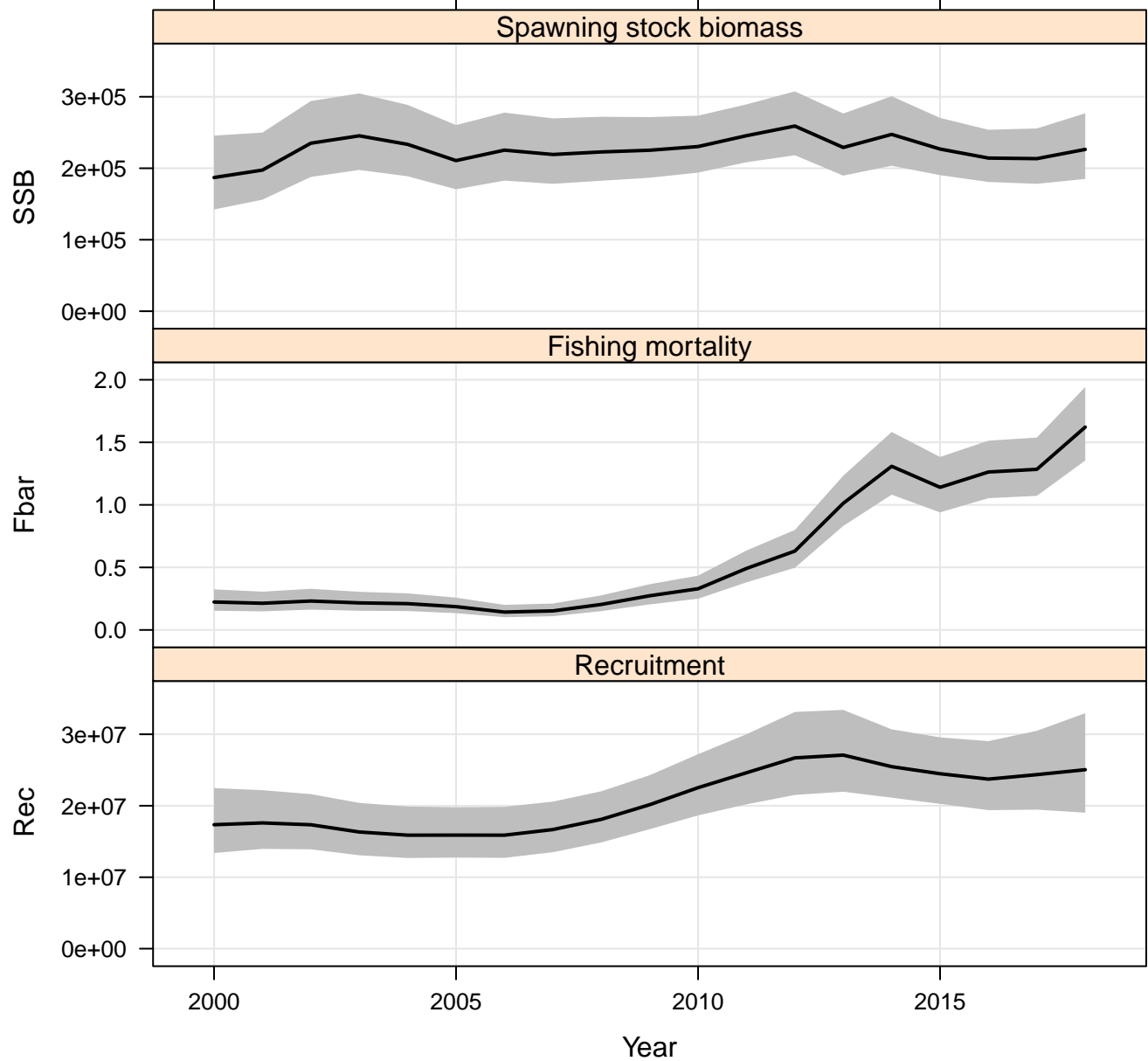
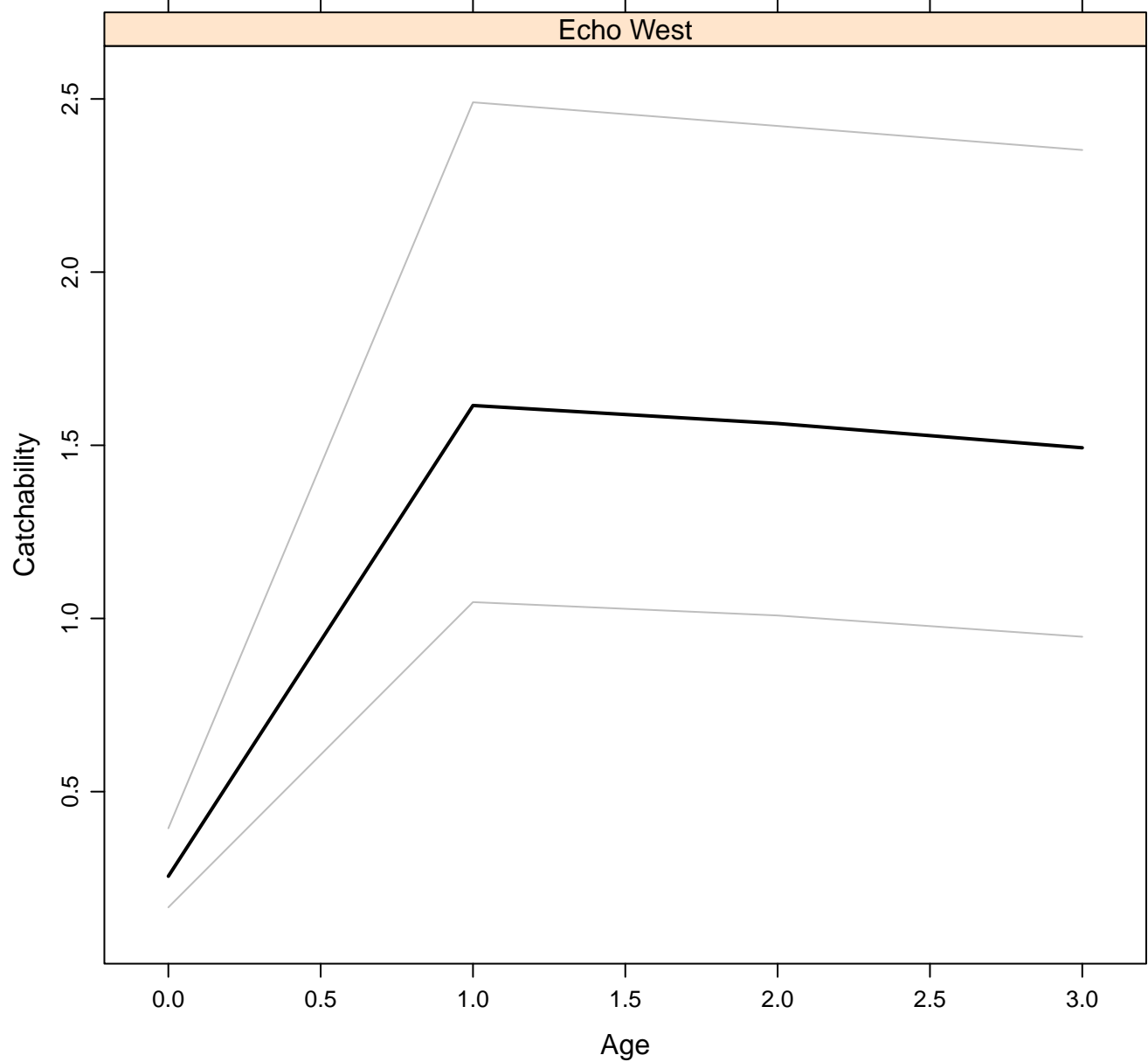


