Craig’s notes when looking into the IBM

Code flow and structure

The class responsible for defining agents and their characteristics are defined in fishes.hpp

There are two C++ classes defined in this source file **Fish** and **Fishes**

Current Model dimensions

Region, Sex, Ages, Lengths

TODO – add lat and long for preference function

Fish

**Attributes**

Home region

Time of birth

time of death

Sex

growth parameters

current length

current age

maturity

current region

tag

**Accessors**

which just return attribute information

if this fish dead? How heavy is it etc

**Prcocesses**

This class is also responsible for moving

Fishes

responsible for the population of ‘Fish’

**Population functions**

responsible for Creating fishes

seed initial population in initialisation phase

Calculate spawning biomass

Recrutiment

Writes to file outputs

Sequence in annual time step

-Ageing (this is implicit, age = current\_year – birth\_year) this means they start at year = 0,

This will need some consideration

-Recruitment

-mortality

-growth

-maturity

-movement

-shedding

Questions as I get stuck into this beast.

Find out if the scalar object scales weight or numebers?

So the scalar is a weight conversion so numbers in the model are arbitary

**Getting down and dirty**

I have quite nailed it down yet, but I think there is an in consistency with the concept of ageing and growing.

Currently age is an implicit character of an agent, that is (current\_year – birth\_year), so in effect ageing occurs between annual cycles/time\_steps.

How ever growth occurs in the middle of dynamics, which implies an annual increment (which can be thought of as ageing), this configuration is difficult to allign with an age based CASAL model. What I propose is we add an explicit age characteristic and increment in in the growth dynamic, thus alligning these two concepts.

IBM dynamics

* ageing (implicit)
* Calculate spawners – age based process (onotgenetic Maturity)
* Calculate recruits
* M
* Growth
* maturtation -> this is when we calcualte if they are mature or not.
* movement
* shedding
* Tag releases
* F + tag scanning