**Growth Model Dynamics using growth increment approach**

Uses a VB (linear increment) approach

*K* and *Linf* are generated as lognormal random deviates each fish *y* is assigned its own growth path as specified by *Ky*  and *Linfy*

Derivation of *K* ~ (lognormal) assumes K comes from a lognormal distribution with mean = *K* and variance = *v* = (*K*\*cv)2. In log space log(k) come from a normal distribution with mean = 'u' and standard deviation 's' calculated as follows:

Likewise *log(Linf)~(Normal)*

The expected growth increment for a fish of length L with growth path Ky and Linfy over unit time t is given by the linear increment formulation of the vB (Francis 1988)



Where

= change in length (increment) over unit time t for a fish of given length

m = rate of change of *L* (

c = increment for a fish of length = 0 the intercept of =

The change in length (i.e. increment) for a fish of length over is given by

Francis, R.I.C.C. (1988) Are growth parameters estimated from tagging and age-length data comparable?

*Canadian Journal of Fisheries and Aquatic Sciences* 45, 936 – 942

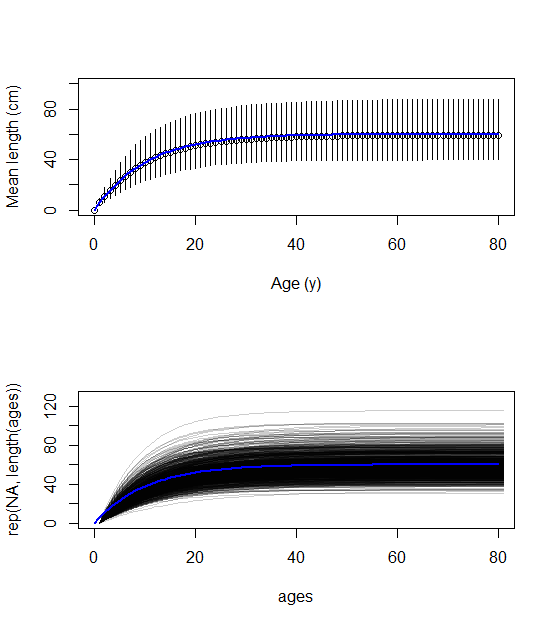
**Test of the code**

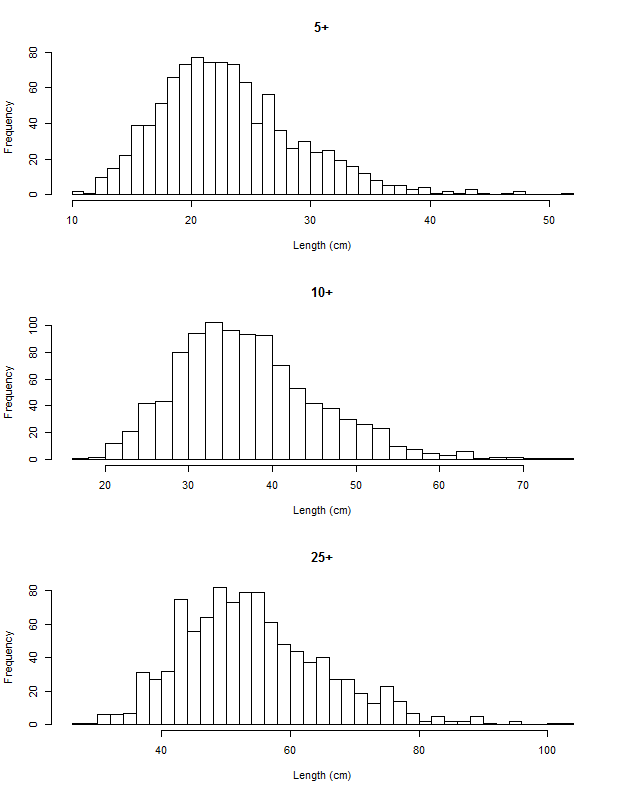
1000 random growth paths drawn with lognormal error with cv = 0.2

*K* = 0.1

*Linf* = 60

**Run 1 1 annual season i.e.**





**Run 2 4 annual seasons i.e.**