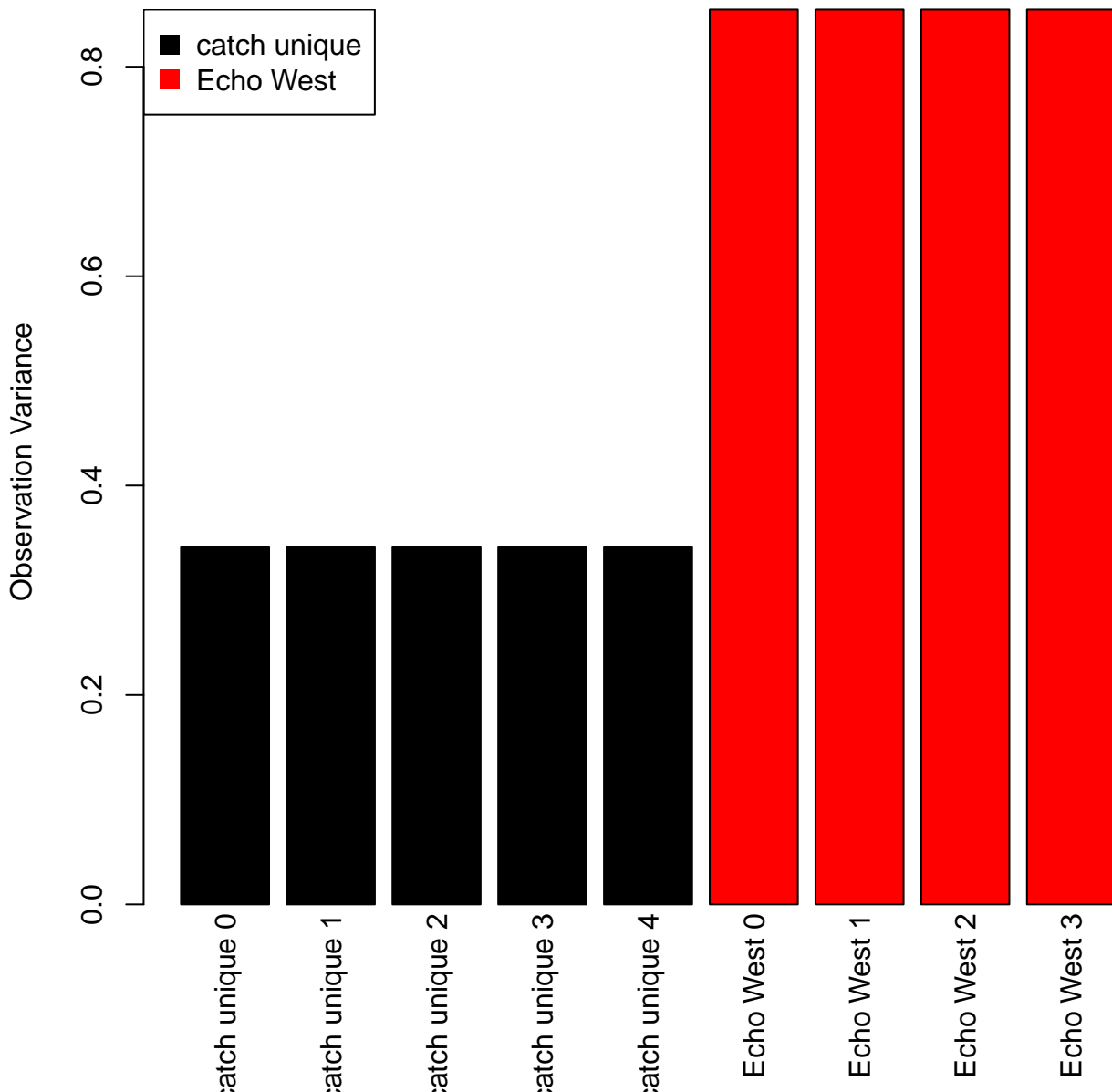
# Sardine GSA 17-18



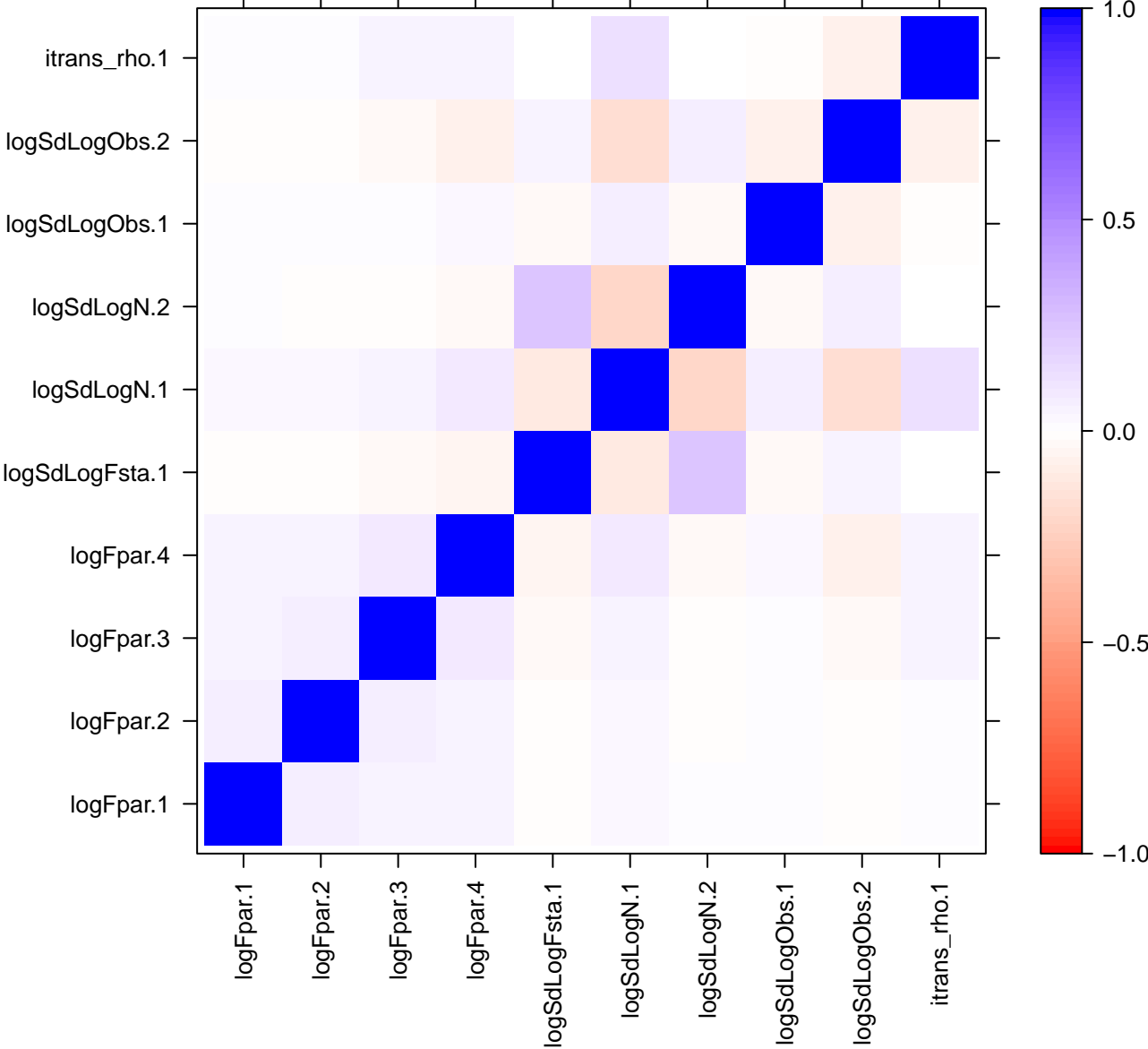
