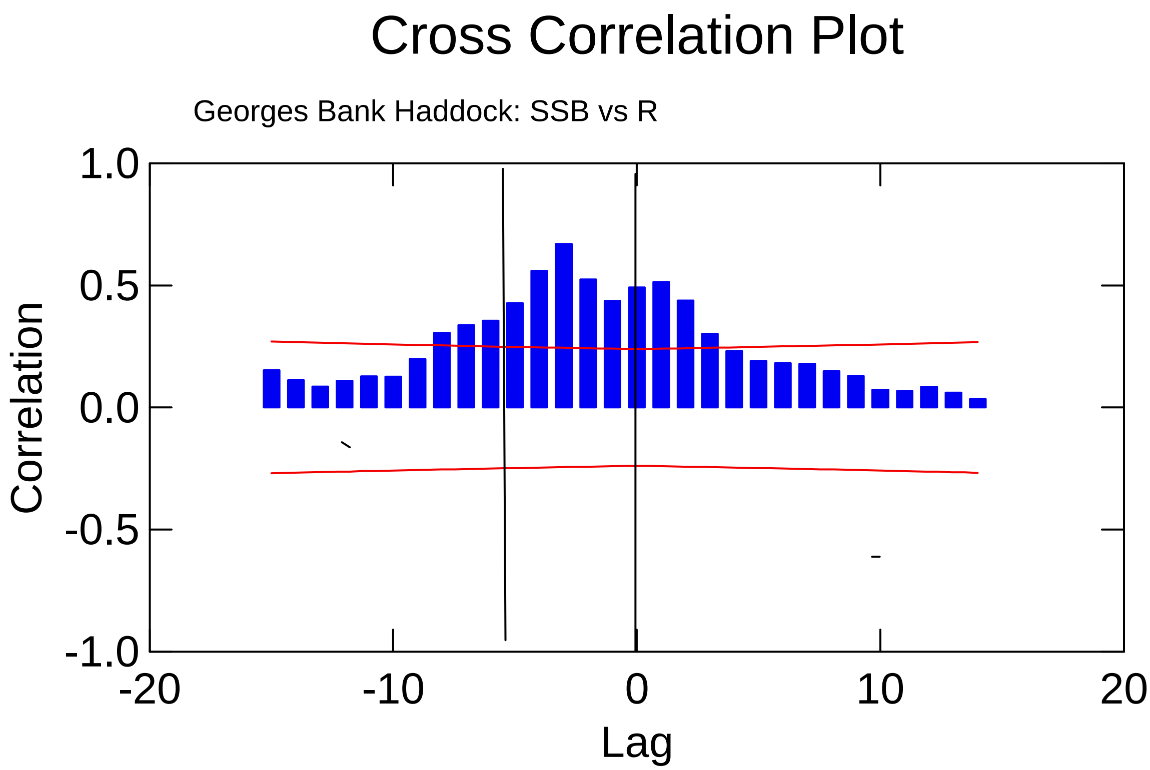

Cross Correlation Plot
Georges Bank Haddock: SSB vs R
1.0
0.5
0.0
-0.5
-1.0
Correlation
-20
-10
0
10
20
Lag

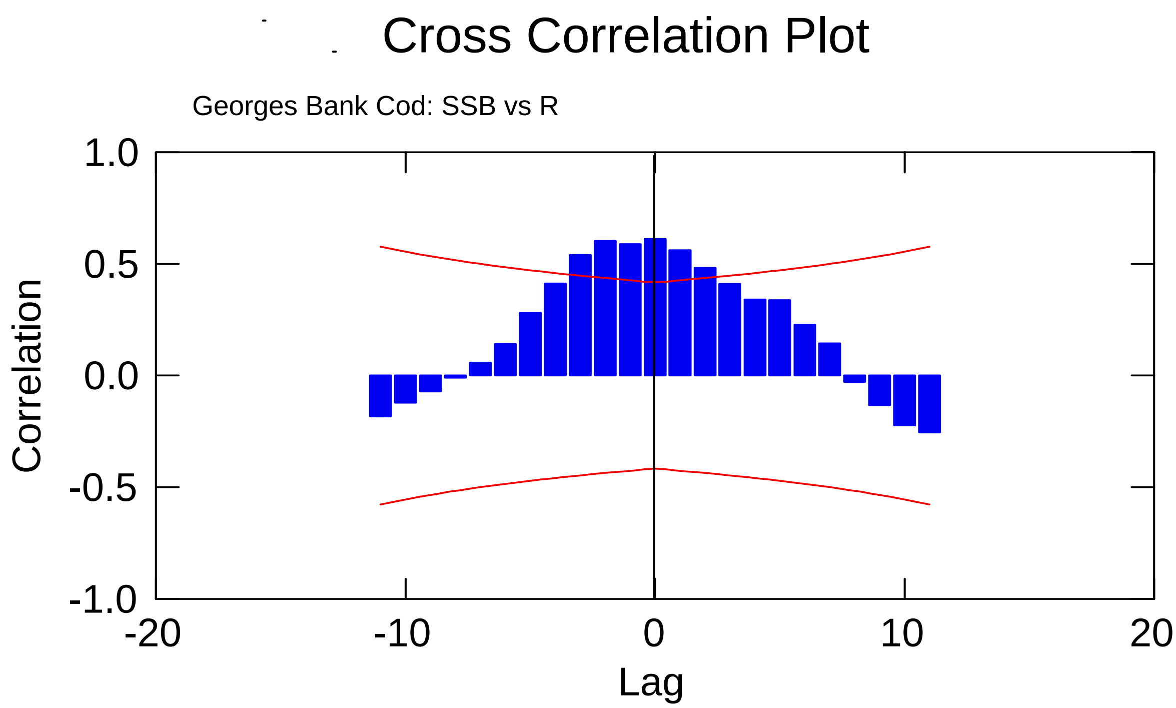
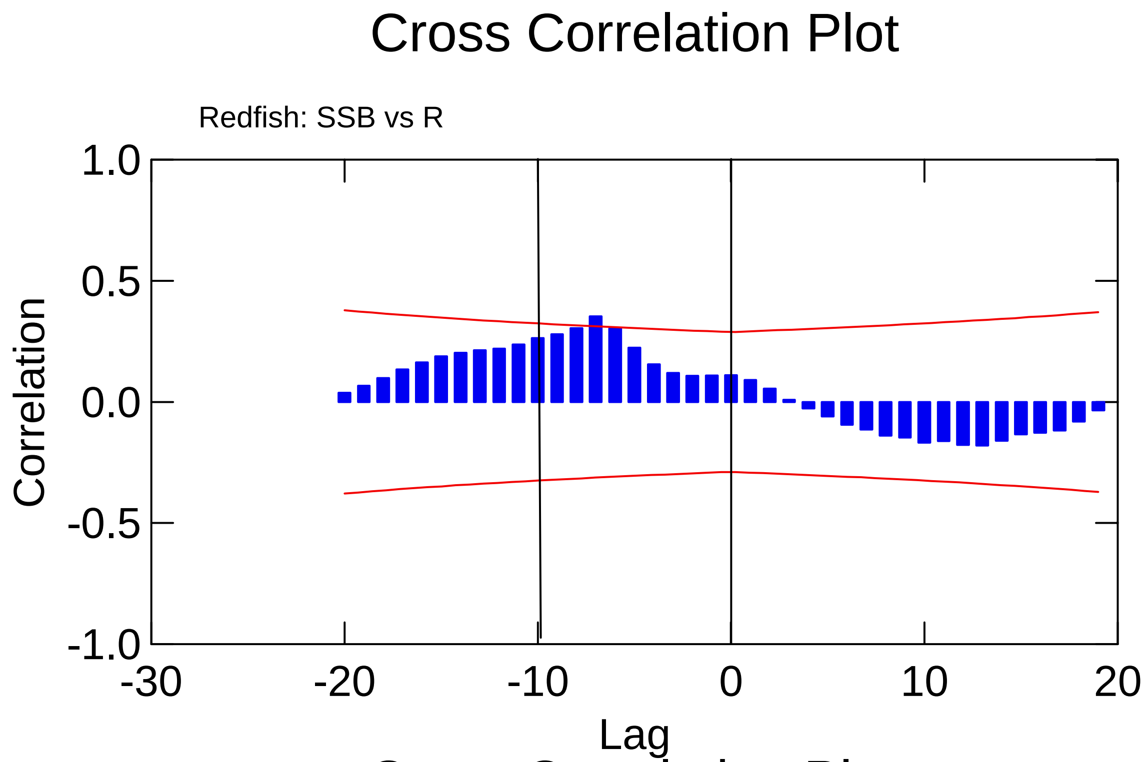

