3.16 Northern Windowpane Flounder (Gulf of Maine - Georges Bank)

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 between windowpane flounder 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

Since 1975, when landings of this species were first recorded, the majority of the total landings have been harvested from the Gulf of Maine-Georges Bank stock. Following a 1991 record high of 2,900 mt, landings declined to 300 mt in 1994. Landings have also been declining since 1996 and reached a record low of 46 mt in 1999 and remained at less than 200 mt in 2000 (Figure 3.16.1). High landings during the early 1990s probably reflect an expansion of the fishery to offshore areas, as well as the targeting of windowpane flounder as an alternative to depleted groundfish stocks.

Stratified mean weight (kg) per tow of windowpane flounder from the NEFSC autumn bottom trawl surveys are presented in Figure 3.16.1 for the Gulf of Maine-Georges Bank stock. Survey biomass indices are highly variable, but in general, show an increasing trend since 1991. The large increase in the 1998 survey index is primarily attributable to a large catch of windowpane at one station.

Stock Assessment

The northern windowpane flounder stock, which includes the Gulf of Maine and Georges Bank 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 Gulf of Maine-Georges Bank stock, derived from NEFSC autumn bottom trawl surveys, had increased since 1991 while the exploitation ratio (catch/survey biomass index) appears to have declined.

Relative Exploitation Rate Analyses

The replacement ratio analysis for northern windowpane flounder provided and estimate of the exploitation index (Relative F) that would allow the stock to replace itself. However, the regression was not significant ($p=0.197$) and the standard error was greater than the estimate (CV= 130%; Table 4.1.1, Figure 3.16.2). As the relationship between the replacement ratio and relative F is poorly defined, these data do not provide any basis to revise the existing reference points (Table 4.2).

