Population dynamics
Understanding change

Age structure
- AKA age distribution of populations
- Reflects natality and mortality
- Baby boomers
  - Born between 1946 and 1964
  - About 76 million of ’em

A useful type of age structure
- Stable age distribution: proportions in each age group are?
  - If so, birth and death rates for each age group are?
- Assuming this stability, how will the abundance of a population change through time?
  - Up? Down? No change? Can’t tell?

Age pyramids

Age structure issues in plants
- Continuous age distribution?
- Age = size?
- Role of seed banks

Lecture outline
- Age distributions
- Life tables
- Survivorship curves
- Dispersal
Life tables

- Putting mortality data together to
  - Determine probabilities of survivorship
  - Determine ages with highest mortality
  - Predict population growth
- Ideally, follow a cohort

Types of life tables

- Cohort or Dynamic: follow a single cohort
  - Shows ________ survivorship
  - When would this kind of life table be a challenge?
- Dynamic-Composite: follow multiple cohorts and then treat the data as one group
  - One critical assumption?
- Time-specific or Static: only sample once and age everything you encounter
  - Shows ________ survivorship
  - Many assumptions
- Leads to survivorship curves...

Survivorship examples (I)

- Fig. 10.13; Dall sheep Ovis dalli
- Adolph Murie

Survivorship examples (II)

- Fig. 10.14
- Fig. 10.16 top
- American robin

Survivorship examples (III)

- Cleome drosenfolia
- Fig. 10.17

Dispersal movements

- Immigration and emigration
  - Linked; depends on point of view
  - Can be passive, active, or both
Dispersal: follow the food

- Numerical response

![Graph showing numerical response](image)

Dispersal: ballooning

- St. Andrew’s Cross spiders
- Australia

Dispersal: Population expansion

- Africanized honey bees
- *Apis mellifera*

Migration

- Ebird.org
- Amur