Cross Correlation Plot
Georges Bank Cod: SSB vs R
1.0
0.5
0.0
-0.5
-1.0
Correlation
-20
-10
0
10
20
Lag

Figure C3.1


Cross Correlation Plot
Redfish: SSB vs R
Correlation
1.0
0.5
0.0
-0.5
-1.0
-30
-20
-10
0
10
20
Lag

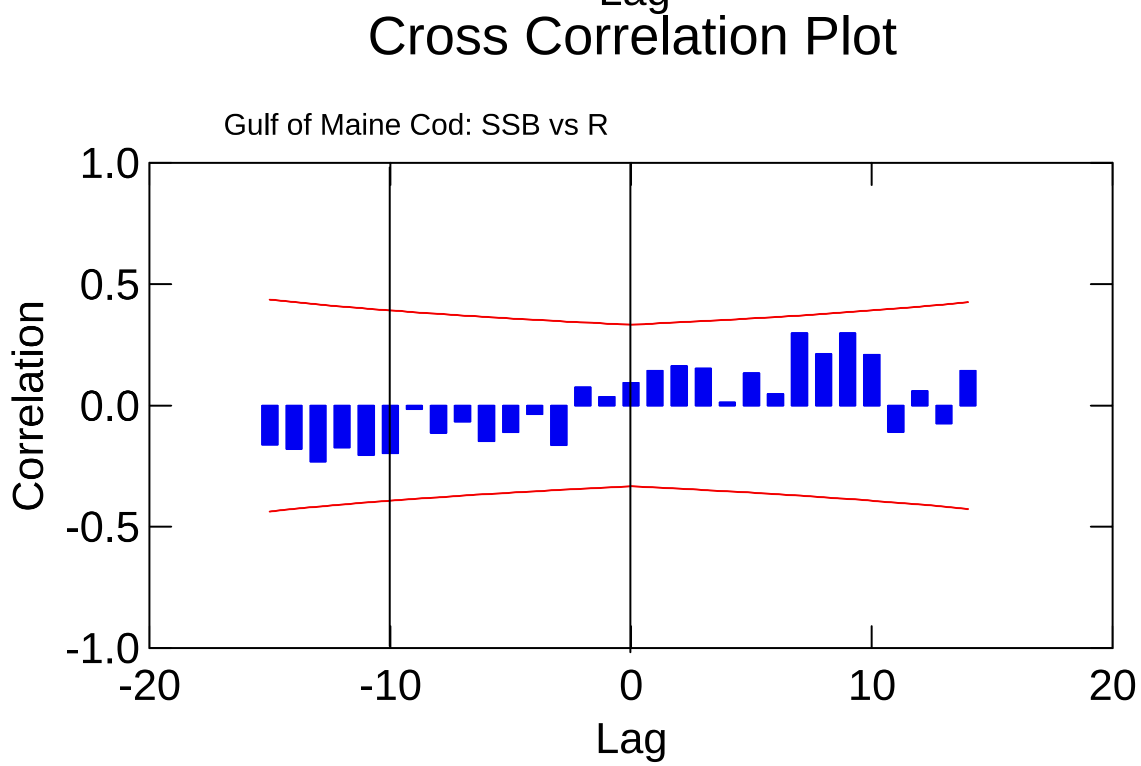
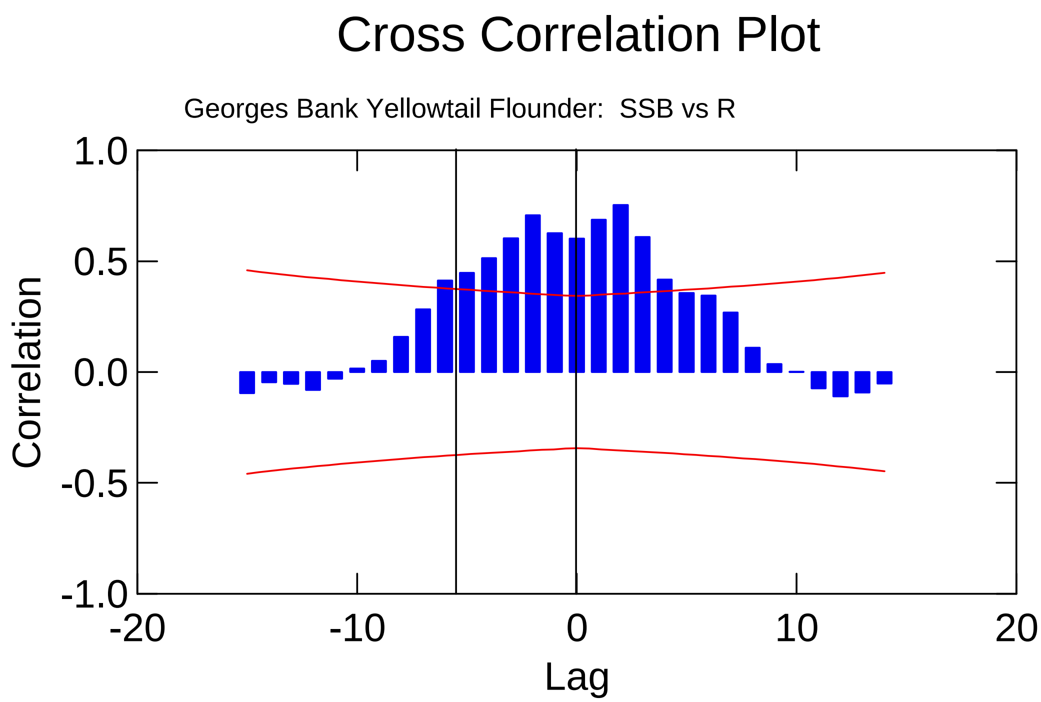

Cross Correlation Plot
Gulf of Maine Cod: SSB vs R
Correlation
1.0
0.5
0.0
-0.5
-1.0
-20
-10
0
10
20
Lag

Figure C3.2


Cross Correlation Plot
Georges Bank Yellowtail Flounder: SSB vs R
1.0
0.5
0.0
-0.5
-1.0
Correlation
-20
-10
0
10
20
Lag

