TILEFISH FIGURES

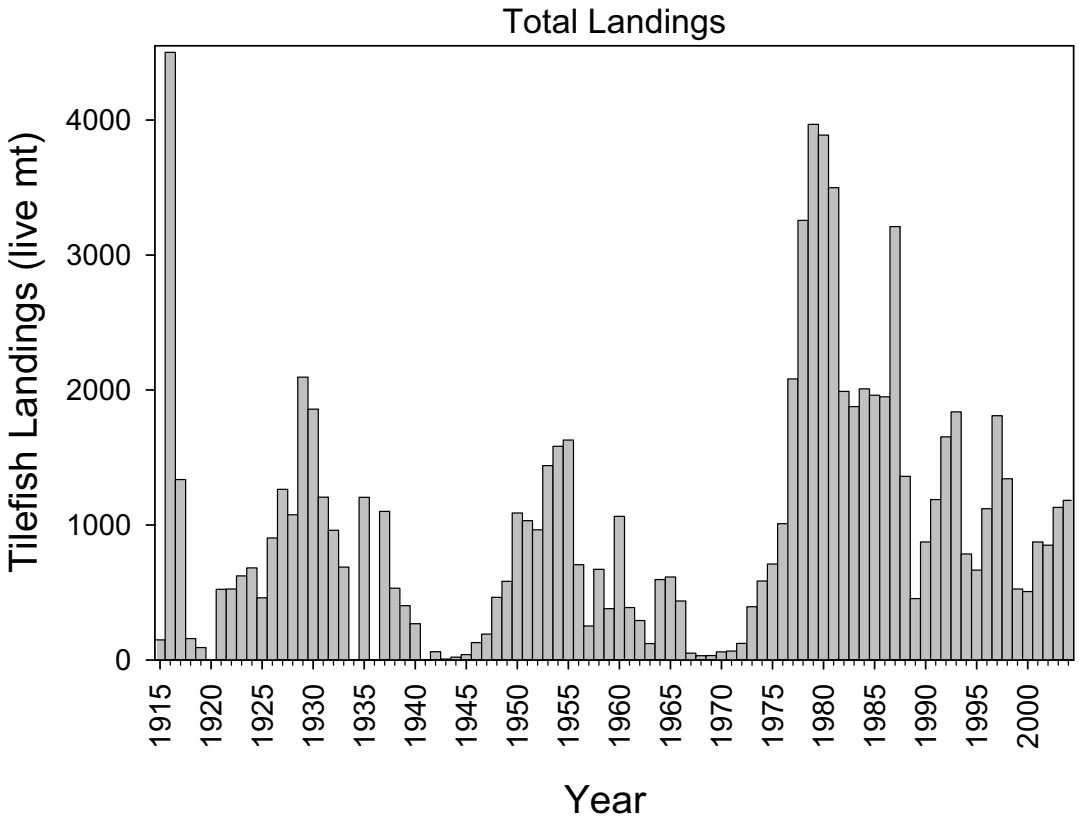


Figure C1. Landings of tilefish in metric tons from 1915-2004. Landings in 1915-1972 are from Freeman and Turner (1977),1973-1989 are from the general canvas data, 1990-1993 are from the weighout system, 1994-2003 are from the dealer reported data, and 2004 is from dealer electronic reportings.

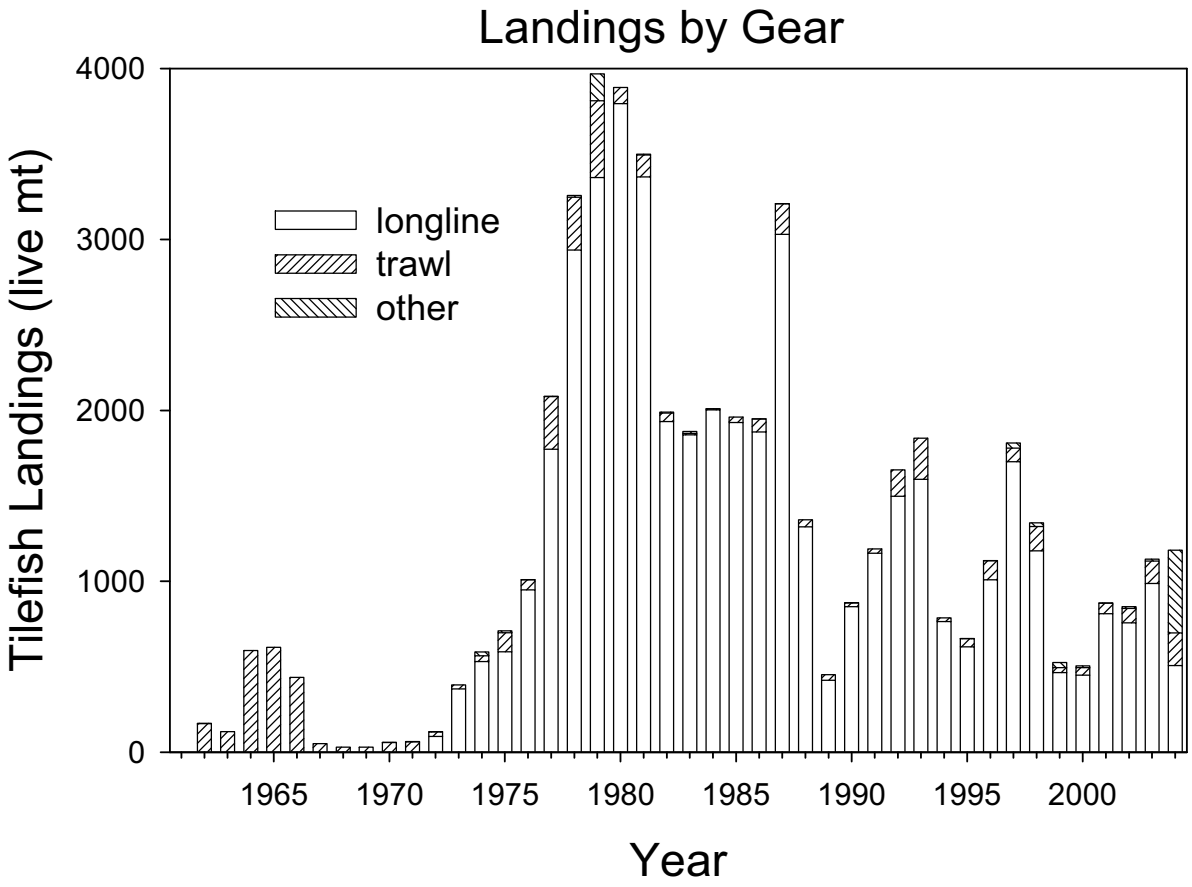


Figure C2. Landings of tilefish (mt, live) by gear. Landing berfore 1990 are from the general canvas data.

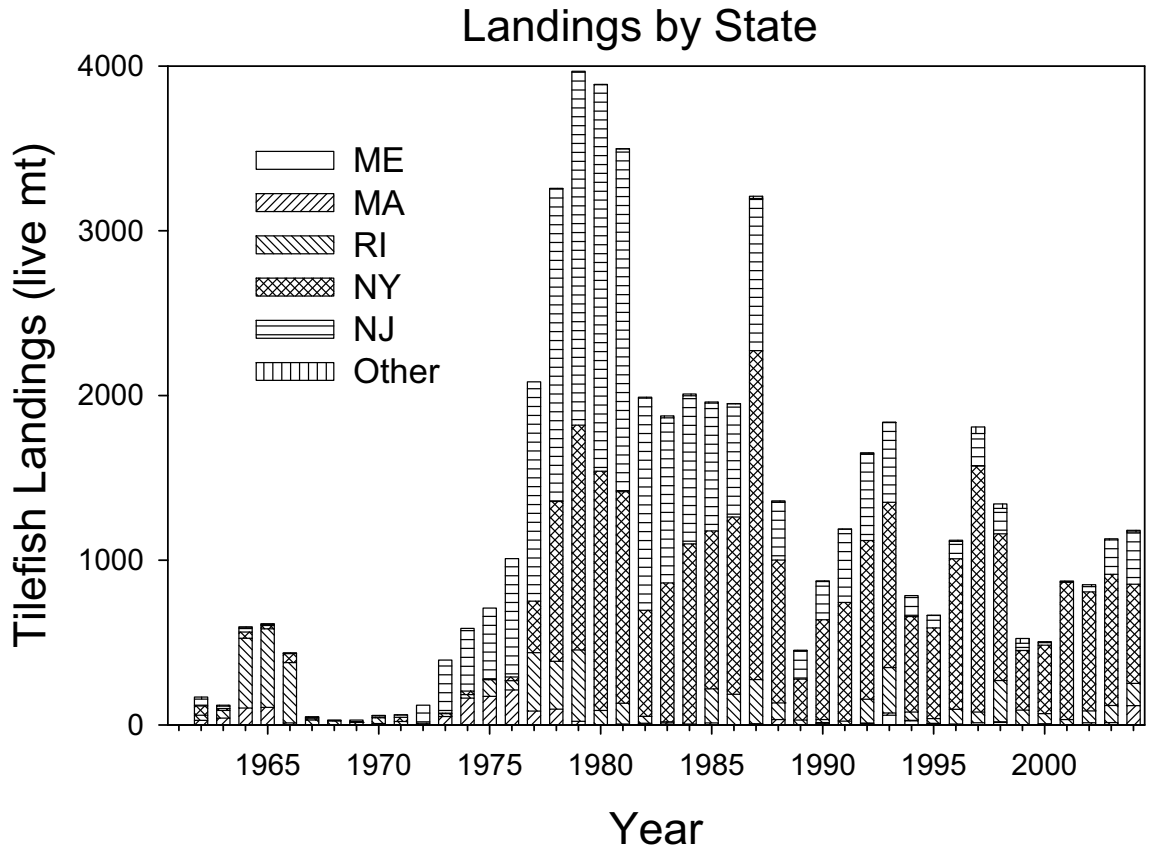


Figure C3. Landings of tilefish (mt, live) by State. Landings berfore 1990 are from the general canvas data.

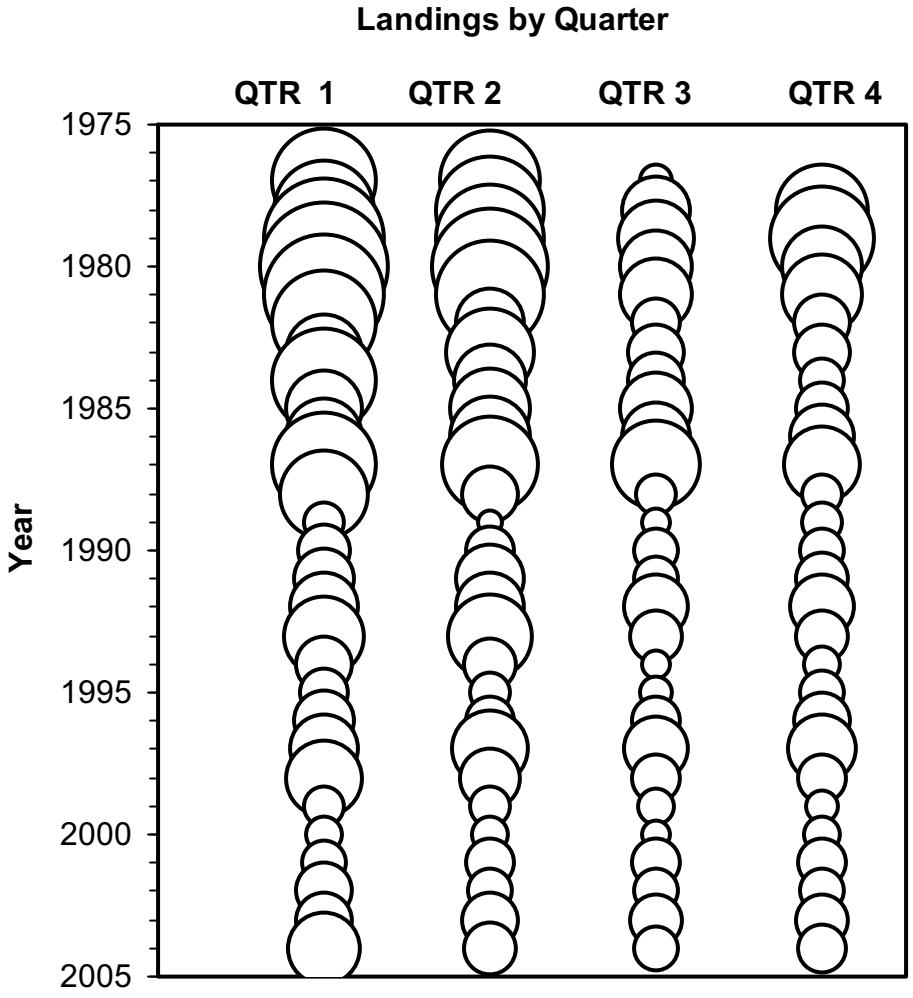


Figure C4. Bubble plot of Golden tilefish landings by quarter.

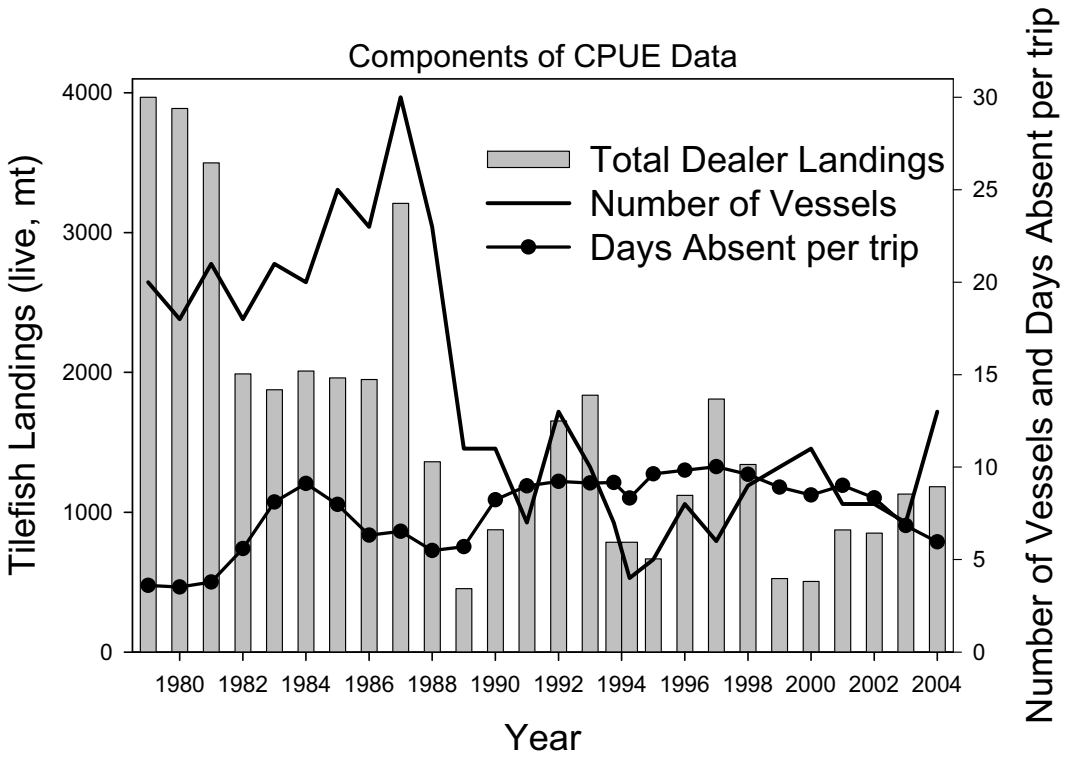


Figure C5. Number of vessels and length of trip (days absent per trip) for trips targeting tilefish (= or >75% tilefish) from 1979-2004. Total Dealer landings are also shown. Year 1994 is split by weighout and VTR data.

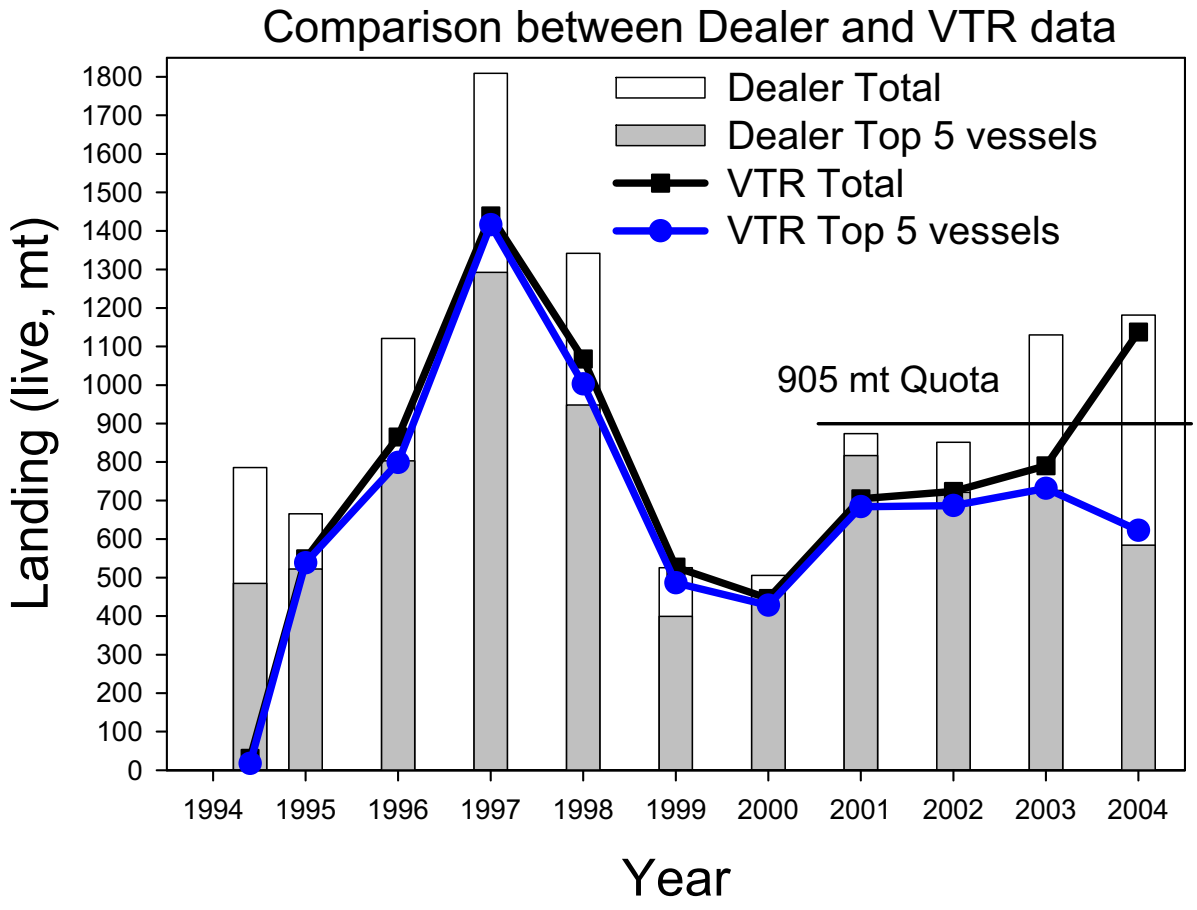


Figure C6. Comparison of dealer and VTR total landings in live metric tons. Total landings limited to the five dominant tilefish vessel are also shown.

