**QUESTION RE JABBA MODEL APPLICATION**

D S Butterworth

There is a close (though not exact) correspondence between the key parameters of surplus production and age-structured production models. Roughly speaking:

 **Surplus production Age-structured production**

Carrying capacity *K* Pristine recruitment *R*0

 Intrinsic growth rate *r* Natural mortality *M*

Production function shape *µ* (or *m*) Steepness *h*

Process error on dynamics Recruitment variations about

S/R curve

Essentially JABBA requires priors for at least some to the surplus production function parameters, and has procedures to develop these from priors for the age-structured production model parameters (values for these being more directly available for other stocks).

For instances where the (relative) abundance data fitted is informative, the surplus production model parameter priors will not have much impact on results, so the manner in which they are developed from the age-structured production model priors is not of too much consequence.

However, there are cases where JABBA has been applied to “one way trips” – abundance indices showing only downward trends, which leave estimates of the *r* and *K* parameters confounded. In such instances, the priors for *r* and *K* become very influential on the management advice following from the model, so it becomes more important to review the reliability of the procedures used to convert the age-structured production models priors to surplus production model priors.

The question hence arises, for those one-way-trip circumstances, whether there is a case for simulation studies to compare the performance of working directly with an age-structured production model and its priors, to converting those priors into surplus production model priors and assessing with a surplus production model.