

Figure S1: habitat preference

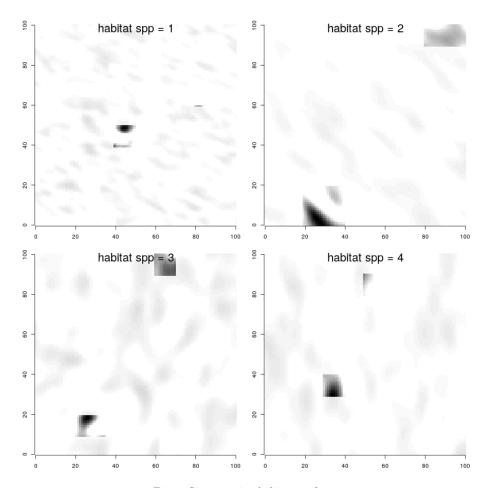


Figure S2: spawning habitat preference

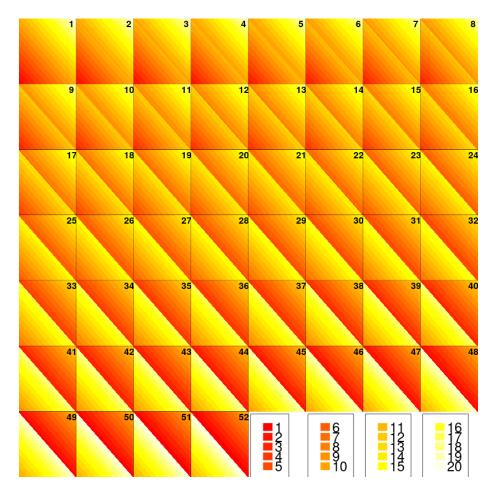


Figure S3: Spatiotemporal temperature gradient

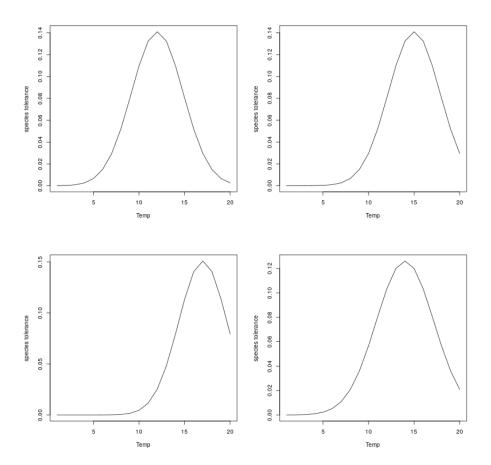


Figure S4: Species thermal tolerances

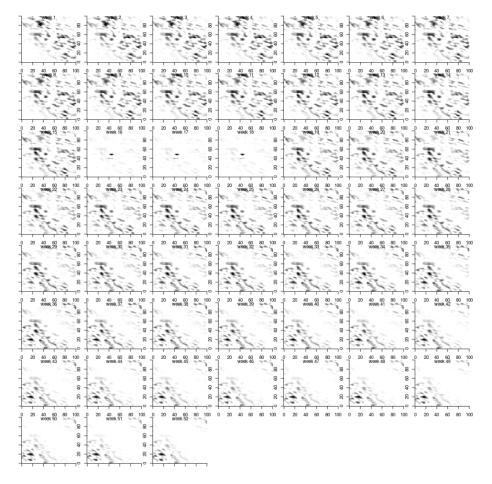


Figure S5: Spatiotemporal habitat suitability - population  $1\,$ 

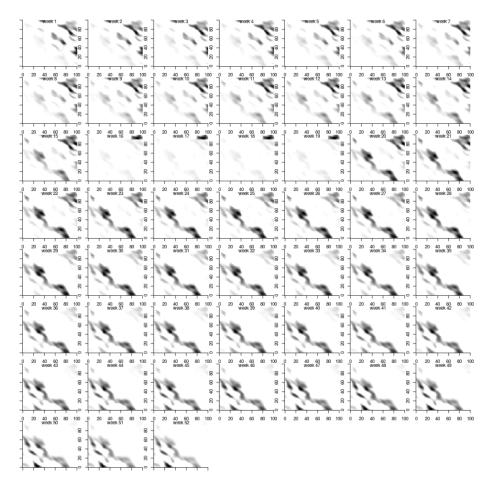


Figure S6: Spatiotemporal habitat suitability - population  $2\,$ 

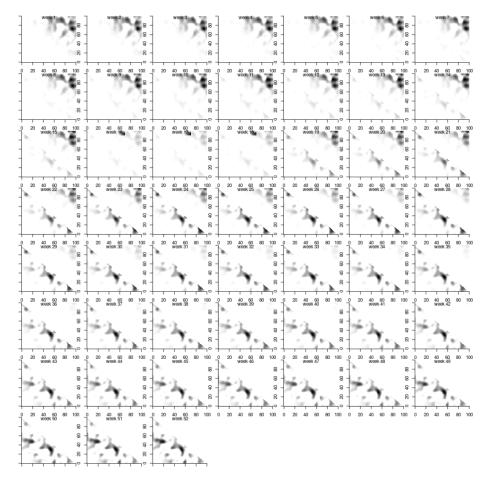


Figure S7: Spatiotemporal habitat suitability - population 3

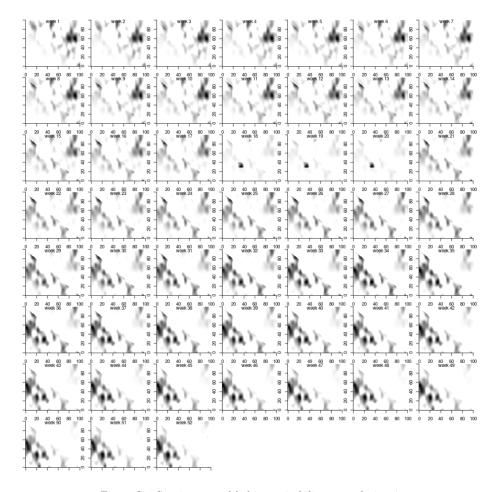


Figure S8: Spatiotemporal habitat suitability - population  $4\,$ 

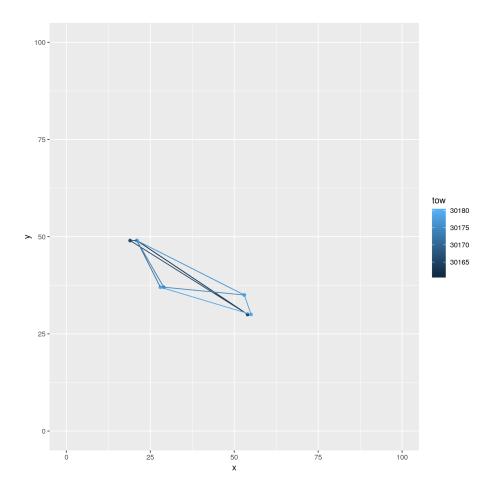