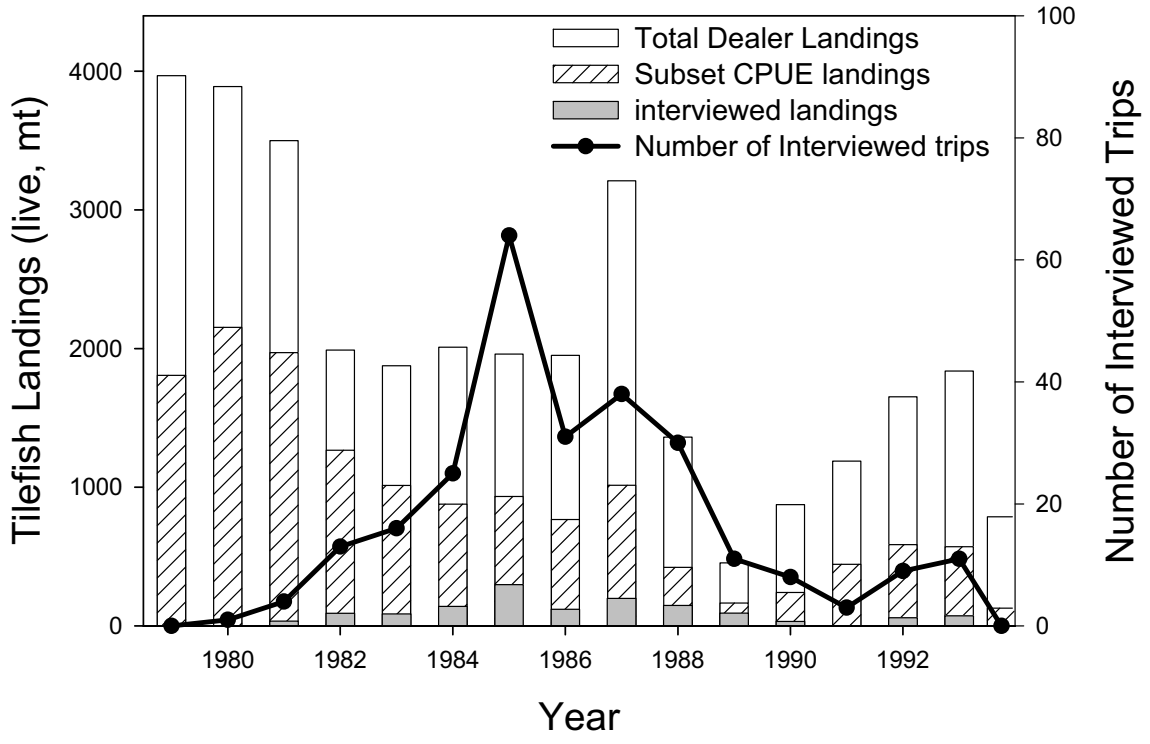


Figure C7. Number of interviewed trips and interviewed landings for trips targeting tilefish (= or >75% tilefish) for the weighout data from 1979-1994. Total weighout landings and the subset landings used in CPUE estimate are also shown.

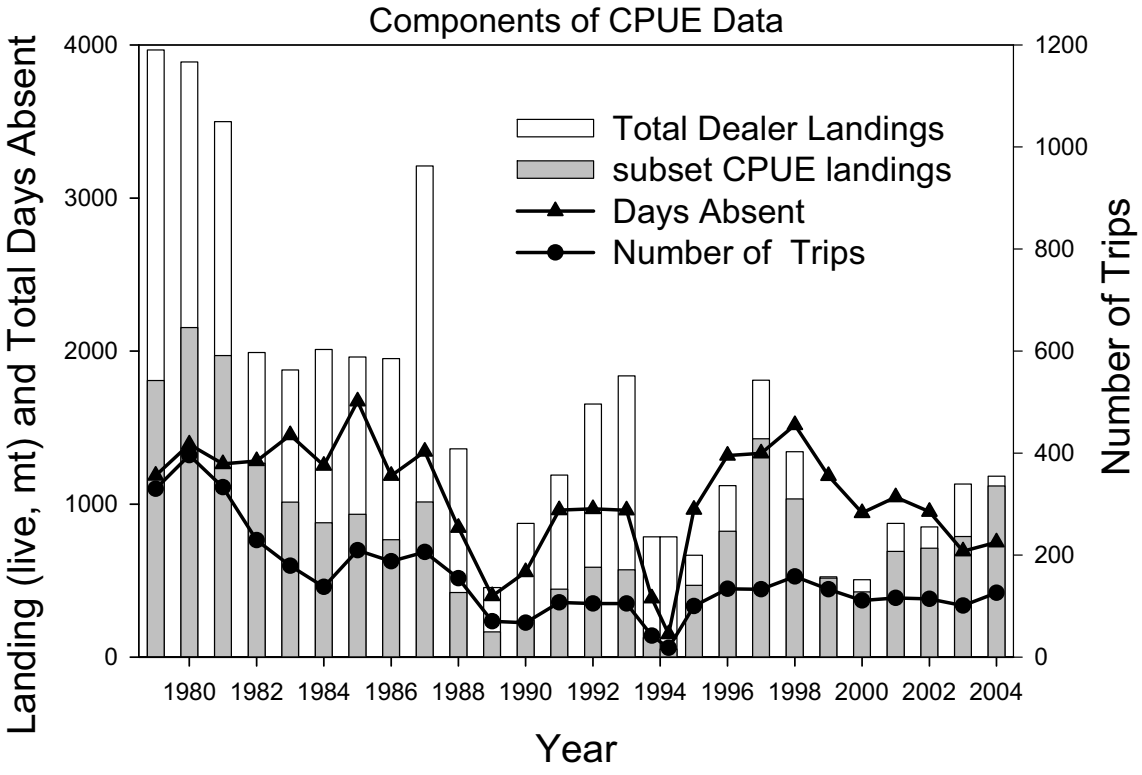


Figure C8. Total number of trips and days absent for trips targeting tilefish (= or >75% tilefish) from 1979-2004. Total Dealer and CPUE subset landings are also shown. Year 1994 is split by weighout and VTR data.

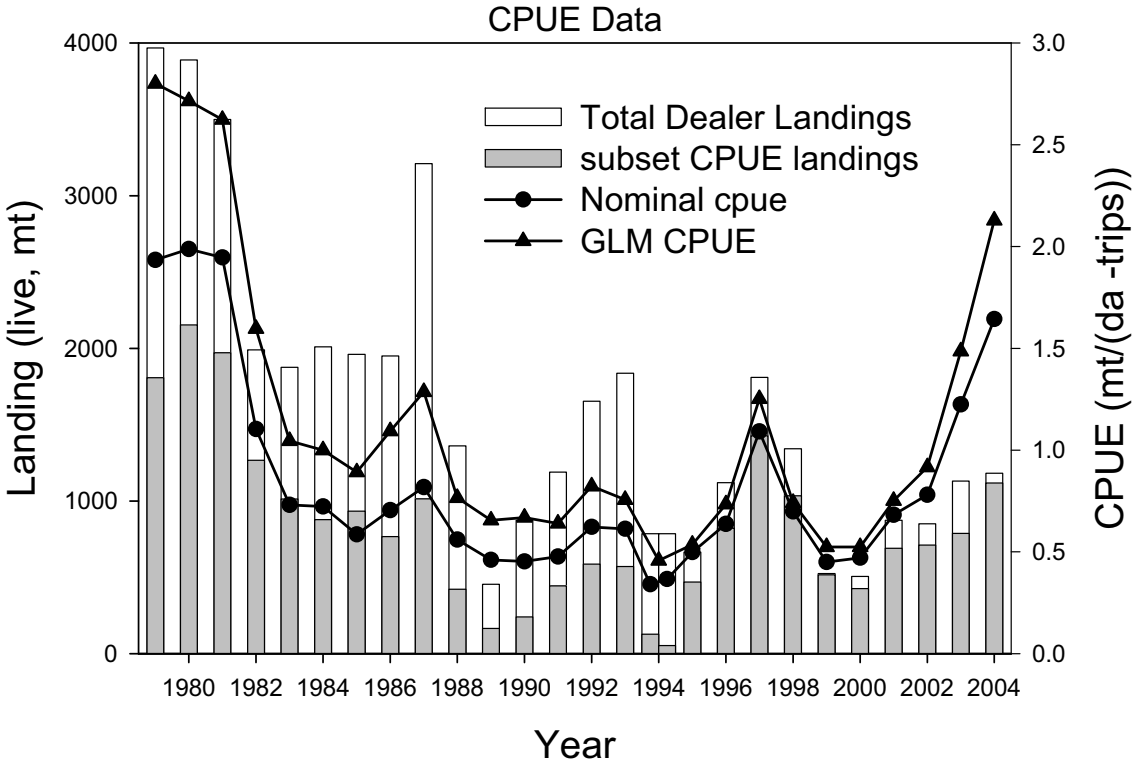


Figure C9. Nominal CPUE (1994 split by weighout and VTR series) and vessel standardized CPUE (GLM) for trips targeting tilefish (= or >75% tilefish) from 1979-2004. Total Dealer and CPUE subset landings are also shown. Year 1994 is split by the weighout and VTR data for the landings and nominal CPUE series.

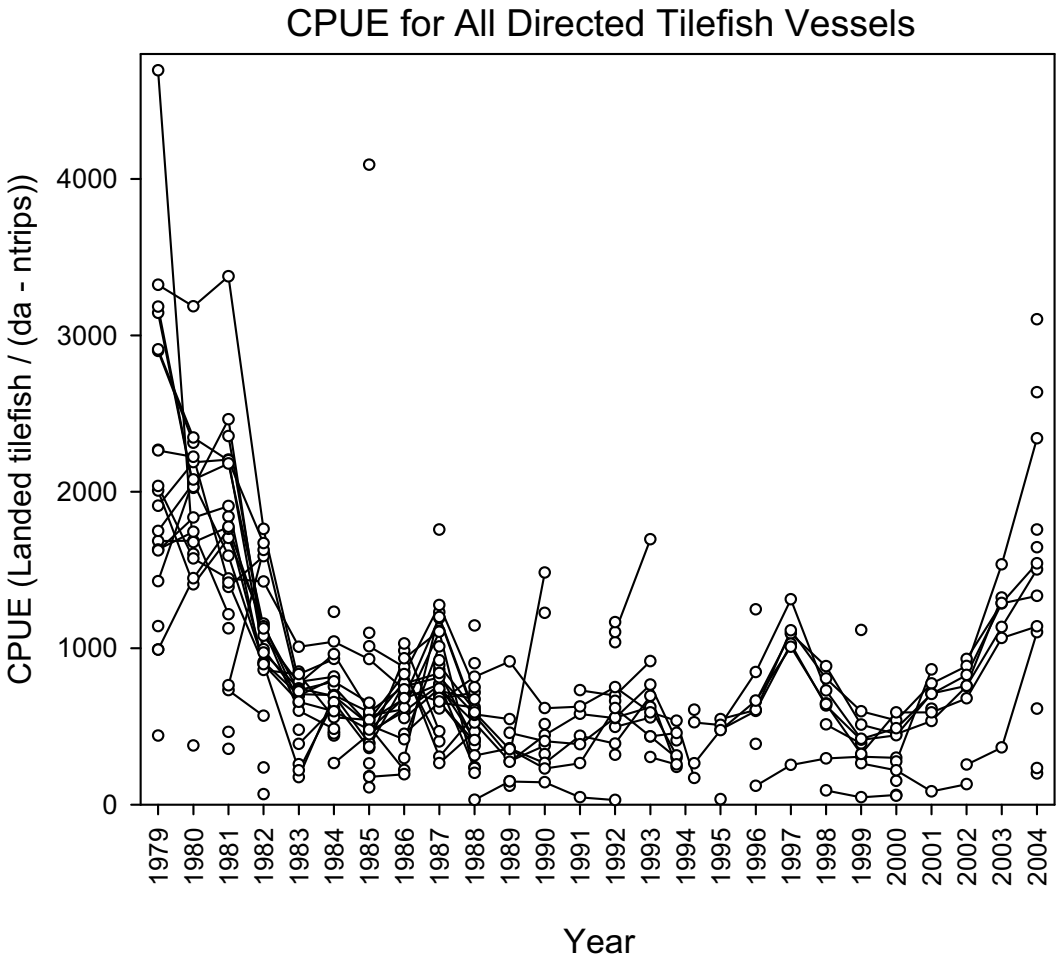


Figure C10. All individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004.

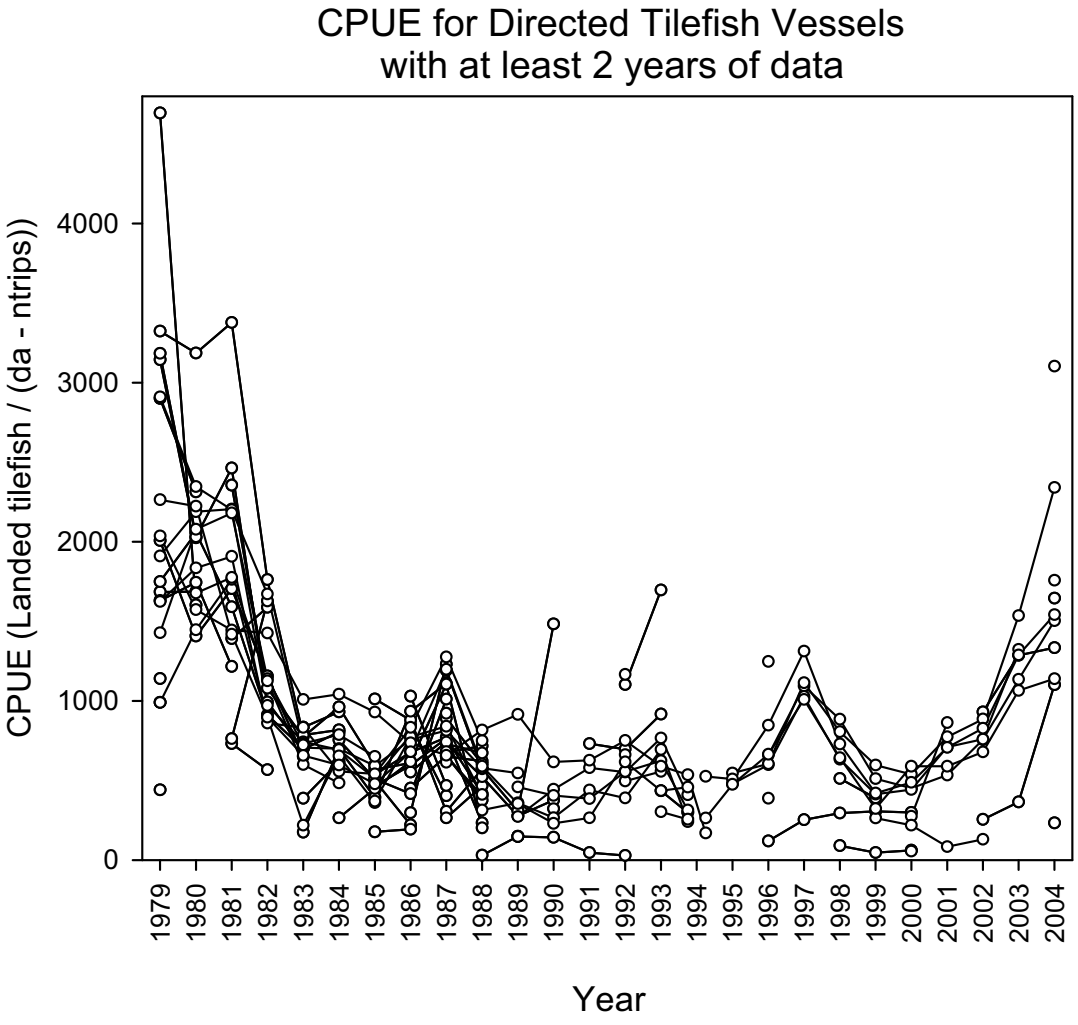


Figure C11. Individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004 with at least 2 years of data.

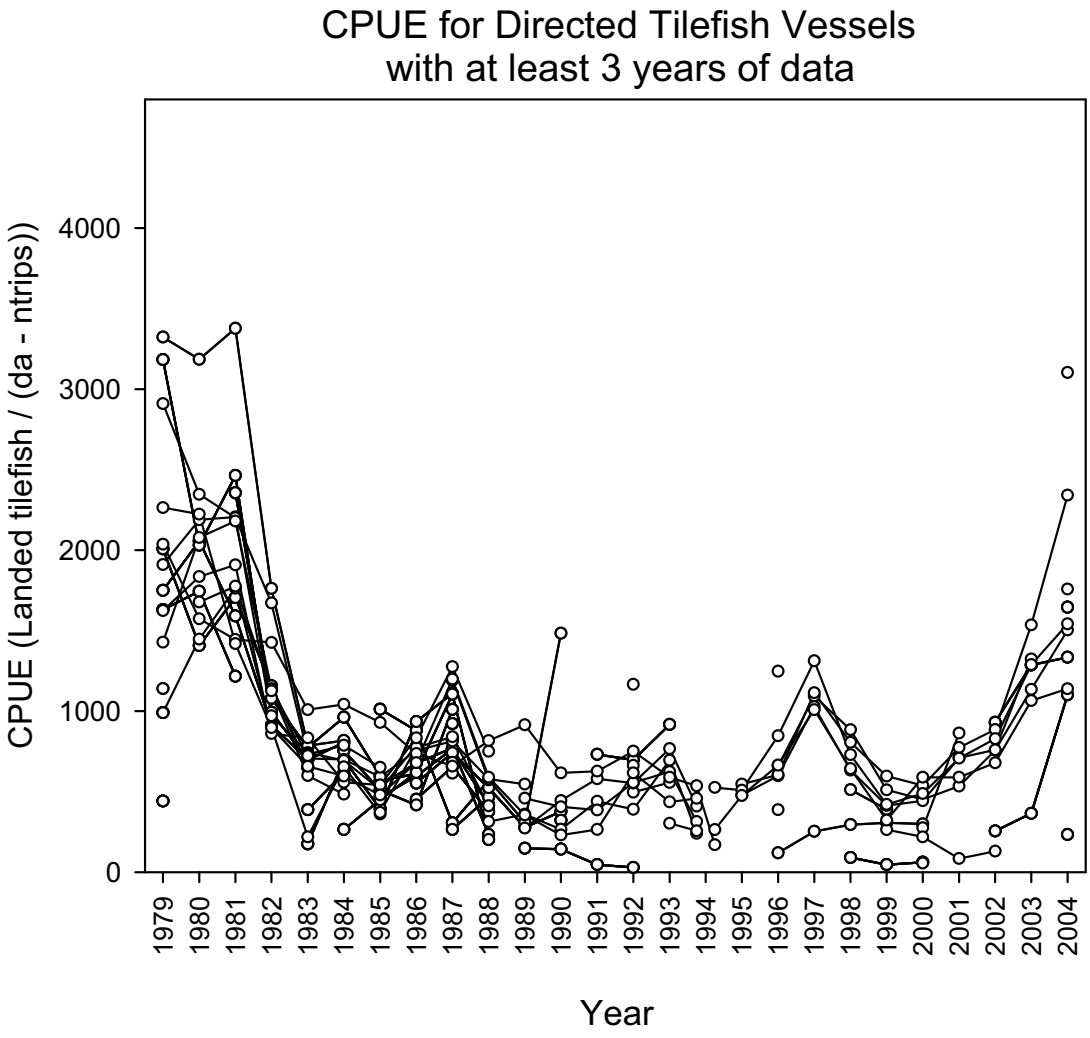


Figure C12. Individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004 with at least 3 years of data.

