Module Title: **Fish Age, growth and population size.** *A series of 3 modules under the Agri5705 banner that will fulfill the requirements for a full course. Students are required to take all 3 modules.*

Instructor: Jim Duston (with guest lecturers Dr. E. Halfyard; Dr. R. Bradford)

Dates module will be offered: *Each module will be completed in a calendar month. November 2017, January 2018 and March 2018.*

Frequency of formal classes/meetings: *Weekly meeting. Duration: 2 hours*

Module Content and Learning Objectives

1) **Theory of body size, growth, scaling and age markers in ectotherms.** Review of metabolic rate, temperature effects on metabolism and growth, prey.

2) **Anthropogenic factors affecting wild stocks:** overfishing, climate change, acid rain, habitat alteration, aquaculture.


4) **Case studies:** West River Sheet Harbour: Acid Rain mitigation and Atlantic salmon recovery effort. Inner Bay of Fundy Atlantic salmon: Genebank Program and stock specific morphology. Recovery of Striped bass in Miramichi & Shubenacadie: celebrate or despair?

Method of Evaluation:

1) **Assessment of written work:** Perception and truth: Case studies. Defining the state of knowledge from speculation. 50%

2) **Hypothesis building and testing:** From data students collect and analyze during the module. 30%

3) **Oral presentations.** 1 per student per module 10%

4) **Final exam** 10%

Any restrictions on enrollment: **number of students, background preparation or prerequisite courses:** n=6 maximum.