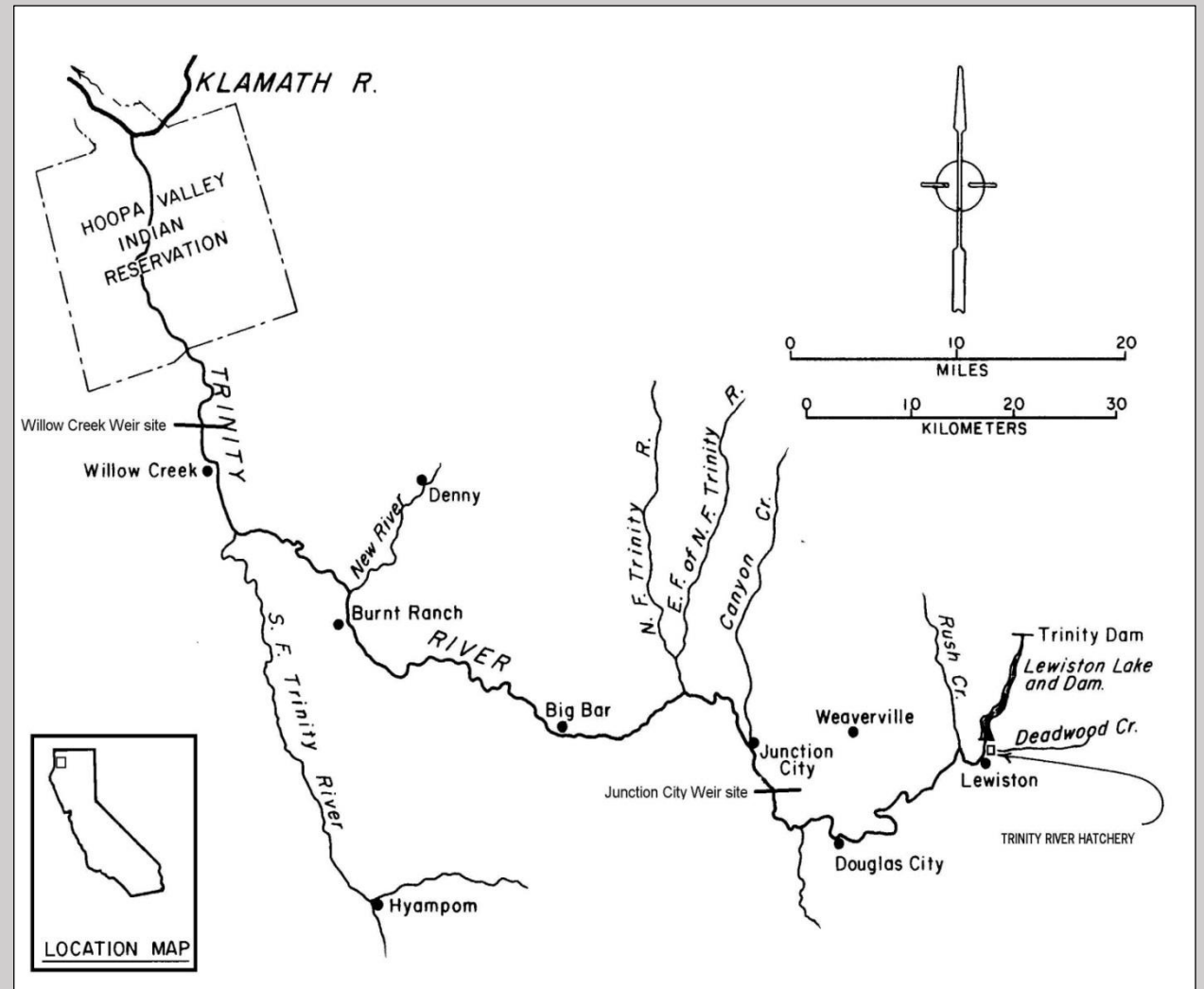


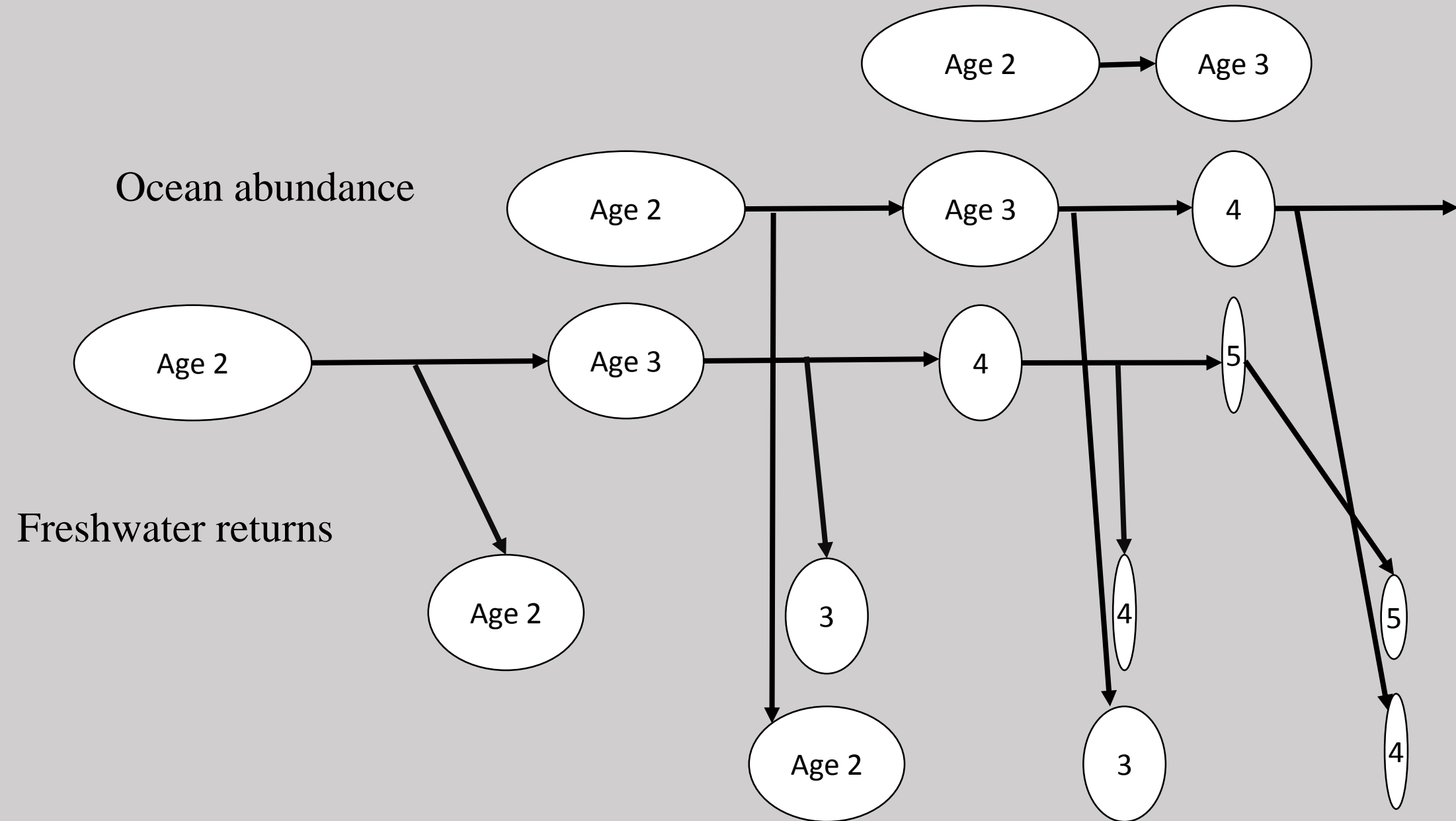
Introduction to Cohort Reconstruction for Trinity River Naturally-produced fall Chinook Salmon



