Supplementary Data A

Figure A.1: Species specific germination curves against annual cold days (*ancd*), defined here as the annual sum of daily max {(5-T_{mean}),0}. Experimental data from germination experiments: *A. cephalonica* (P.I. Politi, M. Arianoutsou and K. Georghiou, in preparation), *P. brutia* (Skordilis and Thanos, 1995), *P. nigra* data (A. Galanidis, N. Fyllas and P. Dimitrakopoulos, unpublished data). Symbols: squares *P. brutia*, circles *P. nigra* and triangles *A. cephalonica*. The fitted curves follow the equation: $y = a + bx + cx^2$, see Table 2 for coefficient estimates.

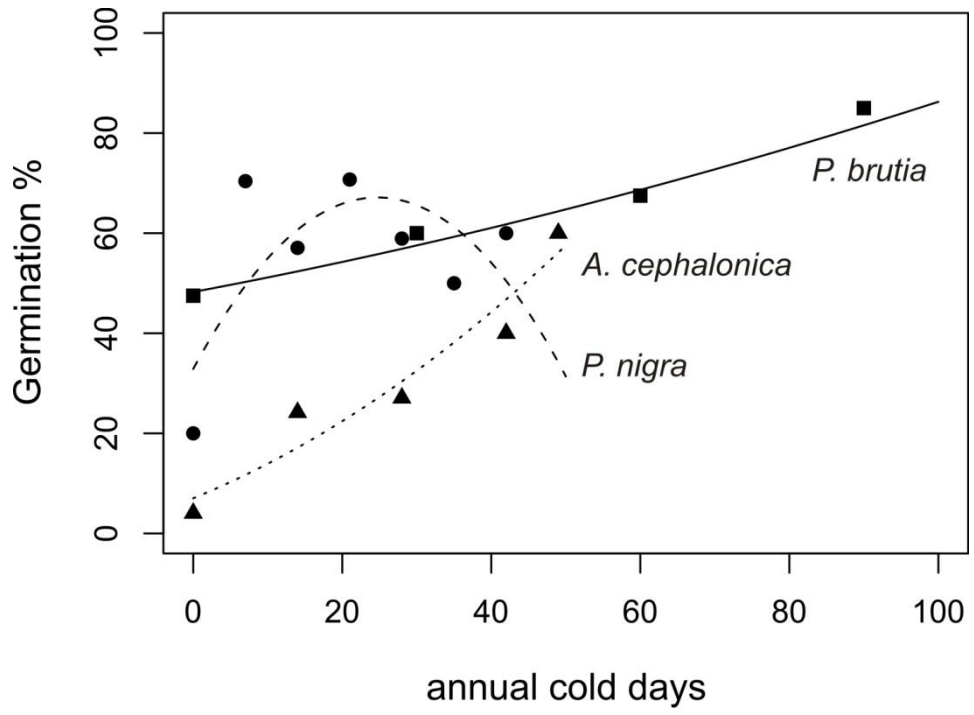


Figure A.2: Species specific recruitment density (individuals per m^2) against mean gap (10x10 m^2) leaf area index (LAI). Data for *P. brutia* & *P. nigra* as described in Fyllas et al. (2008) and *A. cephalonica* as described in Politi et al. (2009). The broken vertical line indicates a species-specific LAI threshold (LAI_T), above which recruitment of new saplings is assumed to cease. In this study LAI_T represents the limit of light availability below which seedlings are not able to grow and subsequently reach the saplings stage. LAI represented the one sided leaf area per unit ground area.