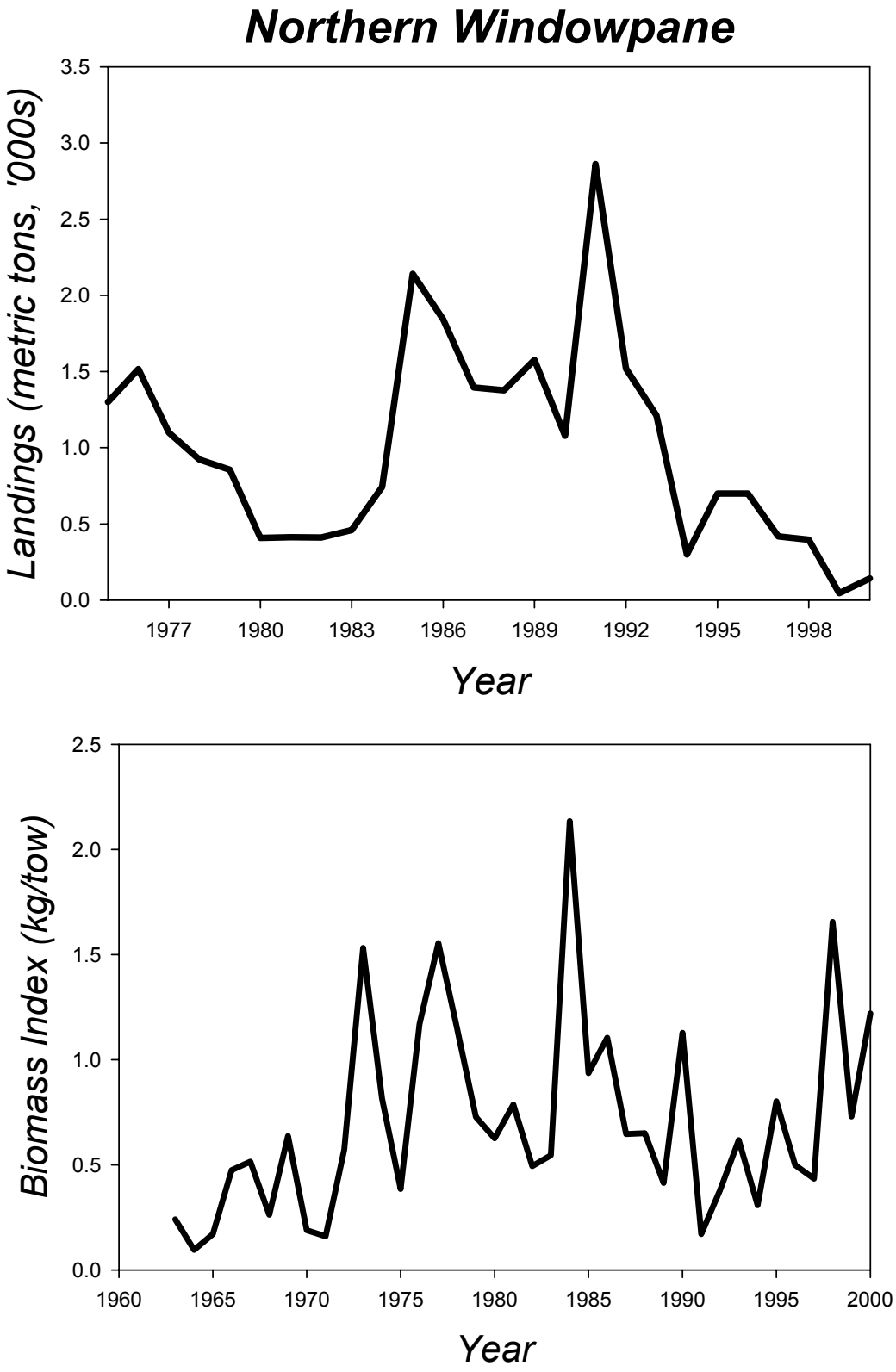

Figure 3.16.1. Landings and research vessel survey abundance indices for Northern windowpane.

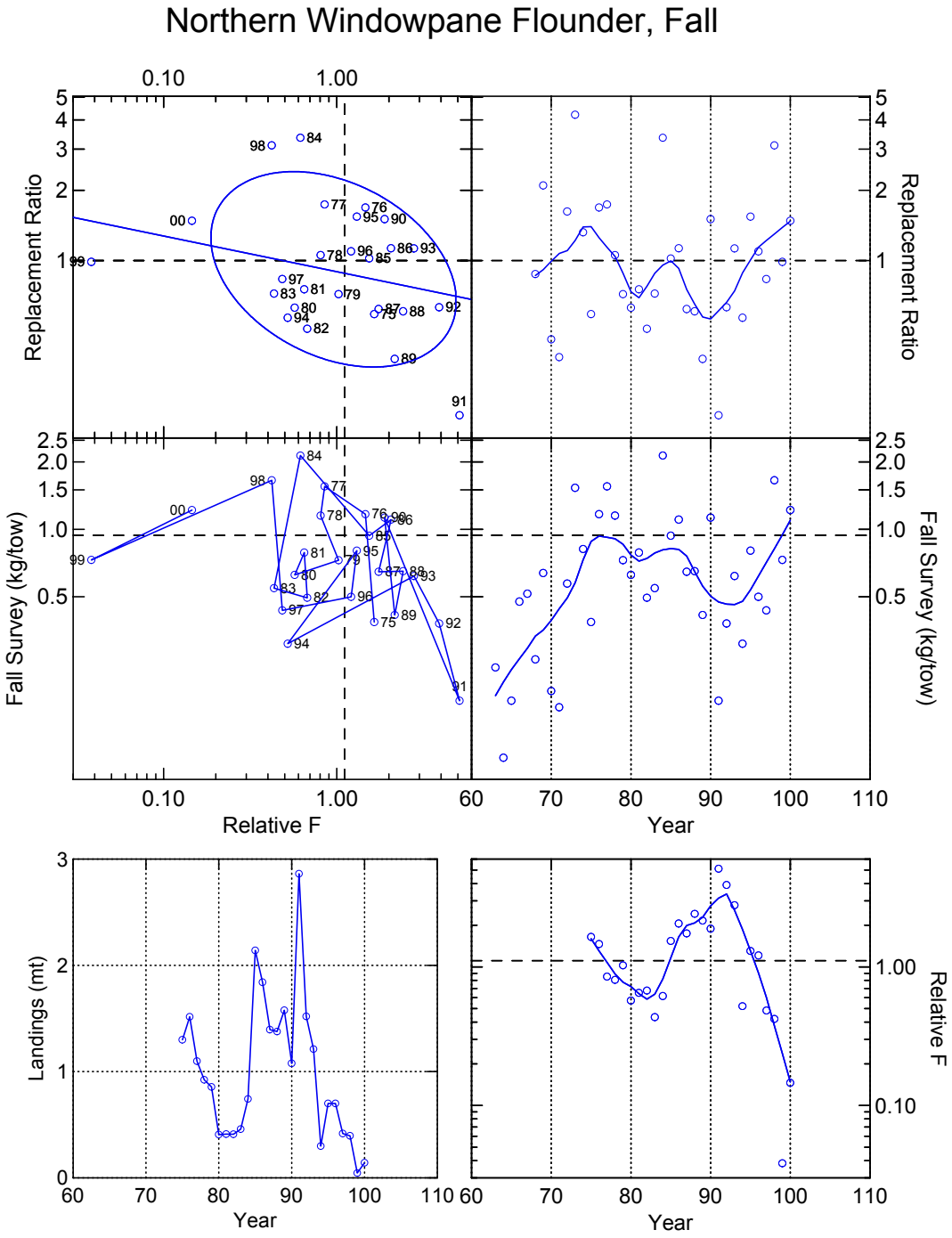

Figure 3.16.2. Trends in relative biomass, landings, fishing rate mortality rate indices (landings/ survey index) and replacement ratios for Northern windowpane. Dashed lines indicate proposed biomass and fishing mortality rate proxies of Bmsy and Fmsy.