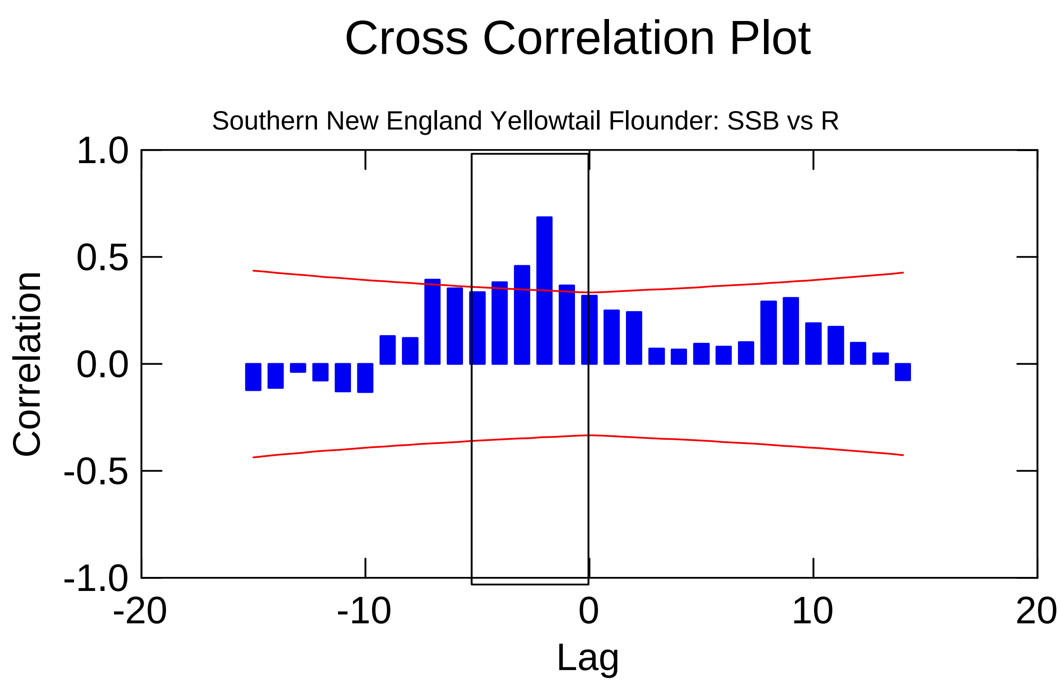

Cross Correlation Plot
Southern New England Yellowtail Flounder: SSB vs R
1.0
0.5
0.0
-0.5
-1.0
Correlation
-20
-10
0
10
20
Lag

Figure C3.3

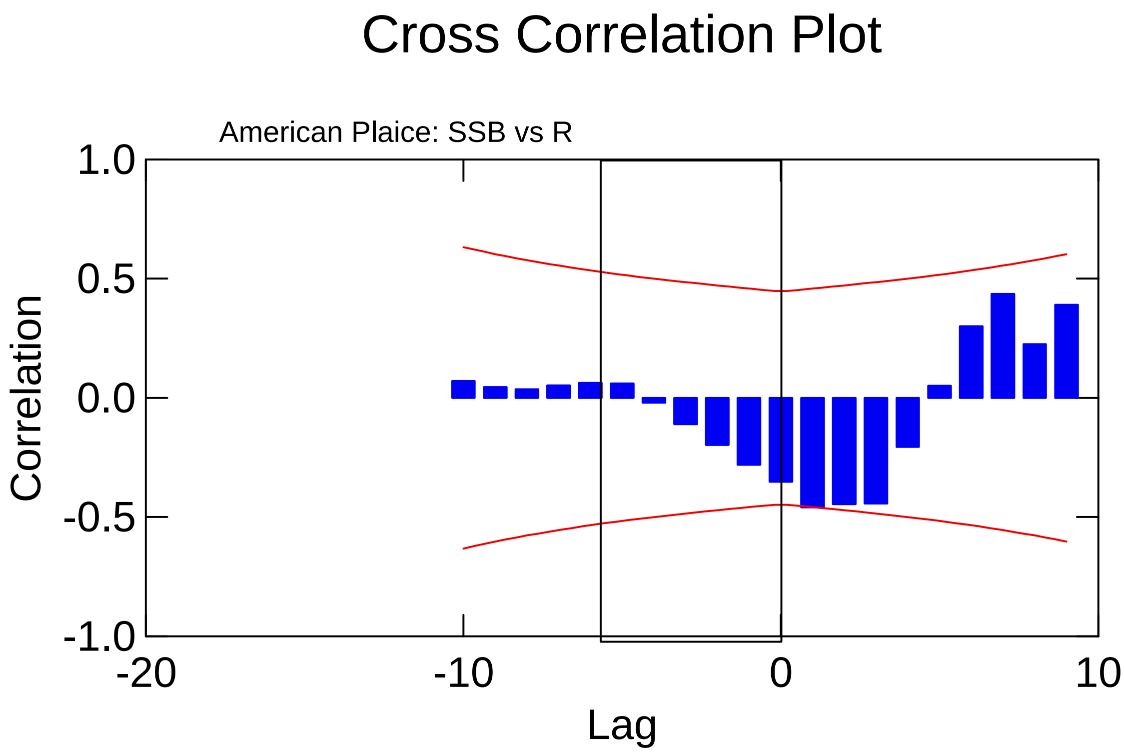
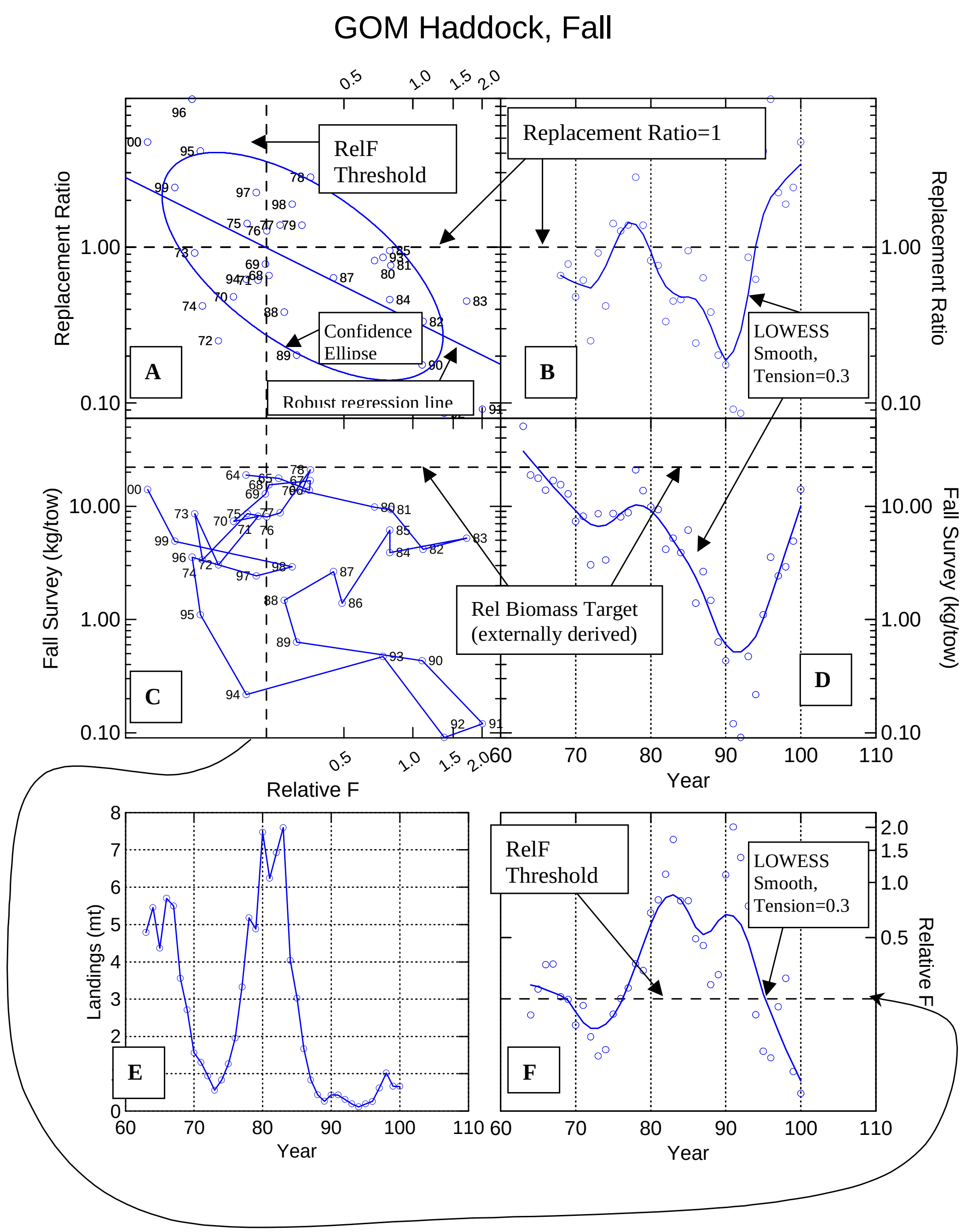

