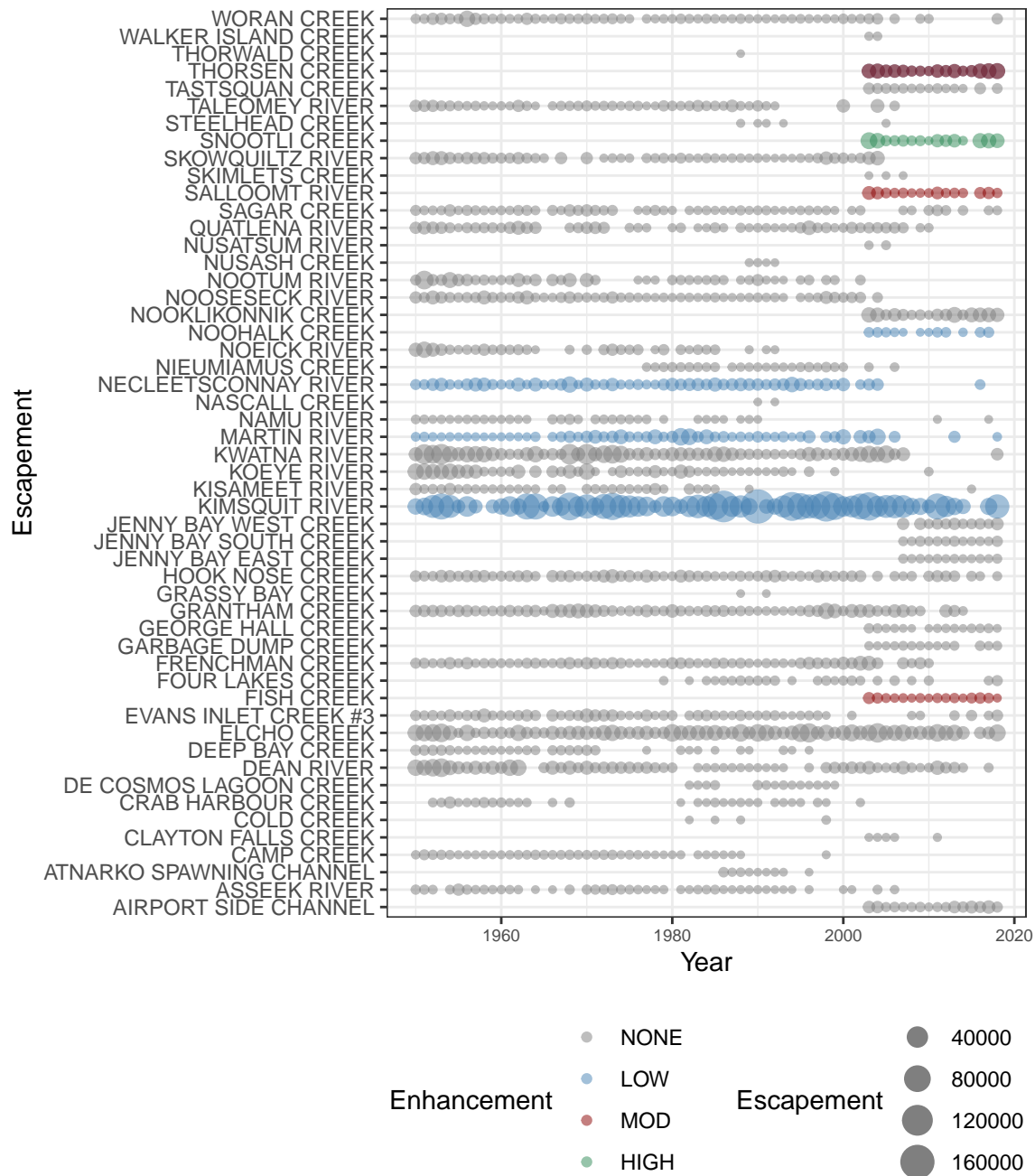


Figure 1: Escapement to area streams by enhancement rank.

## Plot of total releases to area

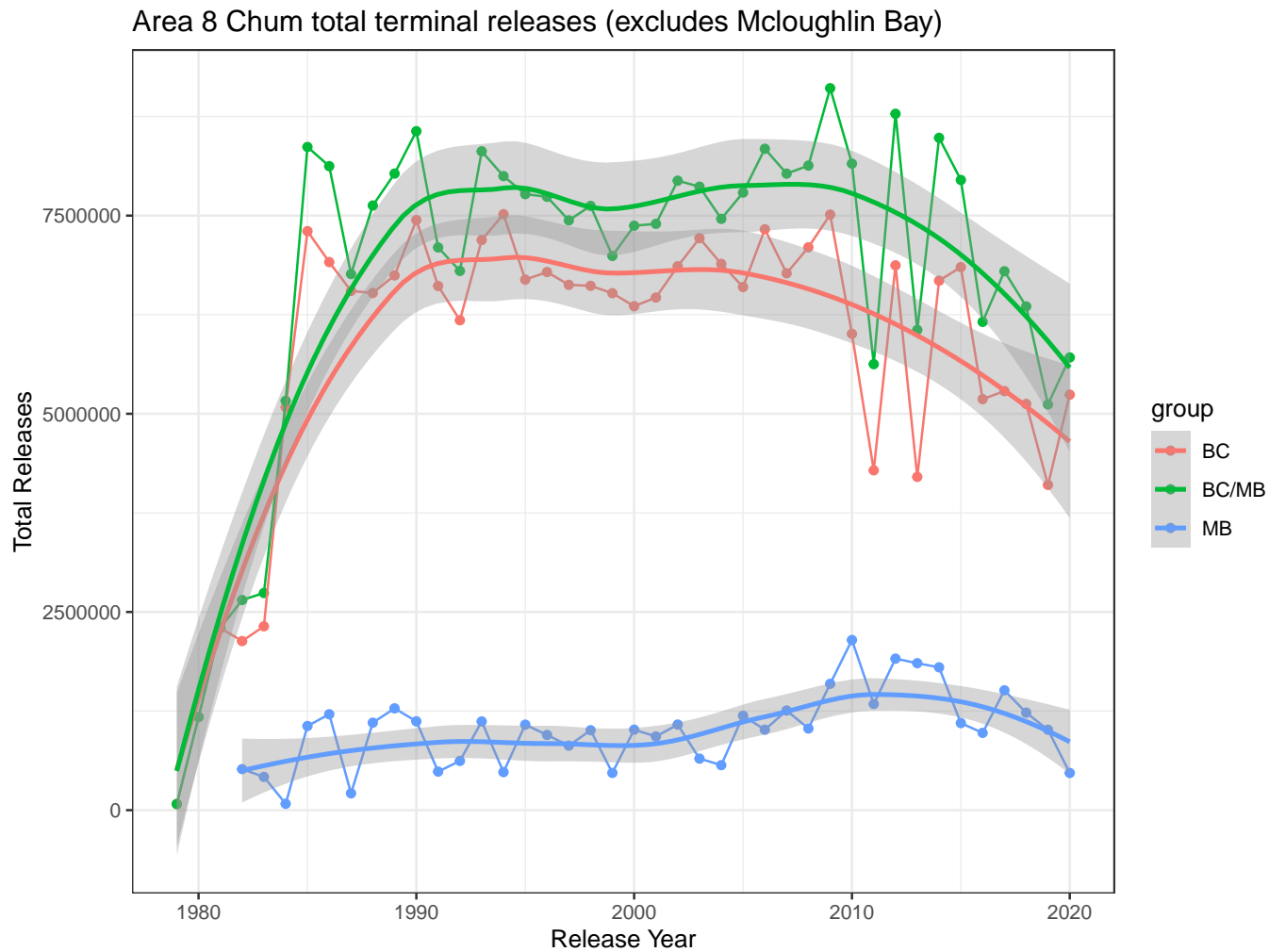


Figure 2: Total releases for Area 8 (not including McLoughlin Bay)

