3.17 Southern windowpane flounder

No stock structure information is available. Therefore, a provisional arrangement has been adopted that recognizes two stock areas based on apparent differences in growth, sexual maturity, and abundance trends in fish from Georges Bank and from Southern New England. The proportions of total landings contributed by the Gulf of Maine and Mid-Atlantic areas are low (less than 7%), so data from these areas are combined with those from Georges Bank and Southern New England, respectively.

Catch and Survey Indices

Commercial landings from this stock exceeded those from the Gulf of Maine-Georges Bank stock during 1980-1984, and reached a record high of 2,100 mt in 1985 (Figure 3.17.1). Landings declined rapidly between 1988 and 1995, from 2,100 mt to a record low of 100 mt around1995 and have remained at that level through 2000.

Stratified mean weight (kg) per tow of windowpane flounder from the NEFSC autumn bottom trawl surveys are presented in Figure 3.17.1 for the Southern New England - Mid-Atlantic stock. The survey biomass indices appear to have stabilized since 1995 at the lowest level on record.

Stock Assessment

The southern windowpane flounder stock, which includes the southern New England and Mid-Atlantic Bight regions, has never been assessed through the SAW/SARC process. The state of this stock was most recently evaluated in 2000 via index assessment (NEFSC 2001a). At that time, it was noted that biomass indices for the Southern New England - Mid-Atlantic stock, derived from NEFSC autumn bottom trawl surveys, had recently declined to record-lows following a period of relatively high exploitation ratios (catch/survey biomass index).

Relative Exploitation Rate Analyses

The replacement ratio analysis for southern windowpane flounder suggests that this stock can replace itself at an exploitation index (Relative F) of 0.98 (SE = 0.45, CV of 48% and marginally significant correlation of replacement ratio and relative F, p=0.101; Table 4.1.1, Figure 3.17.2). Examination of the entire landings data set indicates that the existing estimate of MSY (900 mt) is consistent with potential productivity of this stock. Therefore, the existing eatimate of MSY was divided by the relative F consistent with the replacement ratio analysis to derive a revised estimate of the survey biomass index proxy for Bmsy. Based on these analyses the revised relative F for southern windowpane flounder is 0.98 and the revised Bmsy proxy is 0.92 kg/tow (Table 4.2).