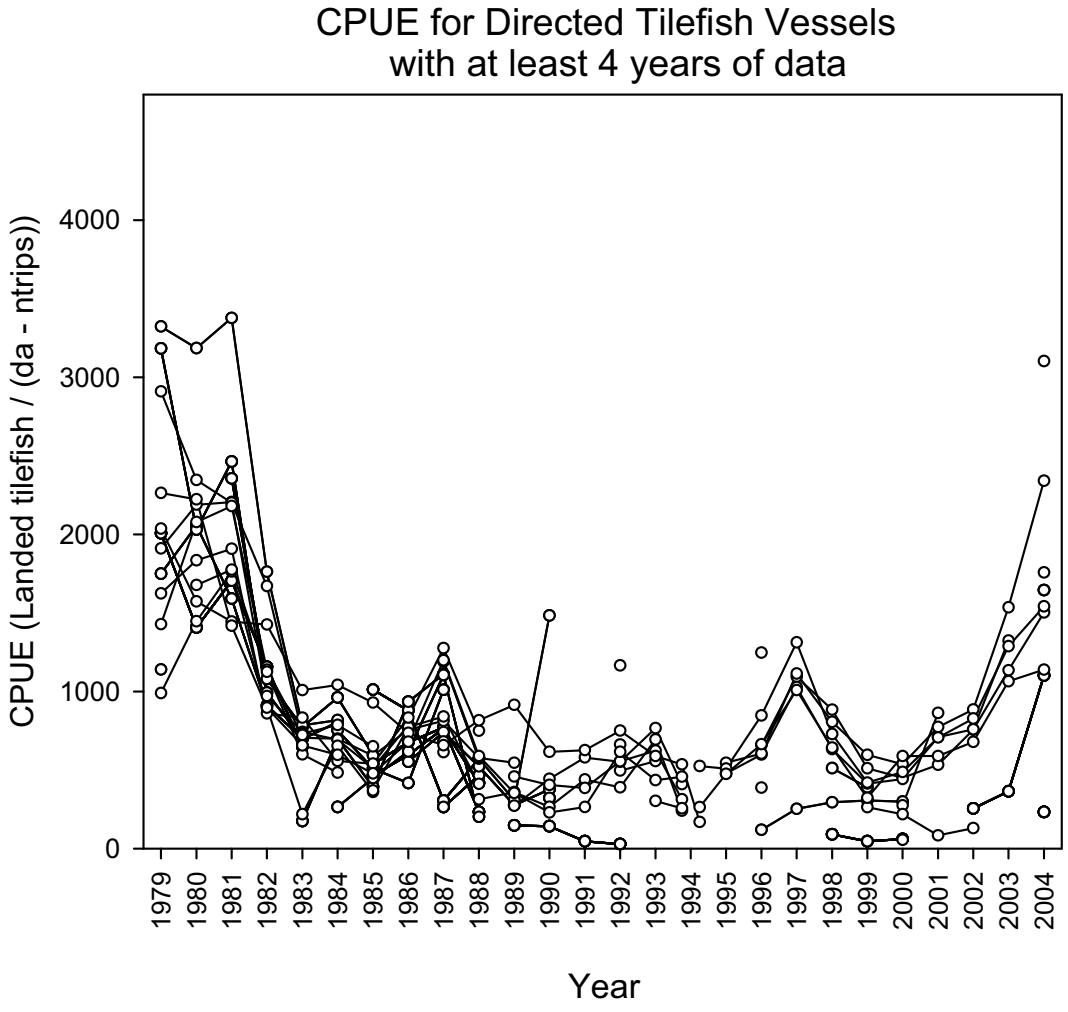


Figure C13. Individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004 with at least 4 years of data.

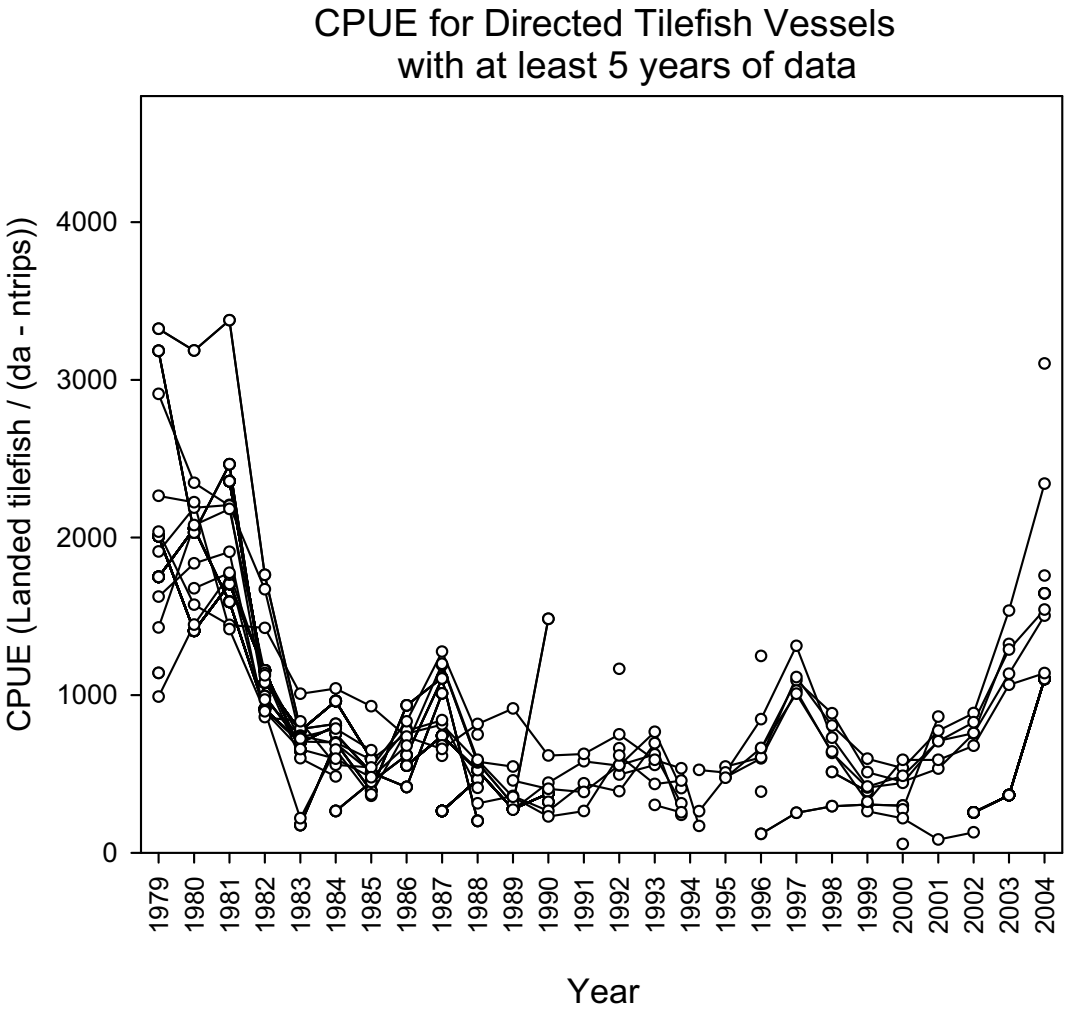


Figure C14. Individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004 with at least 5 years of data.

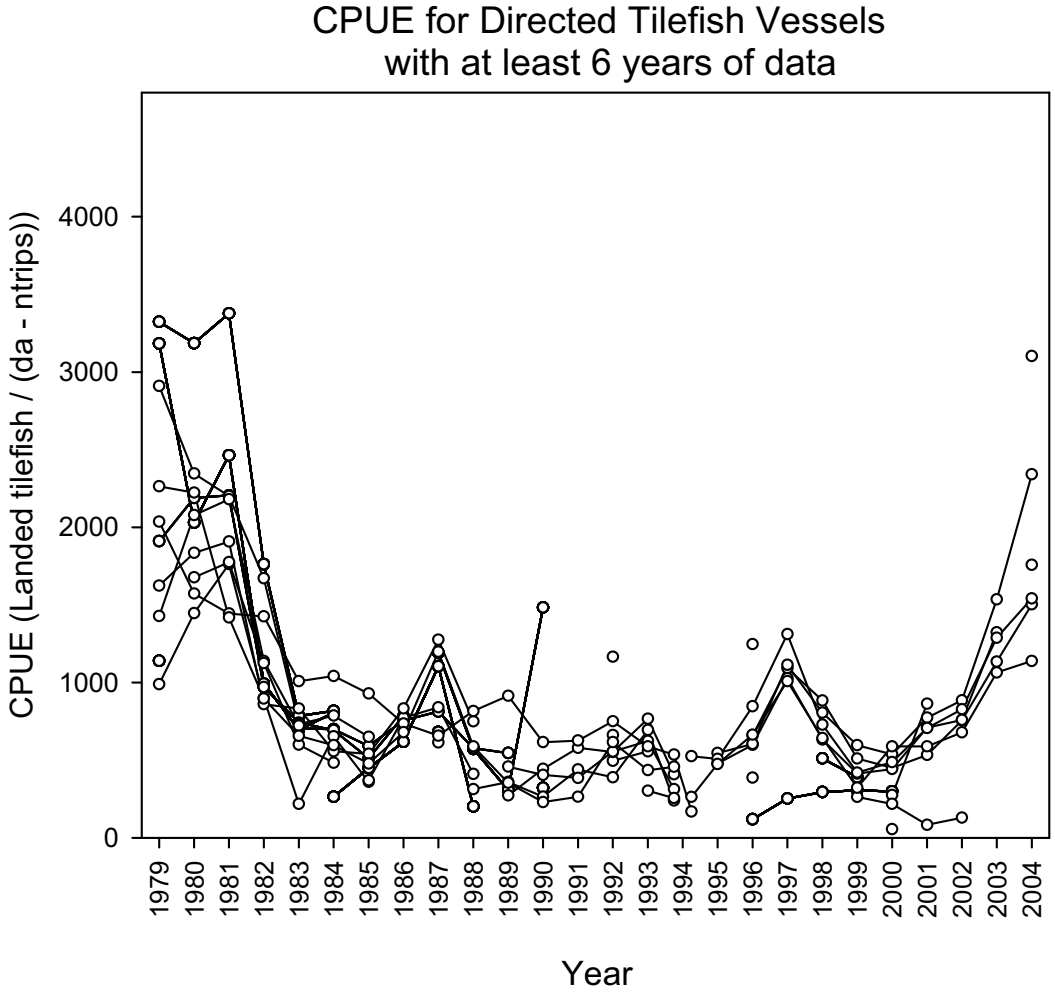


Figure C15. Individual tilefish vessel CPUE data for trips targeting tilefish (= or >75% tilefish) from 1979-2004 with at least 6 years of data.

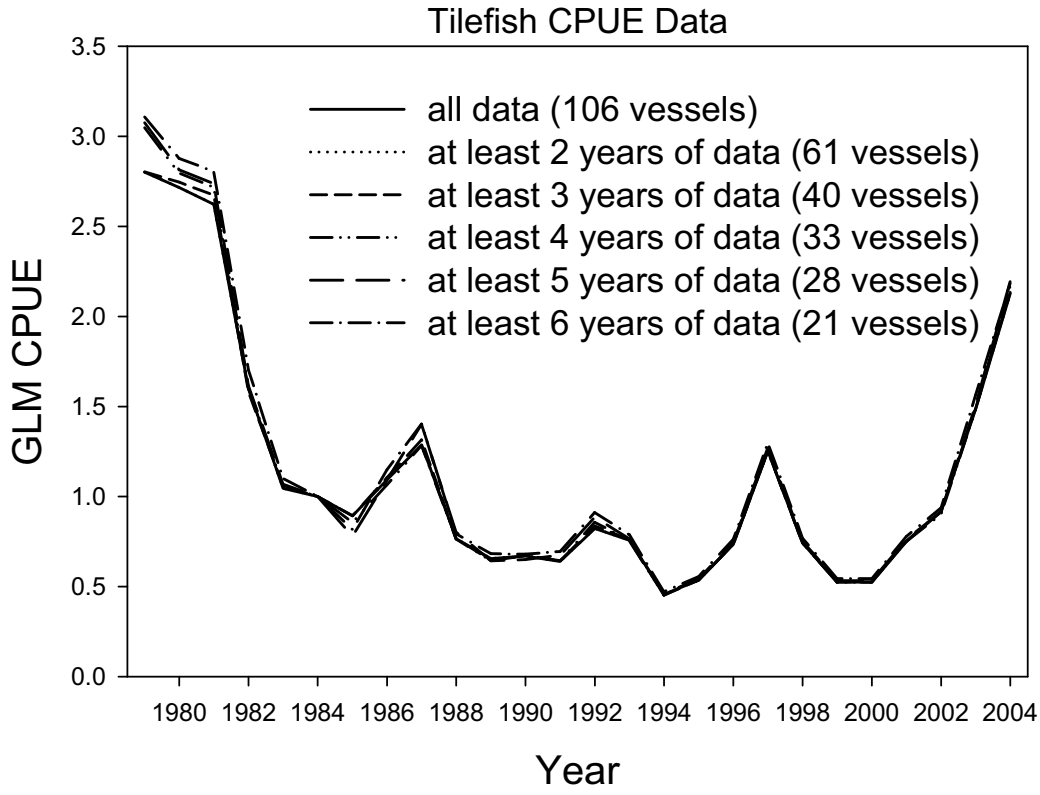


Figure C16. Sensitivity of the GLM (weighout and VTR combined) to the triming of vessels with different amonts of data.

Figure C17. Depiction of individual vessels (rows) targeting tilefish over the weighout and VTR series. Year 1994 is split by the two series. Below the horizontal line are vessels which are predominantly found in the VTR series.

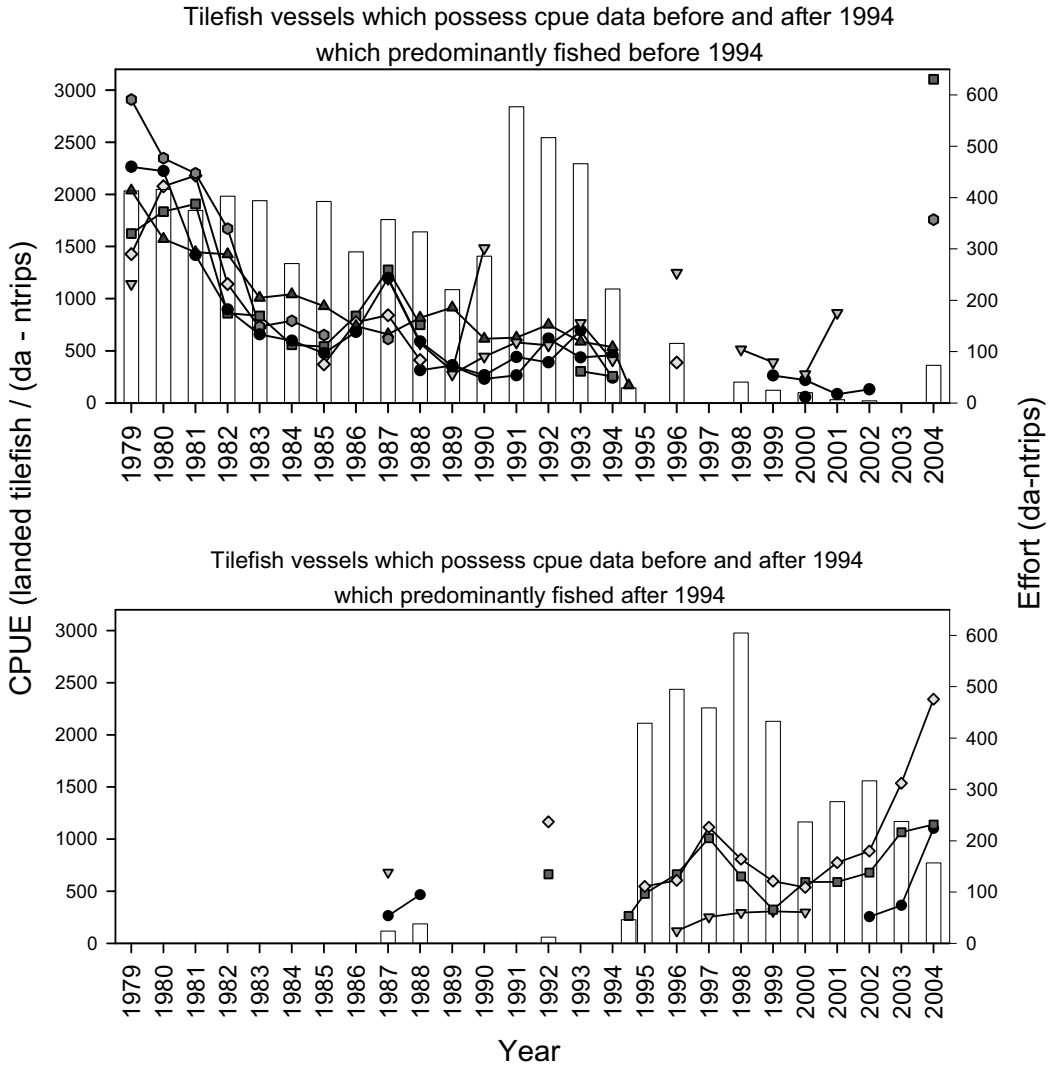


Figure C18. Individual tilefish vessel CPUE and effort data (Bars) for trips targeting tilefish (= or >75% tilefish) from 1979-2004 which are found in both the weighout and VTR series. Top graph are vessels found predominantly in the weighout series. Bottom graph are vessels found predominantly in the VTR series.

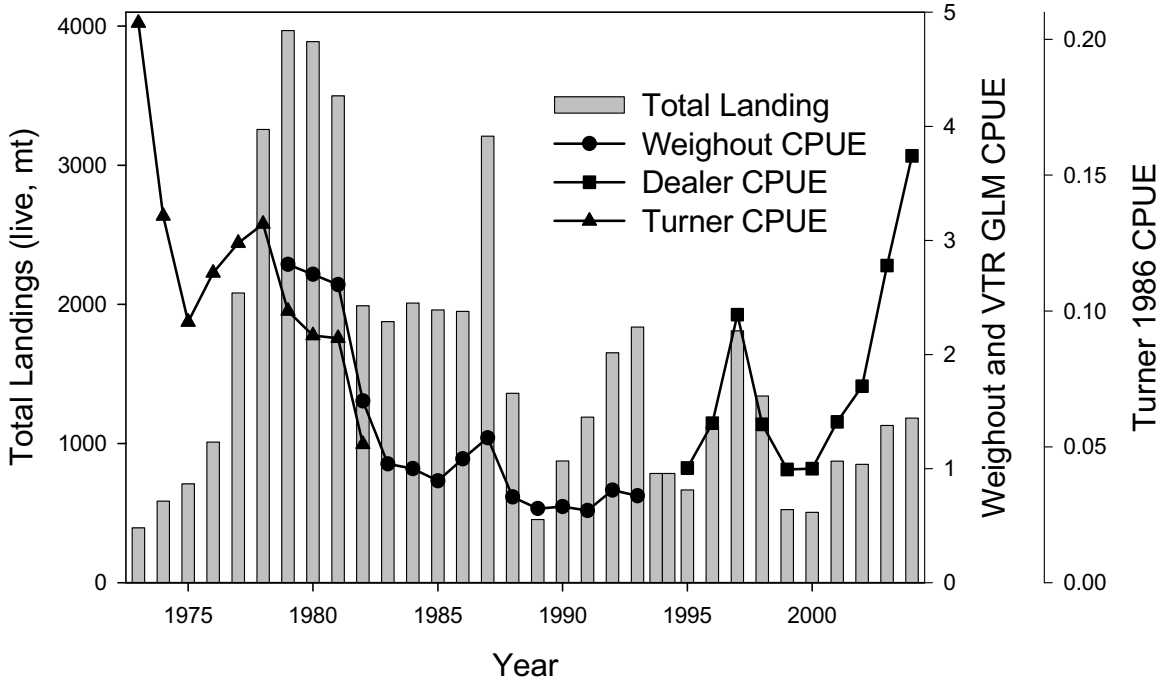


Figure C19. GLM CPUE for the weighout and VTR data split into two series. Four years of overlap between Turner and the weighout CPUE series can be seen. Total Dealer landings are also shown.

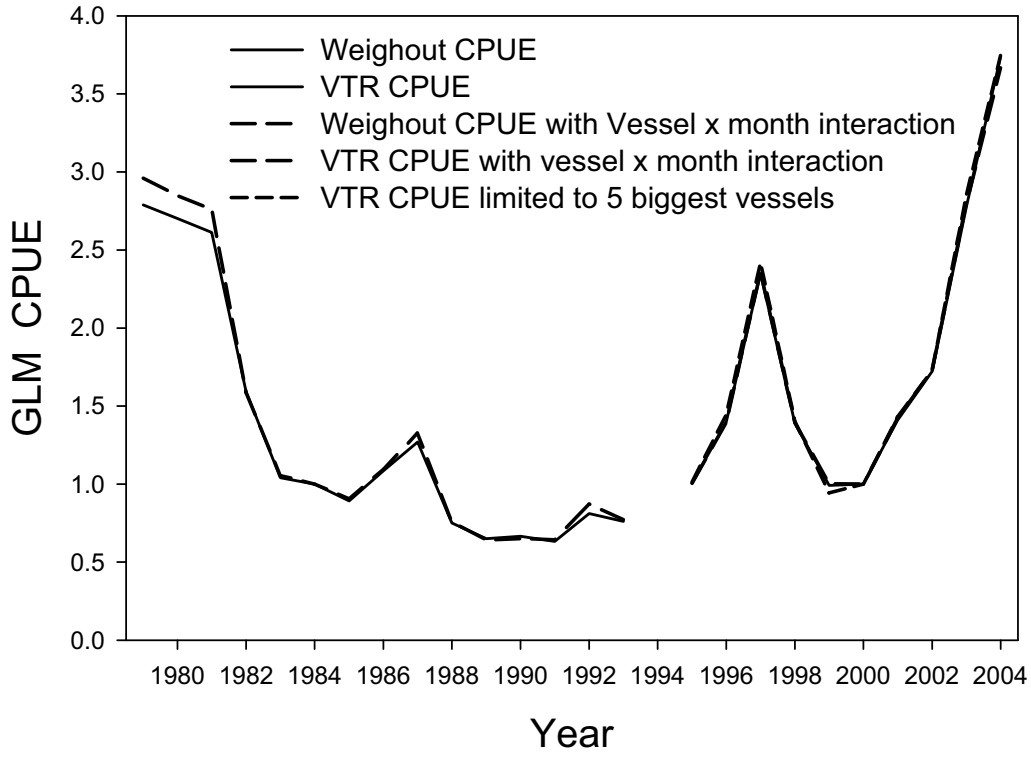


Figure C20. Standardized CPUE (GLM) data with the weighout and VTR data split into two series. GLM CPUE estimates with vessel-month interaction and a GLM limited to the five dominant vessels for the VTR data are also shown.