## Escapement by enhancement rank per system

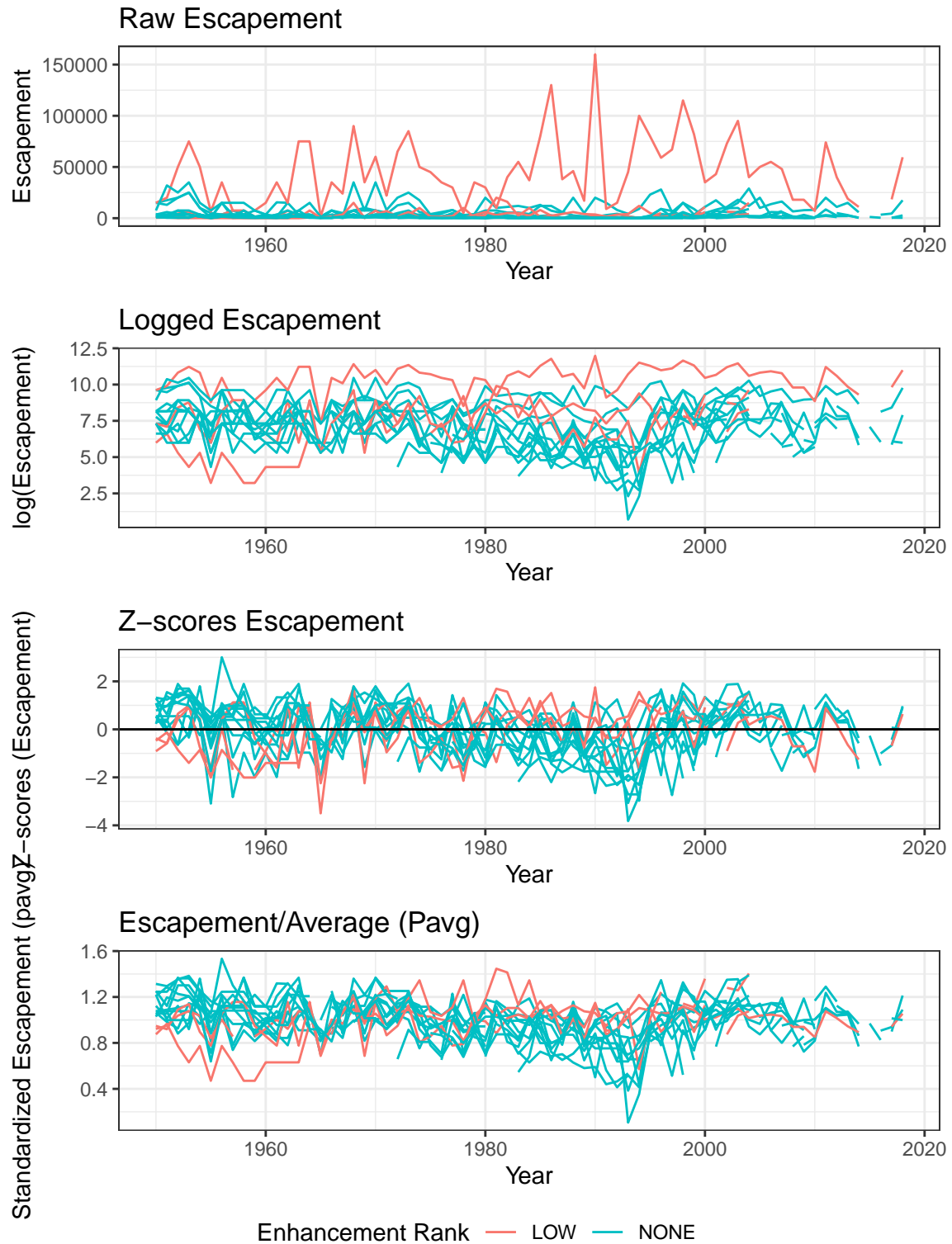


Figure 3: Various plots for escapement and transformations.

## Moving average and LOESS fit on enhancement ranking of log escapements

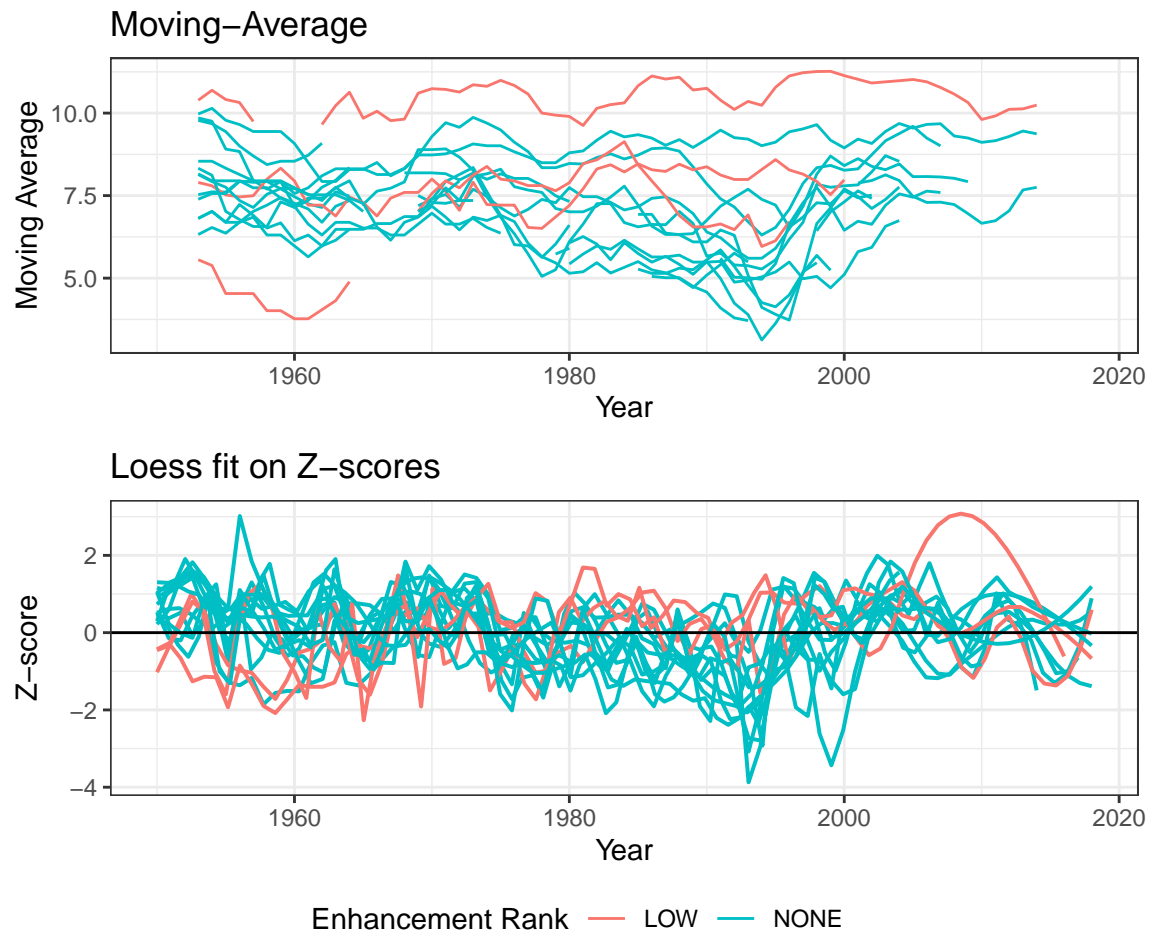


Figure 4: Moving average and LOESS fits on logged escapement by enhancement ranking.