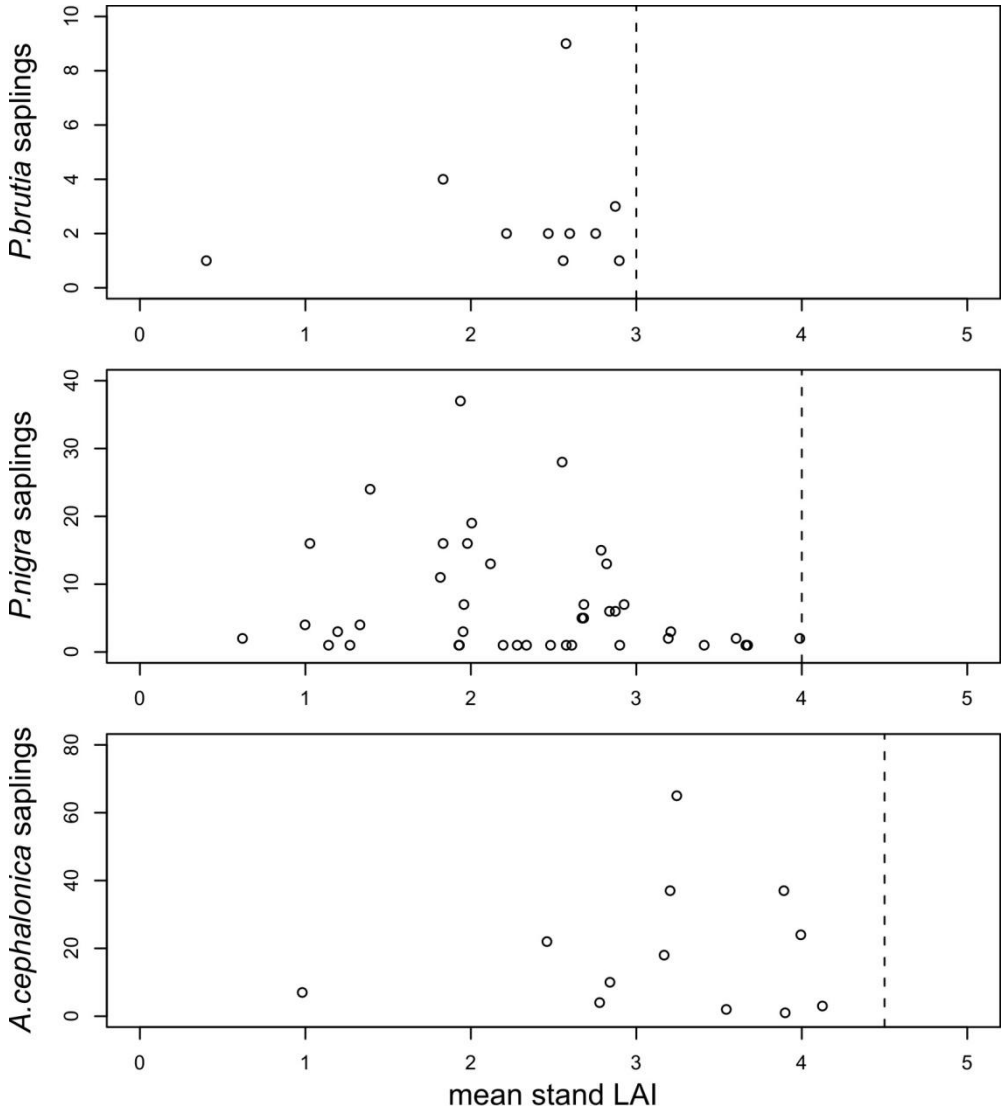
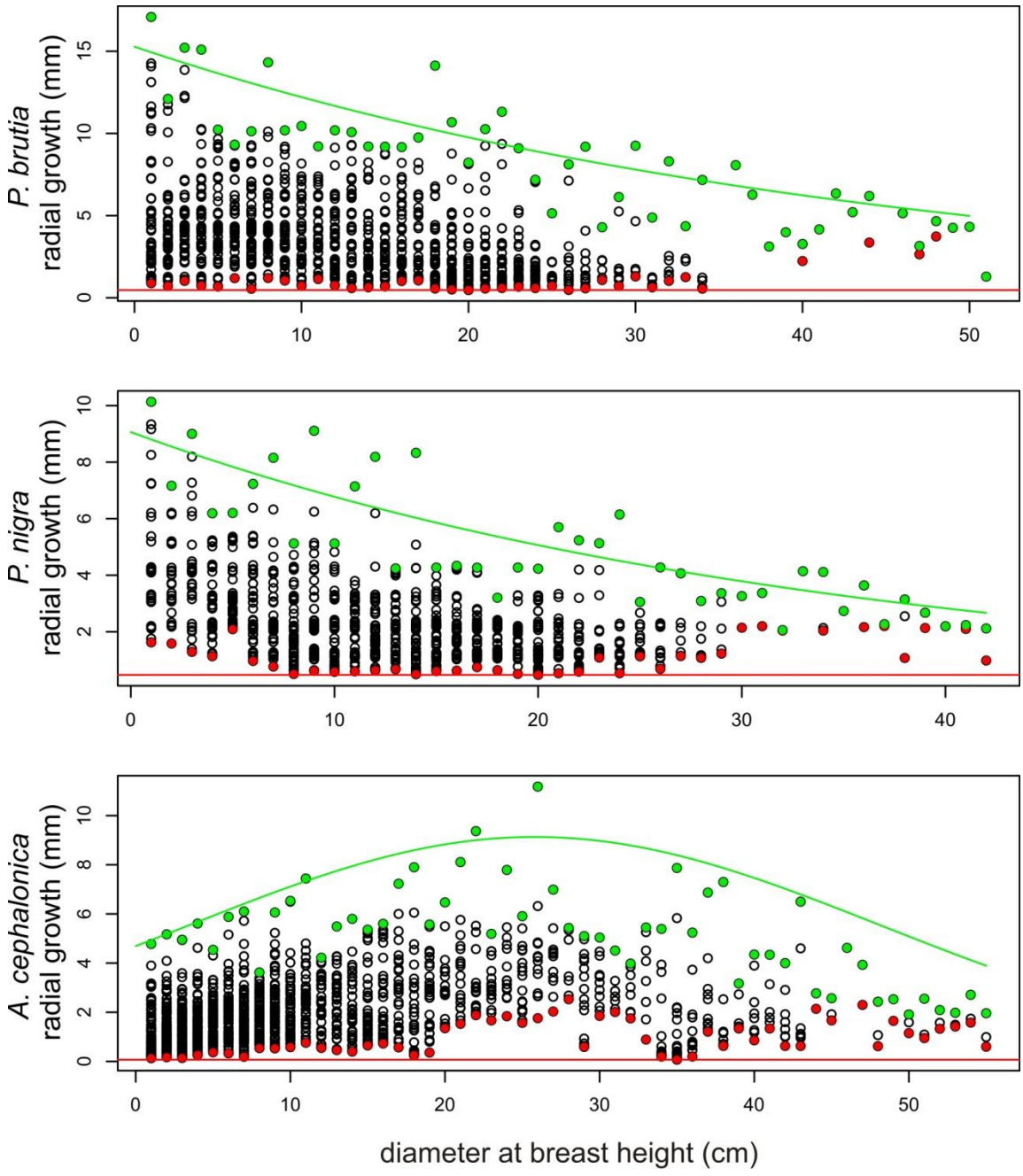