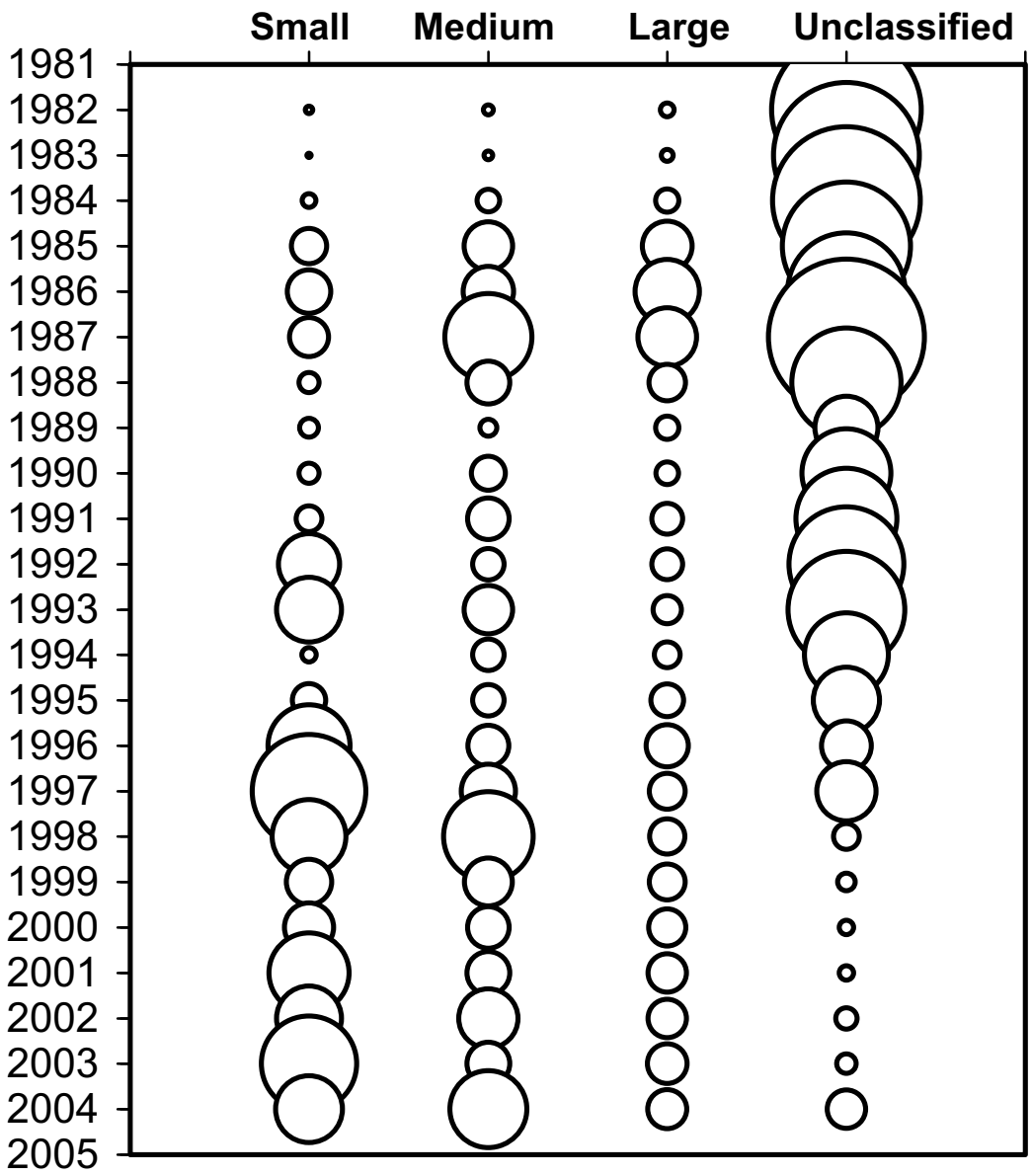
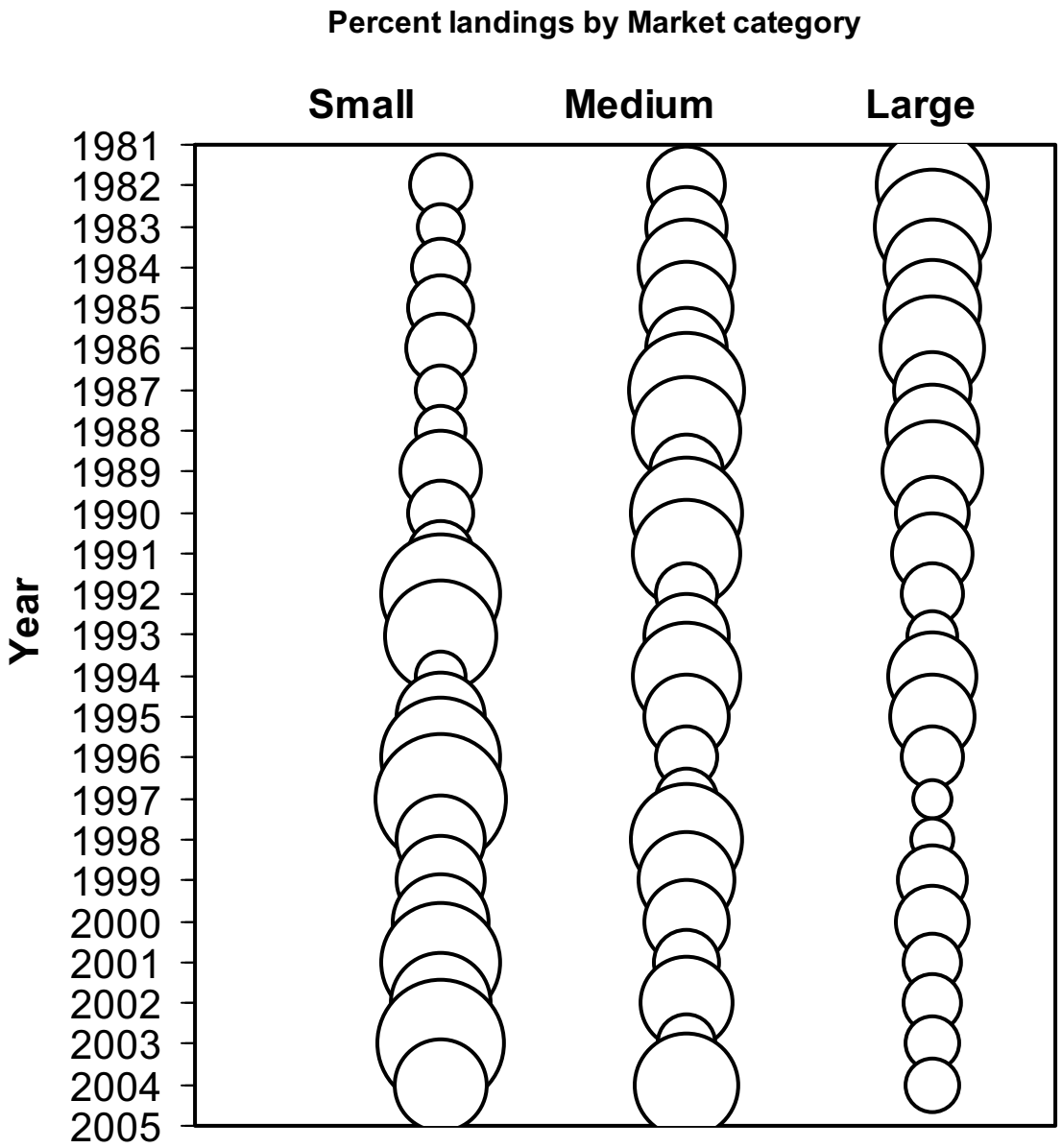


Figure C21. Bubble plot of Golden tilefish landings by market category.


Percent landings by Market category
Small
Medium
Large
Year
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005

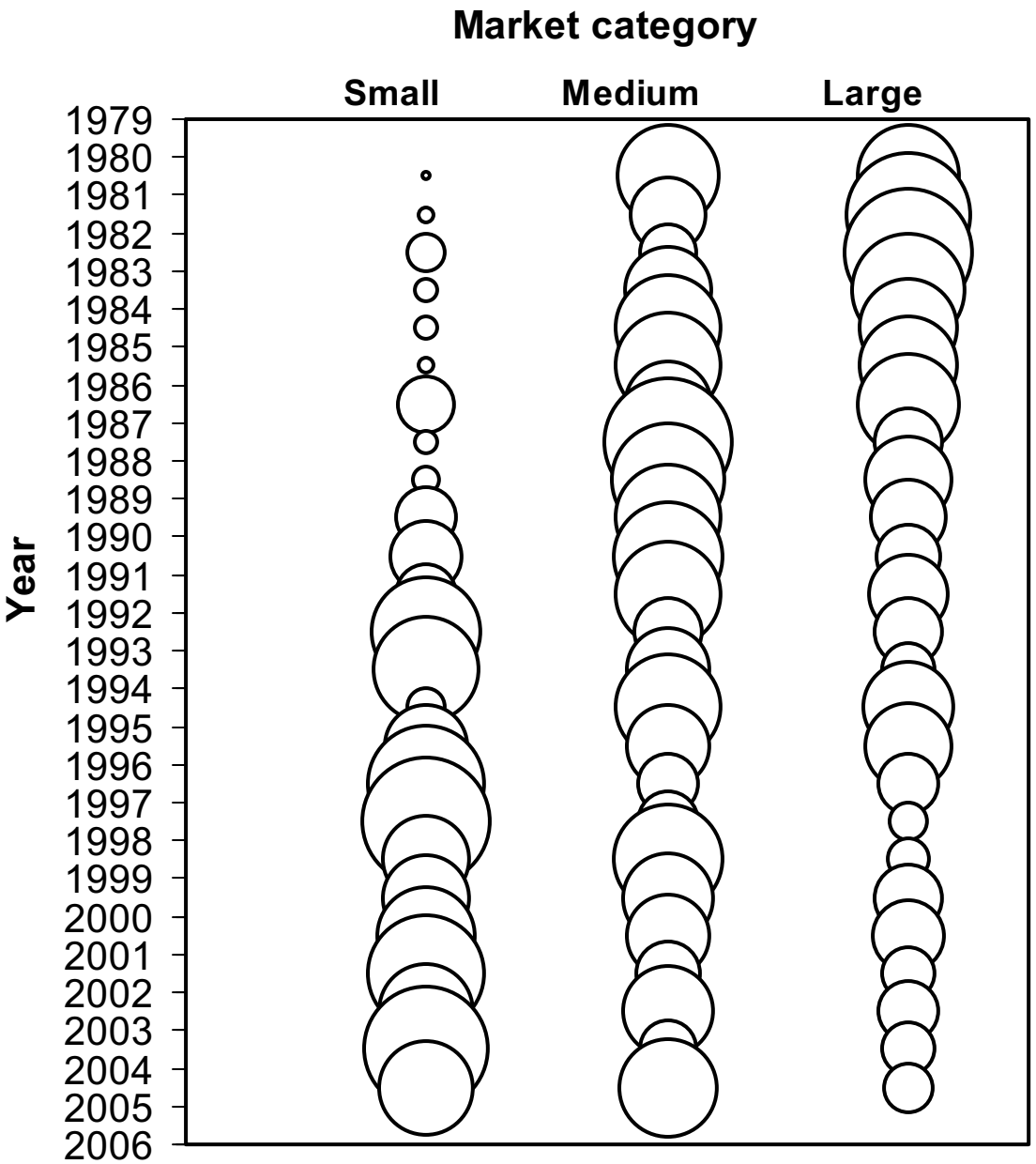
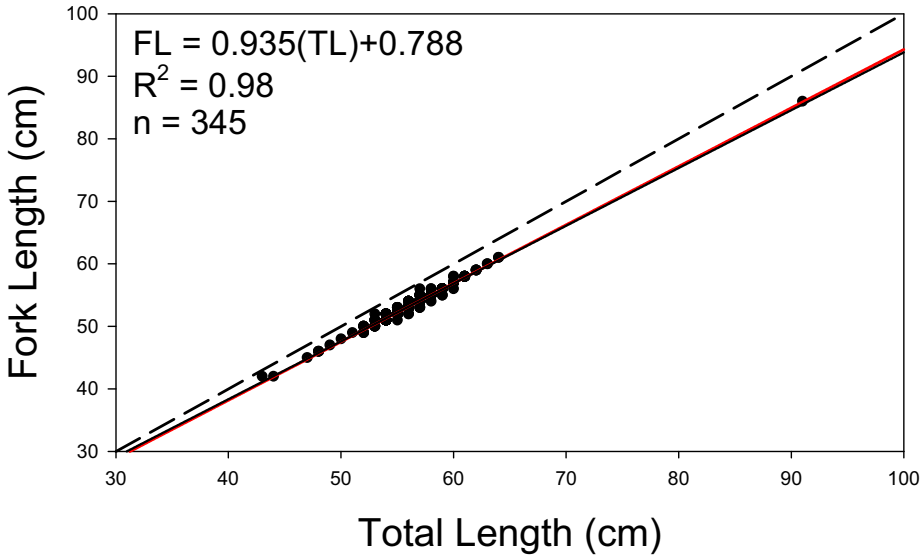


Figure C23. Bubble plot of percent Golden tilefish longline landings by market category. Data from 1980 to 1990 comes from New York tilefish fishermen. Data form 1991-2003 was taken from the dealer data. Data form 2004 are from dealer electronic reporting. Unclassified landings were redistributed according to the other market categories.



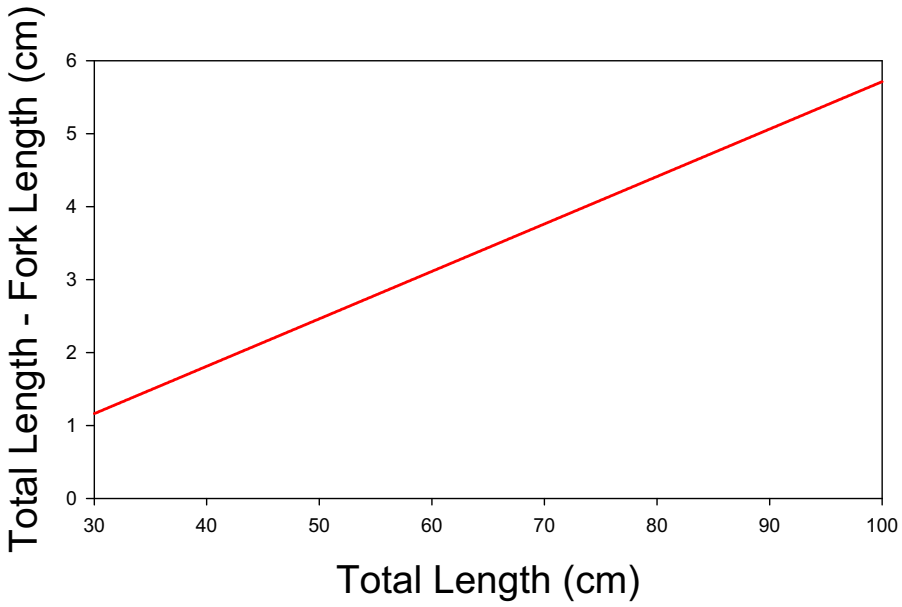


Figure C24. Top graph shows the estimated regression between total and fork length for Golden tilefish for data collected in 2005. Bottom graph illustrates the difference between the two measurements.

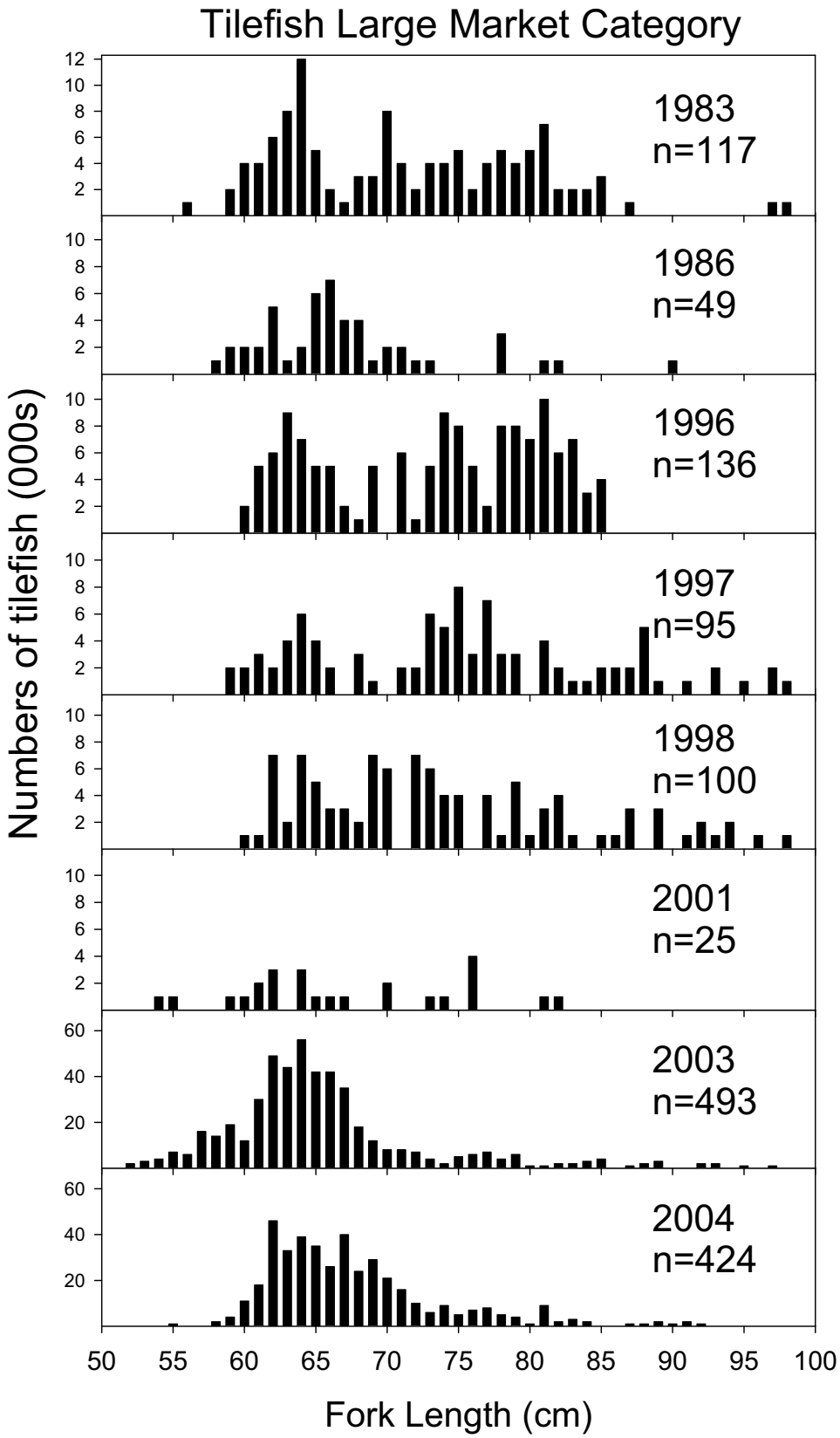


Figure C25. Large tilefish market category length frequency distributions by year. Lengths from New York from 2000 to 2004 were converted to fork length.