## Escapement to streams by enhancement rank

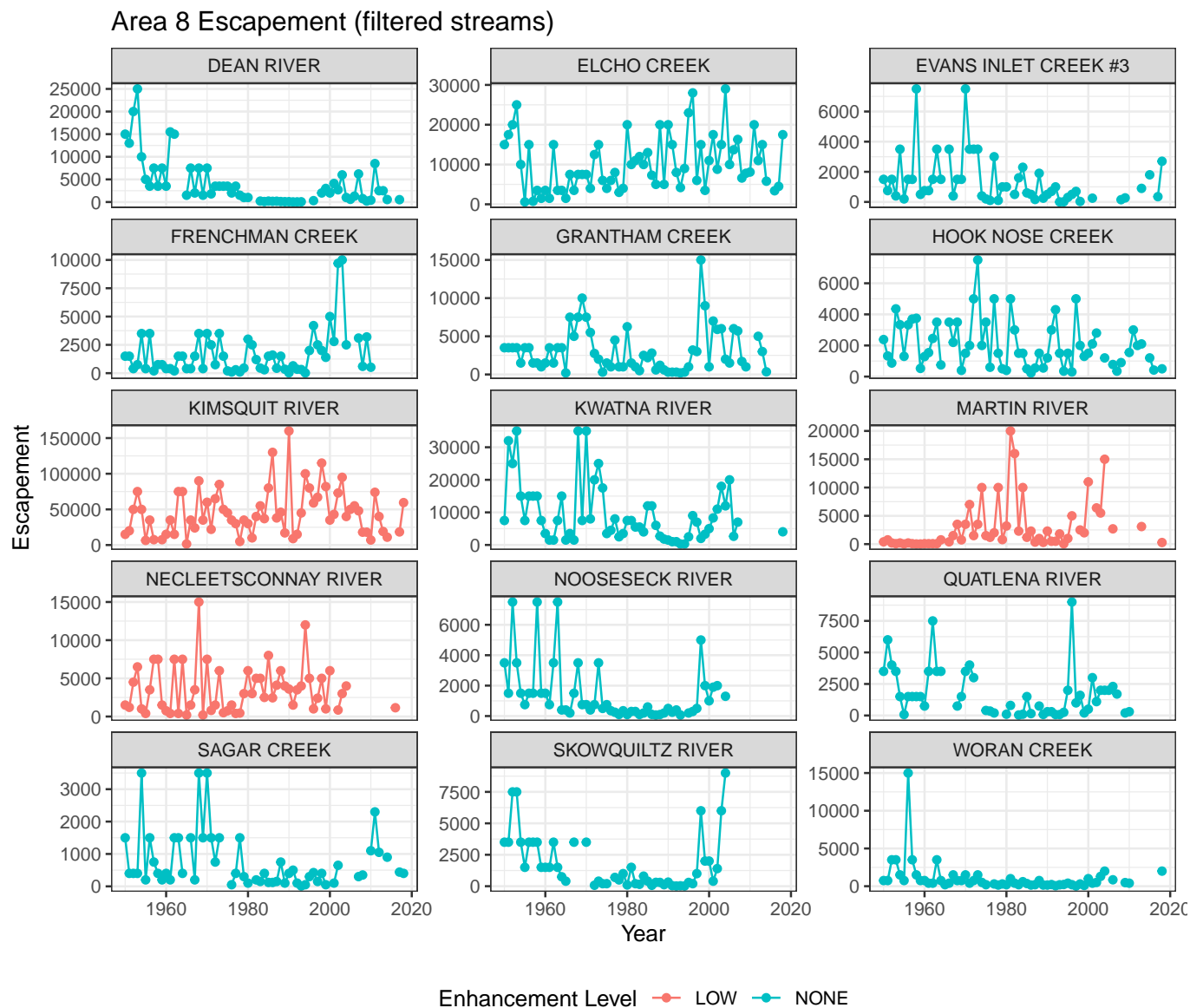


Figure 5: Facet plot of escapements by enhancement level

## Facet plot of all releases in Area 8

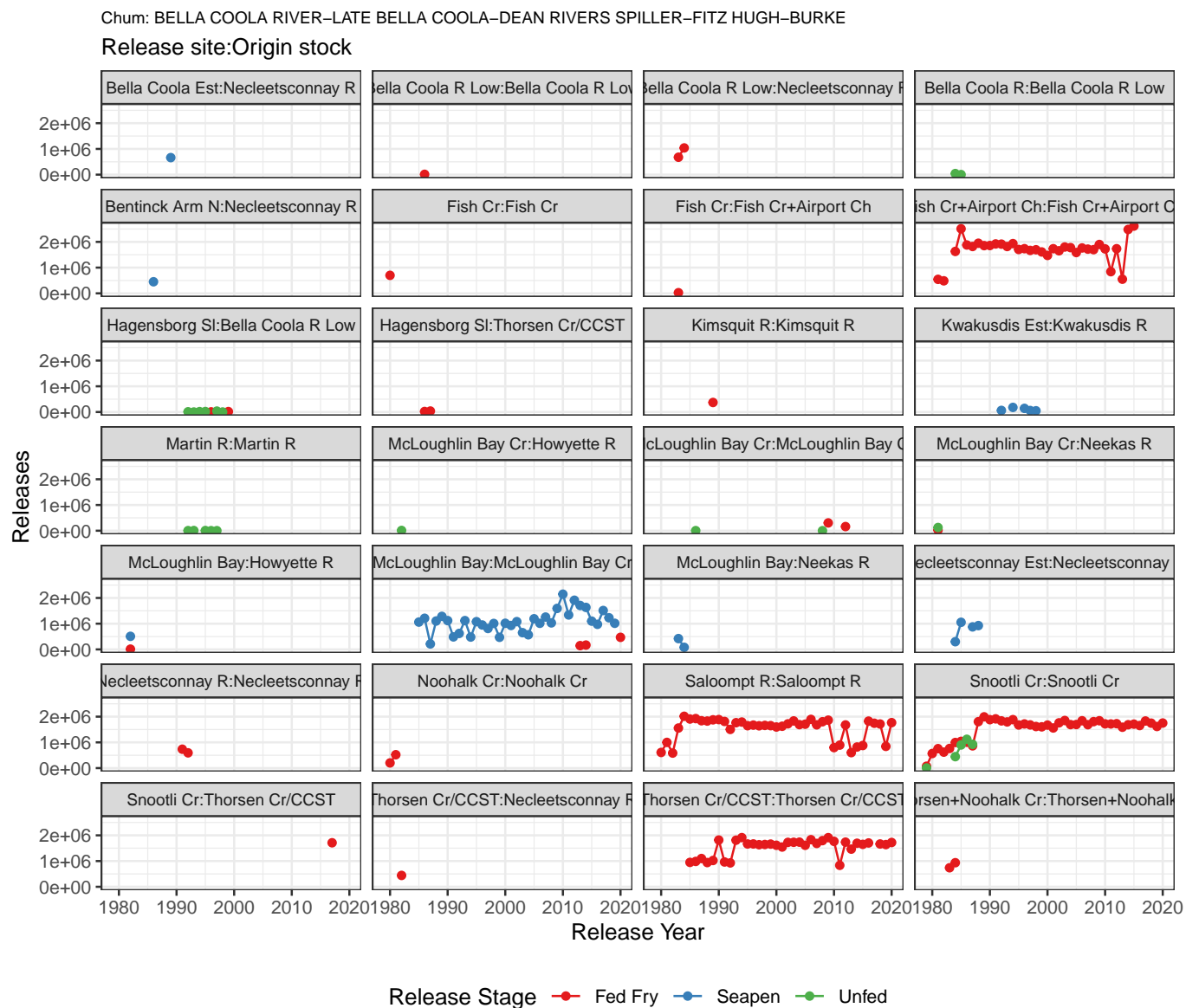


Figure 6: Facet plot of all releases in Area 8



## Z-scores pre- and post-enhancement

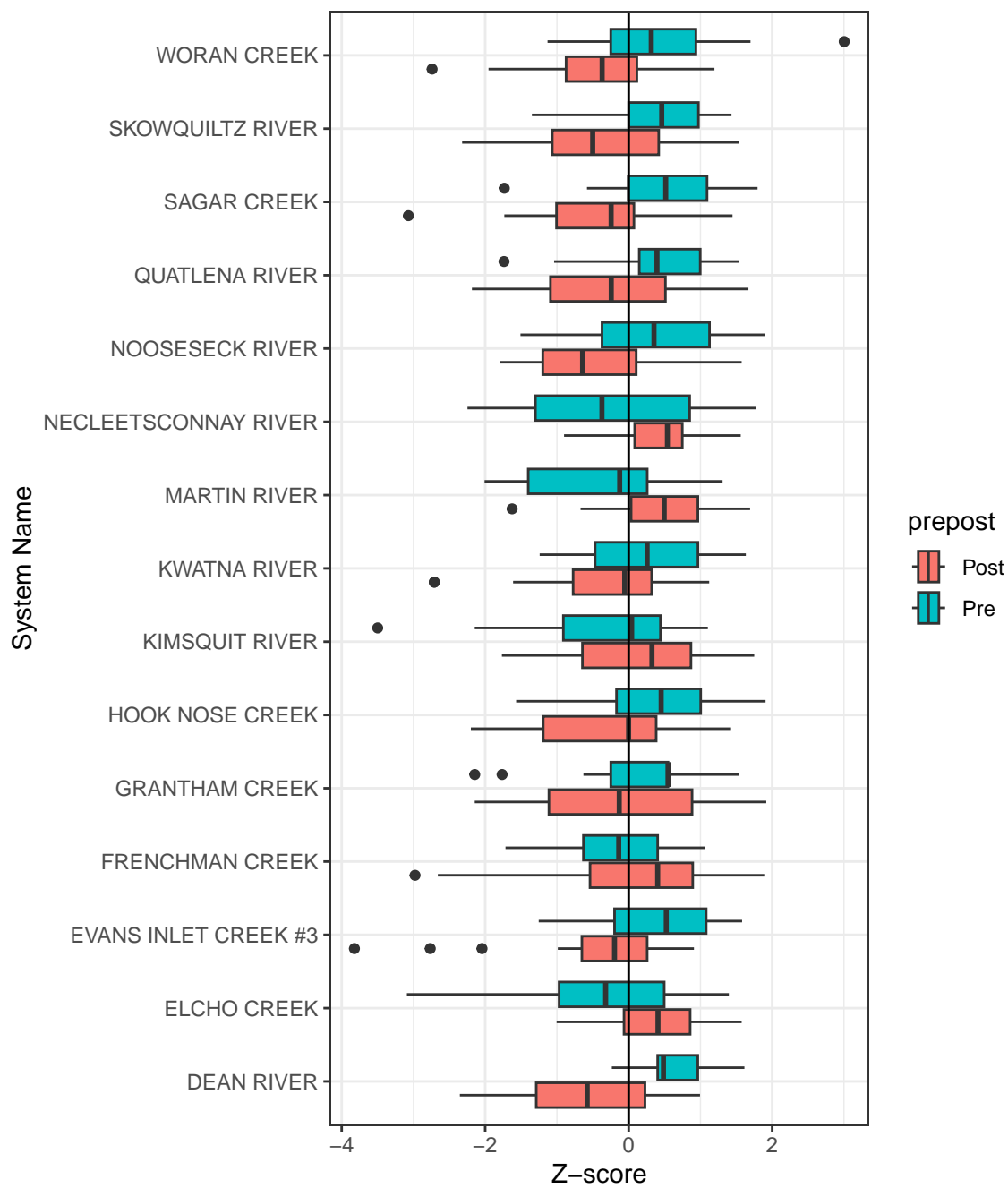


Figure 7: Z-scores pre- and post-enhancement.