# Survey catchability parameters



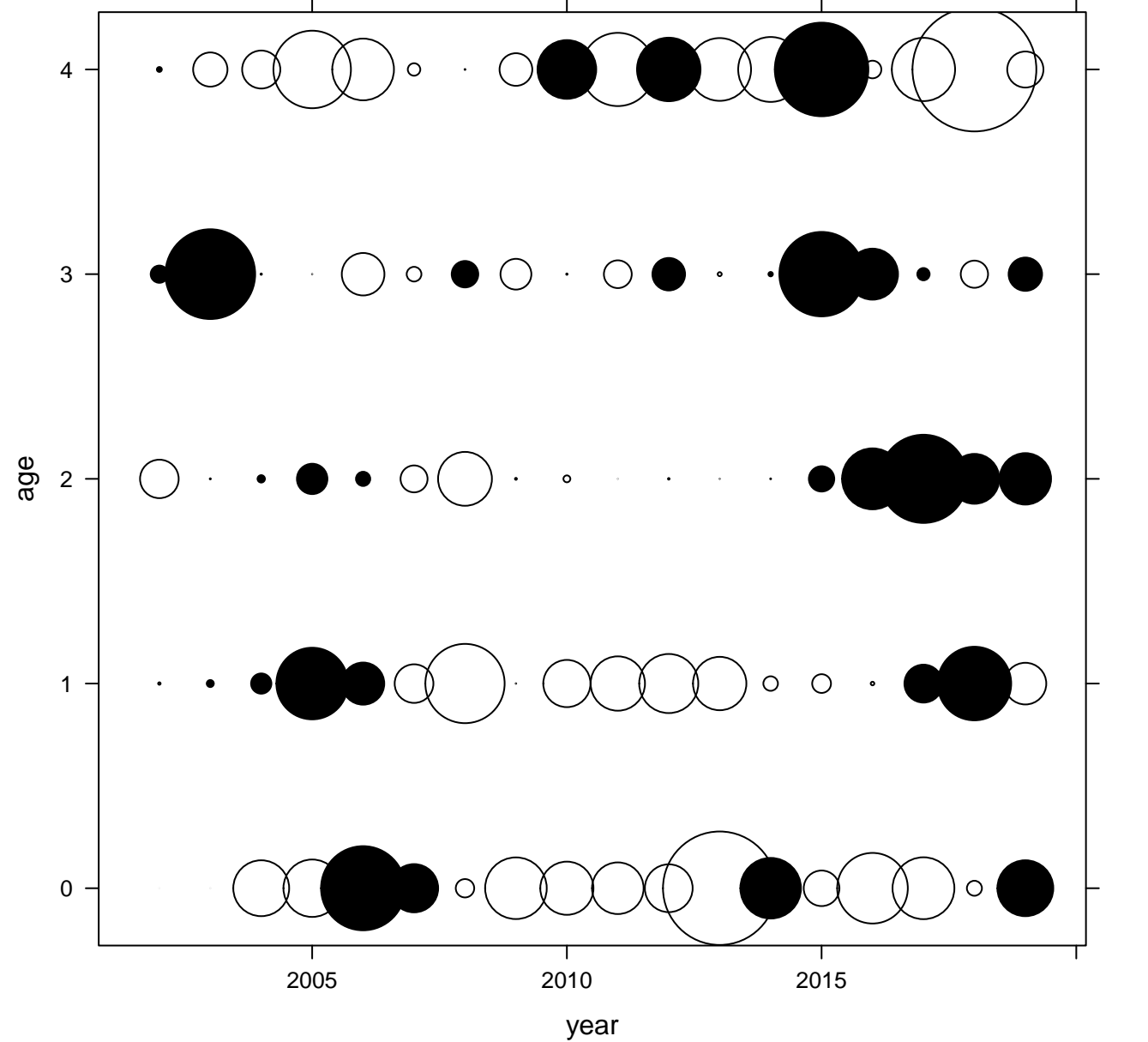
Observation variances by data source



