

Considering different ways to average/sum Cr values across seasons.

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1 Perturbation Experiment - Perturbing Node Survival Rates

To investigate the utility of the metrics as an indicator of the change in carrying capacity K we consider the following perturbations to the survival rate at each node:

$$PERT = .9, .8, .7, .6, .5$$

2 Comparing C^r results from different averaging/summing across seasons

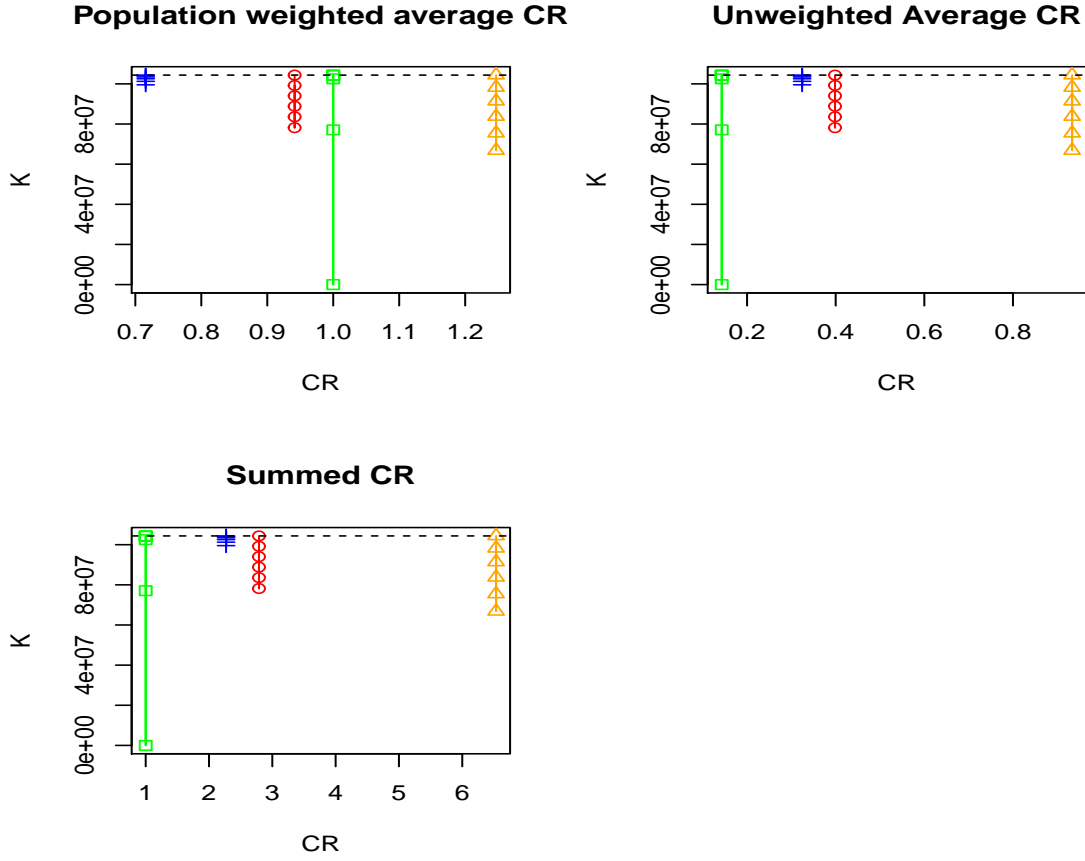


Figure 1: Perturbation results: Range of K values after perturbations to each node, X-axis represents **baseline population weighted C^r values** for each node

Winter	□	non-breeding
South	○	breeding
Central	△	breeding
North	◇	breeding

3 Population Distribution W^r - split seasons

W^r is calculated as the percent of the total population residing at a node. This calculation results in W^r values for each node during each seasons. To get a consistent value for the network, we average (not weighted) across the seasons. The final numbers should sum to one.