Figure A.3: Species specific maximum growth curves. Black circles represent radial growth per diameter at breast height (dbh in cm) for the whole sample, green circles illustrate maximum observed growth per dbh and red circles give the minimum observed growth. Green curves were estimated by fitting an equation of the form $G_{max} = e^{a+bx+cx^2}$ to the maximum observed growth per age, and selecting the coefficients a, b & c (within the confidence interval limits) that maximize growth patterns. See Table 2 for growth coefficient estimates and text for details.



Supplementary Data B

Figure B.1: Population density dynamics along simulation time for *A. cephalonica* stands. Snapshots of size class distribution at specific time points (illustrated with the red vertical lines) are also provided. Model outputs from one simulation.

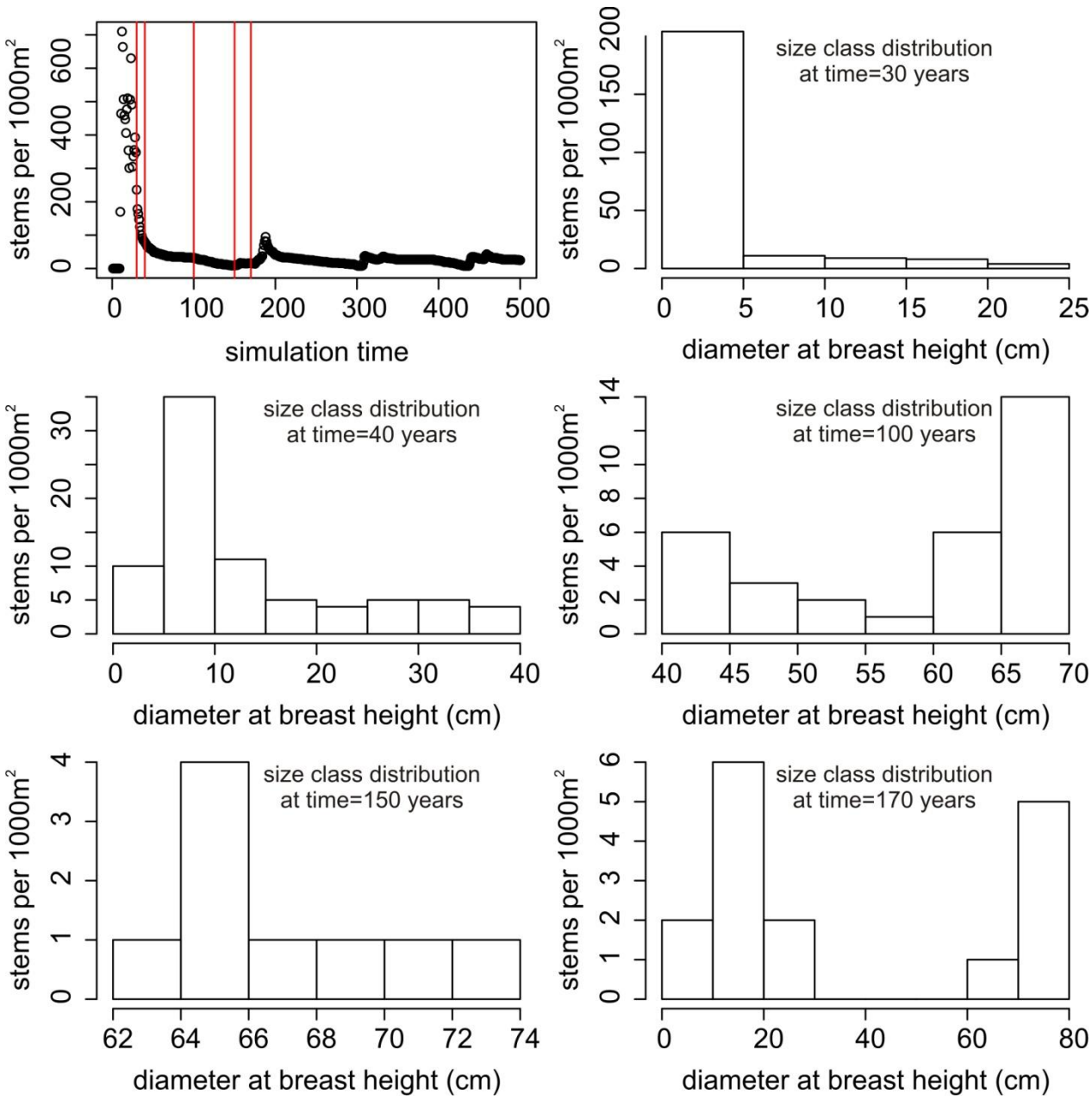
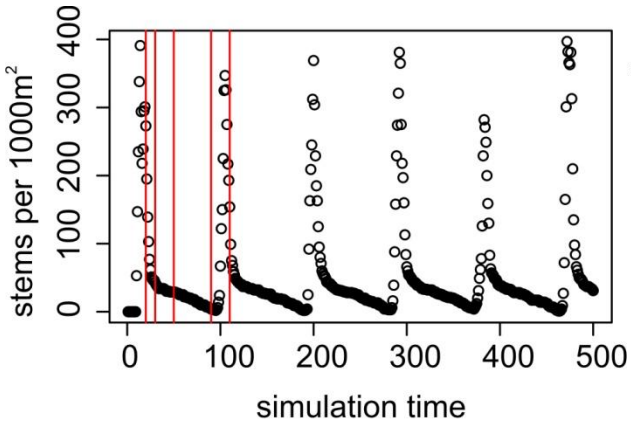
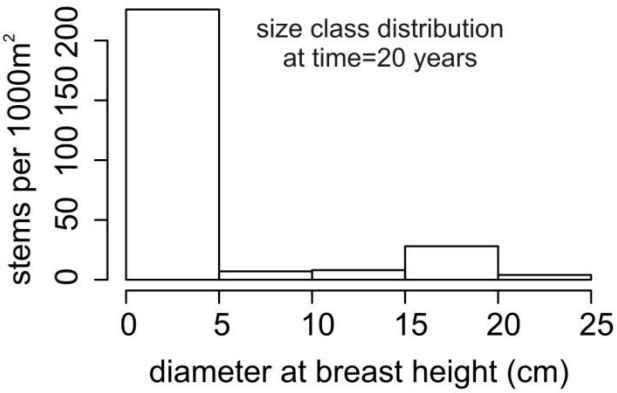
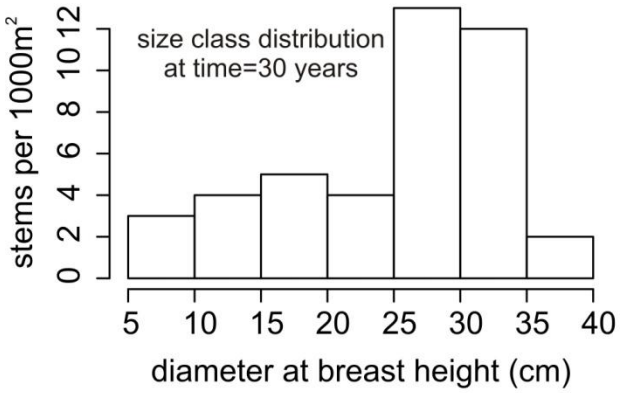
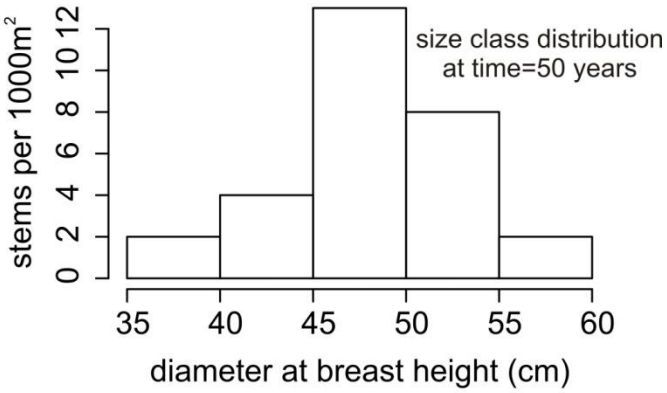