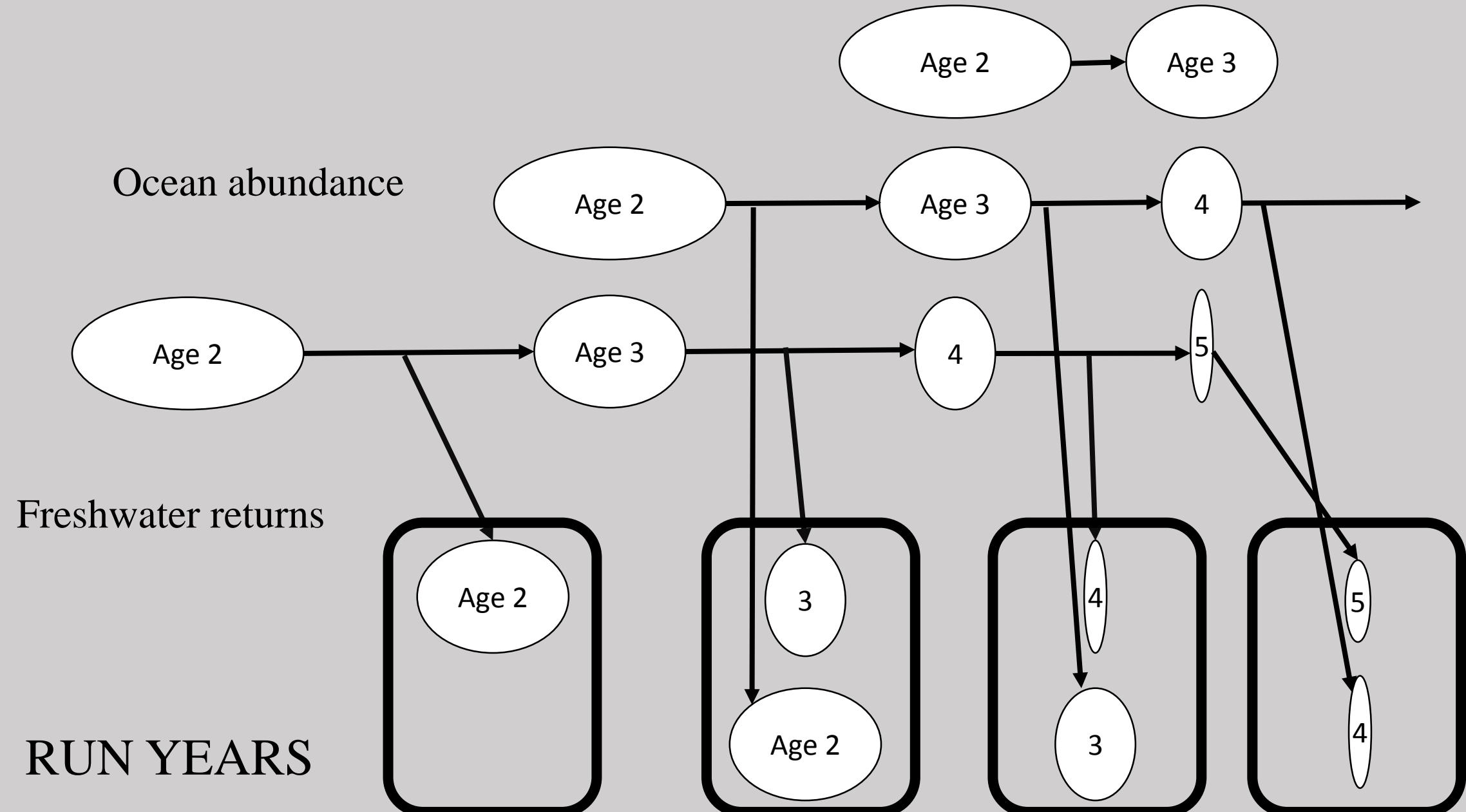
Objectives

- What is a cohort reconstruction?
- What purpose do they serve?
- Why is it important for TRRP to do this work?
- Status of the project and expected outcomes

