

FINISH THE LAB!!! **DUE: FIRST of class THURSDAY!!!**

1.2 A Sample Census-Wildlife.doc

Classroom



Lab - Mark_Return_Recapture.pdf

Lab Report - Mark_Return_Recapture.pdf

Field..Miramichi River



- NOTES:**
- Only 1 lab report needs to be passed per group.
 - If you are absent, see me to make it up during IS.
 - link is below for the extension question.

<http://www.miramichisalmon.ca/northwest-miramichi-river-smolt-study/>

NOTES - Populations.pdf



INVESTIGATION 1.2: 'A Sample Census - Wildlife on the Move'

- **population** - the total number of individuals of a single species that live in a designated region at a given time.
 - › ex: human population is ~ 6 billion
- **population density** - the number of individuals of a single species that live in each unit area (km², mi², hectare, acre) of habitat at a given time.
 - › ex: deer population is 6 deer per square mile
- **census** - a count of the population.
- **true census** - actual count of all of the individuals of a species in a given area.
- **sample census** - is an estimate of the population.
 - (used when actual count is not possible)

ESTIMATED POPULATION = Estimated Population Density x Area of Habitat

- The '**mark-return-recapture method**' is used to estimate population density.
ex: DFO at Millerton and Cassillis estimate salmon populations on Miramichi River.

$$P = \frac{T_F T_L}{M}$$

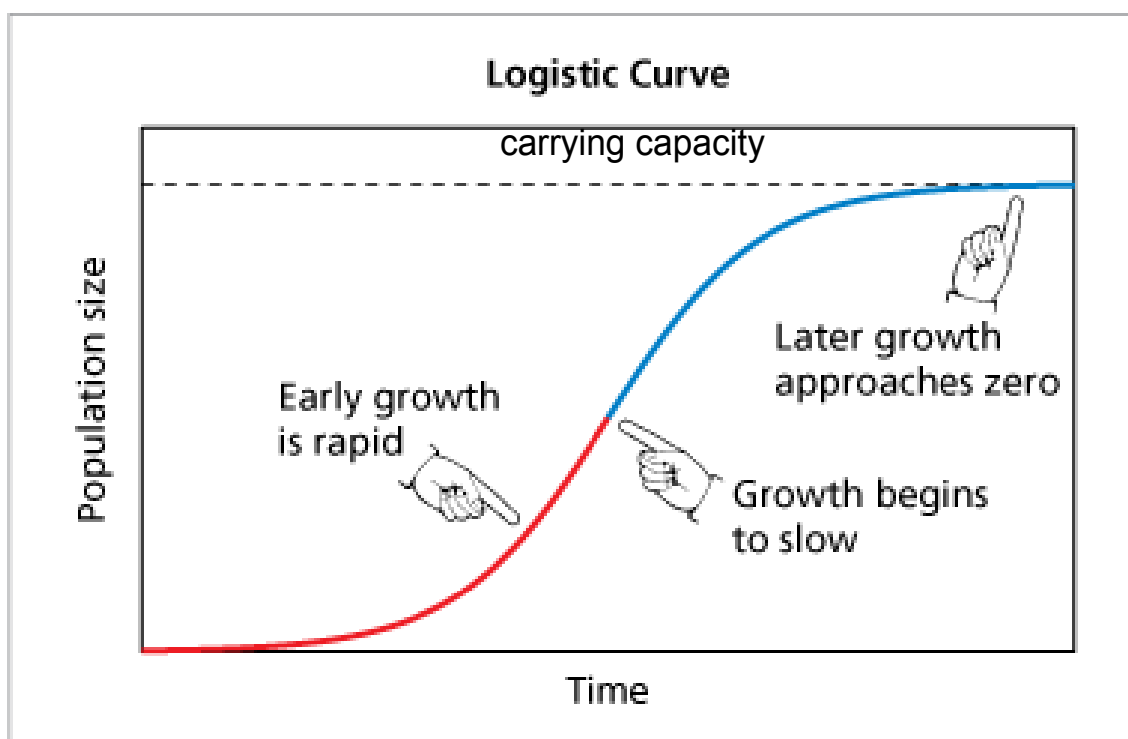
P - estimated population

T_F - total animals captured in first trapping

T_L - total animals captured in later trapping

M - recaptured animals that are marked

Exponential Growth -> "J"Curve
 Logistic Growth -> "S" curve



Doubling Time - Rule of 72

$$\text{doubling time} = \frac{72}{\text{growth rate}}$$

ie/ annual growth rate of 8%

$$\begin{aligned}\text{doubling time} &= 72/8 \\ &= 9 \text{ years}\end{aligned}$$

Biology Example

Growth Rate

for Skunks

4% / year

— Rule of 72 $\rightarrow \frac{72}{4} = 18 \text{ years}$
to double

Attachments

NOTES - Populations.pdf

1.2 A Sample Census-Wildlife.doc

Lab - Mark_Return_Recapture.pdf

Lab Report - Mark_Return_Recapture.pdf