## Supplementary material

Seedling survivorship of temperate grassland perennials is remarkably resistant to projected changes in rainfall
Michael P. Perring and Mark J. Hovenden


Figure S1: Observed seedling survivorship of perennials at TasFACE in relation to modelled survivorship based on seasonal soil water potential measurements for 2004, 2005 and 2006 (Eqn 1, main text).


Figure S2: Relationship between monthly rainfall at Oatlands and Pontville from $1^{\text {st }}$ February 2003 until $31^{\text {st }}$ January 2008.


Figure S3: Daily rainfall events in PPD of Oatlands for 1890 to 2008 and observed daily rainfall events at Pontville from $1^{\text {st }}$ February 2003 until 31 ${ }^{\text {st }}$ January 2008.


Figure S4: Frequency of number of consecutive days without rain at Oatlands $(1890-2008)$ and at Pontville from $1^{\text {st }}$ February 2003 until $31^{\text {st }}$ January 2008.


Figure S5: Total annual rainfall (mm) at Oatlands from 1890 to 2008, with red line indicating 5 year running mean.


Figure S6: Monthly rainfall distribution (mm) at Oatlands from 1890 to 2008. The white line indicates the median value and whiskers extend 1.5 times the interquartile range, with outliers beyond this range shown with the dot symbol.

Figure S7: Range of mean soil water potential ( $y$ axes, in kPa ) in a) autumn, b) winter, and $\mathbf{c}$ ) spring in experimental plots at TasFACE $(n=36)(T)$, compared to the historical record at Oatlands $(\mathrm{O})$, rainfall event size changes of $-/+40 \%(-40,+40)$ to the historical record, seasonal reductions in rainfall in both autumn and spring of $75 \%(\mathrm{~S})$ to the historical record, together with event size changes ( $\mathrm{S}-40, \mathrm{~S}+40$ ) without winter rainfall augmentation, and seasonal and event size changes with winter rainfall augmentation to the historical record (Sw, S-40w, S+40w) $(n=119)$.


Figure S7a.


Figure S7b.


Figure S7c.


Figure S8: Simulated seedling survivorship (\%) of perennials at Oatlands given annual rainfall change induced by seasonal reductions in rainfall without winter rainfall augmentation. Black symbols relate to reductions of $75 \%$, dark grey of $50 \%$ and light grey of $25 \%$ in a) autumn, b) spring and c) both autumn and spring seasons.