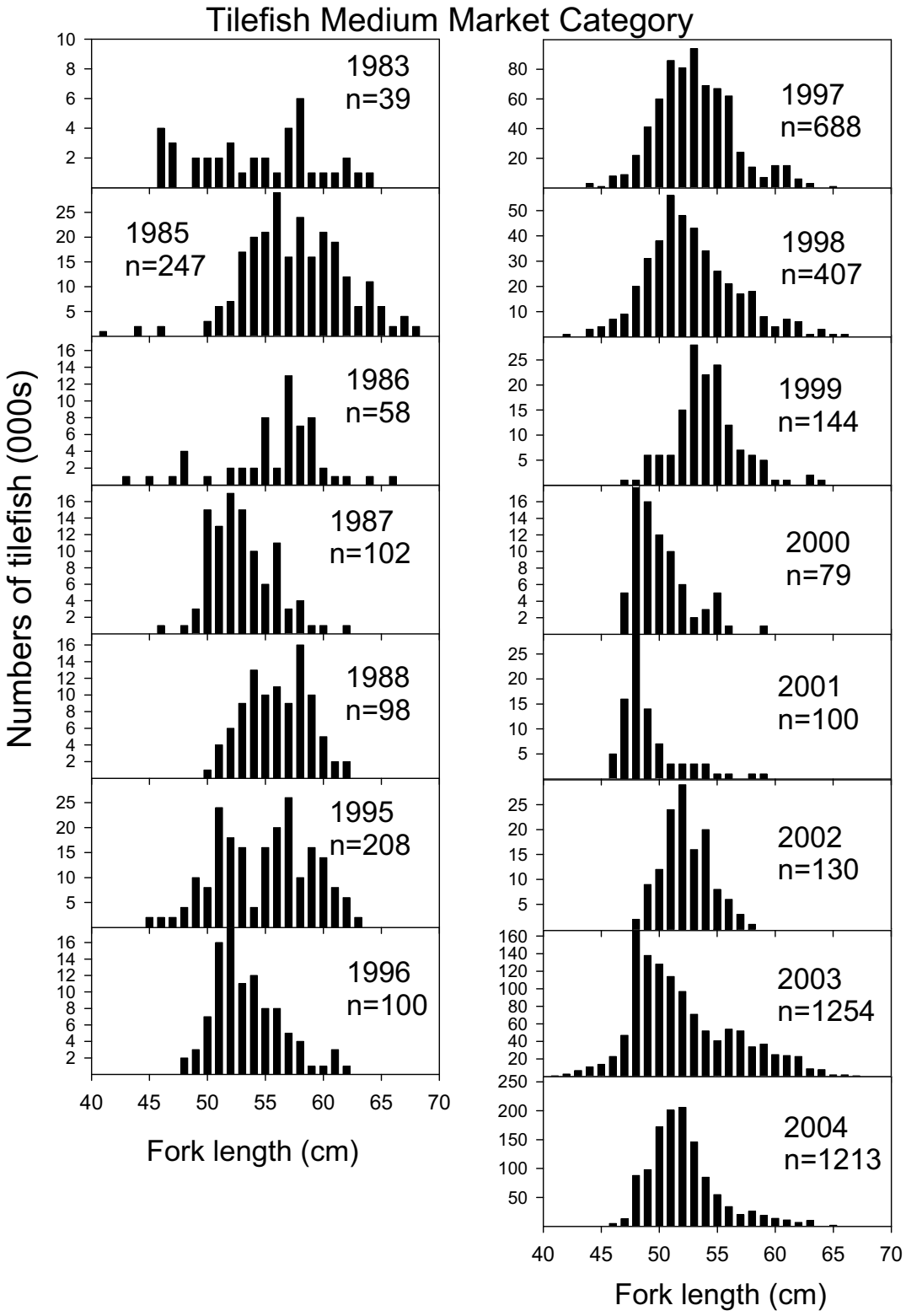


Figure C26. Medium tilefish market category length frequency distributions by year. Lengths from New York from 2000 to 2004 were converted to fork length.

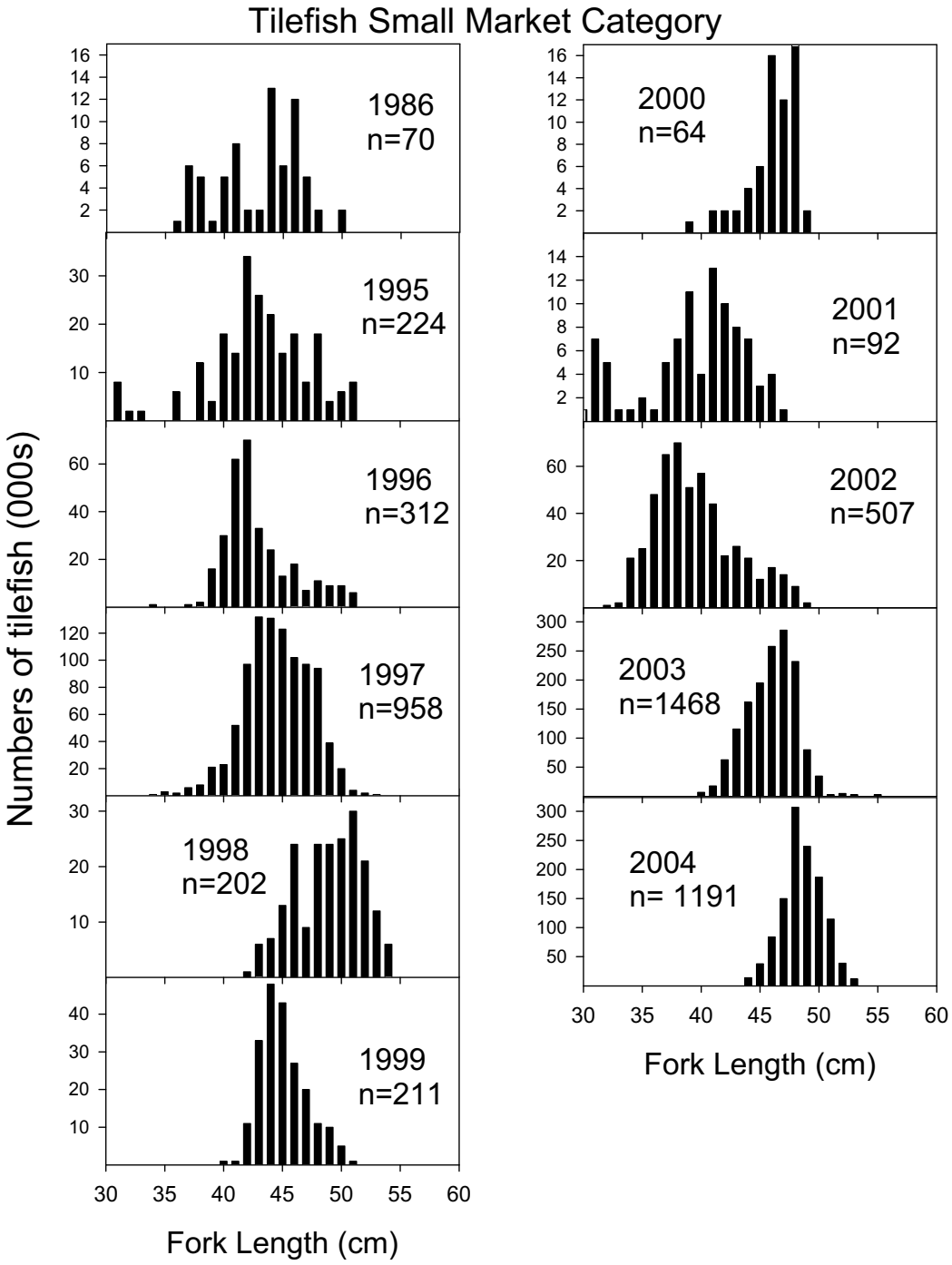


Figure C27. Small tilefish market category length frequency distributions by year. Lengths from New York from 2000 to 2004 were converted to fork length.

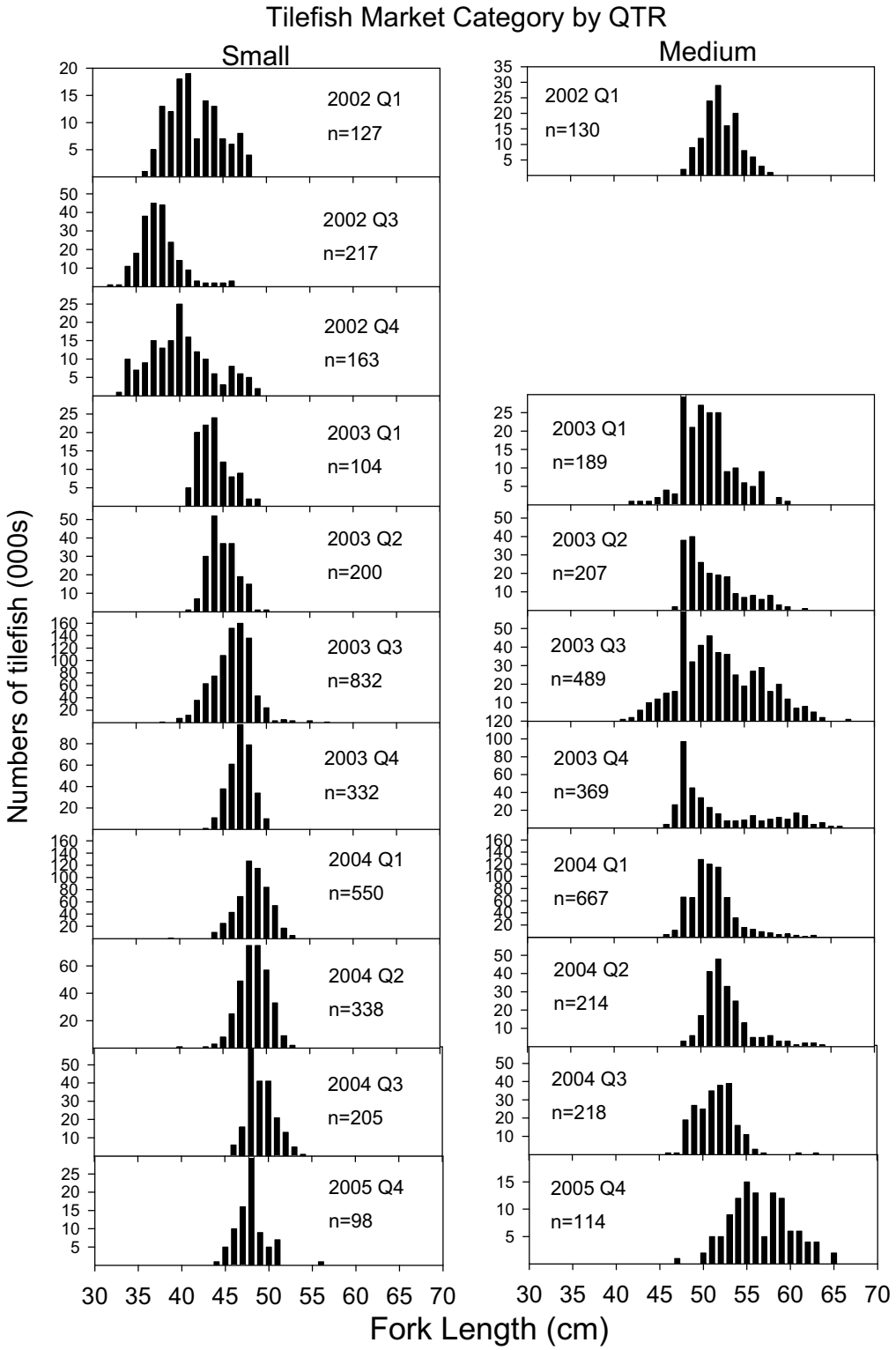


Figure C28. Small and medium tilefish market category length frequency distributions by quarter. Lengths from New York from 2000 to 2004 were converted to fork length.

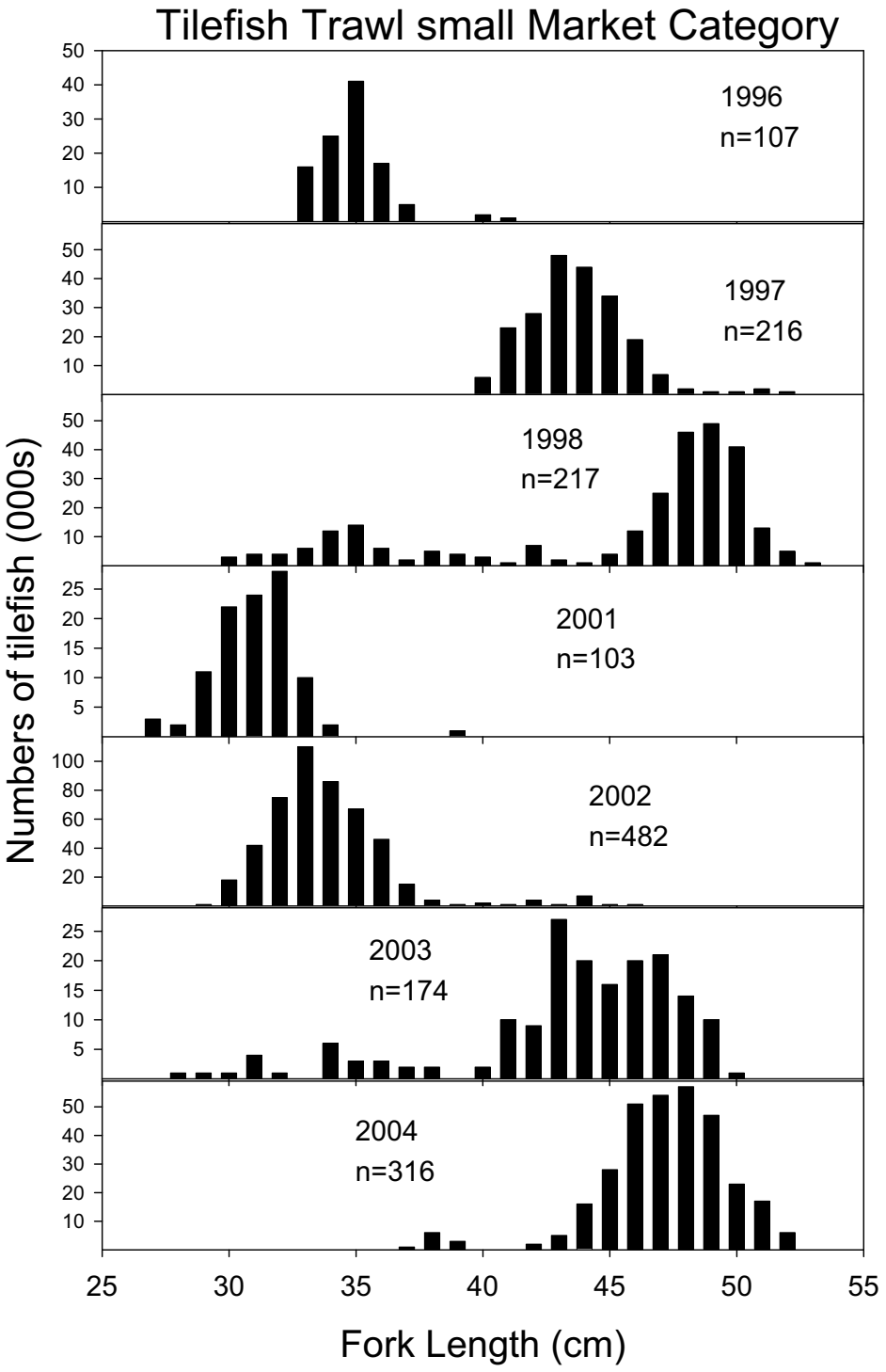


Figure C29. Trawl small tilefish market category length frequency distributions by year. Lengths from New York from 2000 to 2004 were converted to fork length.

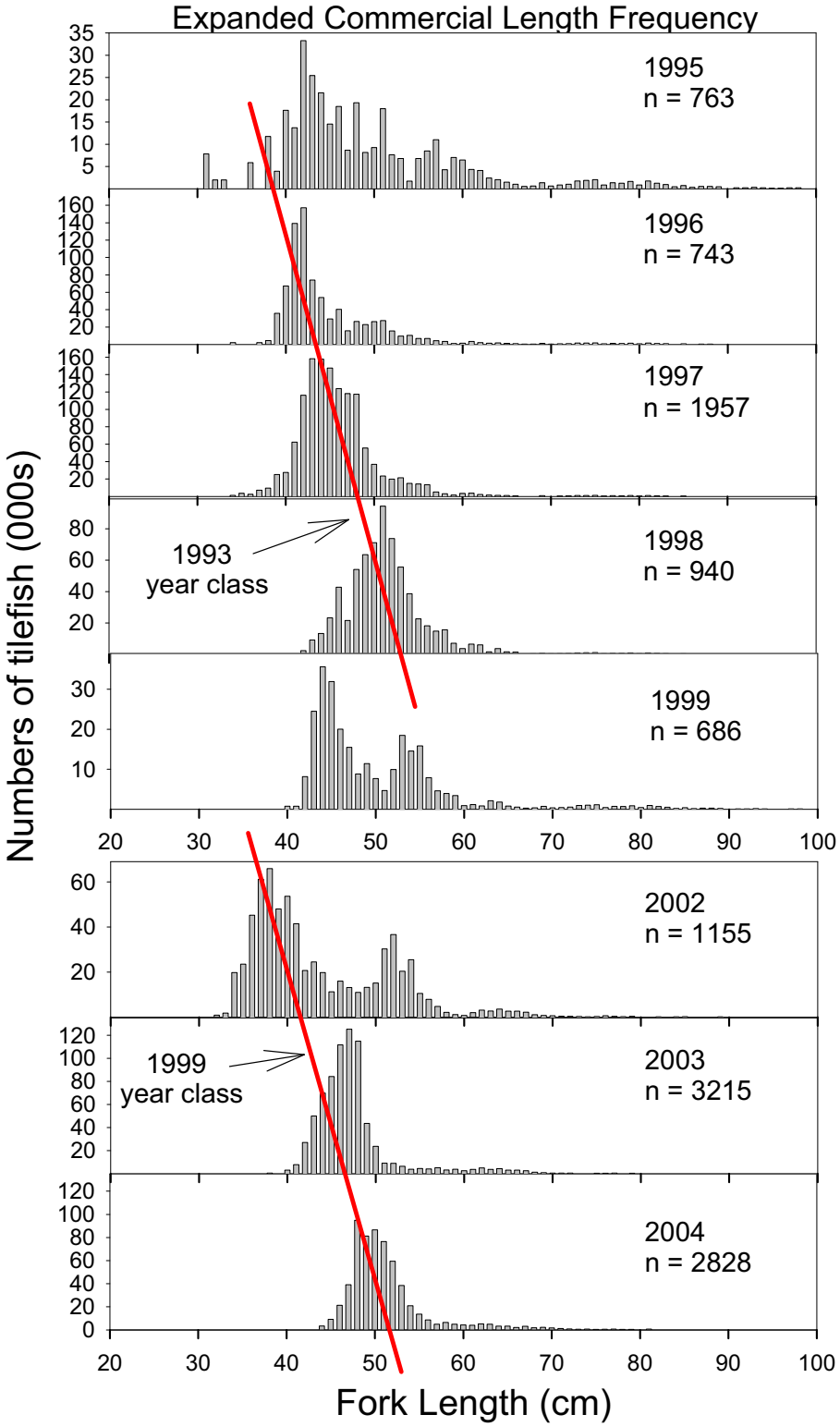


Figure C30. Expanded catch length frequency distributions by year. Large market category lengths used from 1995 to 1999 were taken from years 1996, 1997, and 1998. Large lengths for 2002 when taken from large lengths in 2001 and 2003.

