We consider using five or six wavelength channels to retrieve total column ozone instead of the four wavelength channels used by the standard total ozone retrieval method of the Brewer spectrophotometer. Additional wavelength channels allow us to add extra degrees of freedom that can be used to desensitize the retrieval method to unknown factors like wavelength shift, effective ozone temperature and uncertainty in ozone cross-sections. This work was stimulated by the fact that the WMO/IO3C initiative recommends using Daumont-Brion-Malicet (1995: DBM) O3 cross-sections instead of previously used Bass and Paur (1984: BP) cross-sections. The standard method of ozone retrieval with Brewer spectrophotometers is significantly affected by this recommendation. Total column ozone retrieved with DBM is 2-3\% lower than with BP that also leads to increased discrepancy between Brewer and Dobson spectrophotometers. The methods we will present will provide the ability to homogenize measurement series and to reconcile DBM and BP cross-section based total ozone column retrievals by a suitable choice of weighting factors.