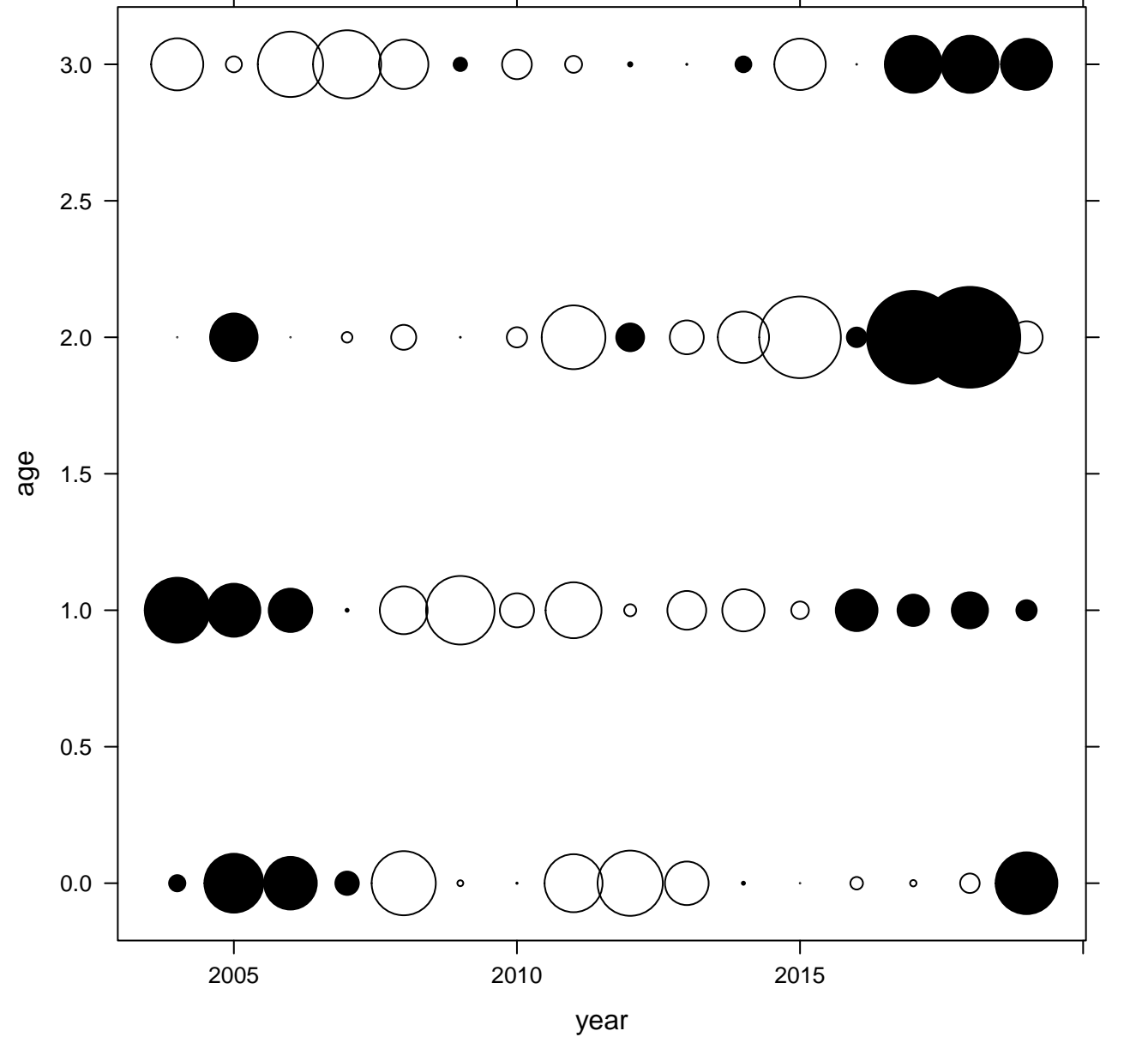
# Sardine GSA 17-18

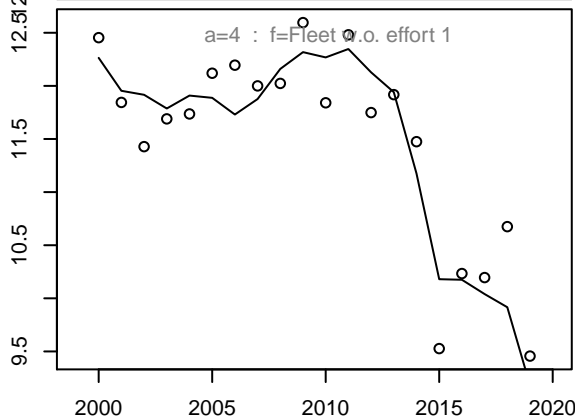