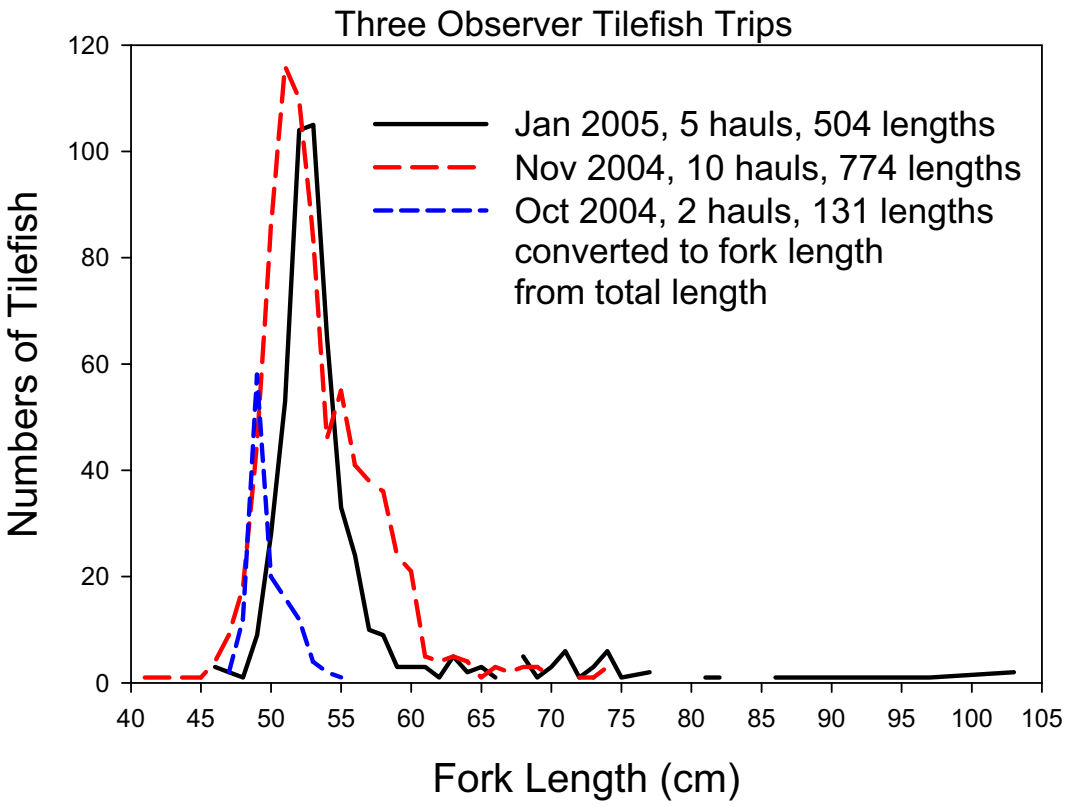


Figure C31. Observer Length frequency distributions from three longline tilefish trips.

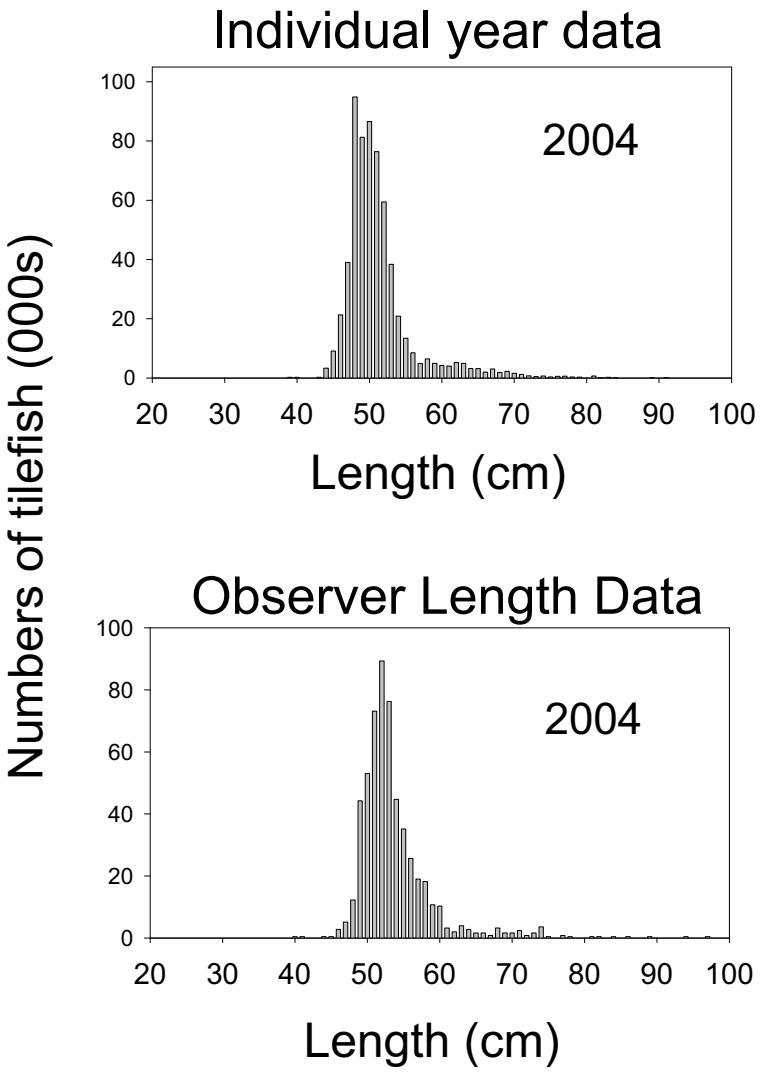


Figure C32. Comparison of expanded length frequency distributions for 2004.

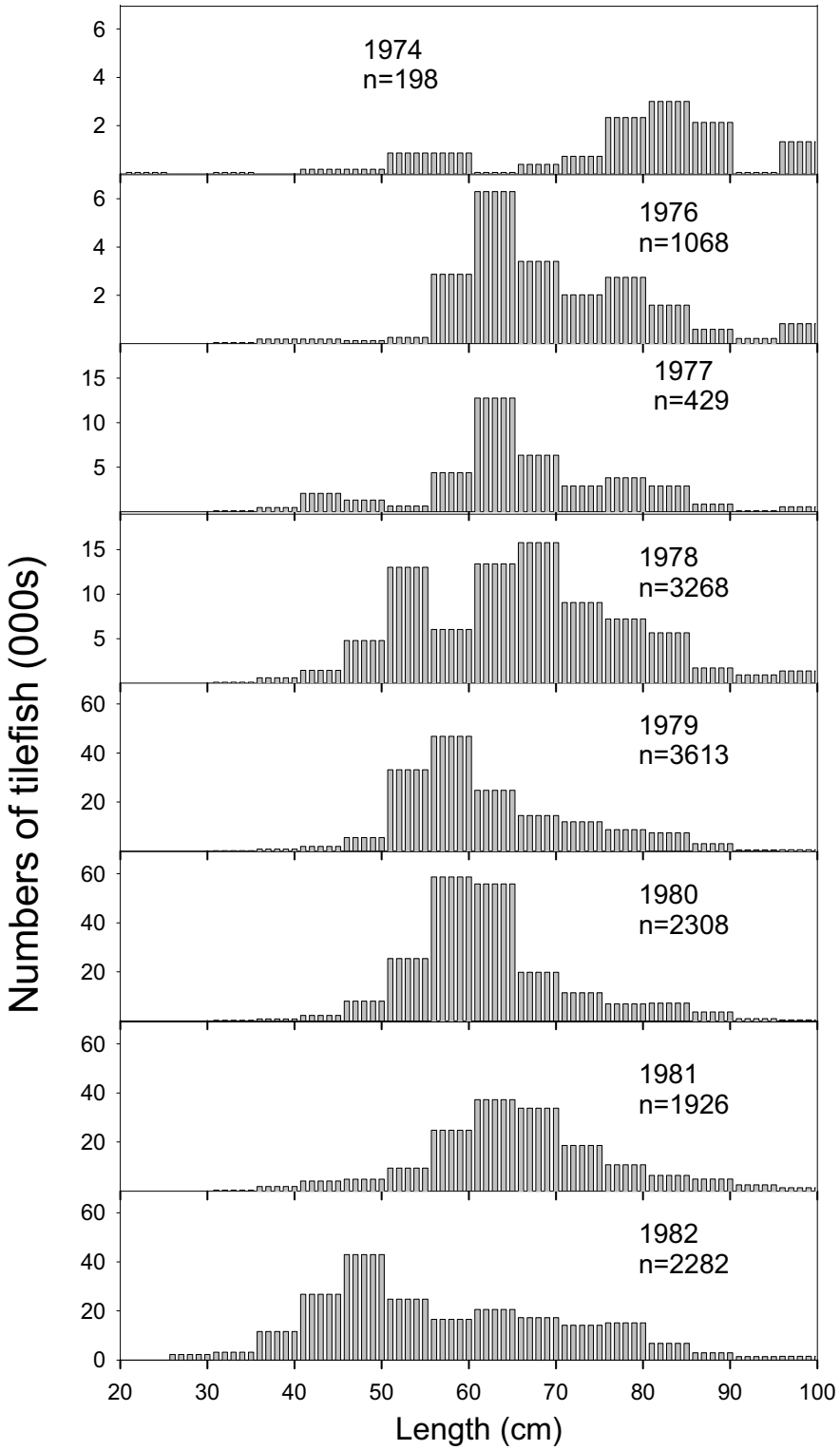


Figure C33. Expanded length frequency distributions using Turner (1986) length samples by 5 cm intervals. Hudson Canyon and Southern New England samples were combined.

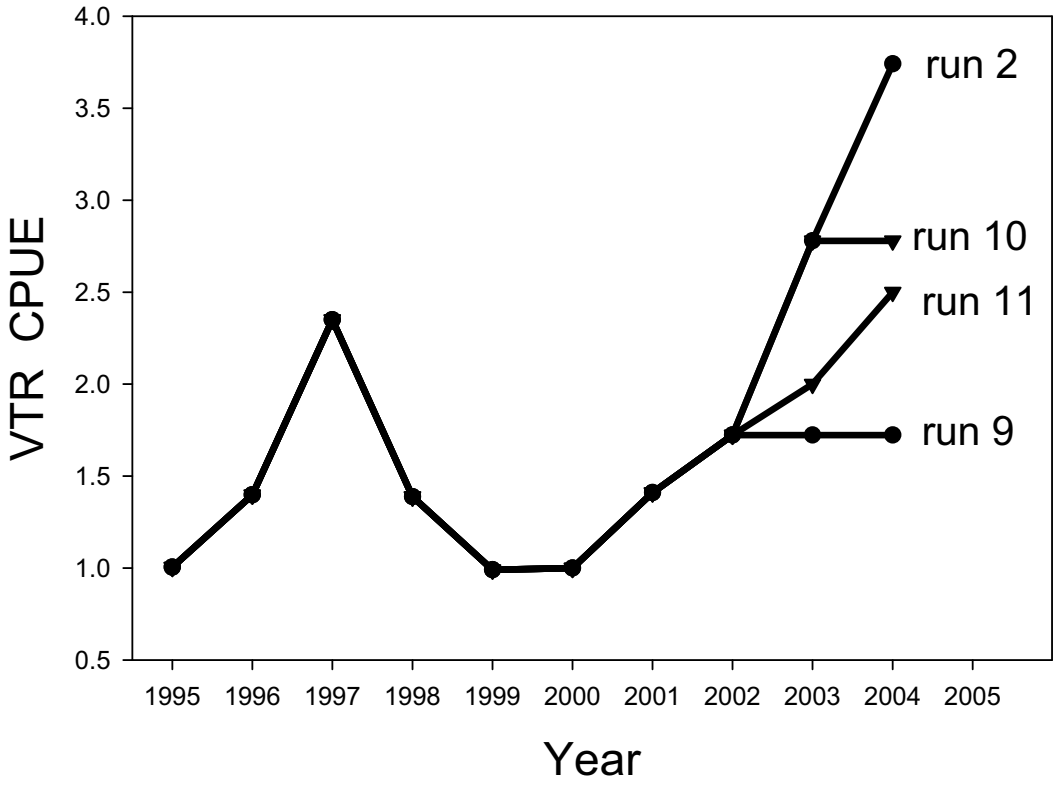


Figure C34. The actual VTR CPUE (run 2) and CPUE with lowered CPUE at the end of the time sereis used to determine sensitivity of the recent increase in CPUE in the ASPIC model.

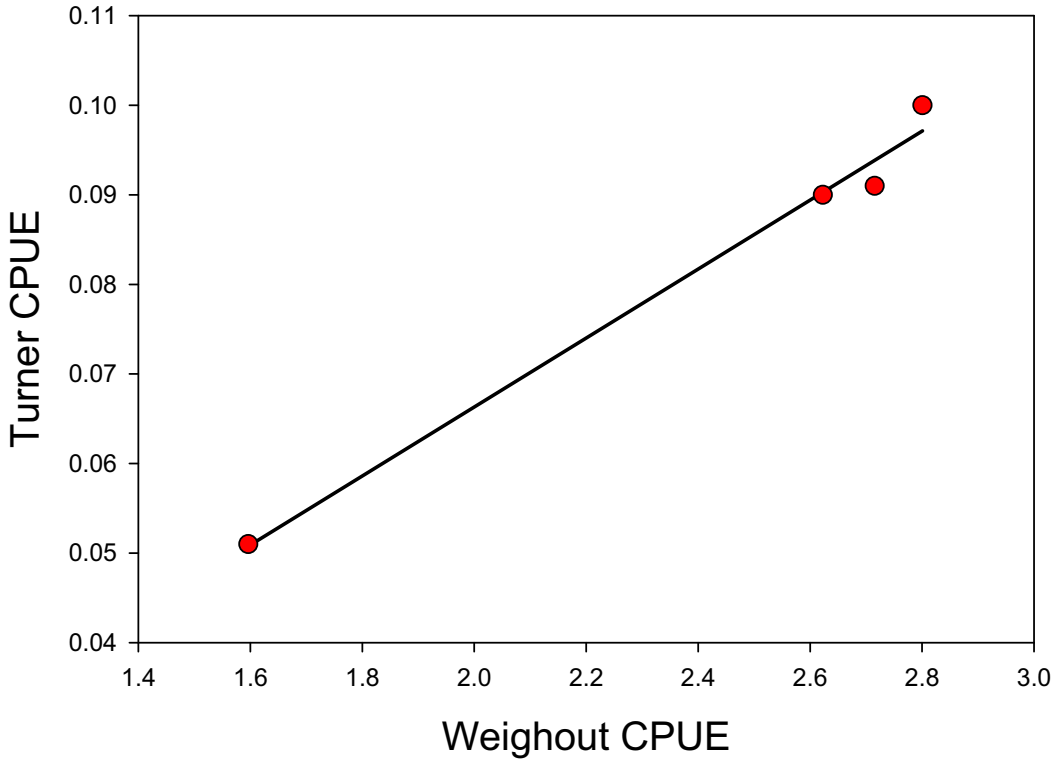


Figure C35. Regression (forced through zero) between the weighout CPUE and Turner CPUE using the four years of overlapping data (1979-1982). Regression was used to combine Turner and NEFSC series used in the AIM and LRSG model.

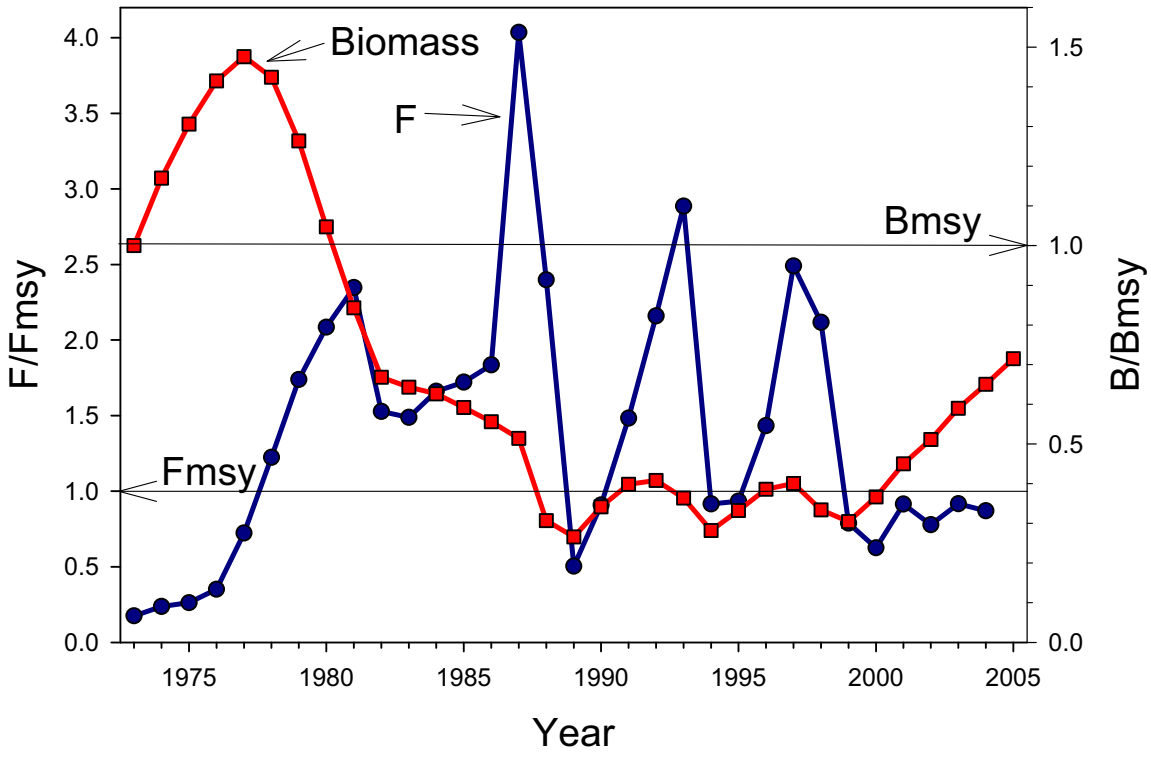


Figure C36. Trends in F/Fmsy and B/Bmsy ratios for the base ASPIC run 13 which fix the B1/Bmsy ratio at 1 and used three CPUE series (Turner, weighout, and VTR).

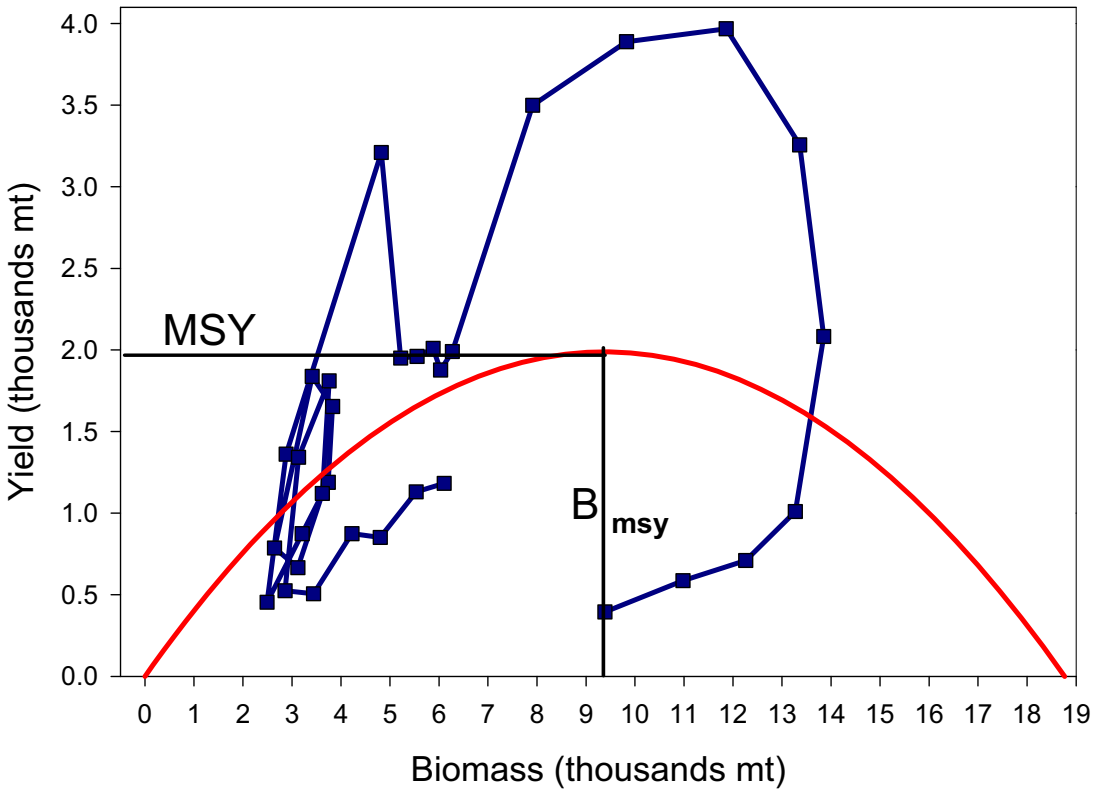


Figure C37. Observed and predicted equilibrium yield with biomass for the ASPIC model base run 13.

