

11.3 Other Mechanisms of Evolution

KEY CONCEPT

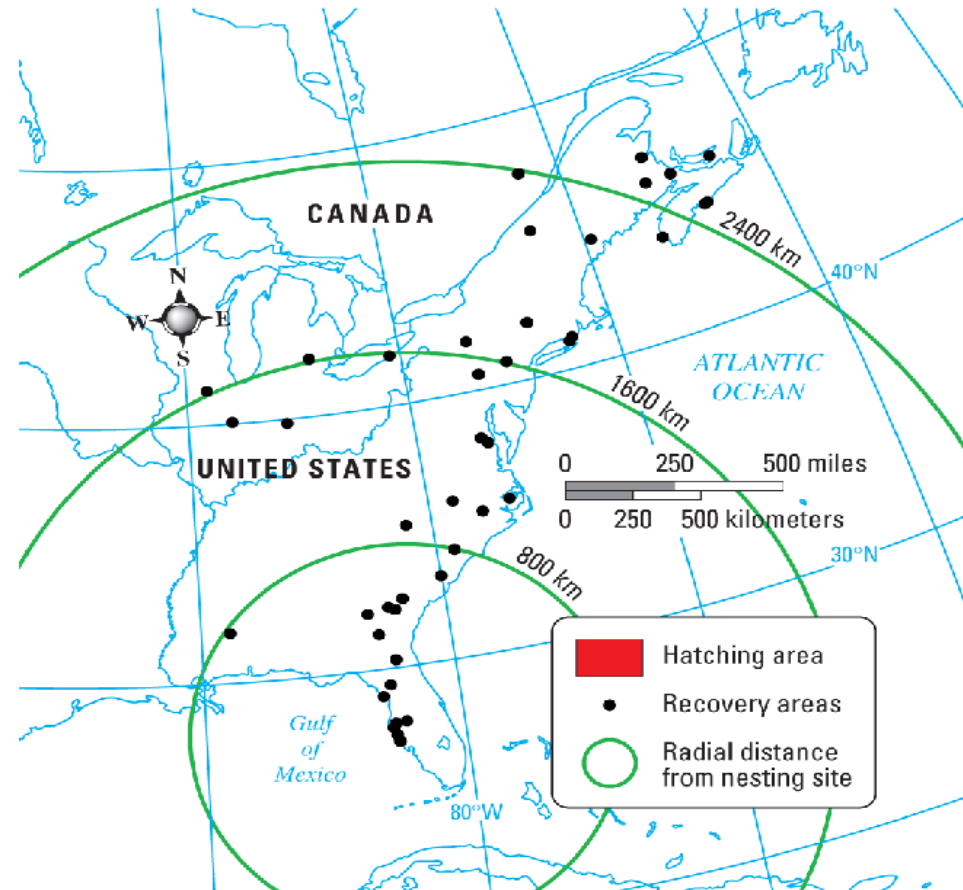
Natural selection is not the only mechanism through which populations evolve.



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▶ **Gene flow is the movement of alleles between populations.**

- Gene flow occurs when individuals join new populations and reproduce.
- Gene flow keeps neighboring populations similar.
- Low gene flow increases the chance that two populations will evolve into different species.

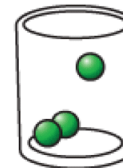
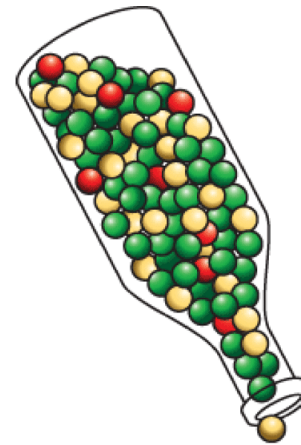


bald eagle migration

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▶ **Genetic drift is a change in allele frequencies due to chance.**

- Genetic drift causes a loss of genetic diversity.
- It is most common in small populations.
- A population bottleneck can lead to genetic drift.
 - It occurs when an event drastically reduces population size.
 - The bottleneck effect is genetic drift that occurs after a bottleneck event.