## Recruits per spawner by system

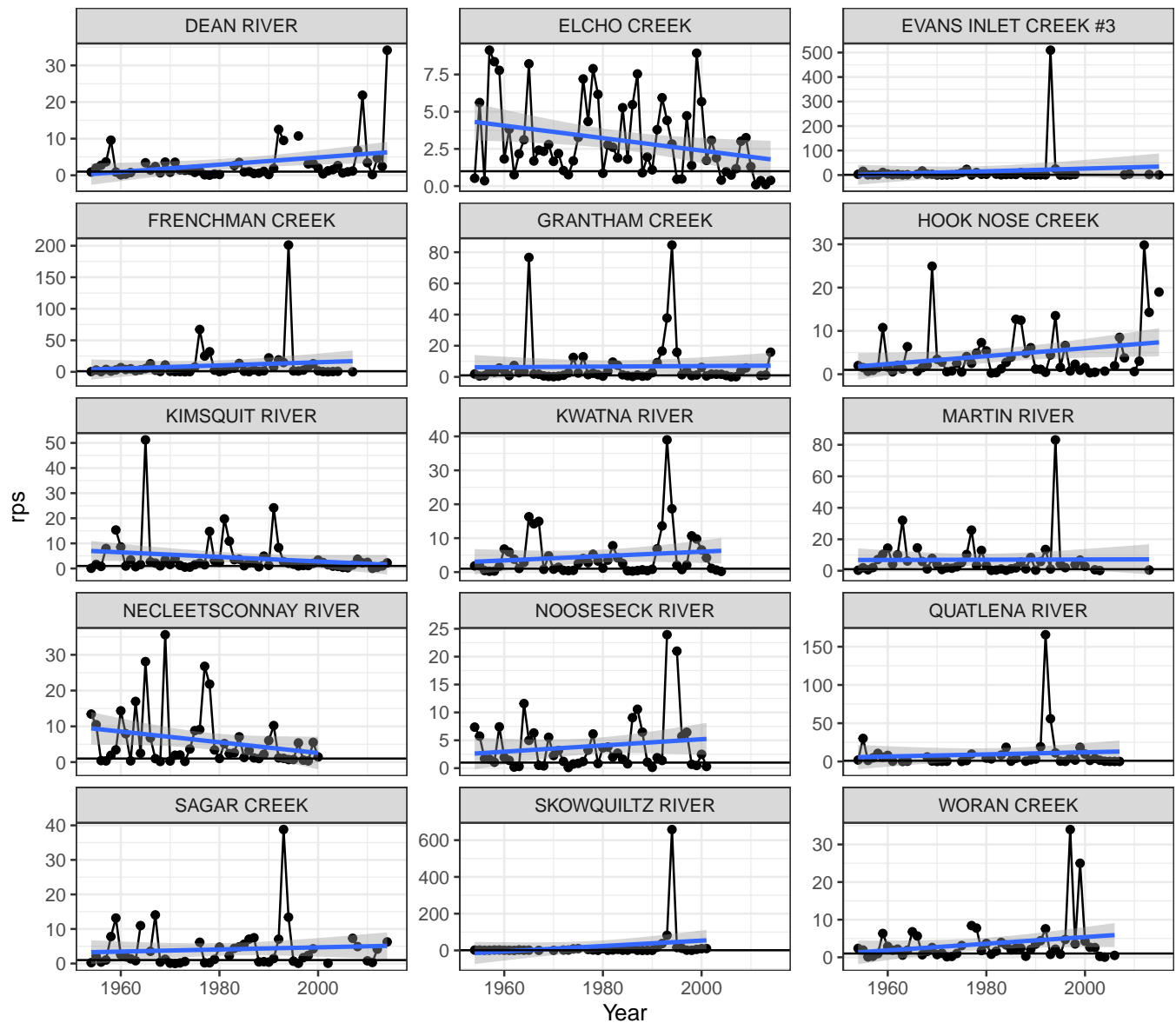


Figure 8: Recruits per spawner by system

## Log recruits per spawner by system

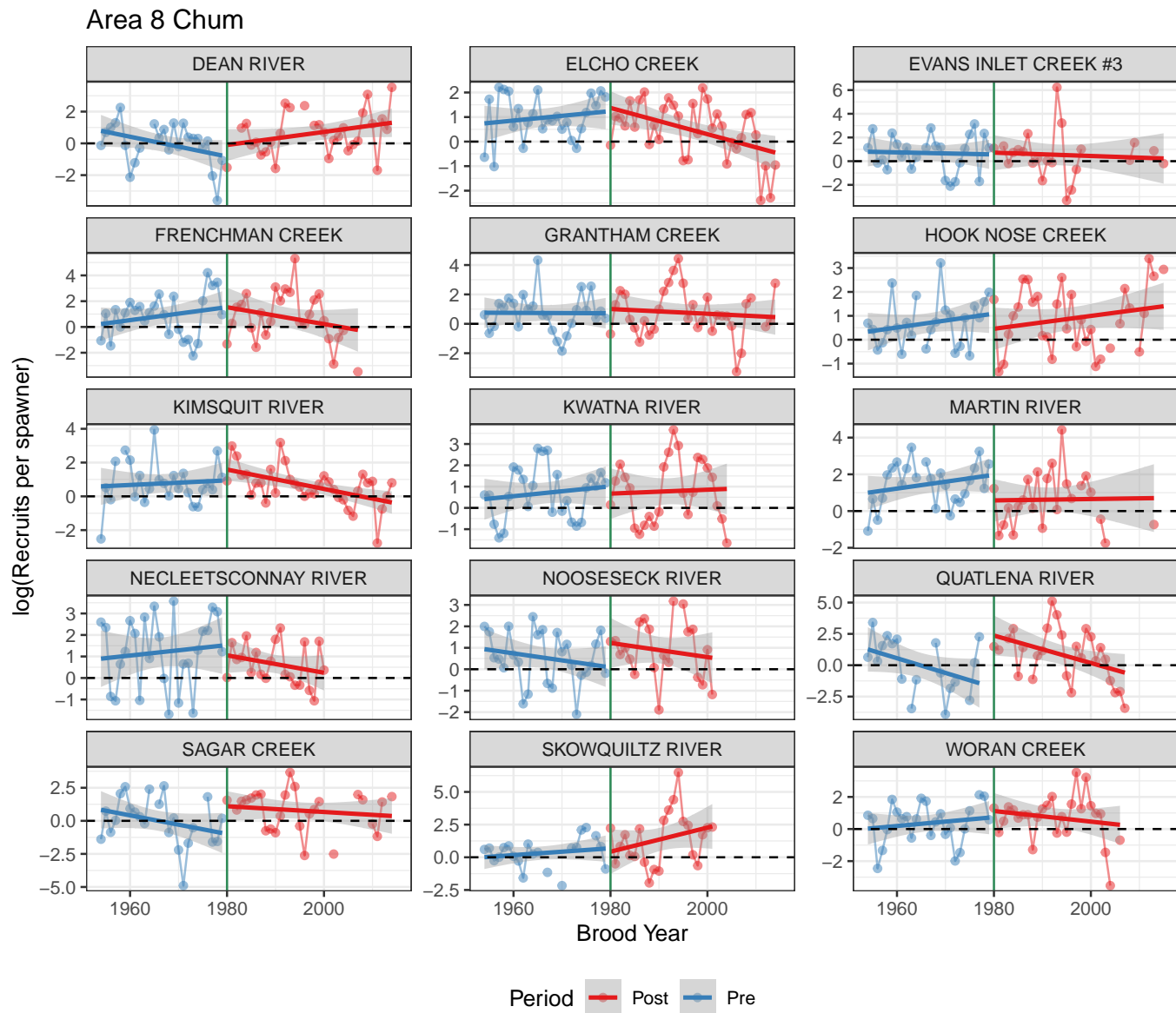


Figure 9: Log recruits per spawner by system

## Boxplot of log RPS by system

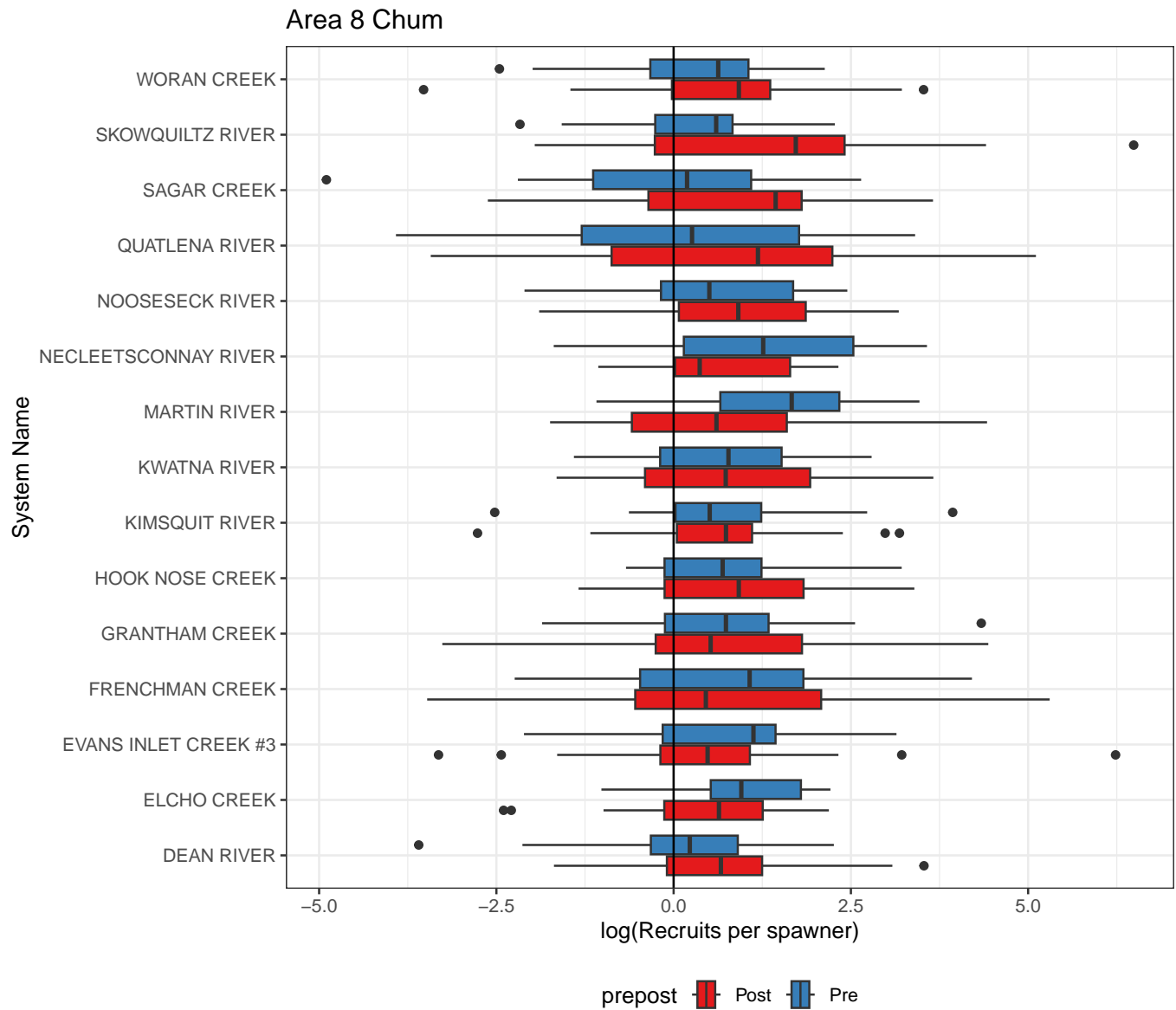


Figure 10: Boxplot of log recruits per spawner by system

