

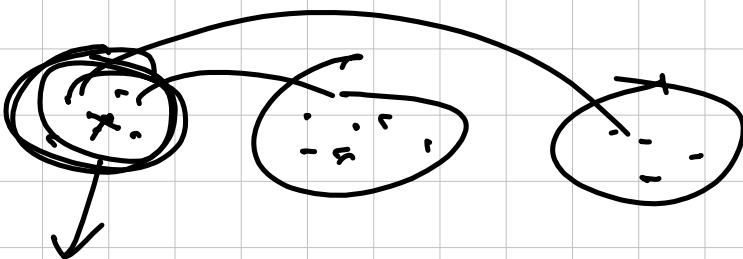
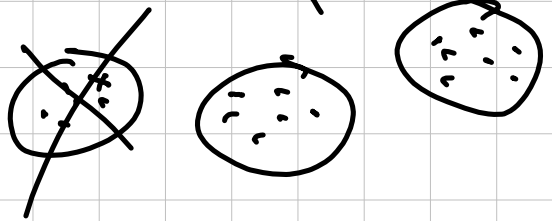
Bio 4AE3  
21 Sep.

conservation biology }  
levels of selection }

thresholds  
pop control  
pop cycles

↑ { most mutations are deleterious }  
↓ ... but in the long run  
you need mutations in order  
to evolve  
short vs long term

group vs individual  
(population)



thresholds

$$\text{incid} = \beta SI$$
$$R_0 = \frac{\beta N}{\gamma}$$

$N = \text{pop density}$

threshold density

DENSITY-DEPENDENT  
TRANSMISSION

$$\text{incidence} = \beta \cdot I \cdot \frac{S}{N}$$

$$R_0 = \frac{\beta}{\gamma}$$

stochastic thresholds

ATTOFOXES