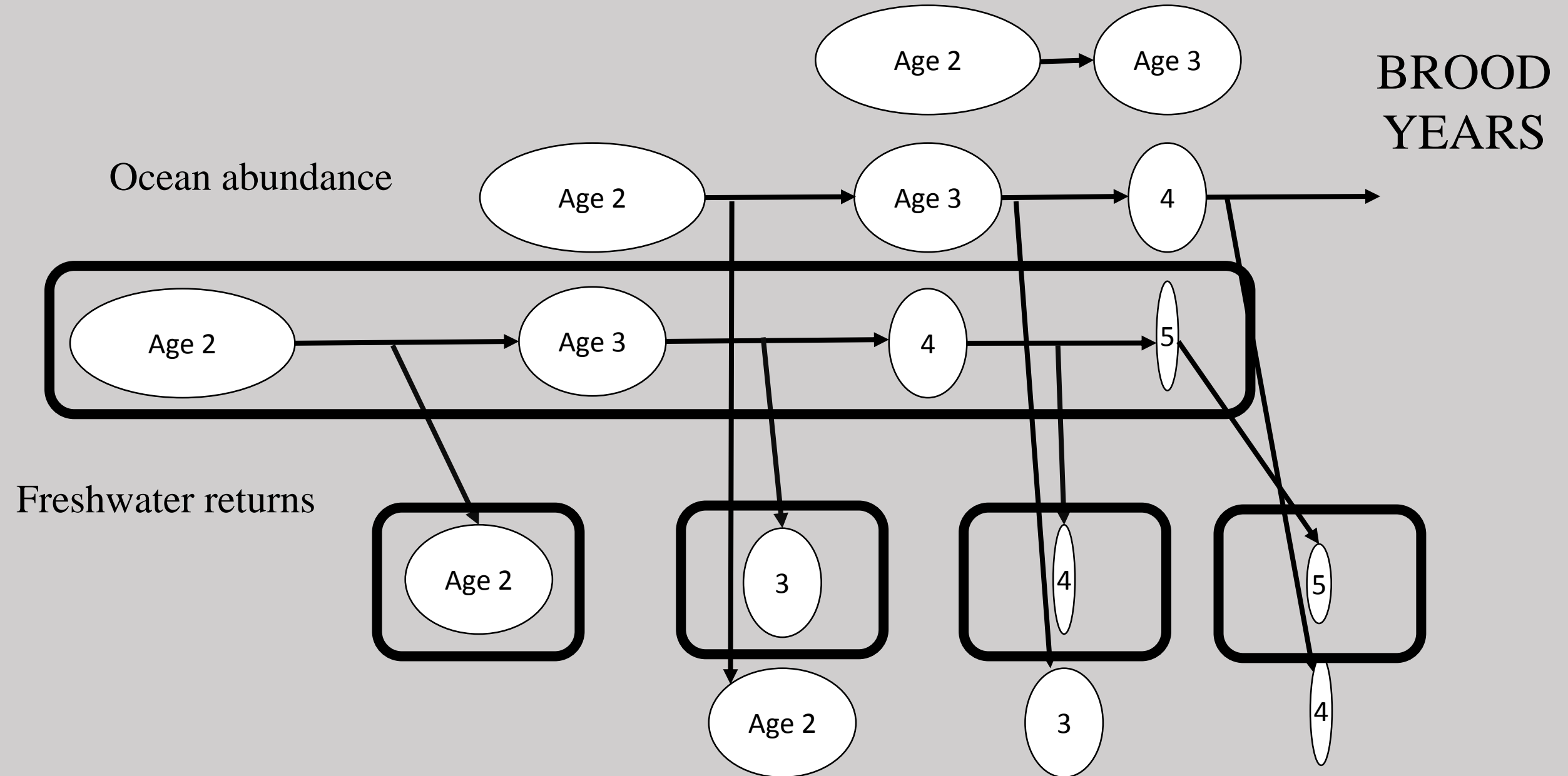
What is a cohort reconstruction?



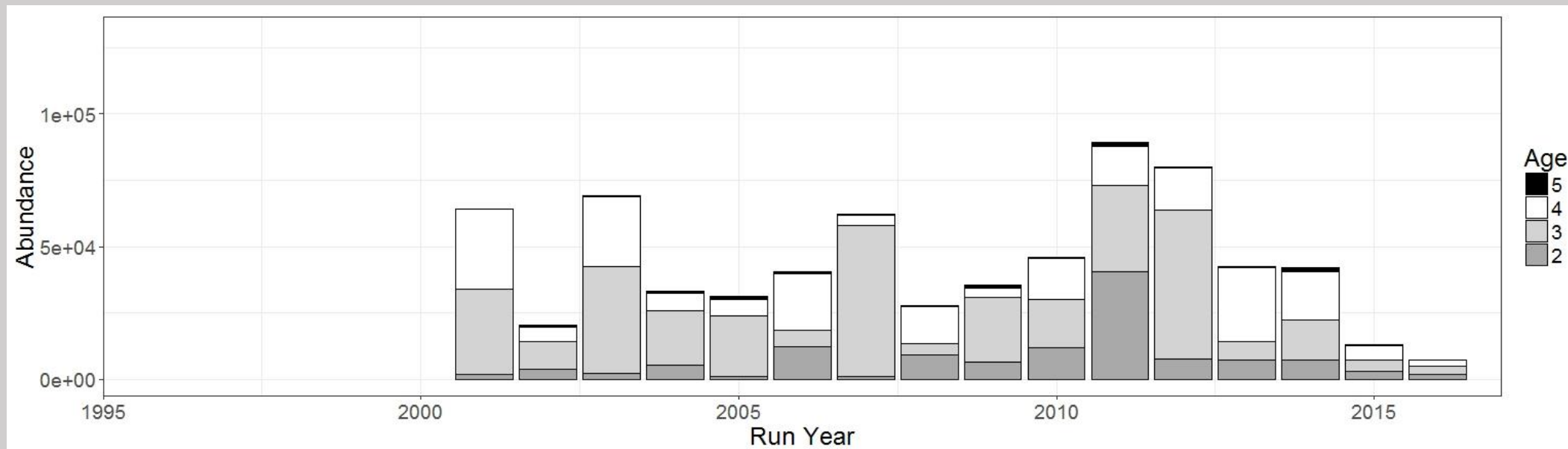
What is a cohort reconstruction?