Cross Correlation Plot
American Plaice: SSB vs R
1.0
0.5
0.0
-0.5
-1.0
Correlation
-20
-10
0
10
Lag

Figure C3.4

Figure C6.1 Annotated six-panel plot depicting trends in relative biomass, landings, relative fishing mortality rate (landings/index) and replacement ratios for Gulf of Maine haddock. Horizontal dashed (- - -) lines represent replacement ratios = 1 in (A) an d (B), threshold relF in (F) and target relative biomass in (C) and (D). Vertical dashed lines in (A) and (C) represent the derived relF thresholds. Smooth lines in (B), (D), and (F) are Lowess smooths (tension=0.3). The confidence ellipse in (A) has a nominal probability level of 0.68 The regression line in (A) represents a robust regression using bisquare downweighting of residual. See text for additional details.



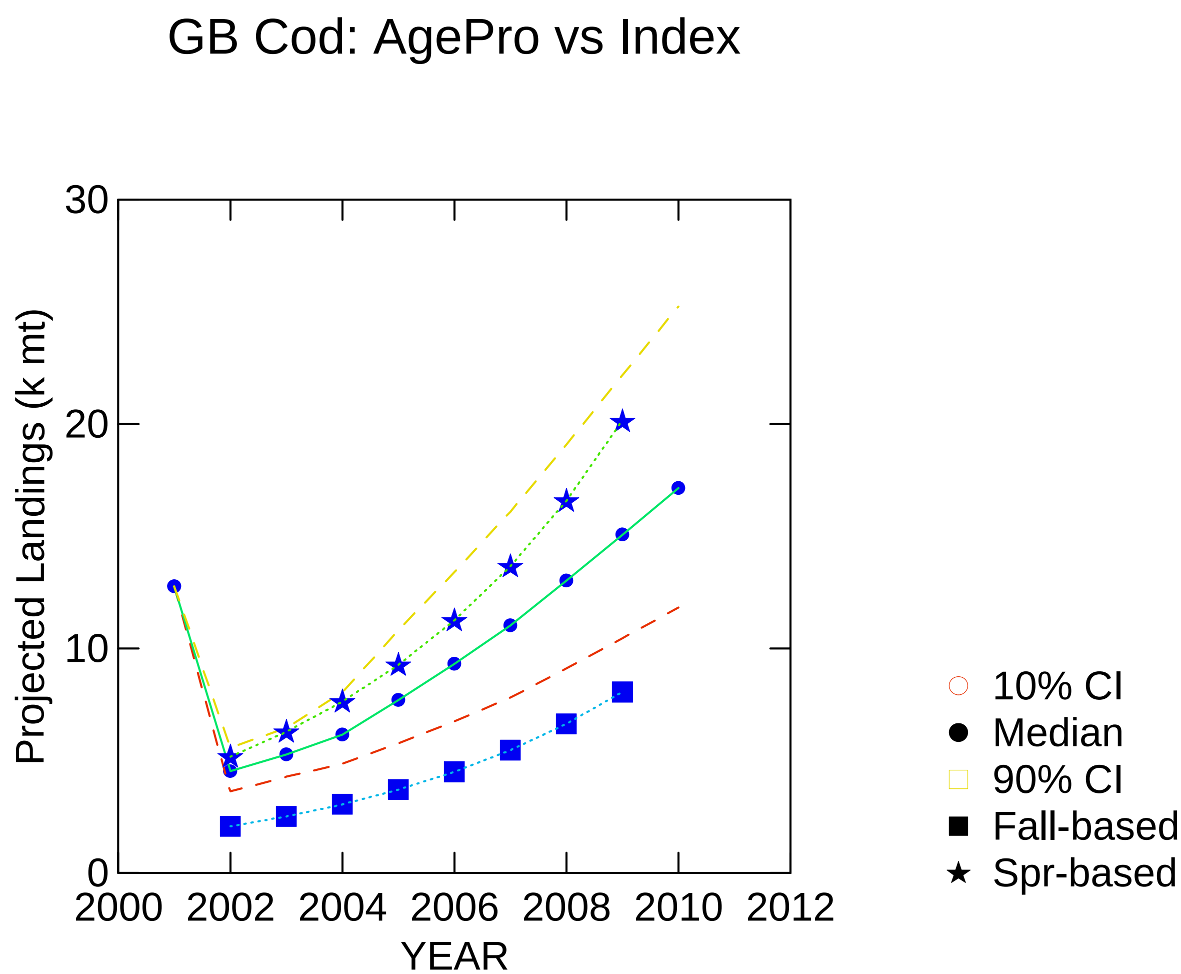


Figure C7.1. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Georges Bank cod with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