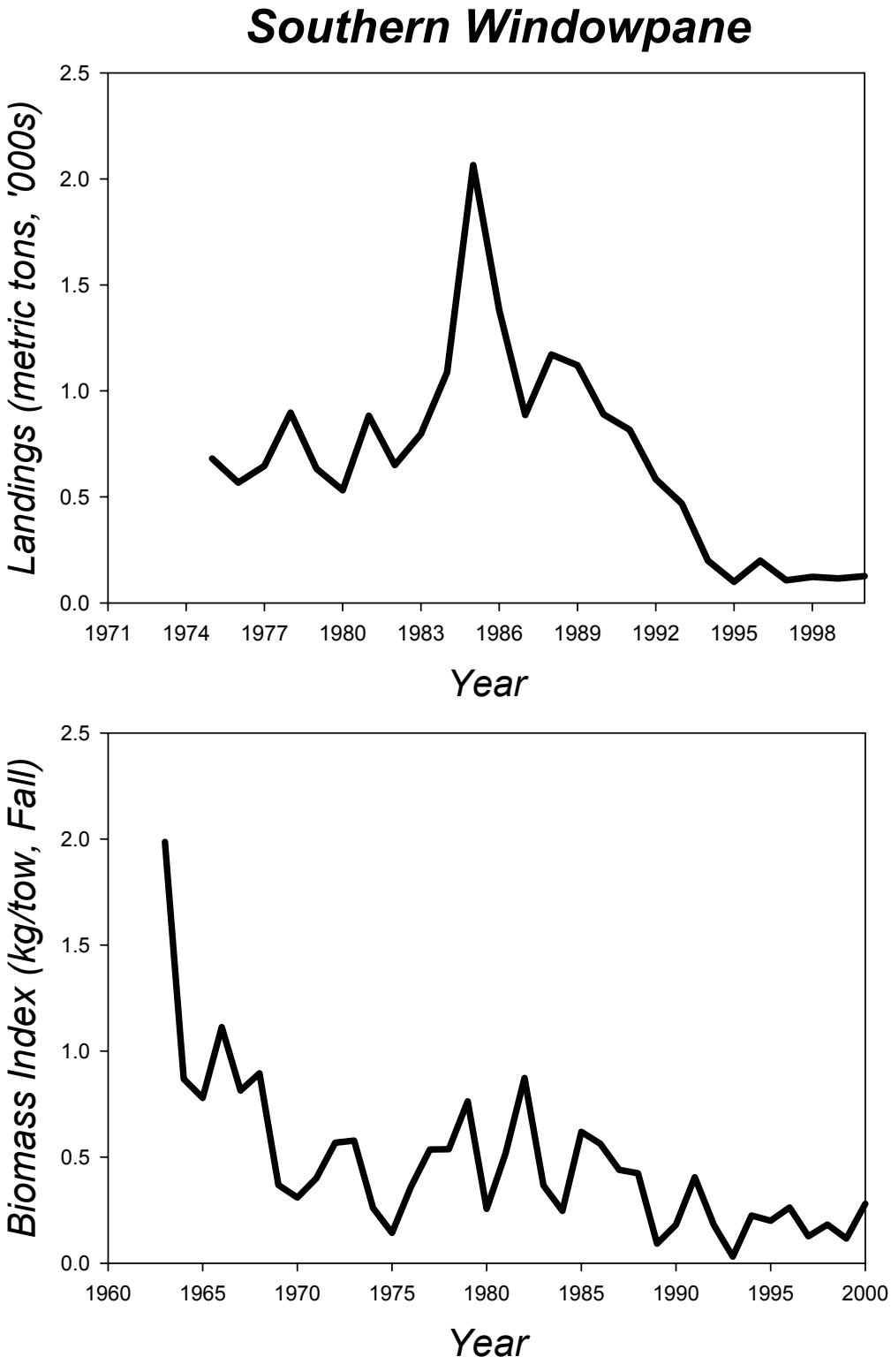

Figure 3.17.1. Landings and research vessel survey abundance indices for Southern windowpane.

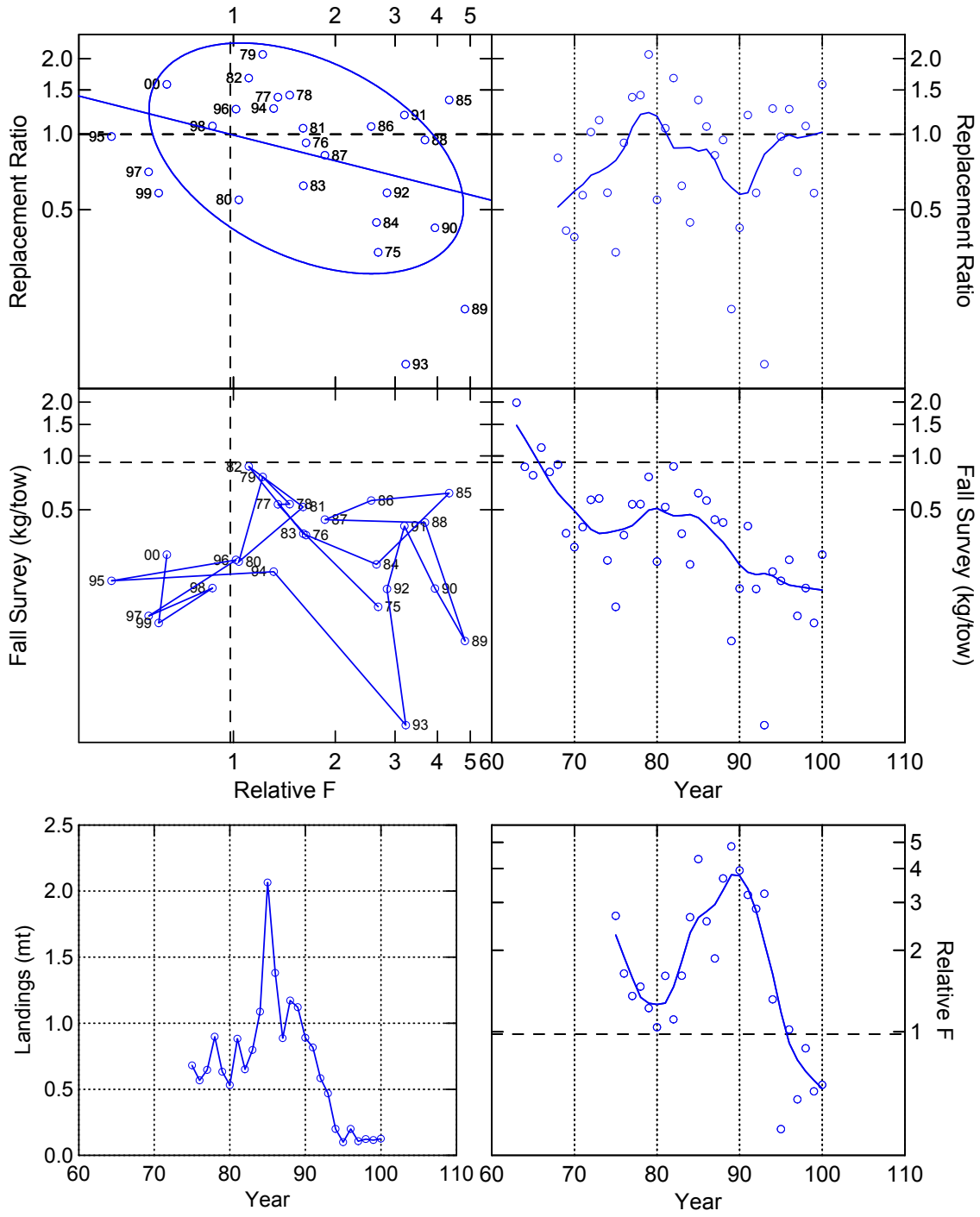

Figure 3.17.2. Trends in relative biomass, landings, fishing rate mortality rate indices (landings/ survey index) and replacement ratios for Southern windowpane. Dashed lines indicate proposed biomass and fishing mortality rate proxies of Bmsy and Fmsy.