nlz,tl: size distribution From: (Paniw, 2017; Browing to size 2 in this Merow, 2014, Ellner GL'A probability and Rees, 2016) according to size 2 in t surival according of adults in t 5121. probability $(1-p_b(z))$: probability of not. n(z',t+1): size flowering distribution of adults according to size *Osite in t+1 co(z'): size distribution of new establishments in t+1 Pestab: probability of a seedling establishing to a rosette in t+1 P_b(z): probability **S(t):** No. of of flowering seedlings in *t* according to size **p**_r: fraction of non-seedbank seeds that germinate into seedlings b(z): number of seeds produced $(1 - \delta)$: fraction of year t **S(t+1):** No. of according to size seeds that skip the seedbank seedlings in *t+1* δ : fraction of year t seeds γ : fraction of seedbank seeds that go into the seedbank that leave the seedbank $(1 - \gamma)$: fraction of old **S**_B: seedbank **B(t):** size of seedbank seeds that stay **B(t+1):** size of

seedbank in t

in the seedbank

mortality rate

seedbank in *t+1*