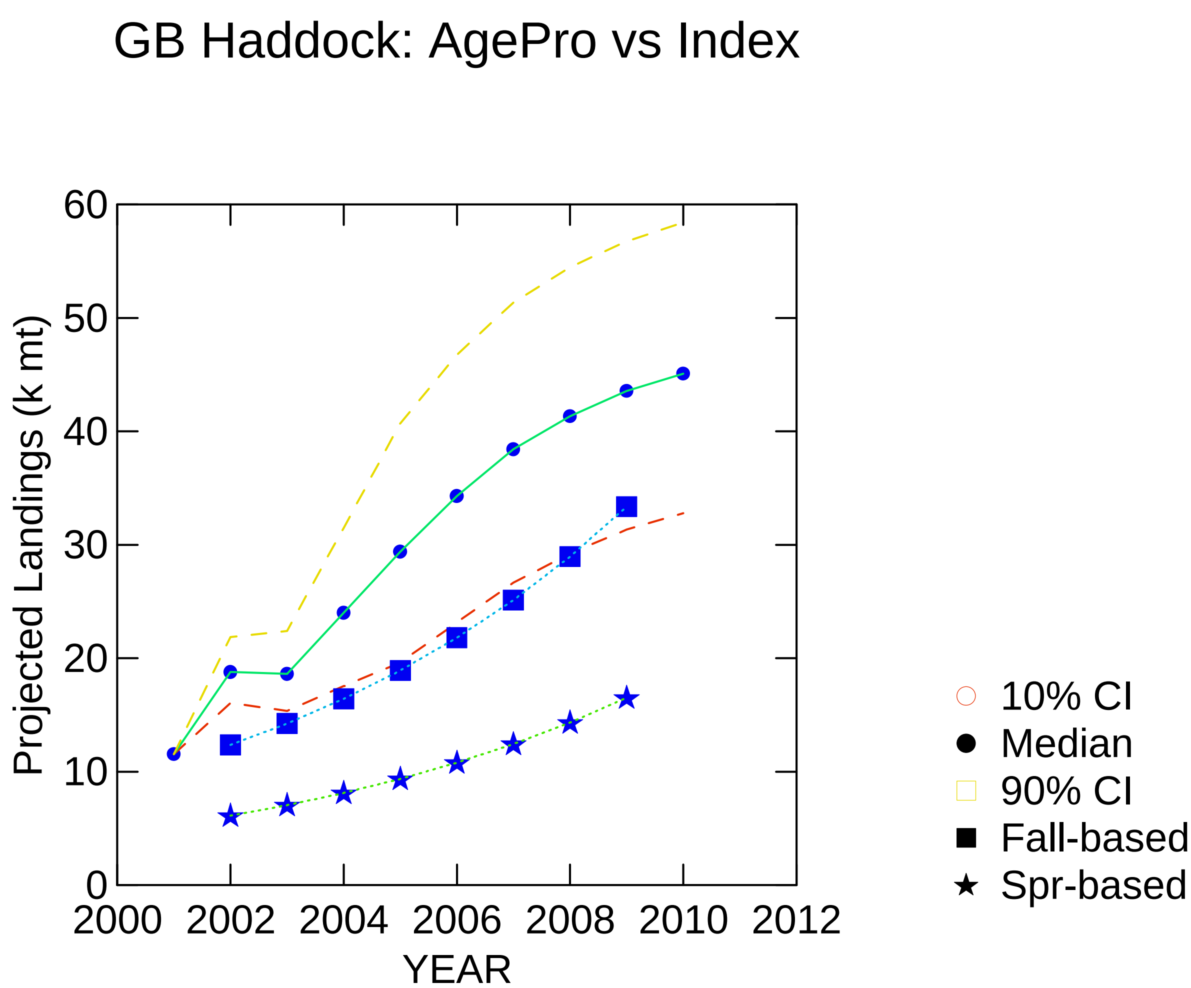


Figure C7.2. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Georges Bank haddock with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

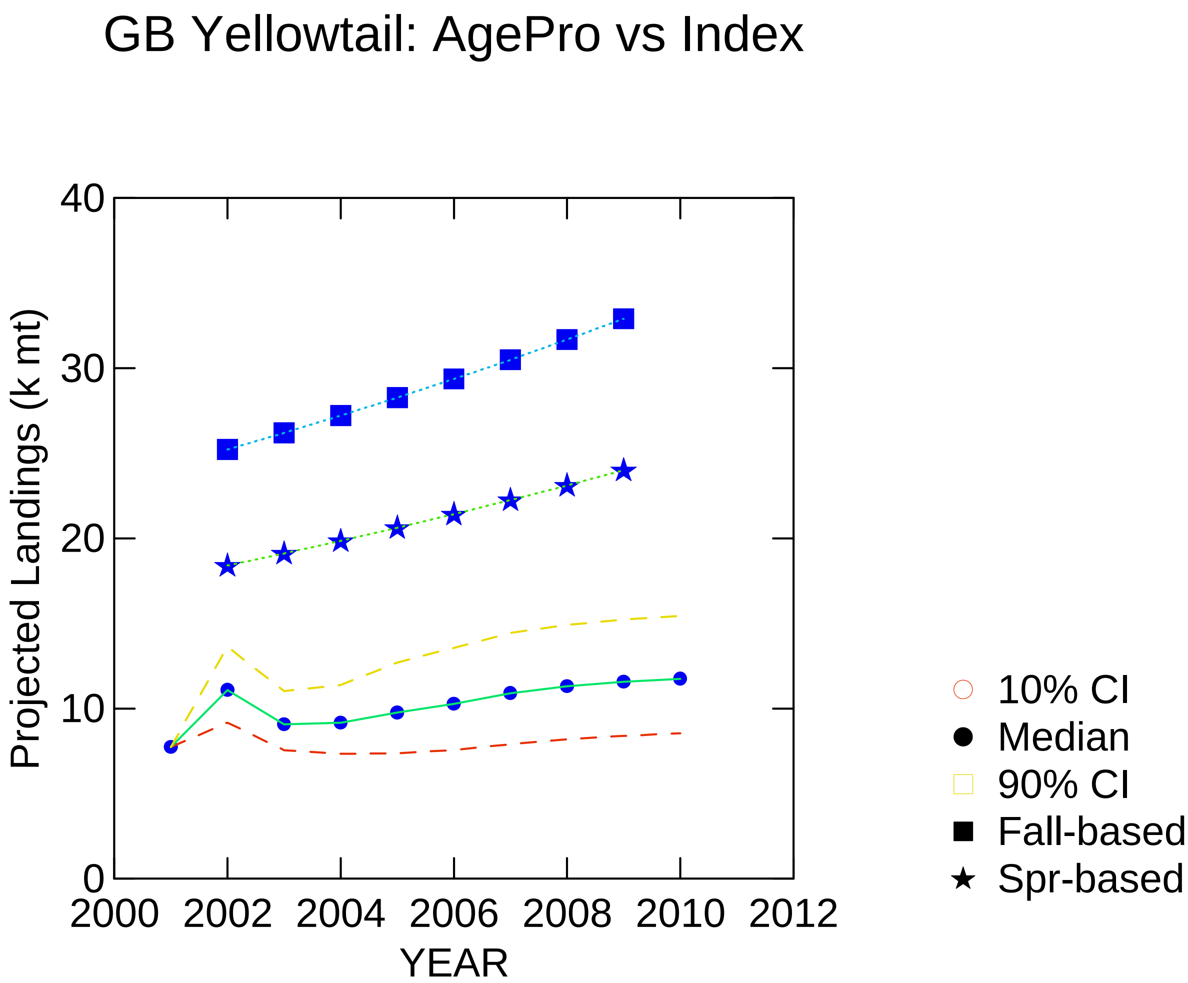


Figure C7.3. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Georges Bank yellowtail flounder with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

