FiW 4614 Fish Ecology, Spring 2007 Name KEY

Quiz 2

You will have 15 minutes, so budget your time wisely. Each question is worth 1 point. This quiz counts for 5 points, or 5% of your final grade. The lowest quiz grade of the semester will be dropped.

1. What is the tradeoff between semelparity (spawn-once-and-die) and iteroparity (retain ability to spawn multiple times)?

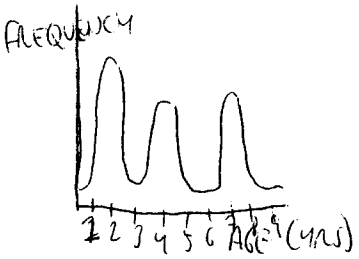
IT'S THE TRADEOFF BETWEEN THE SURVIVAL + REPRODUCTIVE COMPONENTS OF FITNESS. SEMELPARITY PUTS ALL YOUR REPRODUCTIVE INVESTMENT IN ONE BUT - IT'S BIG BUT SURVIVAL TO ANOTHER YEAR IS SACRIFICED. ITEROPARITY HEDGES BETS ACROSS MULTIPLE SPAWNING BOUTS, BUT YOU MIGHT DIE BEFORE SPAWNING AGAIN.

2. Many reproductive adaptations that we observe in females serve the purpose of maximizing FECUNDITY, whereas many adaptations of males are for the purpose of maximizing MATING.

3. Give me two good reasons not to migrate.

- ENERGETICALLY EXPENSIVE
- EXPOSURE TO PREDATION

4. If I see a population with an age structure like this, what might I infer? Explain in a sentence or two.



RECRUITMENT IS HIGHLY VARIED BETWEEN YEARS, RESULTING IN A VERY UNEVEN AGE STRUCTURE

5. Give me an example of a density-independent factor affecting mortality of fishes, with a brief explanation of what density independence means. Give me an example of a density-dependent factor affecting mortality of fishes, with a brief explanation of what density dependence means.

DENSITY-INDEPENDENT FACTORS (E.G., WILD MORTALITY IN FLOOD) IMPOSE MORTALITY WITHOUT REGARD TO THE DENSITY OF INDIVIDUALS IN THE POPULATION.
DENSITY-DEPENDENT FACTORS (E.G., STARVATION DUE TO COMPETITION) IMPOSE MORTALITY AT LESSER OR GREATER LEVELS AS A FUNCTION OF POPULATION DENSITY.

Extra Credit. Name the most common reproductive strategy (remember Balon's classification scheme) used by North American minnows.

BROADCAST SPAWNING WITH NO PARENTAL OF SUBSTRATES