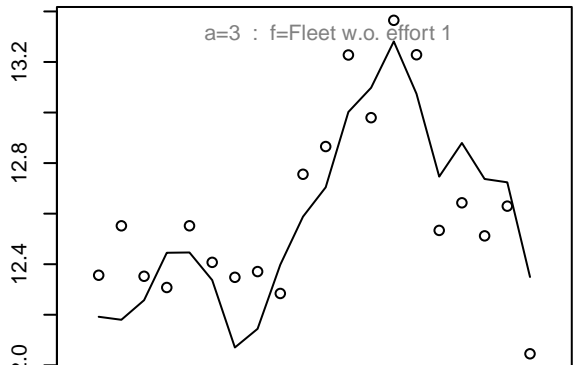
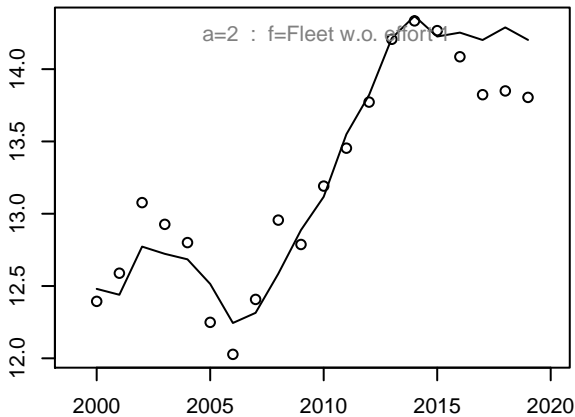