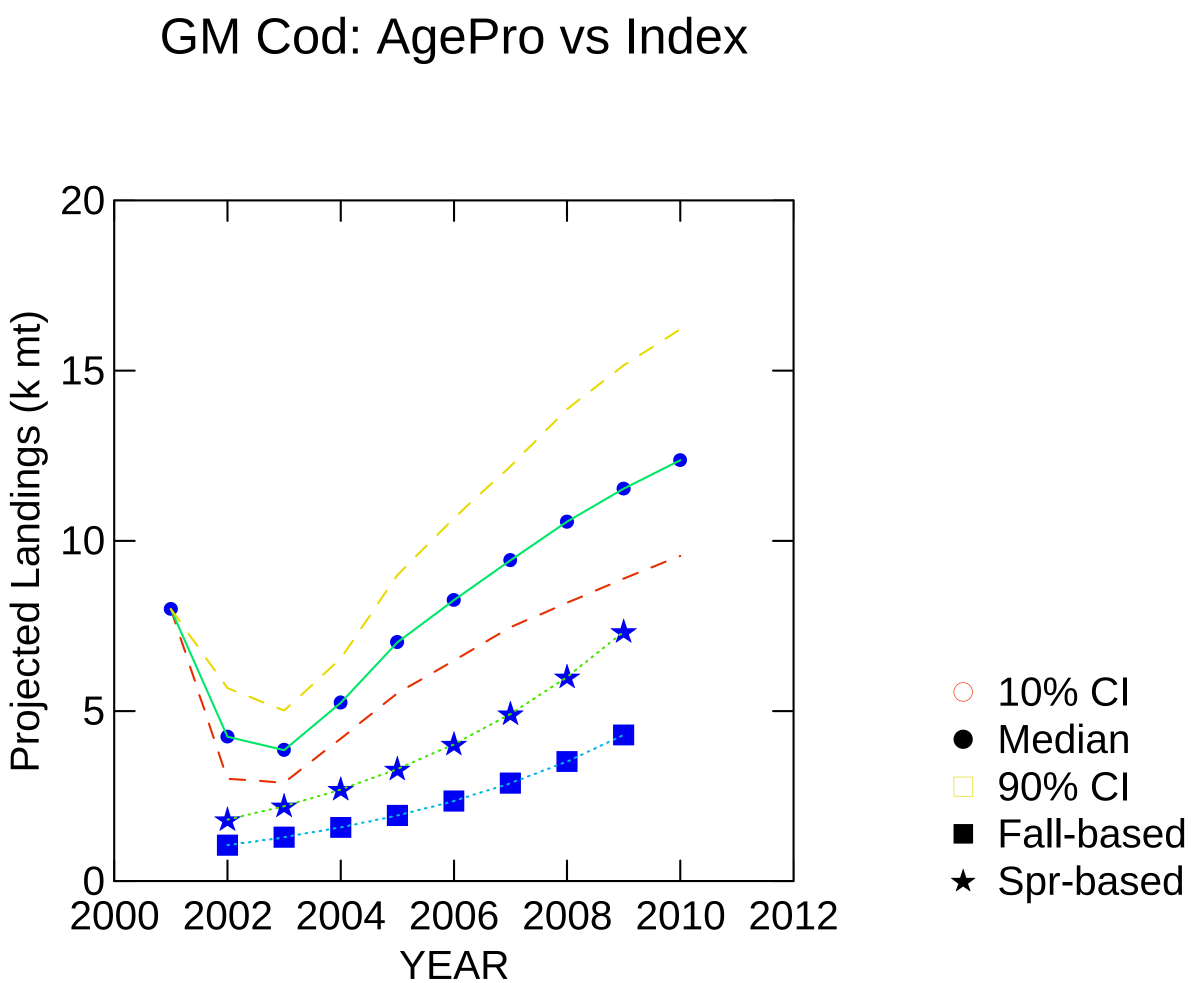


Figure C7.4. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Gulf of Maine cod with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

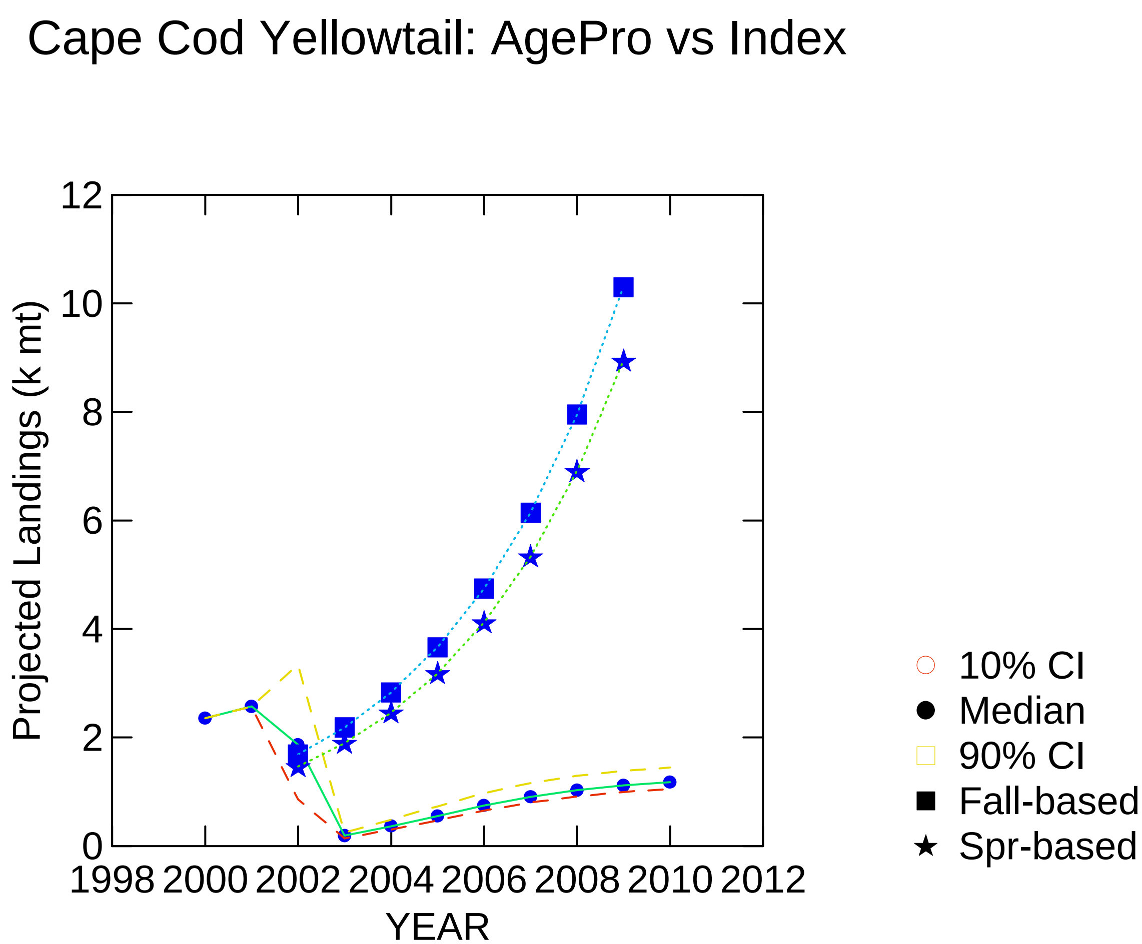


Figure C7.5. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Cape Cod yellowtail flounder with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