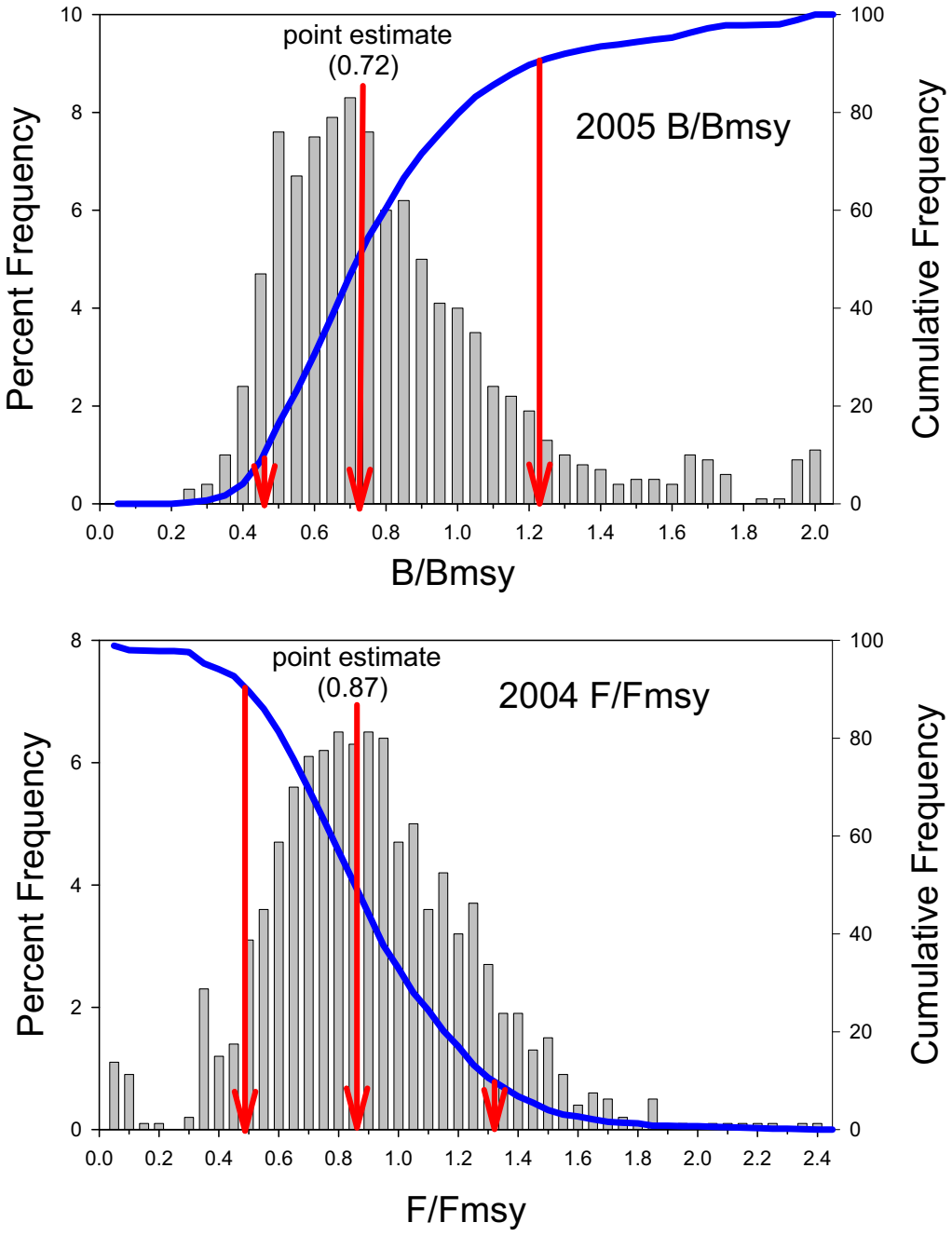
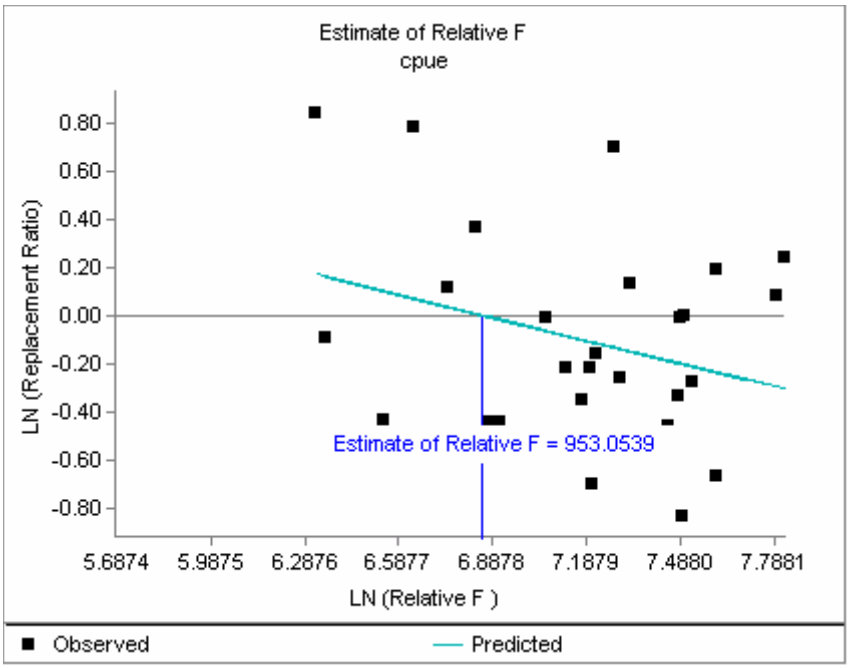


Figure C38. Precision of estimates of total stock biomass to B_{msy} ratios and fishing mortality to F_{msy} ratios for Golden tilefish. Vertical bars display the range of the boostrap estimates. The percent confidence limits can be taken of the cumulative frequency curve.



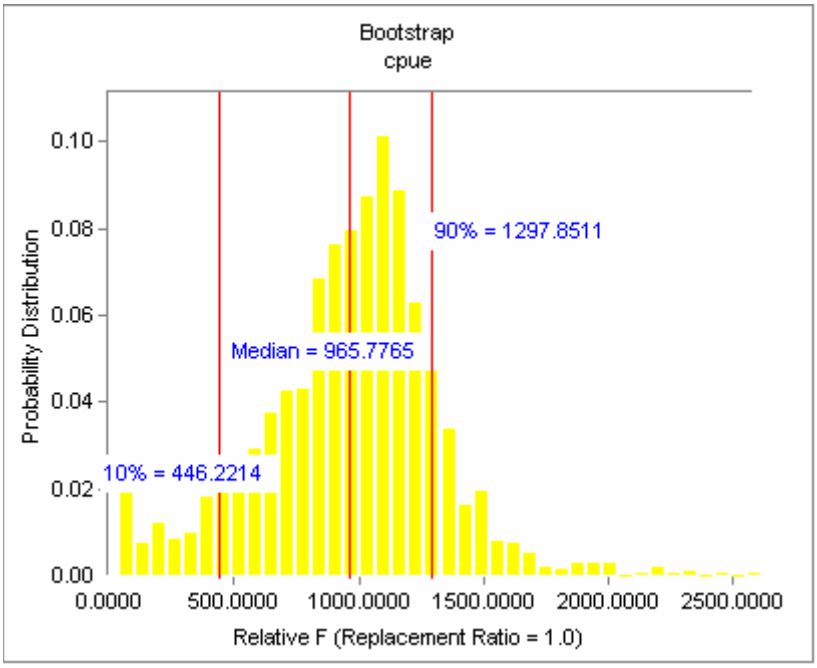


Figure C39. Aim model using combined Turner, NEFSC weighout and VTR CPUE (1973-2004). Top graph is the relationship between relative F and the replacement ratio. Bottom graph is the bootstrap distribution of relative Fs.

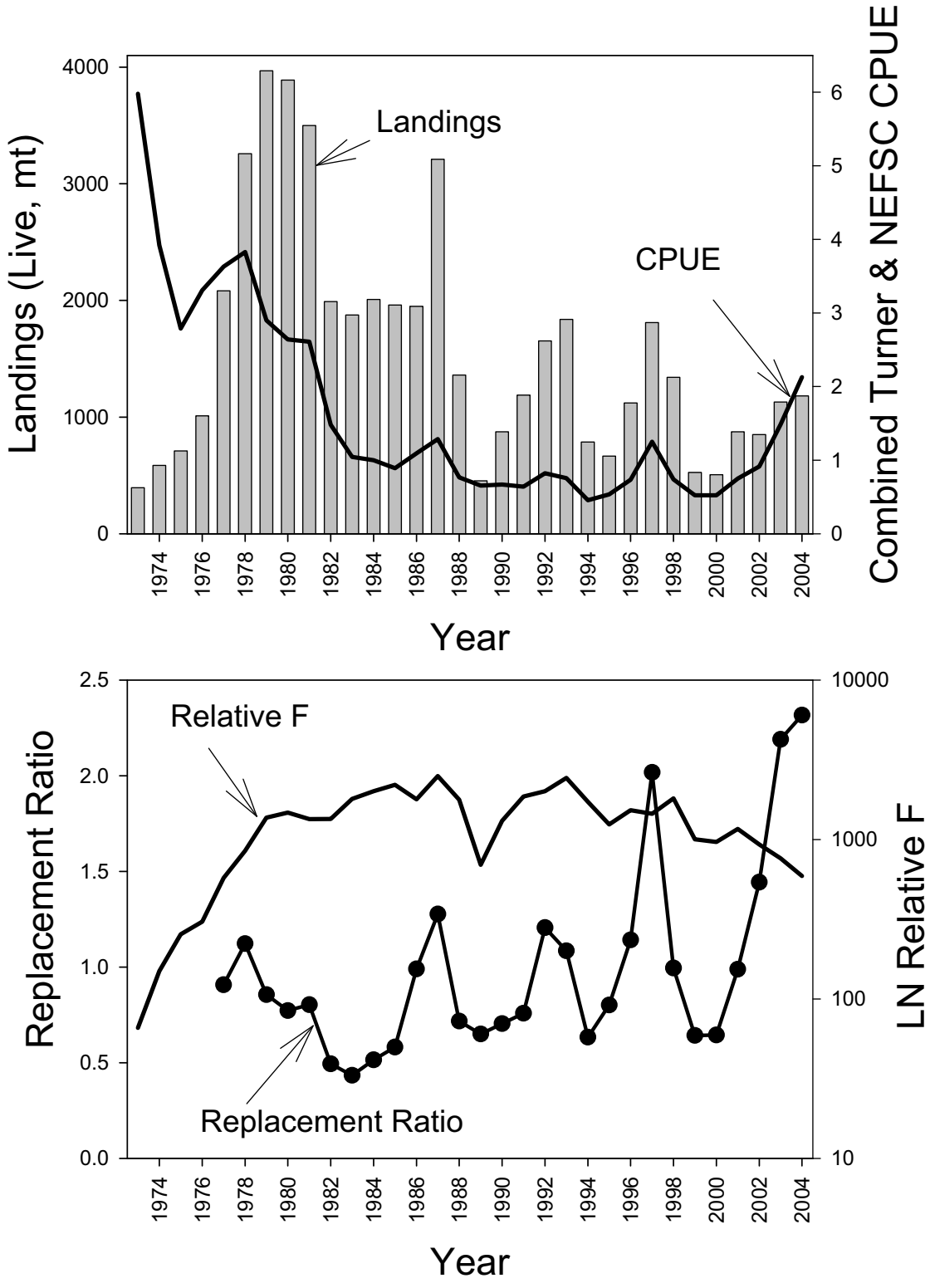


Figure C40. AIM model results using Turner and NEFSC commercial CPUE series combined.

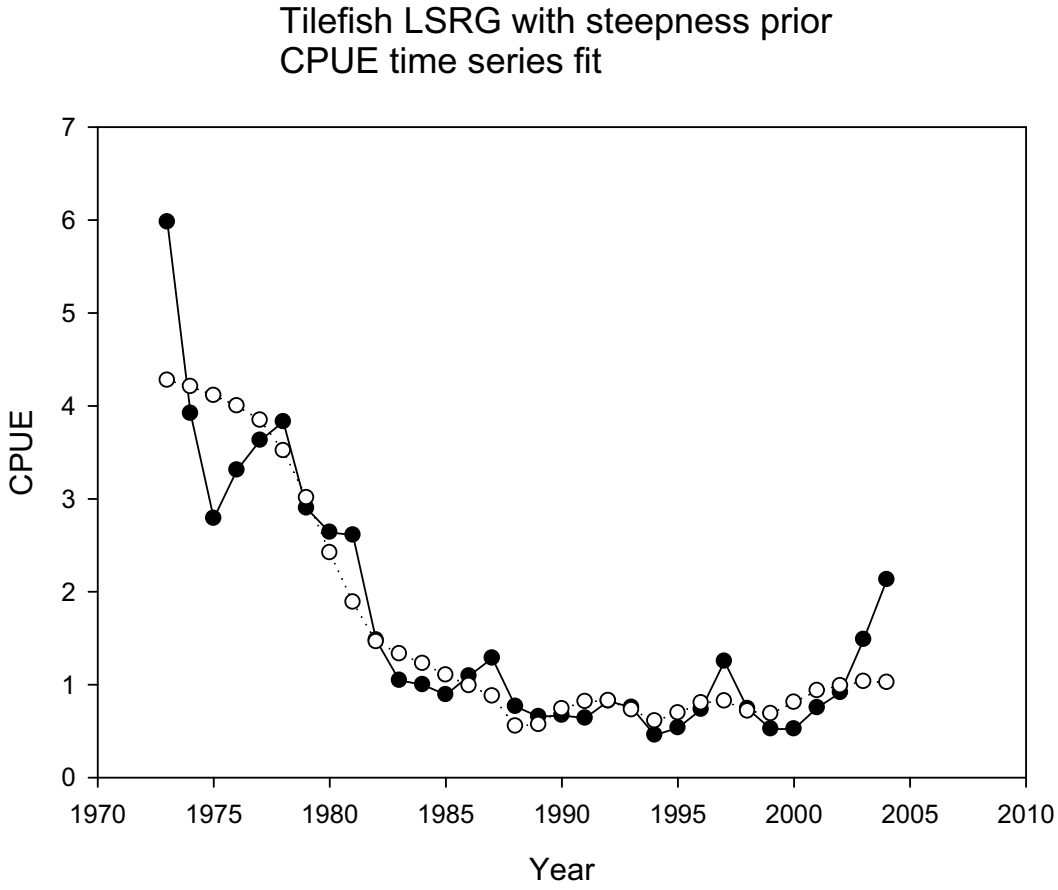


Figure C41. Observed and predicted CPUE from the LRSG model with a steepness prior.

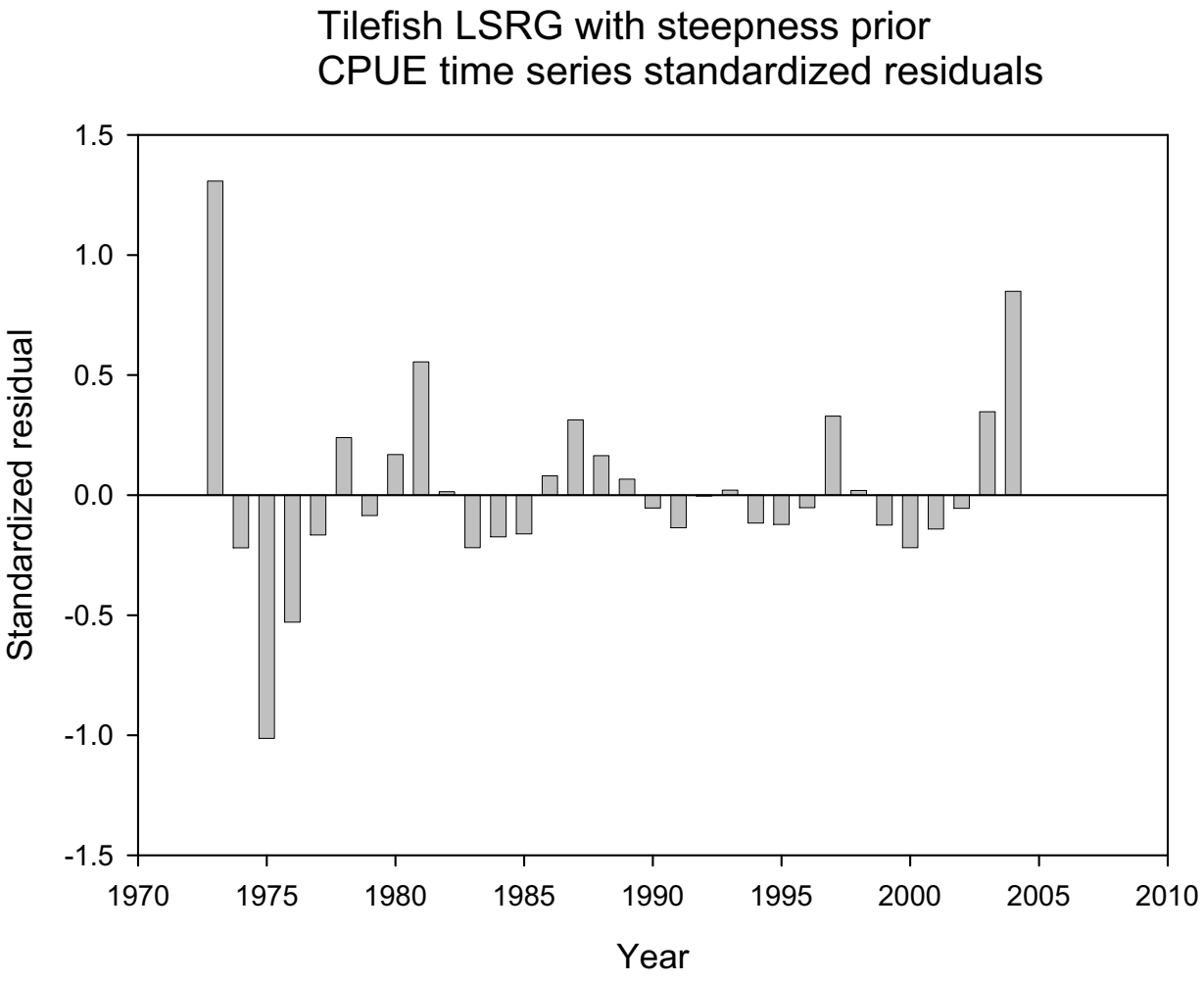


Figure C42. Standardized residuals form the LRSG model with a steepness prior.