What is a cohort reconstruction?



What is a cohort reconstruction?



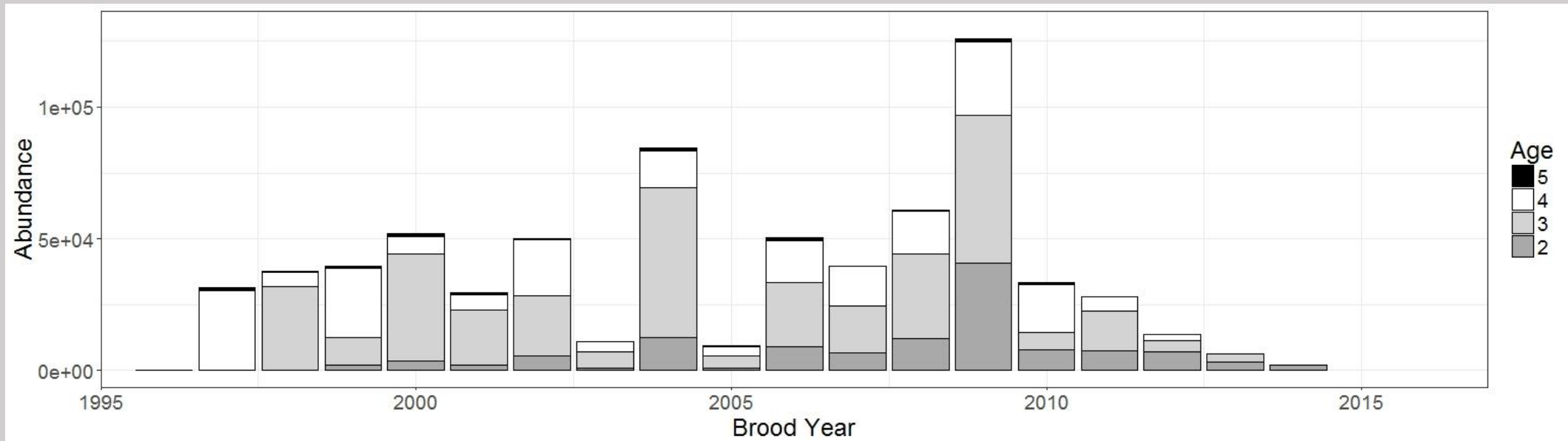
Each year we estimate the age-structured freshwater return of fall Chinook:
“How many fish came back”

- The common adult metric we all intuitively understand
- Used for management decisions (e.g., harvest opportunities)
- Commonly used for evaluation of restoration performance (e.g., TRRP objectives)