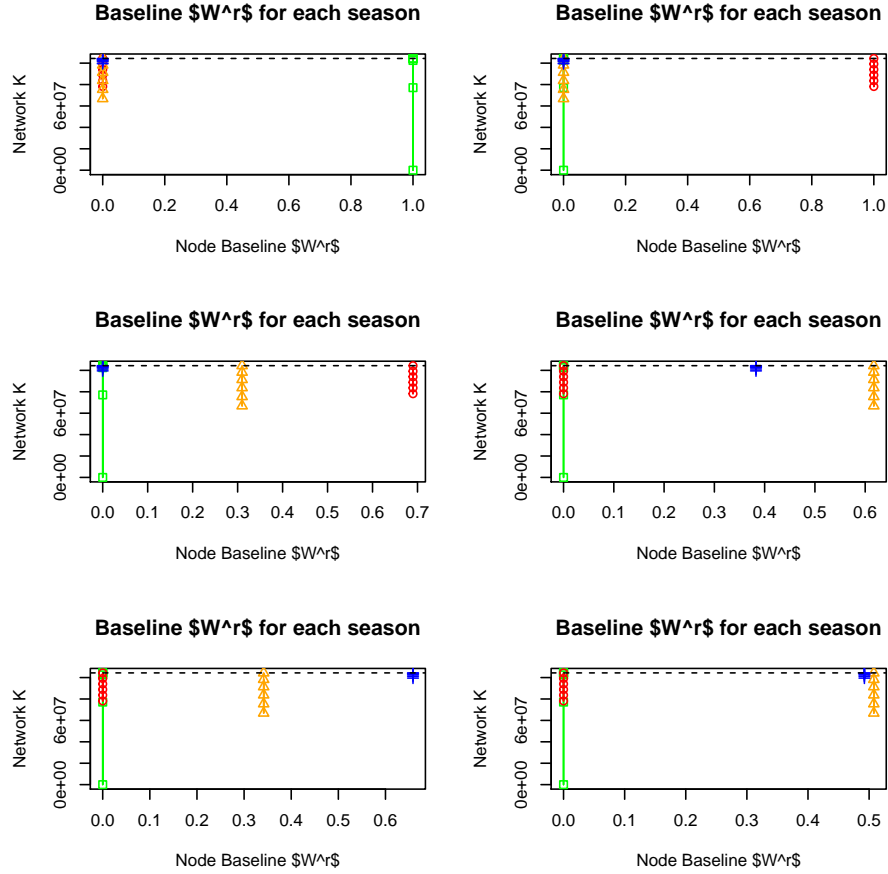


Figure 2: Perturbation results: Range of K values after perturbations to each node, X-axis represents baseline average W^r value for each node

Winter	□	non-breeding
South	○	breeding
Central	△	breeding
North	◇	breeding

4 CR - split seasons

How does CR look if we split apart the seasons?

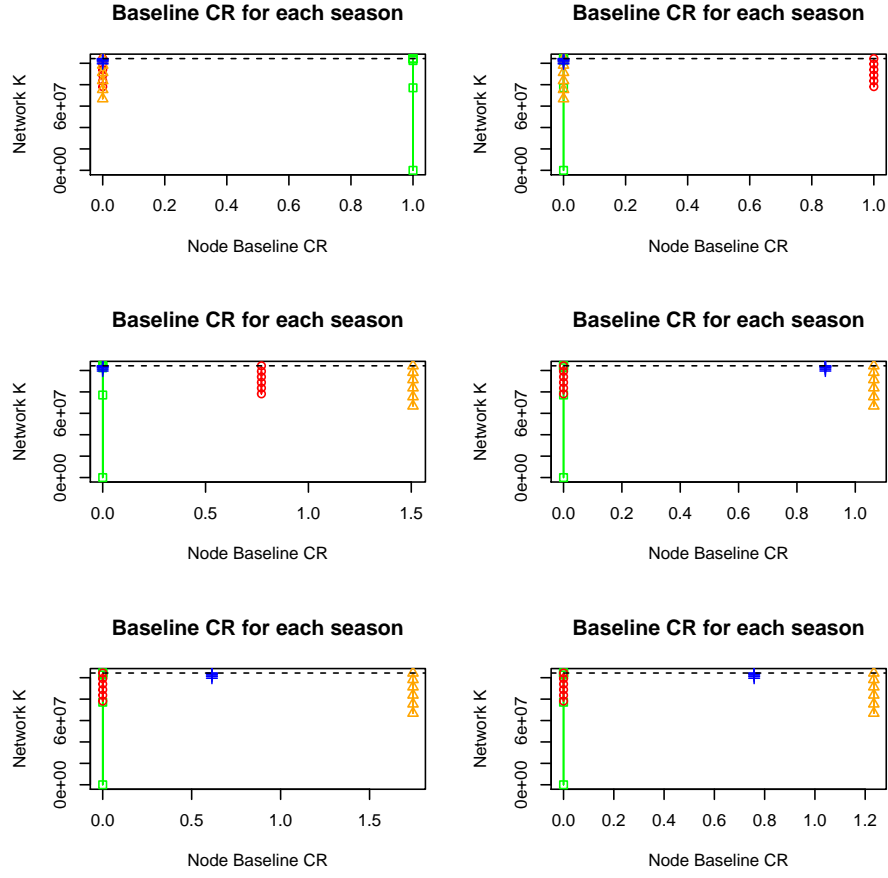


Figure 3: Perturbation results: Range of K values after perturbations to each node, X-axis represents baseline average CR value for each node, here we have split up the seasons - no average

Winter	□	non-breeding
South	○	breeding
Central	△	breeding
North	◇	breeding