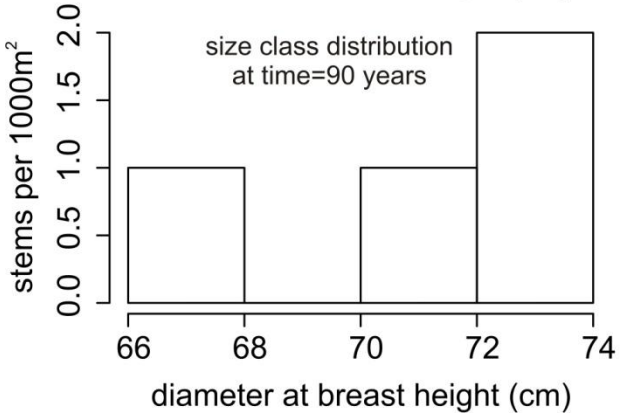
Figure B.2: Population density dynamics along simulation time for *P. brutia* stands. Snapshots of size class distribution at specific time points (illustrated with the red vertical lines) are also provided. Model outputs from one simulation.


stems per 1000m^2
0 100 200 300 400
0 100 200 300 400 500
simulation time


size class distribution
at time=20 years
stems per 1000m^2
0 50 100 150 200
0 5 10 15 20 25
diameter at breast height (cm)


size class distribution
at time=30 years
stems per 1000m^2
0 2 4 6 8 10 12
5 10 15 20 25 30 35 40
diameter at breast height (cm)


size class distribution
at time=50 years
stems per 1000m^2
0 2 4 6 8 10 12
35 40 45 50 55 60
diameter at breast height (cm)


size class distribution
at time=90 years
stems per 1000m^2
0.0 0.5 1.0 1.5 2.0
66 68 70 72 74
diameter at breast height (cm)

size class distribution
at time=110 years
stems per 1000m^2
0 20 40 60 80 100
0 5 10 15 20 25 30
diameter at breast height (cm)