# Correlation analyses

## Cross correlation plots

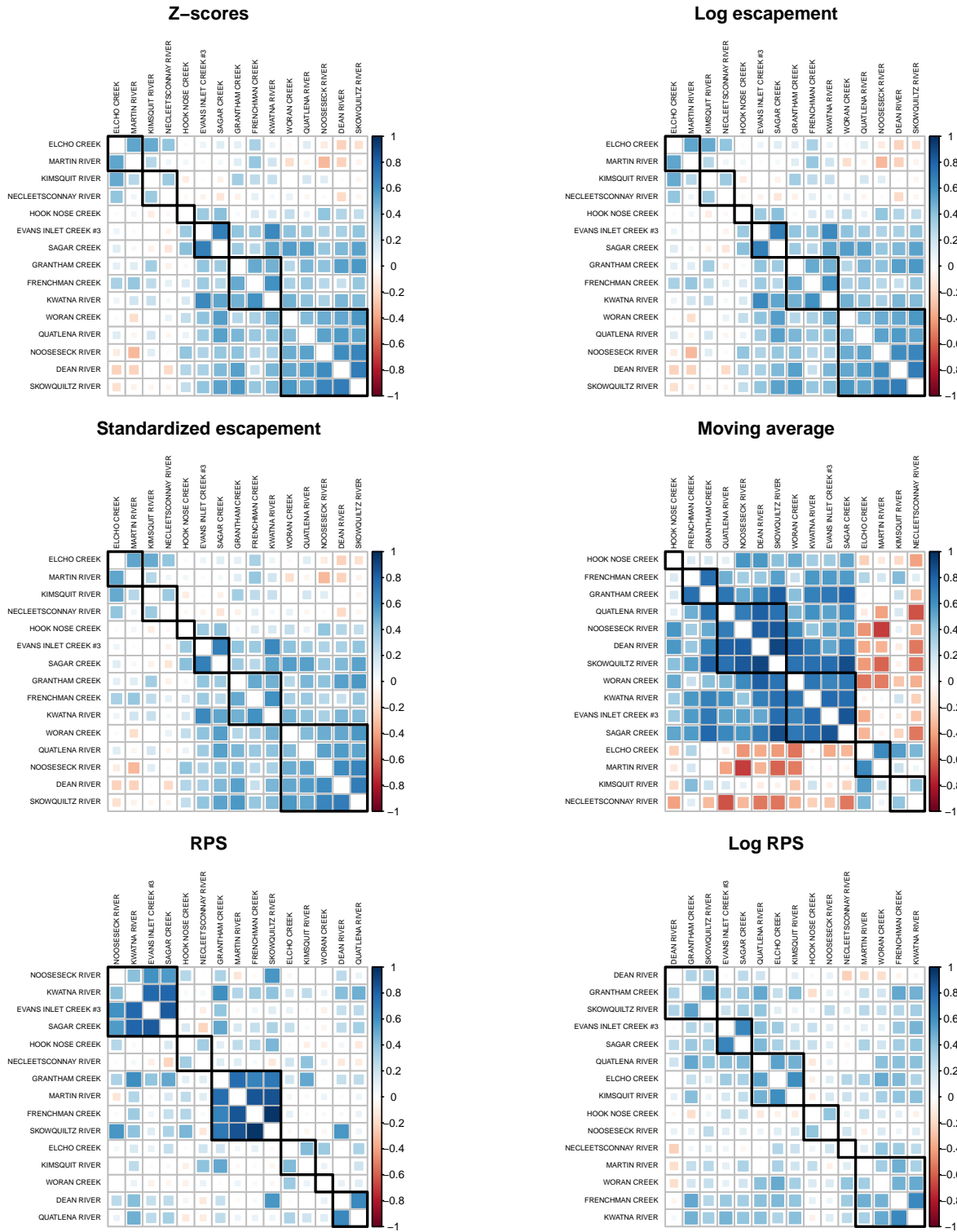


Figure 11: Cross correlation plots to compare metrics.

## Dendrogram clusters analysis

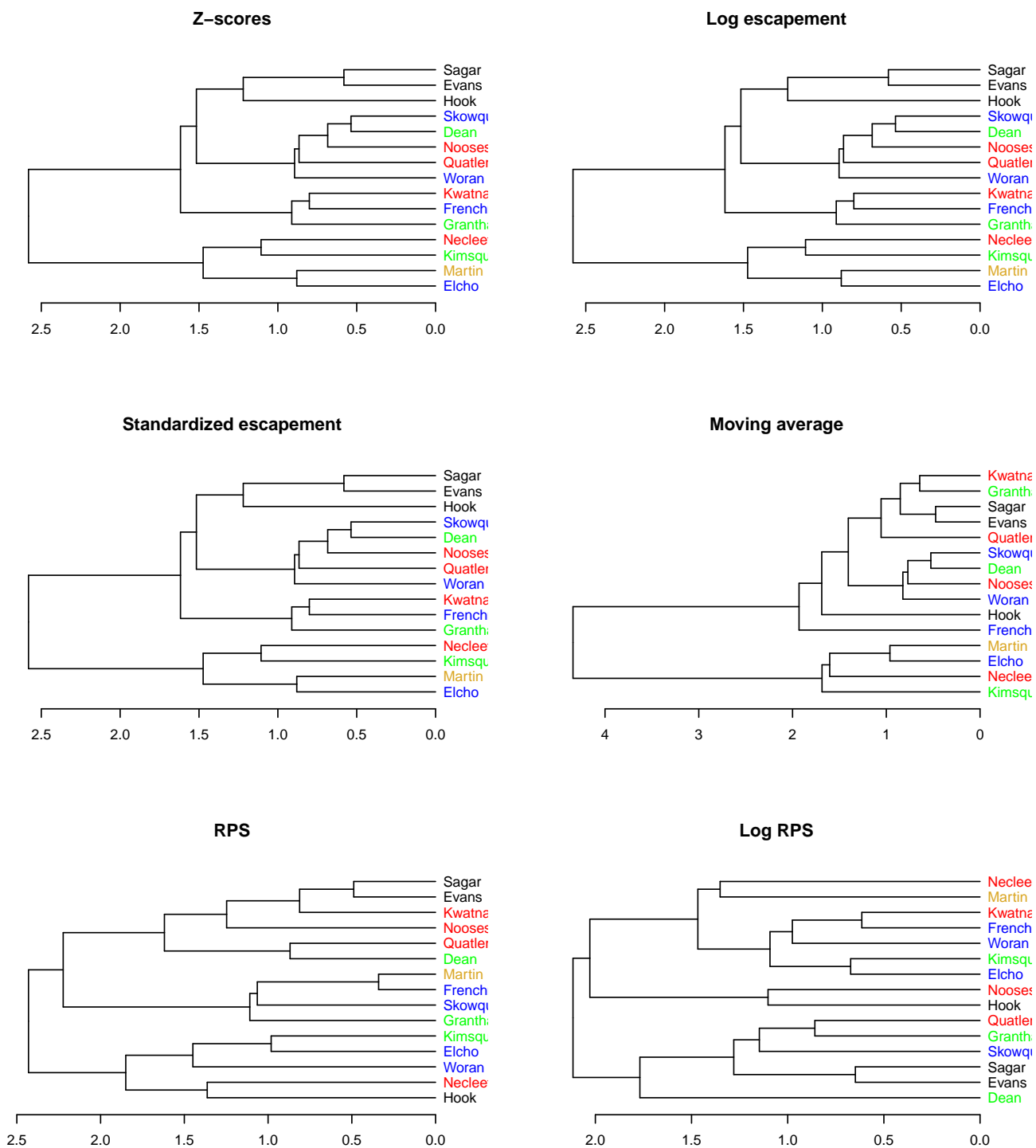


Figure 12: Dendrogram cluster analysis to compare uses of different metrics. Colours represent different subinlets; Bella Coola = red; Dean = blue; Kimsquit = green; Martin = yellow; Sagar = black