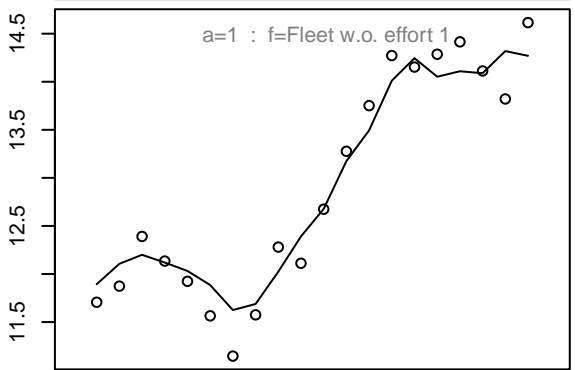
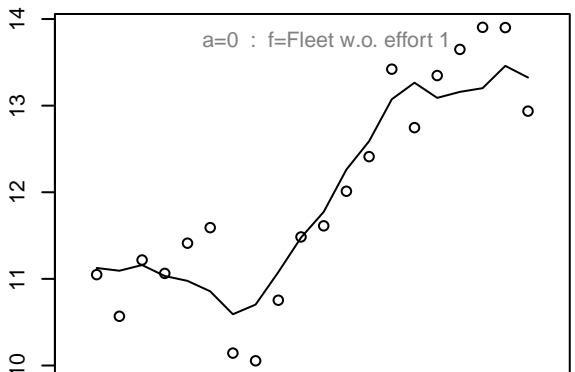


**Residuals by year Catch**