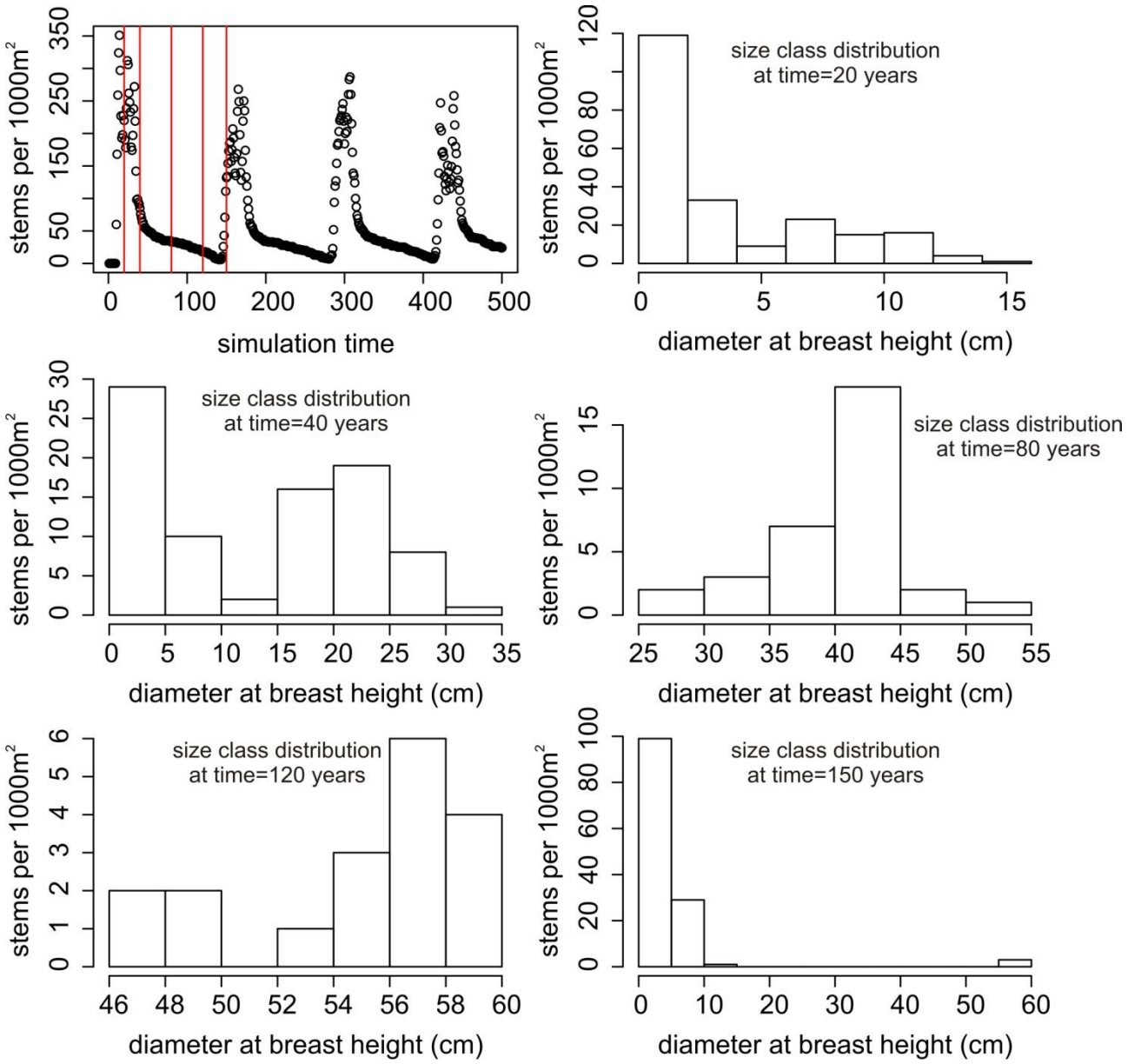



Figure B.3: Population density dynamics along simulation time for *P. nigra* stands. Snapshots of size class distribution at specific time points (illustrated with the red vertical lines) are also provided. Model outputs from one simulation.