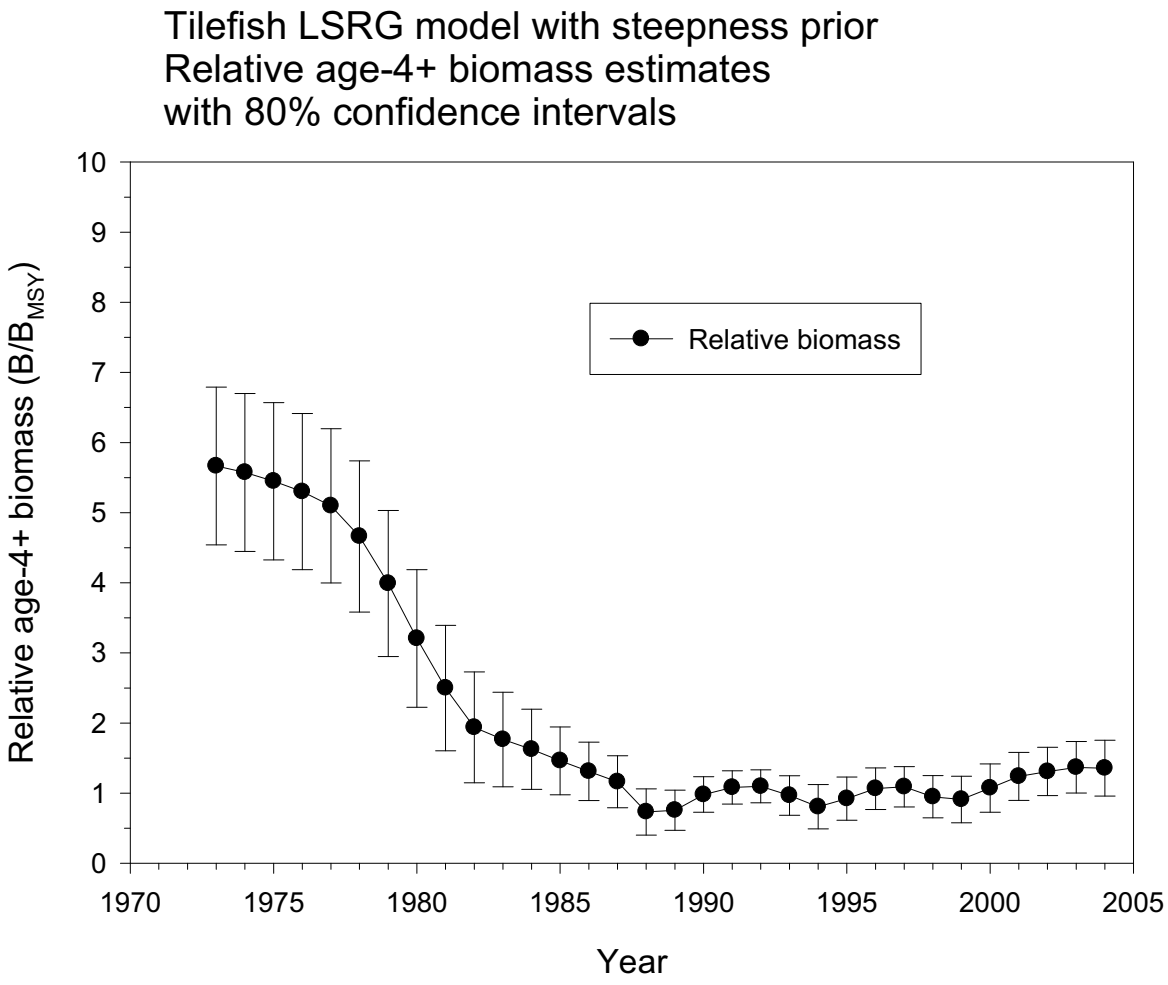


Figure C43. Relative biomass estimates from the LRSG model with a steepness prior.

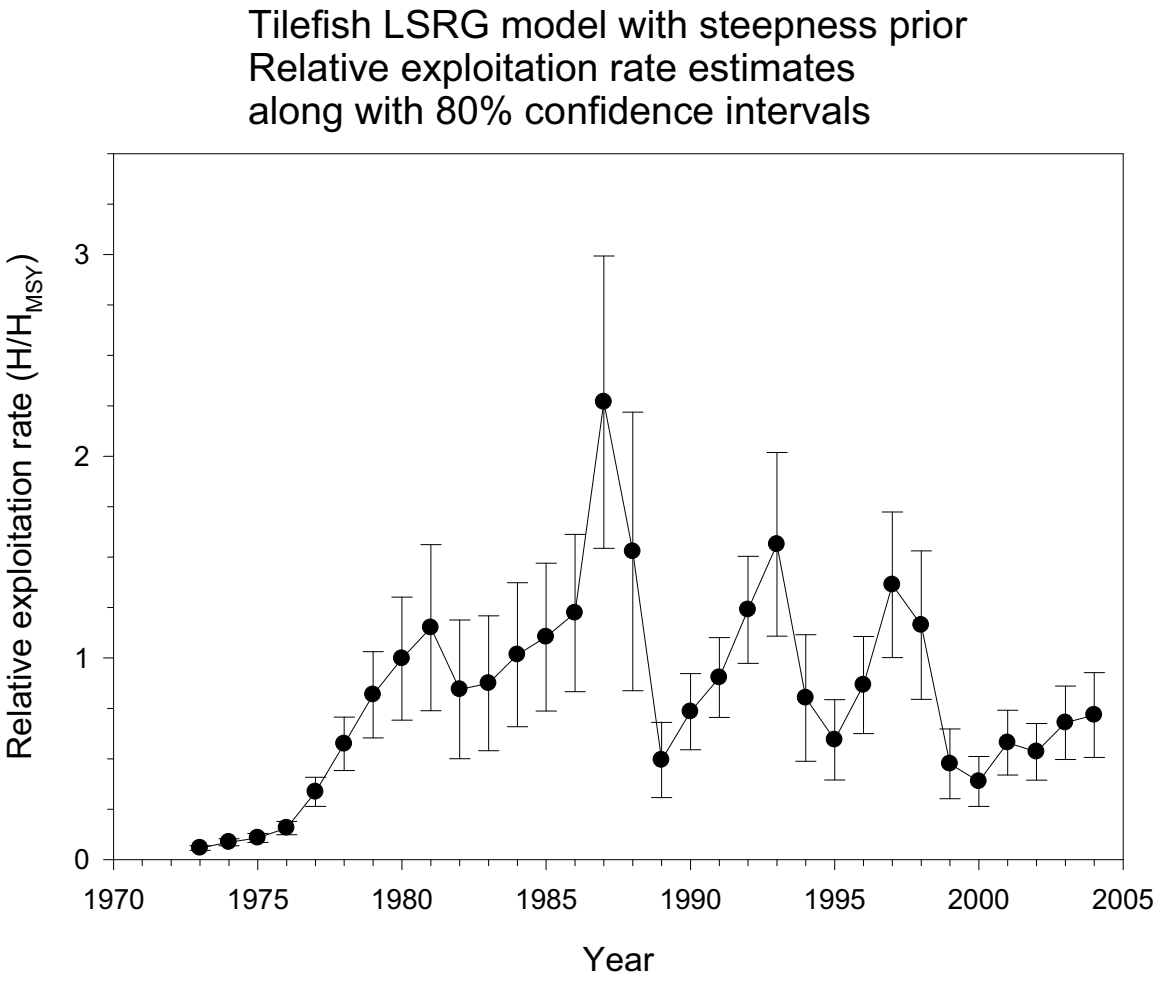


Figure C44. Relative harvest rate estimates from the LRSG model with a steepness prior.

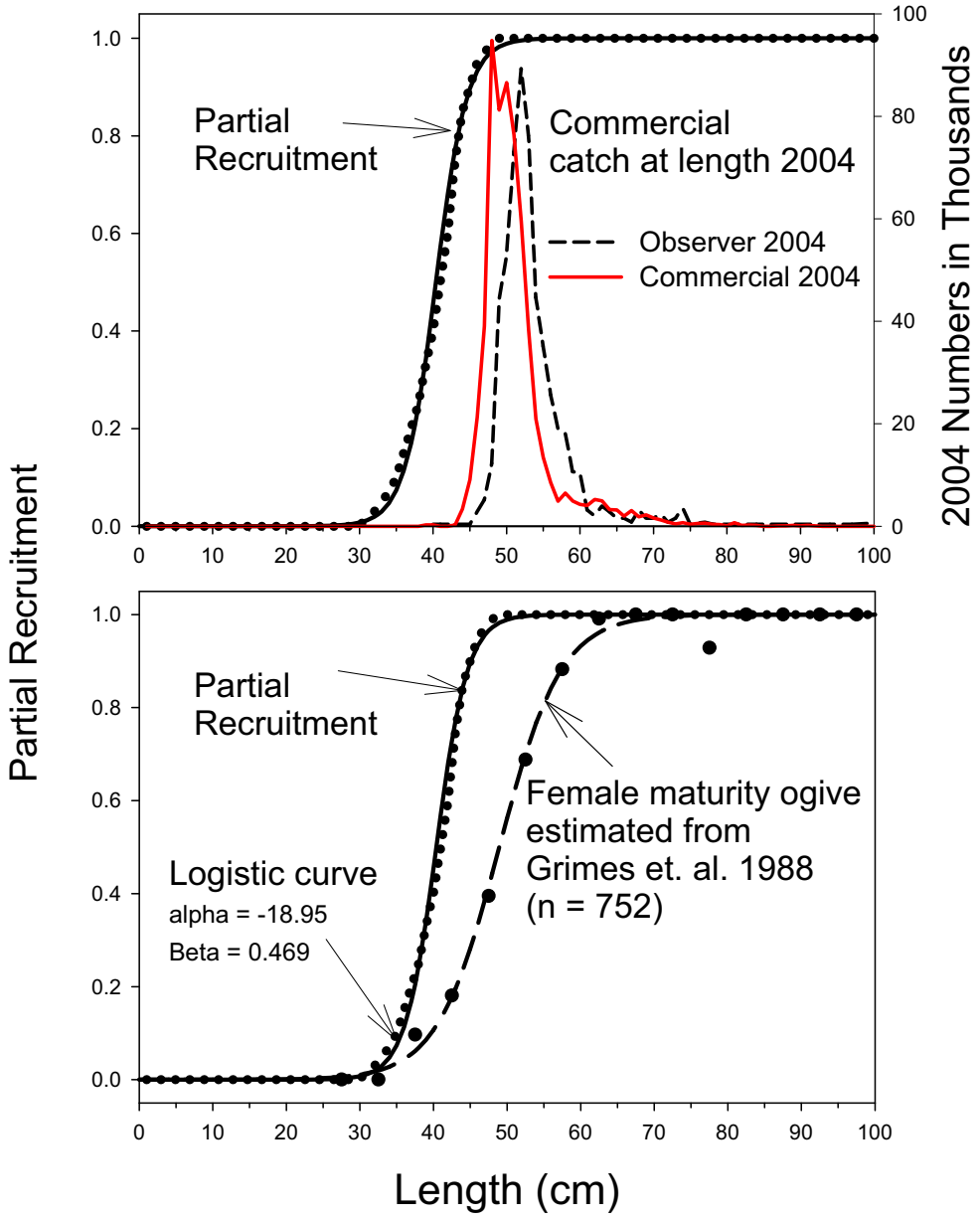


Figure C45. Top graph shows the partial recruitment and commercial/observer estimates of the expanded length frequency distributions for 2004. Bottom graph shows the maturity ogive from Grimes et. al. (1988) and the estimated logistic curve for the partial recruitment.

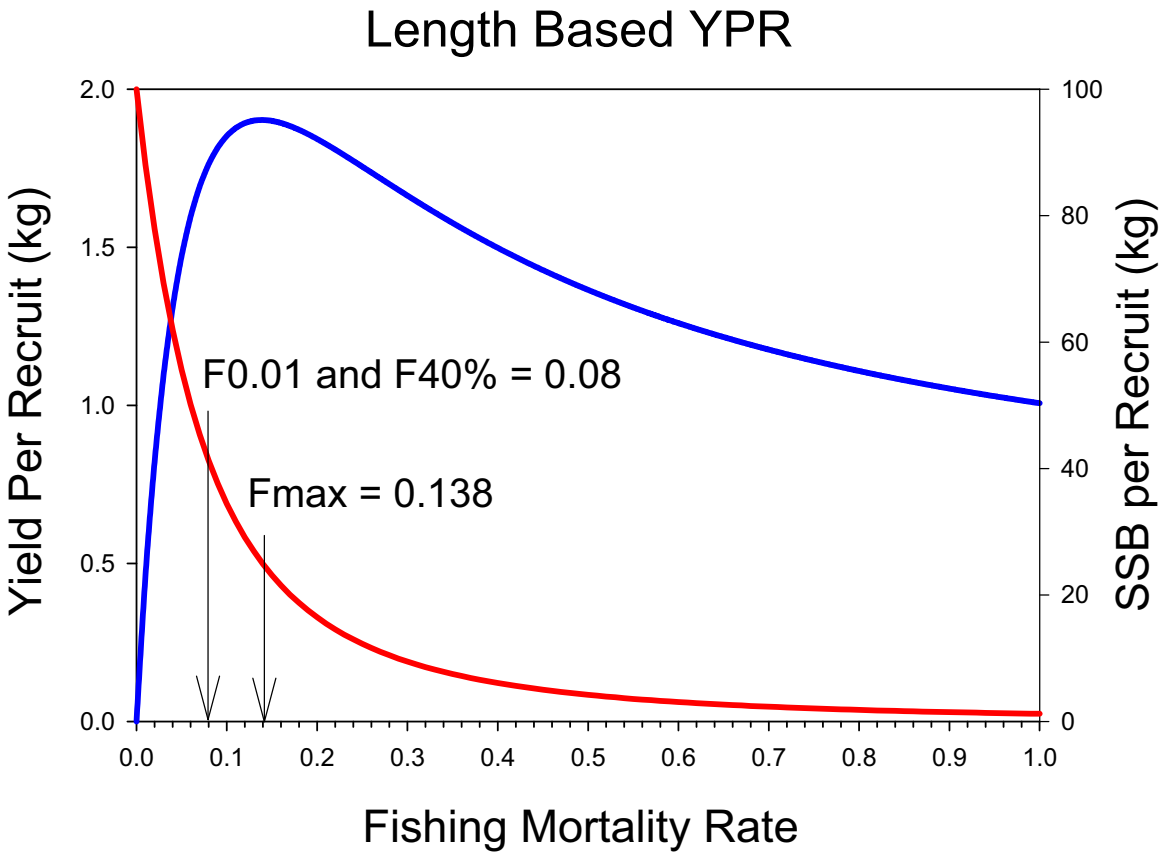


Figure C46. Yield per recruit (YPR) and spawning stock biomass per recruit (SSB/R) from the length based YPR analysis for Golden tilefish.

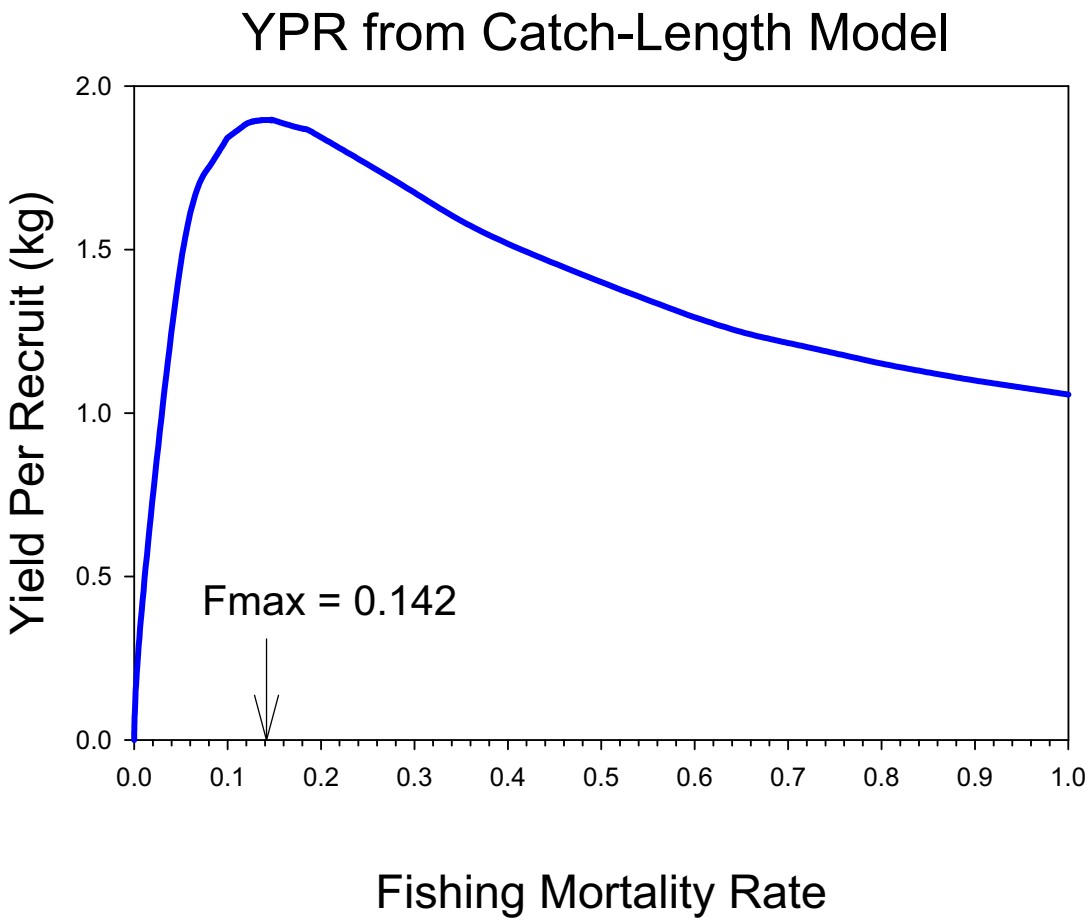


Figure C47. Yield per recruit (YPR) from the catch-length model for Golden tilefish.

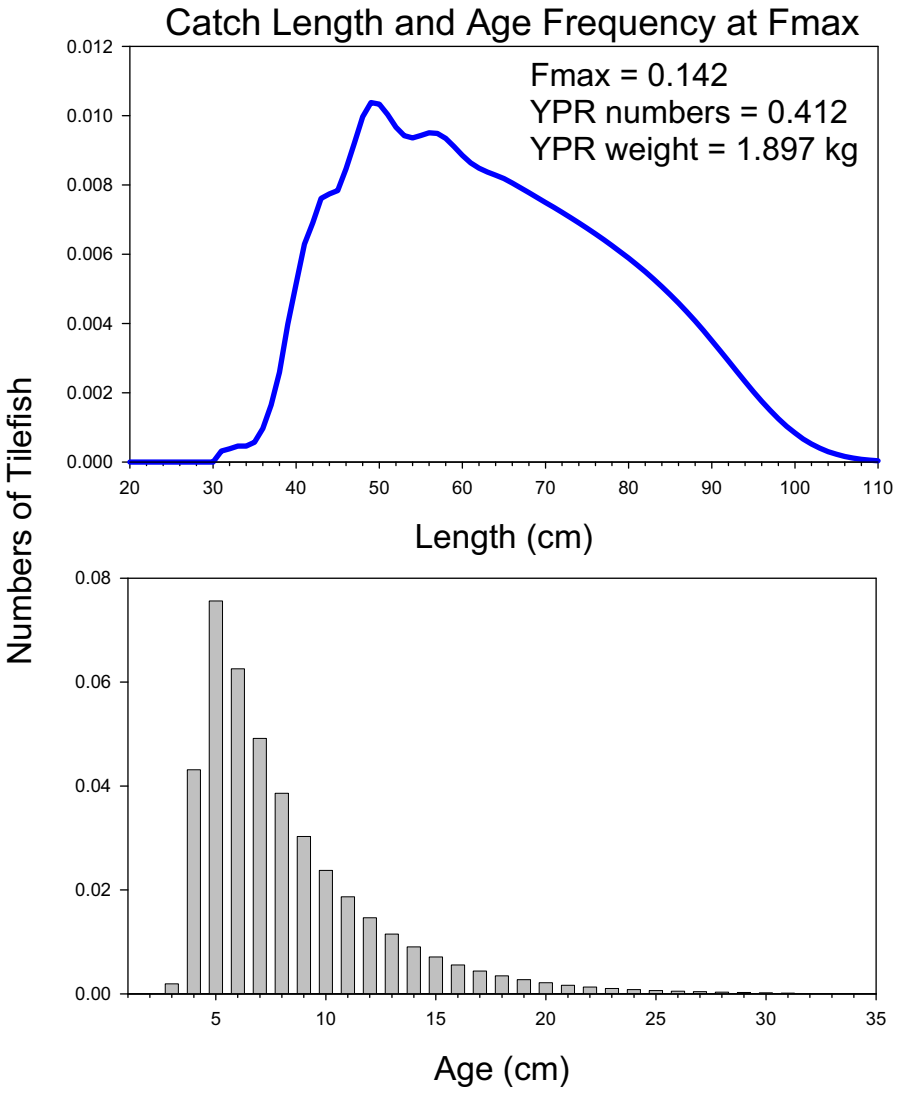


Figure C48. Predicted catch and age frequency at Fmax (0.142) using the catch-length model for Golden tilefish.