Figure S9: vessel movement - a single trip movement for one vessel

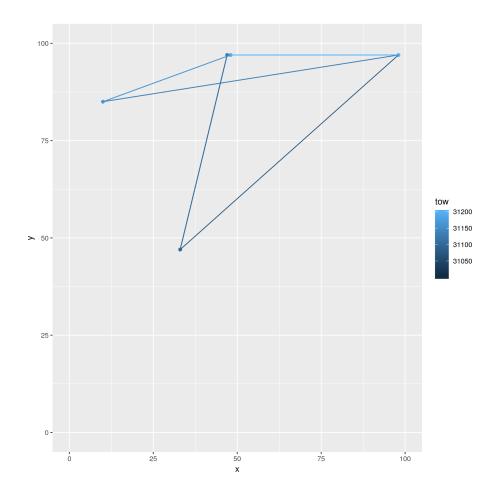


Figure S10: vessel movement for multiple trips from a single vessel. Note the movement off the side pops up the other side, but is joined by a line across the grid. This is from the torus approach rather than the edges being barriers

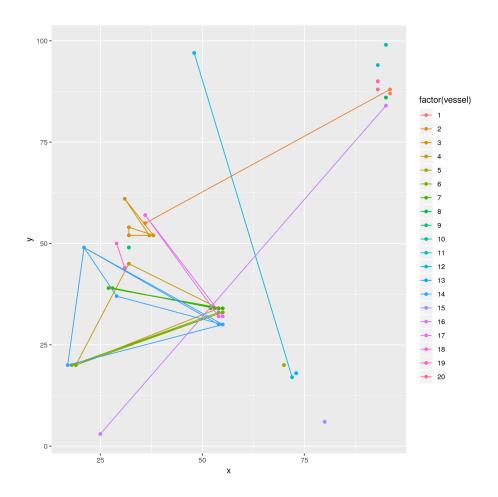


Figure S11: An entire fleets (20 vessels) movement for a single trip

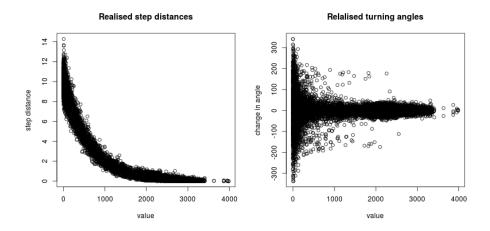


Figure S12: Realised step function - the step function as realised for a single fleet. For turning angles, it can be seen that at higher values, the turning range is less

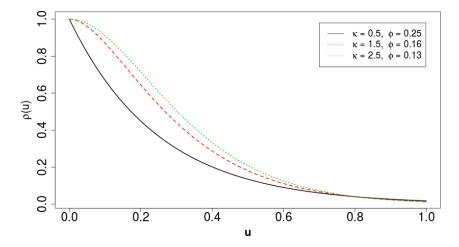


Figure S13: Example of different implementation of the Matern correlation function on auto-correlation distance