

Supplementary material

Modelling the impact of canker disease and fire regimes on the population dynamics and extinction risk of the Critically Endangered and granite endemic shrub *Banksia verticillata* R.Br.

C. J. Yates^{A,D}, S. Barrett^B, M. Dilly^{B,C}, S. D. Hopper^C, B. Stewart^C and M. R. Williams^A

^ADepartment of Biodiversity, Conservation and Attractions,
Biodiversity and Conservation Science, Locked Bag 104, Bentley Delivery Centre,
Kensington, WA 6983, Australia.

^BDepartment of Biodiversity, Conservation and Attractions,
Parks and Wildlife Service South Coast Region, 120 Albany Highway,
Albany, WA 6330, Australia.

^CCentre for Natural Resource Management and School of Agriculture and Environment,
The University of Western Australia, Albany Campus, Albany, WA 6330, Australia.

^DCorresponding author. Email: colin.yates@dbca.wa.gov.au

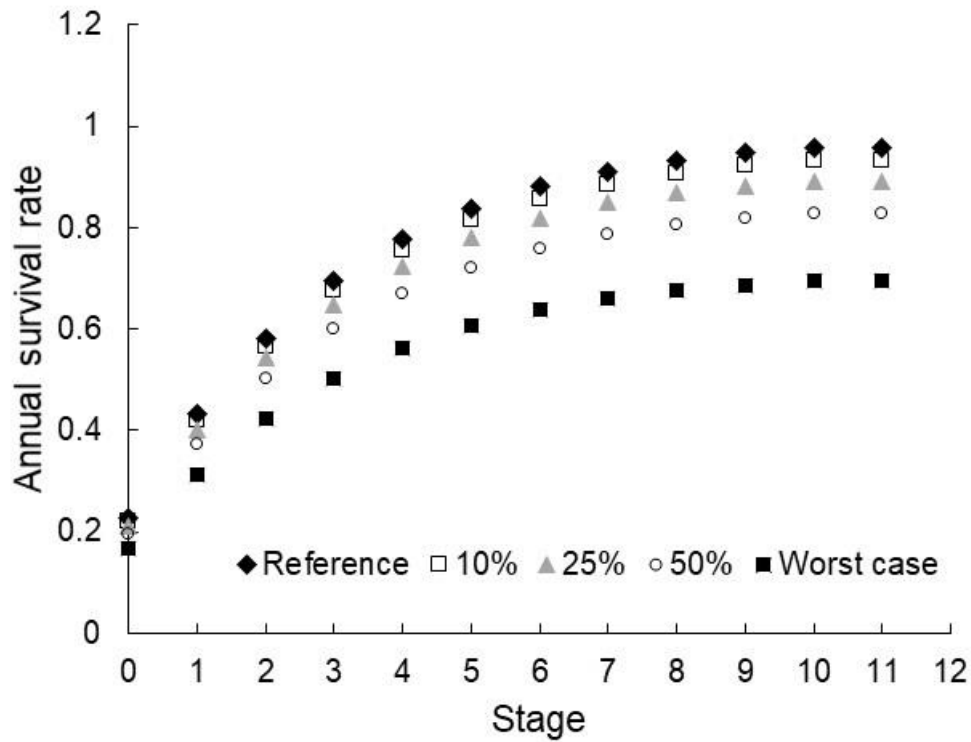


Fig. S1. Estimates of annual survival for seedling (age 0 years), juvenile (ages 1–10 years) and adults (age 11+ years) stages derived from the exponential survivorship curve $0.9583 - (1 - (i + 1) \div 11) \times e^{-0.22 \times (i + 1)}$, where i is age in years and 0.9583 is the mean annual survival rate of adult plants at three low canker impact sites (reference scenario). To determine the effect of canker disease on adult plant survival we used the mean annual survival rate of adult plants at two high canker impact populations to estimate a worst-case average annual survival rate and recalculated exponential survivorship curves for 10, 25 and 50% of the worst case survival rate.

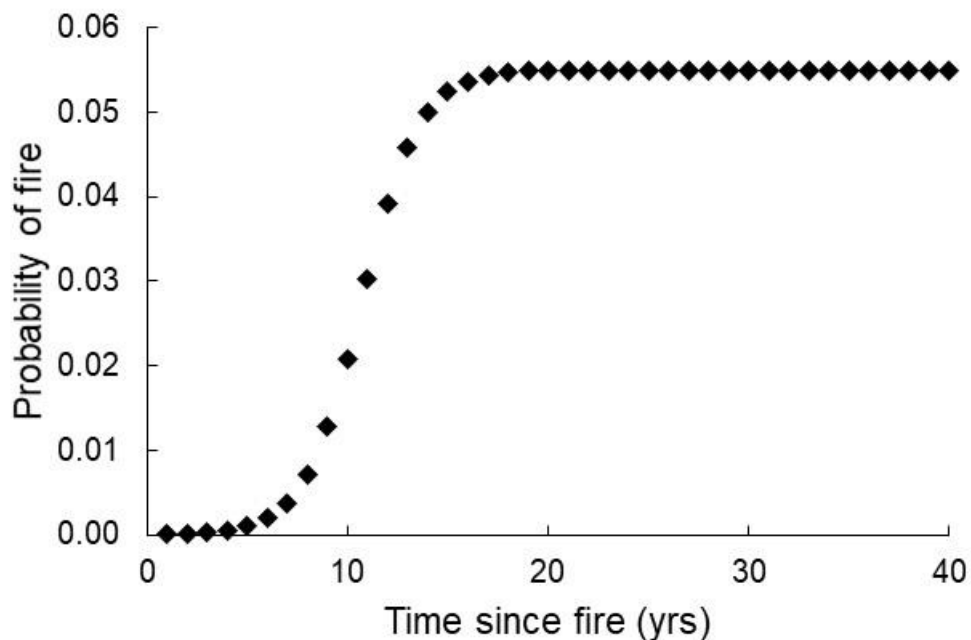


Fig. S2. Logistic fire model for *B. verticillata* populations based on fire-history records for 15 populations and 26 fire-return periods held by Western Australian Department of Biodiversity, Conservation and Attractions.