# Tanglegrams

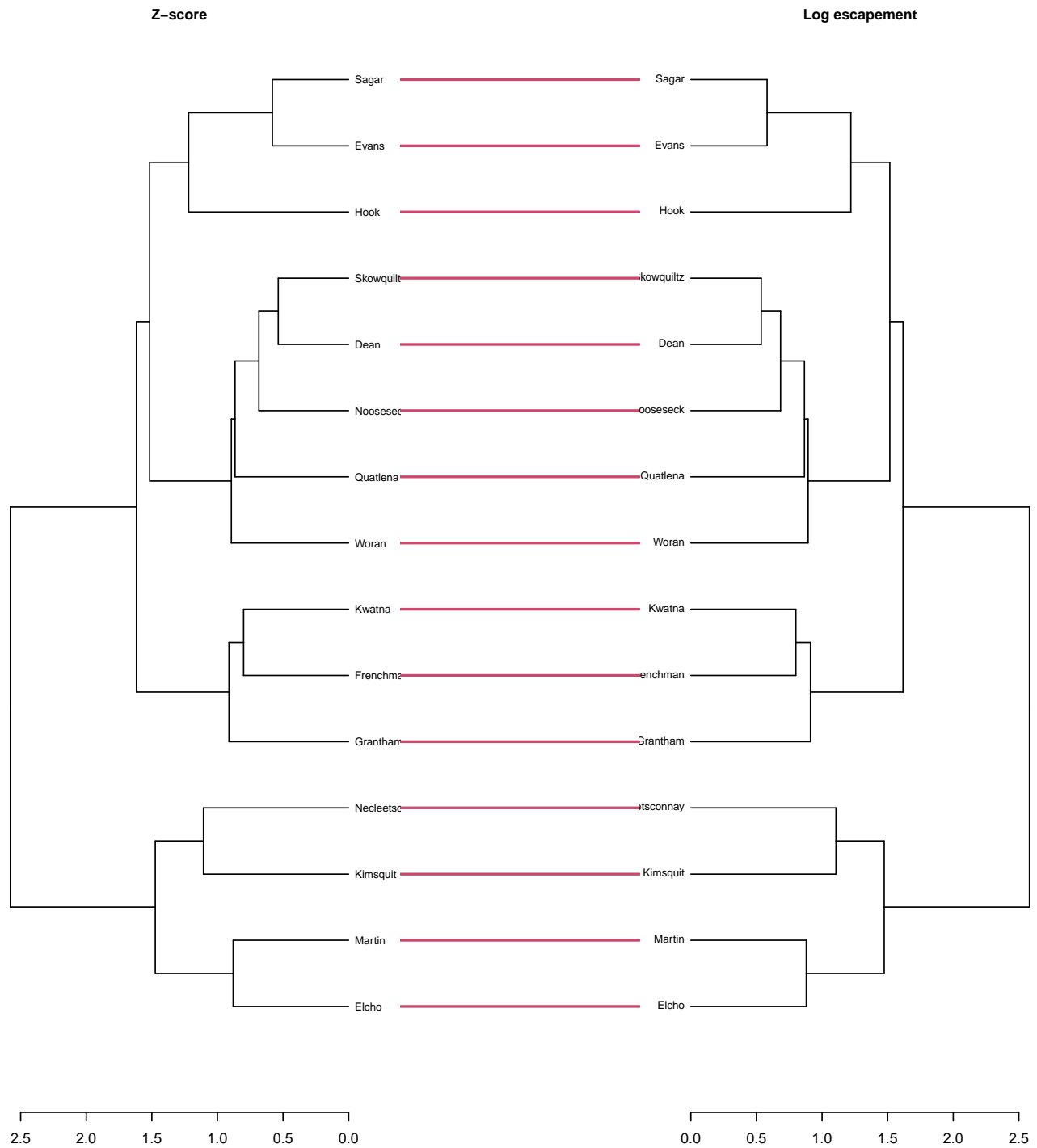


Figure 13: Tanglegram of z-score vs. logged escapements

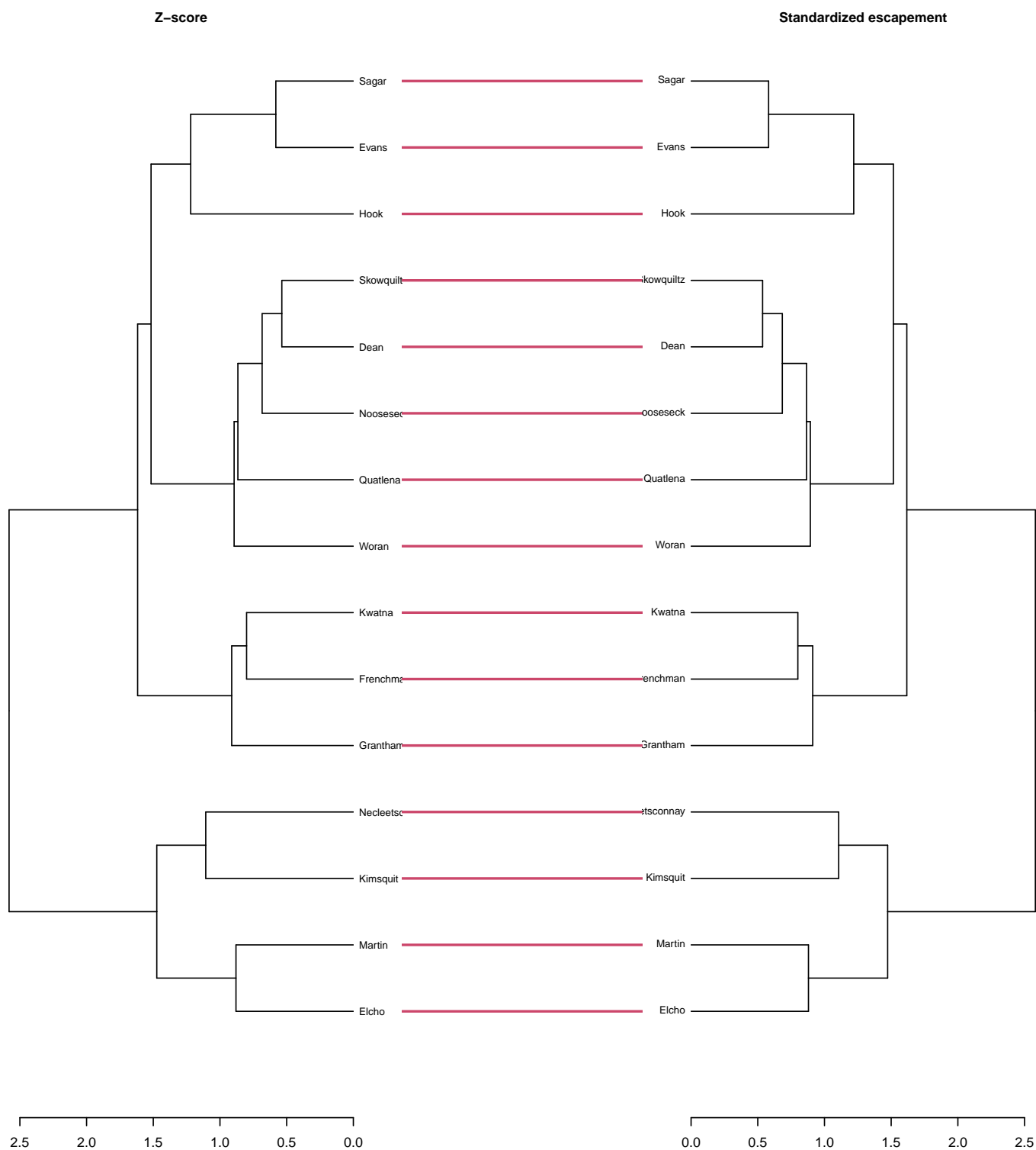


Figure 14: Tanglegram of z-score vs. standardized escapements



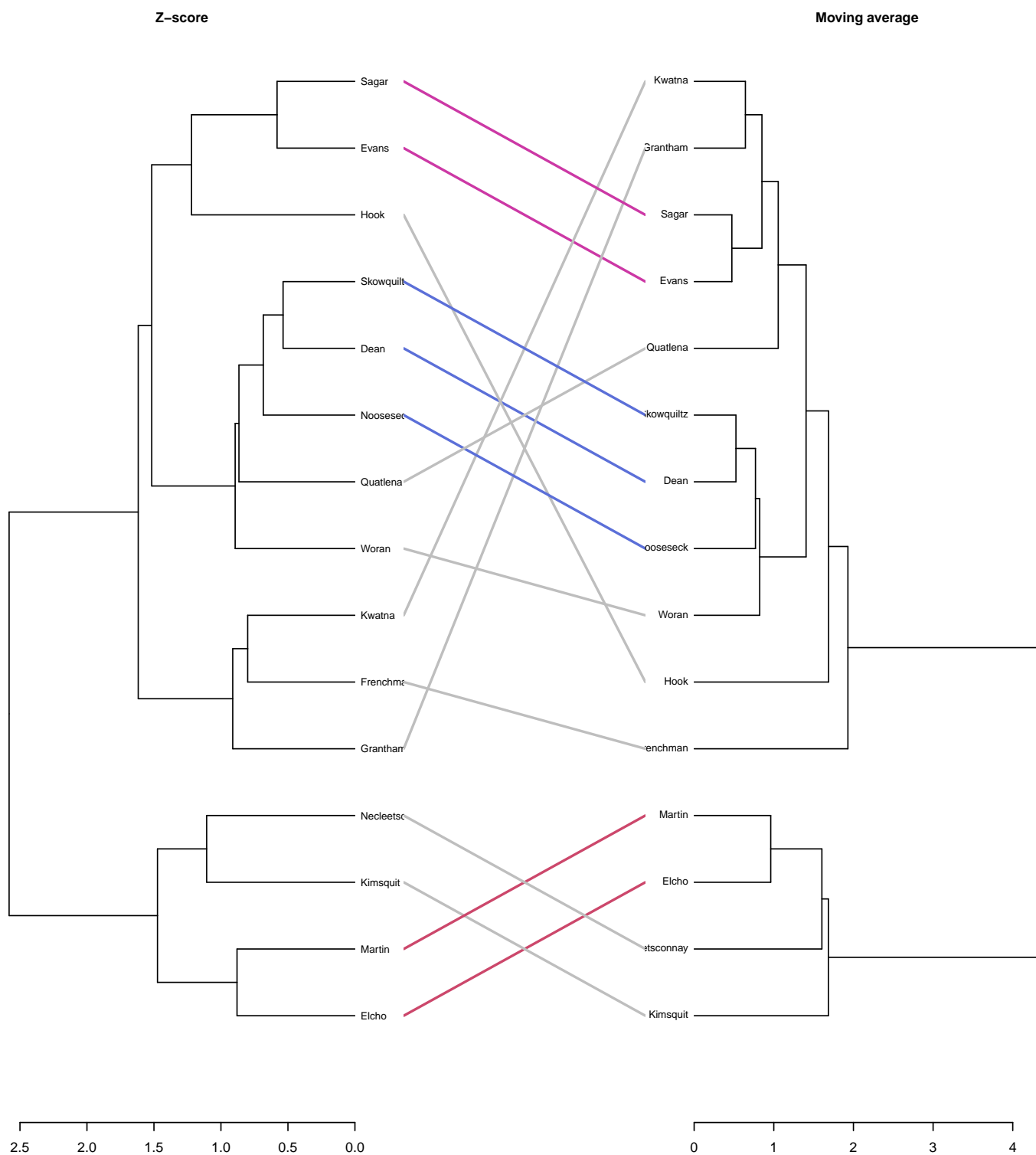