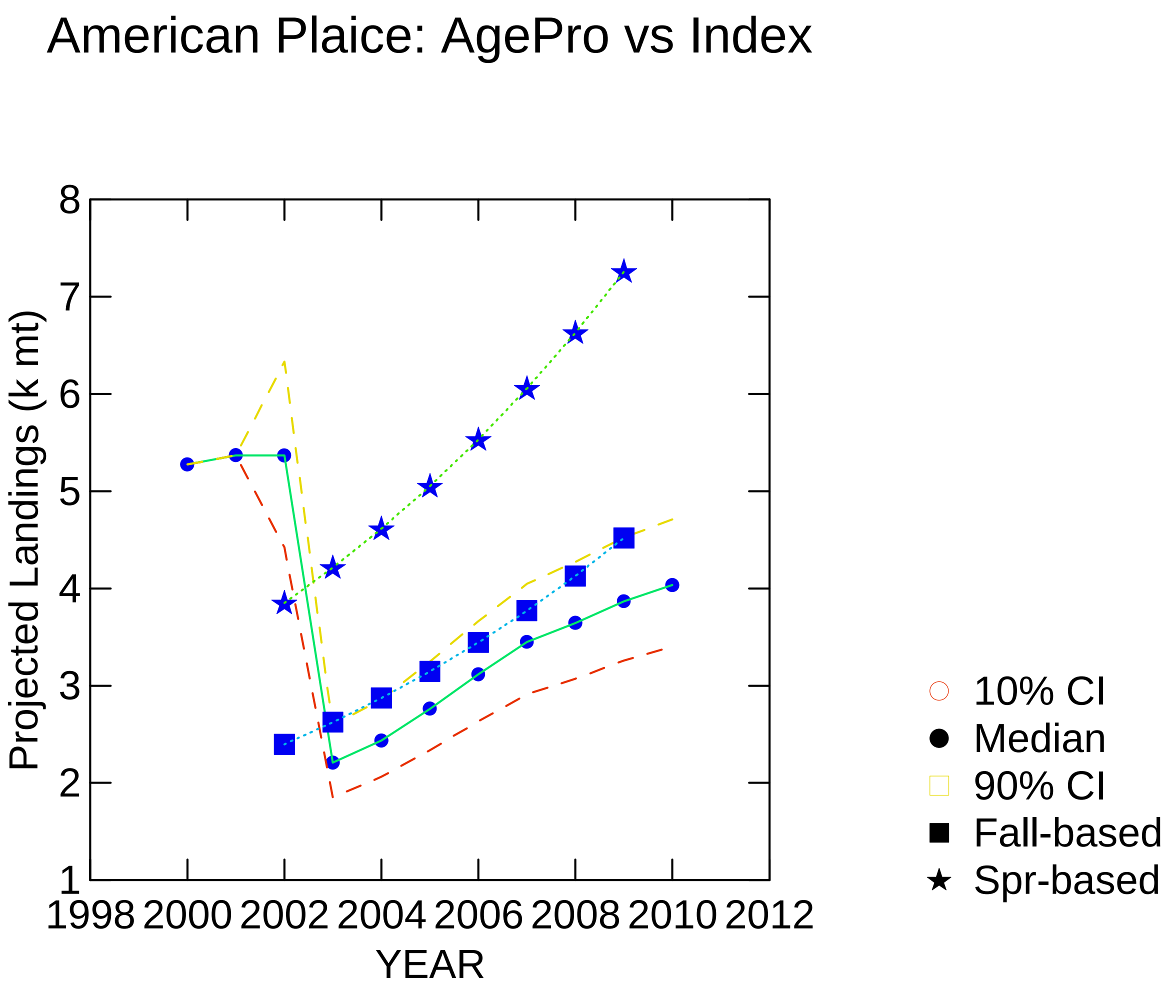


Figure C7.6. Comparison of fall and spring survey index-based forecasts of landings (k mt) for American plaice with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

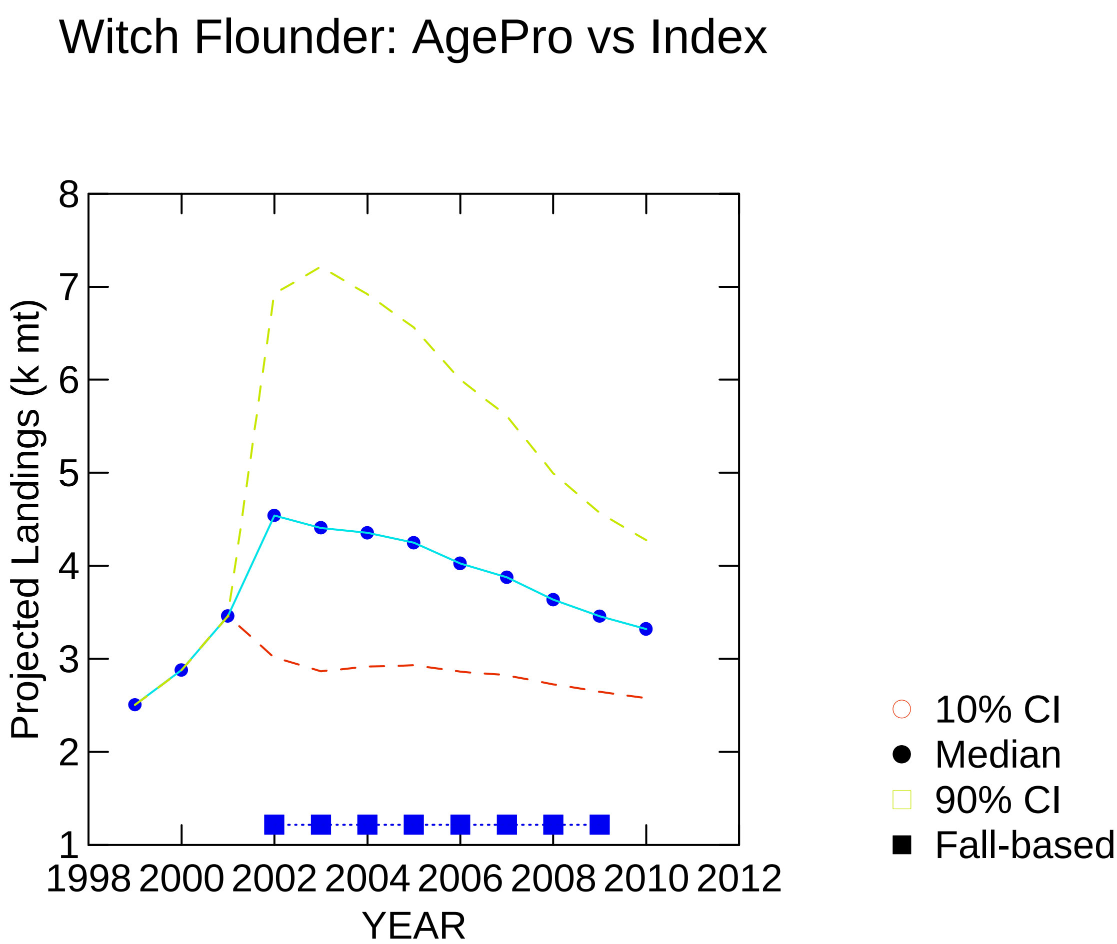


Figure C7.7. Comparison of fall and spring survey index-based forecasts of landings (k mt) for witch flounder with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings