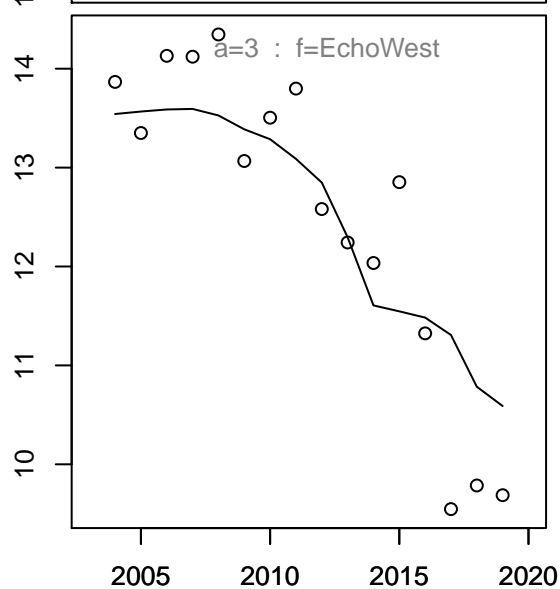
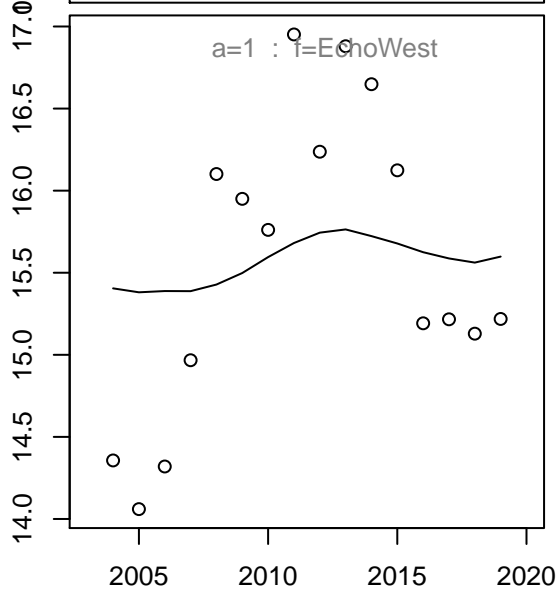
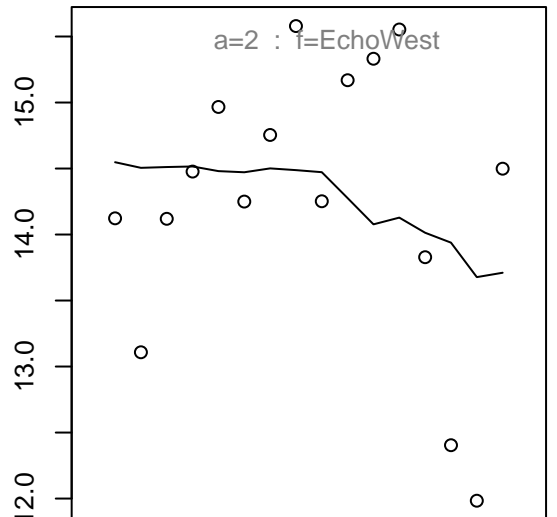
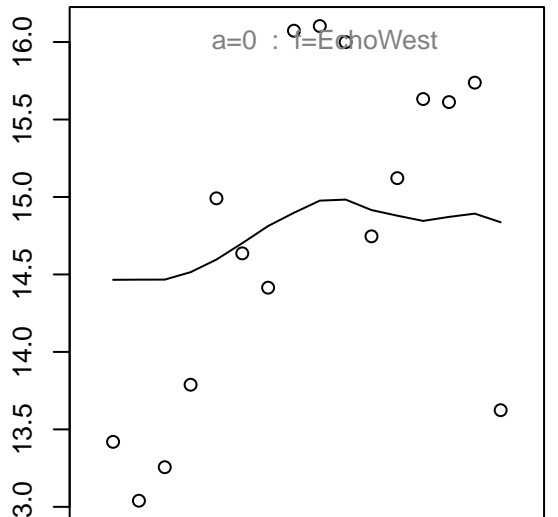


# Residuals by year Echo West





Year



Year