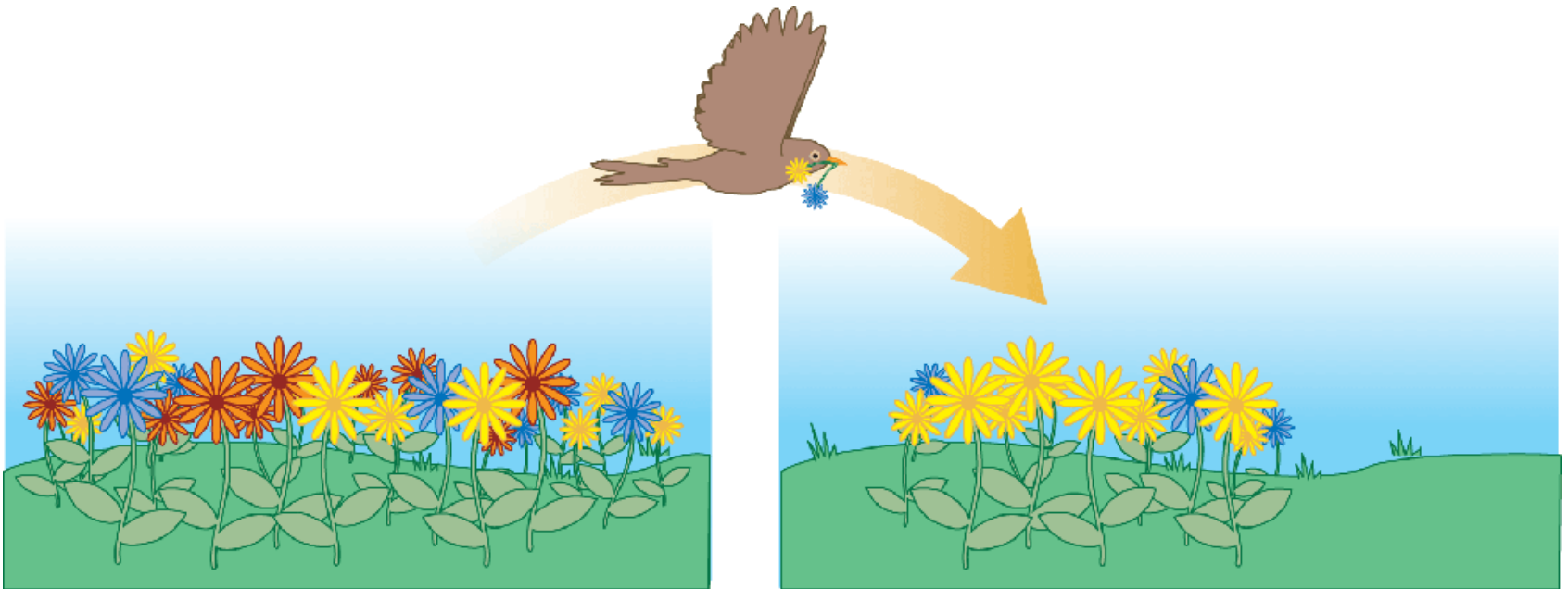
Bottleneck effect



Surviving population

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- The founding of a small population can lead to genetic drift.
 - It occurs when a few individuals start a new population.
 - The founder effect is genetic drift that occurs after start of new population.



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- Genetic drift has negative effects on a population.
 - less likely to have some individuals that can adapt
 - harmful alleles can become more common due to chance

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▶ **Sexual selection occurs when certain traits increase mating success.**

- Sexual selection occurs due to higher cost of reproduction for females.
 - males produce many sperm continuously
 - females are more limited in potential offspring each cycle



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- There are two types of sexual selection.
 - intrasexual selection: competition among males
 - intersexual selection: males display certain traits to females