Figure 15: Tanglegram of z-score vs. moving average

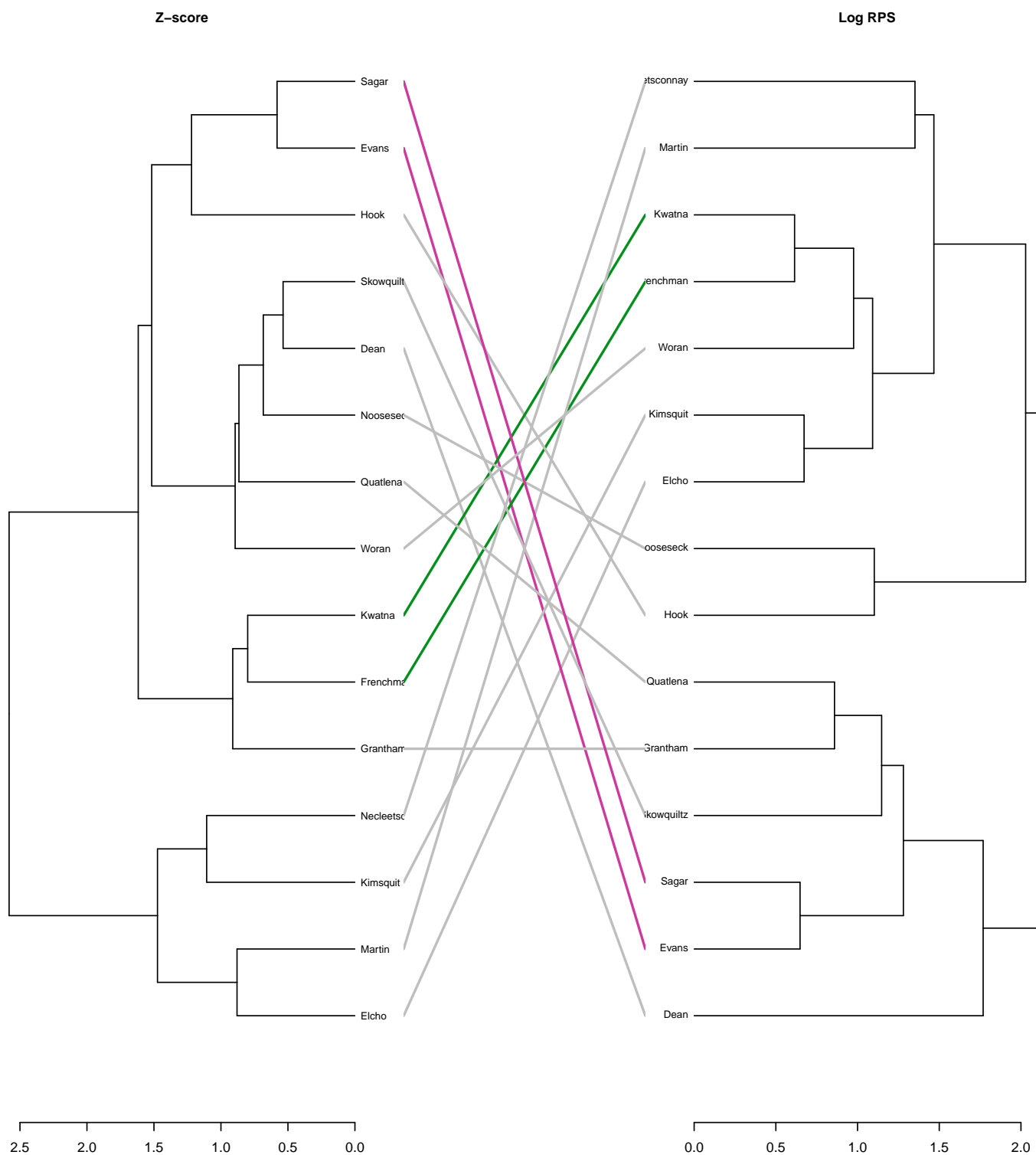


Figure 16: Tanglegram of z-score vs. log RPS

## Statistical models

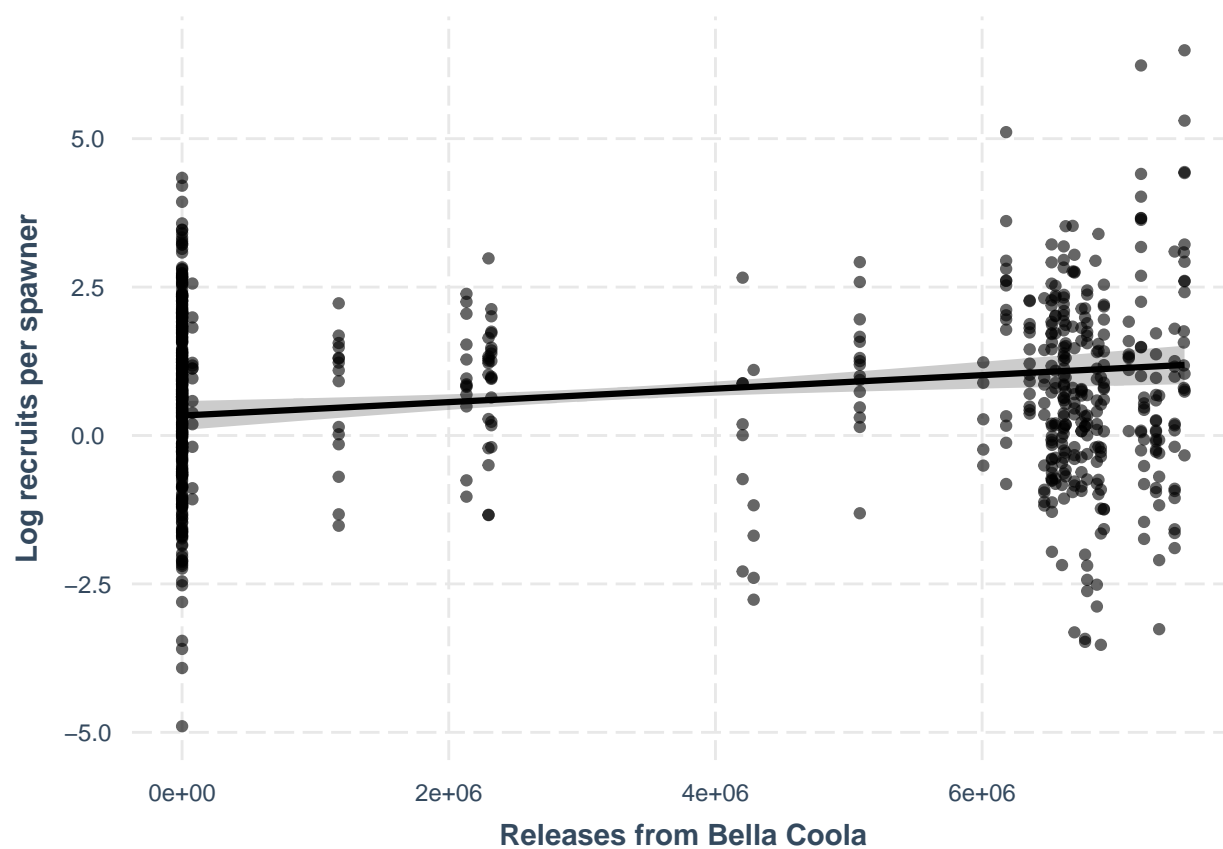
Table of log RPS candidate models and AIC selection

