

XSA and its data files.

XSA or eXtended Survivors Analysis software was developed to extend the ad hoc tuning VPA technique. However, it is essentially a VPA method and hence needs a time series of catch-at-age data and standardised information from fishing fleets or surveys to tune the model to the data.

The XSA program requires a number of input files to be prepared, in a specific format. The accompanying EXCEL file is designed to help users enter their data in the correct format. Each file is shown in a different tab of the spreadsheet. Instructions are given in red text. Further information is provided in section 4 of the accompanying programme documentation.

Data files are:

- An index file. This tells the program which files to look at for which data set. It is important to ensure that all files to be used are included in this index file, and in the right order! The format is shown on the first tab of the accompanying excel file.
- Data files of landings, catch numbers at age, catch weight at age, and stock weights at age are represented in the next four tabs of the spreadsheet. The structure of the data matrix can be varied using the 'data format identifier' (line 5 of the data files), as seen in the landings data and catch number at age data files. Further details are available in section 4.3 of the user manual
- Data files on biological characteristics: natural mortality and maturity at age, are provided in a similar format. If natural mortality is known to vary with age, but not between years, a file structure similar to that provided for the maturity at age can be used in place of that presented in the spreadsheet.
- Data files detailing the level of fishing and natural mortality experienced before spawning: in the example, the fish are assumed to spawn at the start of the year. This is a simplifying assumption. However, if the fish is thought to spawn half way through the year, 0.5 can be entered in place of 0
- Tuning index: this file has a different structure to the others. All tuning indices, be they commercial fishing fleets or surveys are contained within the one file. No gaps should be placed between the different fleet data sets. For each fleet, a structure similar to those of the previous files (e.g. catch-at-age) is used. Age ranges specify those ages where the survey is thought to be reliable, even though data may be available for more ages.

All attendees are urged to read the accompanying user manual, so that they have an understanding of what the software is trying to do.

VPA requires a time series of catch-at-age data. If only a short time series is available it is unlikely to produce realistic results.

Attendees should consider standardising their VPA tuning indices if they know factors have changed over time. For example, if surveys have moved area, or fishing vessels have changed gear mesh sizes. This can be performed using GLM analysis.

Note also that info on XSA is available from:
<http://www.ices.dk/committe/acom/wg/asoft/VPA/>