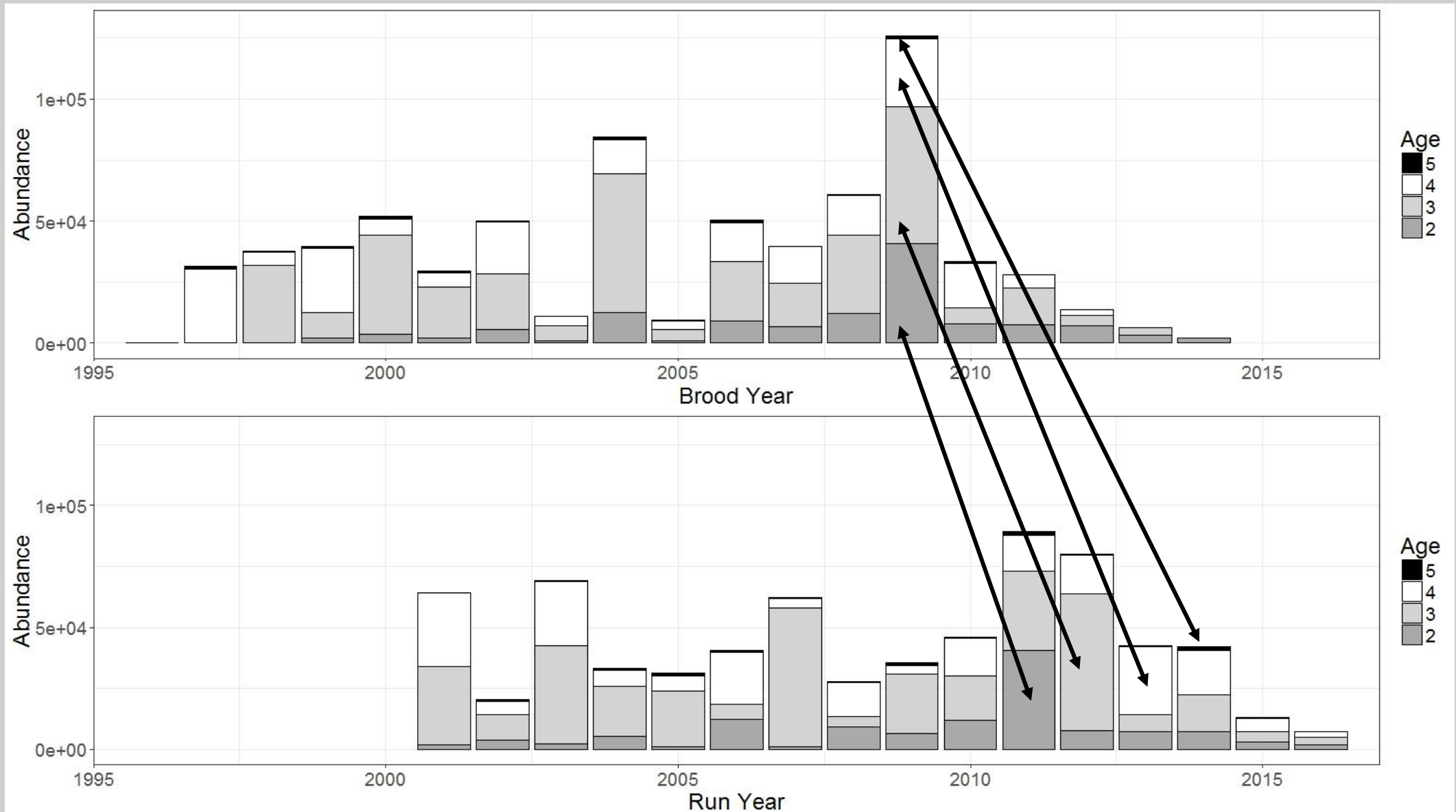
What is a cohort reconstruction?

Retrospectively combine abundances at age:
“How many fish were produced”

- A bit more abstract
- Often a critical “under the hood” component of fisheries management (e.g., KOHM)
- Provides an additional tool to evaluate restoration performance



What is a cohort reconstruction?



What purpose do they serve?

RUN YEARS

Cohorts are mixed in a given year

- Obscures signals of brood year performance
- Cannot evaluate early life survival/production
- Cannot relate survival/production to causative factors

COHORT RECONSTRUCTIONS (i.e., brood years)

Cohorts are combined to their year of origin

- Direct metric of brood year performance
- Best adult metric to evaluate early life survival/production
- Allows survival/production to be compared to causative factors (e.g., disease, drought, ocean conditions)

Why is it important for TRRP to do this work?

- Best indicator of adult production
IAP objective 3:
“Restore and maintain natural production of anadromous fish populations”
- Best data for contributions to dependent fisheries (IAP objective #)
IAP objective 4:
“Restore and sustain natural production... to facilitate dependent tribal, commercial, and sport fisheries...”
- Most appropriate data for smolt:adult metric
full life cycle model

Status of the project

- TRRP partners: CDFW, USFWS, Hoopa tribe
- Two candidate models identified
 - KOHM or Hankin and Logan (2010)
 - waiting for consent from CDFW for use of KOHM
- Finalizing methods for estimating lower Klamath impacts
- Data compilations will begin this month

Expected outcomes

- Brood year-specific estimates of total production (harvest and escapement)
- Contributions to dependent fisheries by sector (e.g., Tribal, recreational, ocean)
- Appropriate adult data for smolt:adult ratios
- Evaluation of trends in adult production
- Appropriate data for full life cycle model
- Tool (method) for continuing this work into the future