Candidate model	df	AIC
Log RPS ~ Wt. dist. Bella Coola + Wt. dist. McLoughlin + Rel.McLoughlin + Rel.Bella Coola + Year	7	2776.004
Log RPS ~ dist from Bella Coola + dist from McLoughlin	4	2783.424
Log RPS ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin	4	2783.424
Log RPS ~ dist from Bella Coola + dist from McLoughlin + Year	5	2785.416
Log RPS ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin + Year	5	2785.416
Log RPS ~ dist from Bella Coola + dist from McLoughlin + Year + Subinlet	9	2790.437
Log RPS ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin + Year + Subinlet	9	2790.437

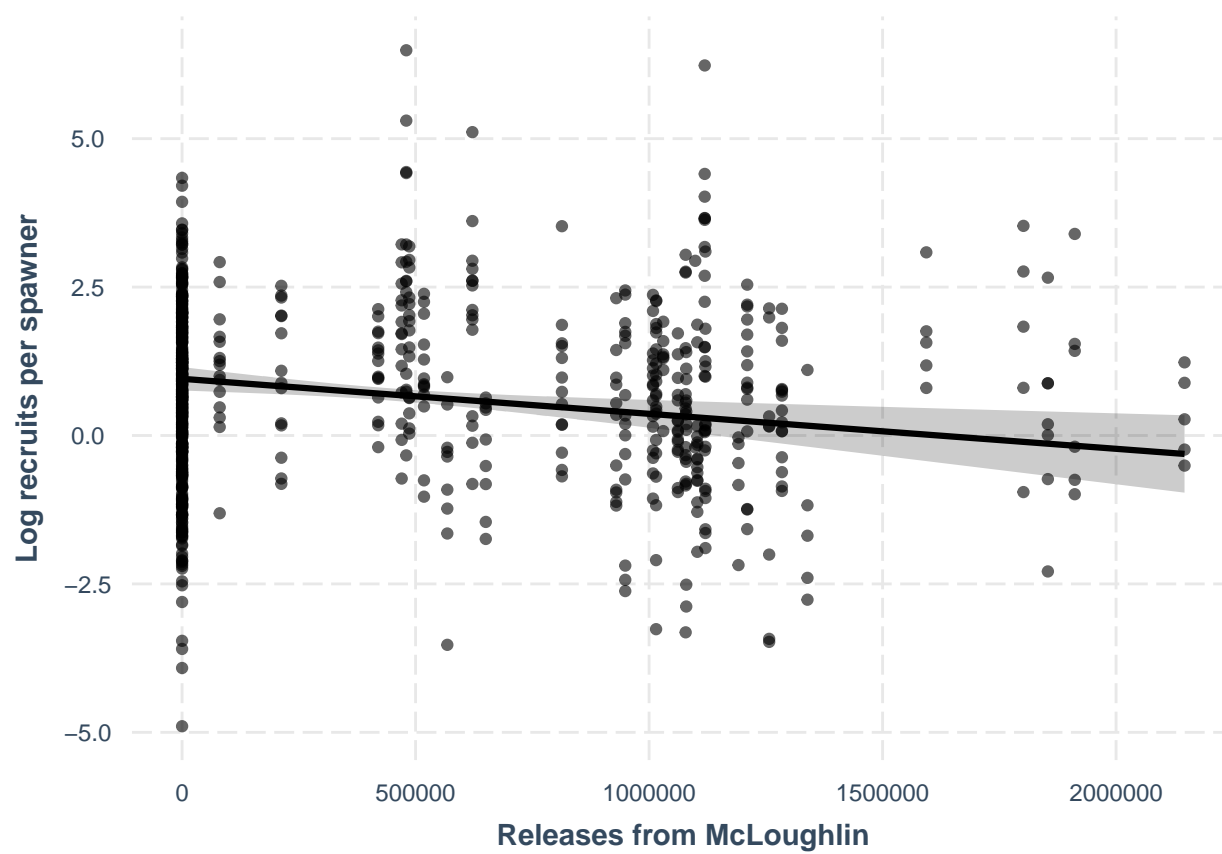
**Table of log escapement candidate models and AIC selection**

Candidate model	df	AIC
Log escapement ~ dist from Bella Coola + dist from McLoughlin + Year + Subinlet	9	3019.123
Log escapement ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin + Year + Subinlet	9	3019.123
Log escapement ~ Wt.dist.BellaCoola + Wt.dist.McLoughlin + Rel.Bella Coola + Rel.McLoughlin + Year	7	3045.062
Log escapement ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin	4	3059.479
Log escapement ~ dist from Bella Coola + dist from McLoughlin	4	3059.479
Log escapement ~ dist from Bella Coola + dist from McLoughlin + Year	5	3060.954
Log escapement ~ Wt. dist. from Bella Coola + Wt. dist. from McLoughlin + Year	5	3060.954

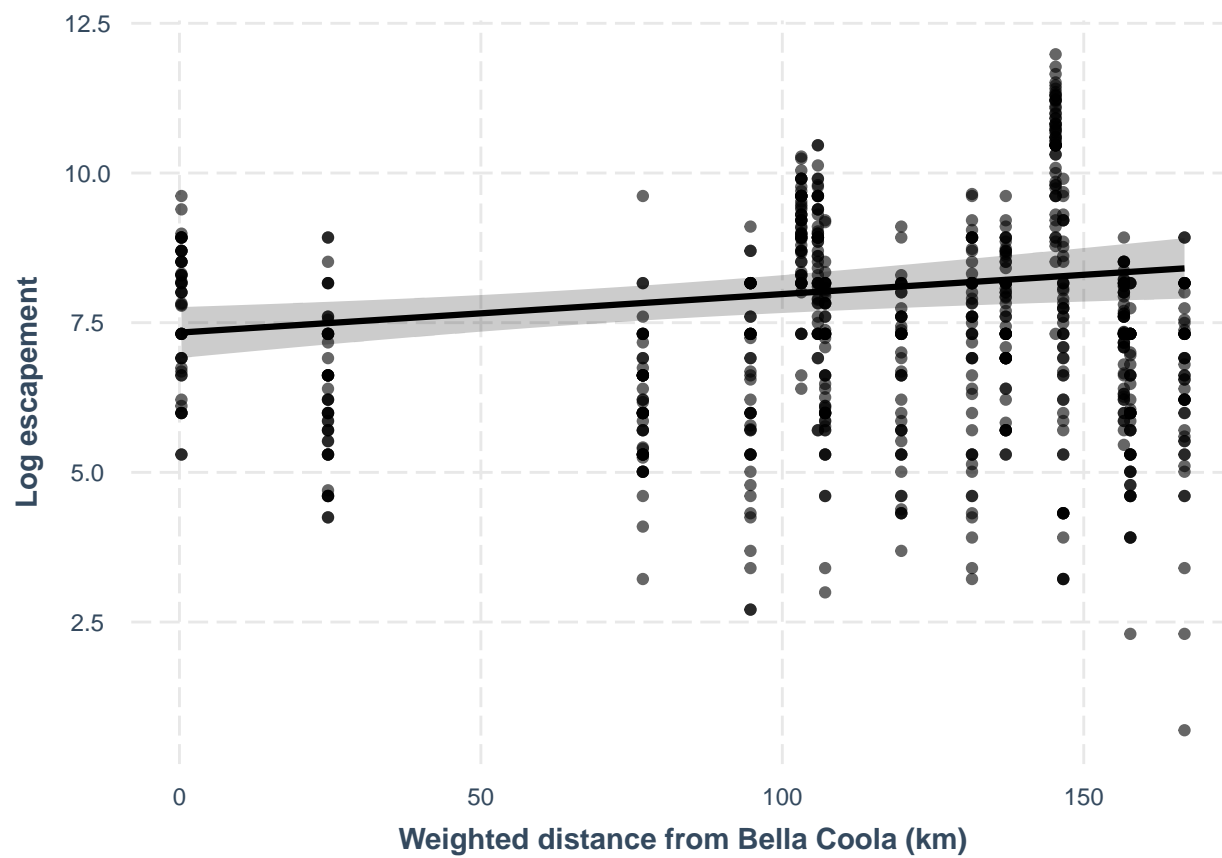
Effects plot of log RPS against releases from Bella Coola



Effects plot of log RPS against releases from McLoughlin



Effects plot of log escapements against weighted distance from Bella Coola



Effects plot of log escapements against weighted distance from McLoughlin