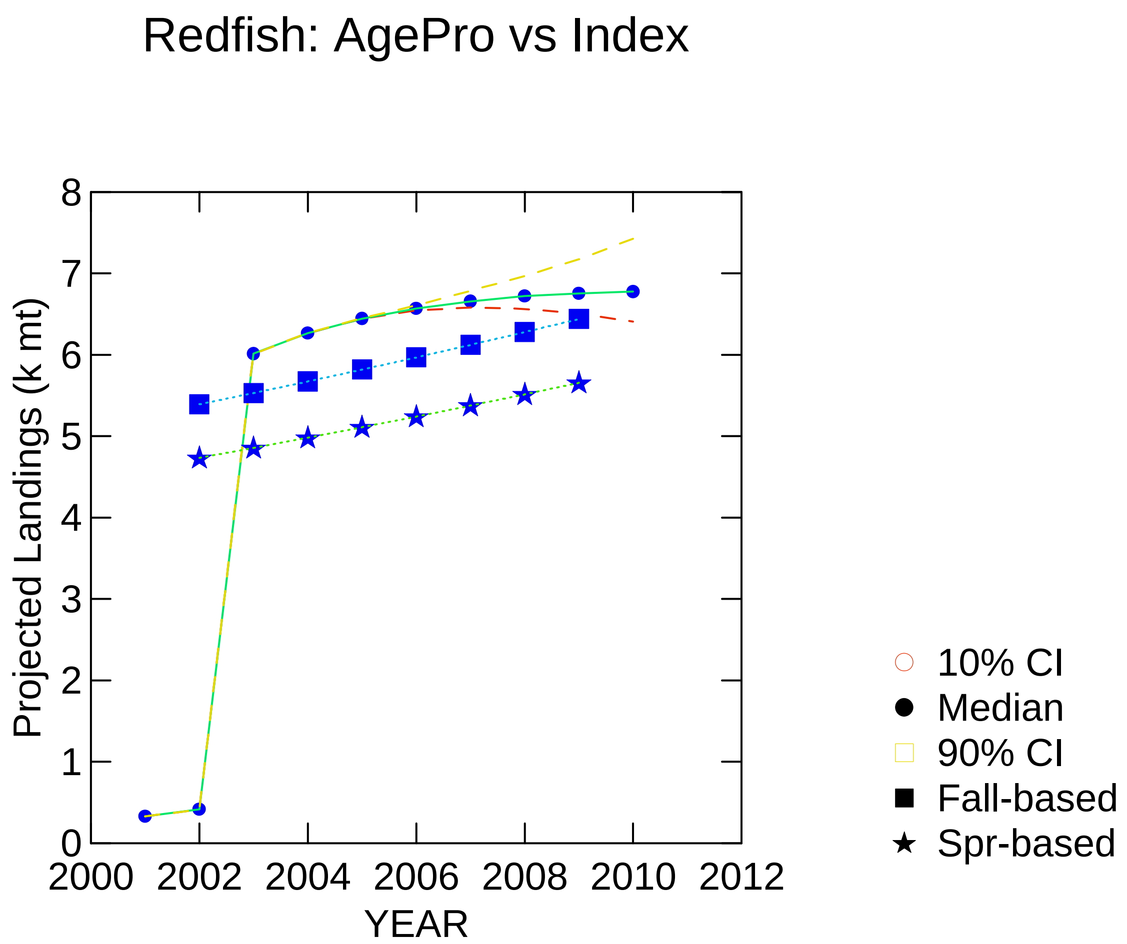


Figure C7.8. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Acadian redfish with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

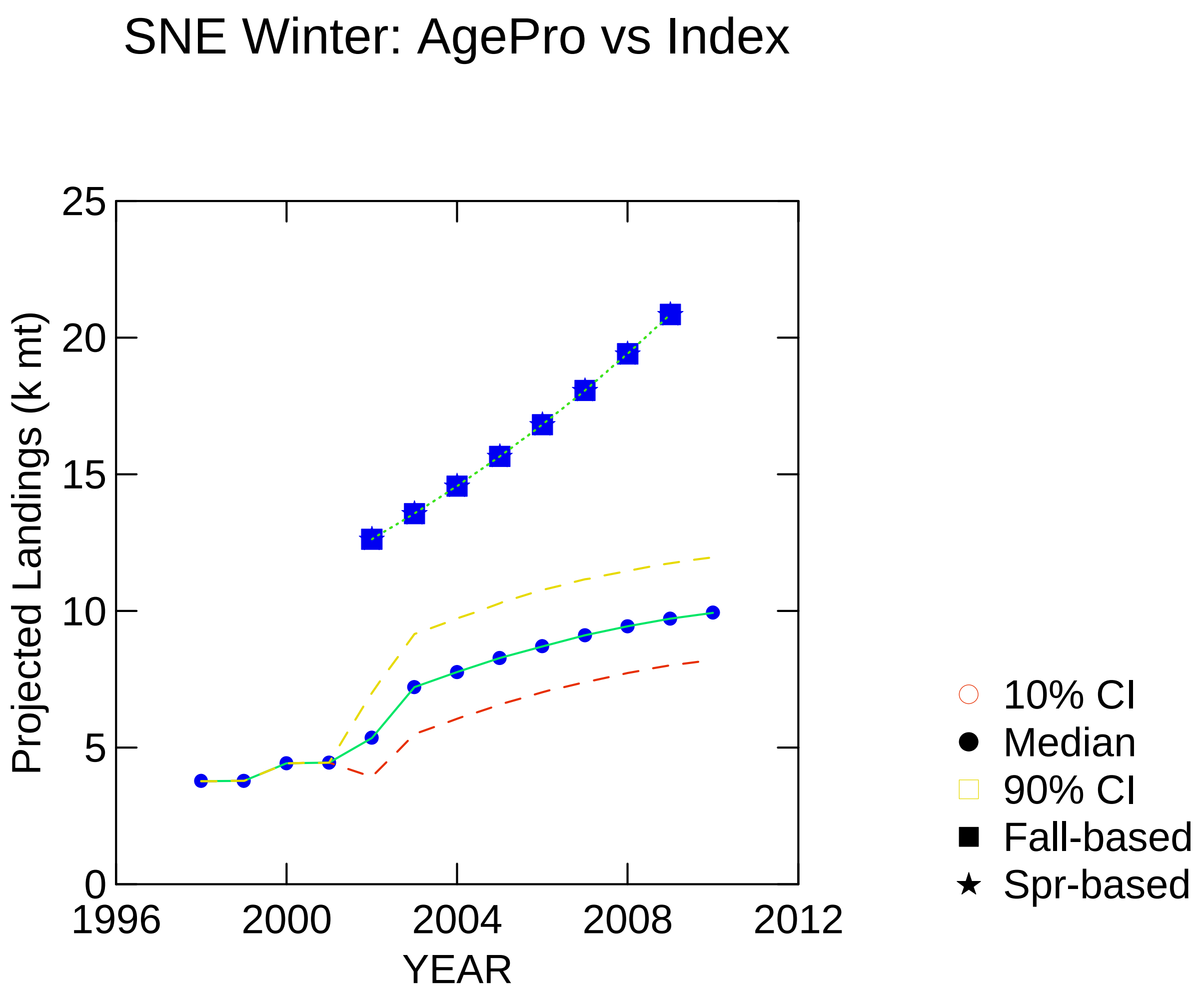


Figure C7.9. Comparison of fall and spring survey index-based forecasts of landings (k mt) for Southern New England yellowtail flounder with forecasts based on stochastic age-based projection model (AGEPRO) for the period 2002-2009. Relative biomass targets for the index-based method were computed by multiplying the projected estimate of relative biomass in 2002 by the ratio of the absolute estimates of total biomass computed via the AGEPRO for 2002 and 2009. No other tuning measures were applied to develop the index-based estimates of landings.

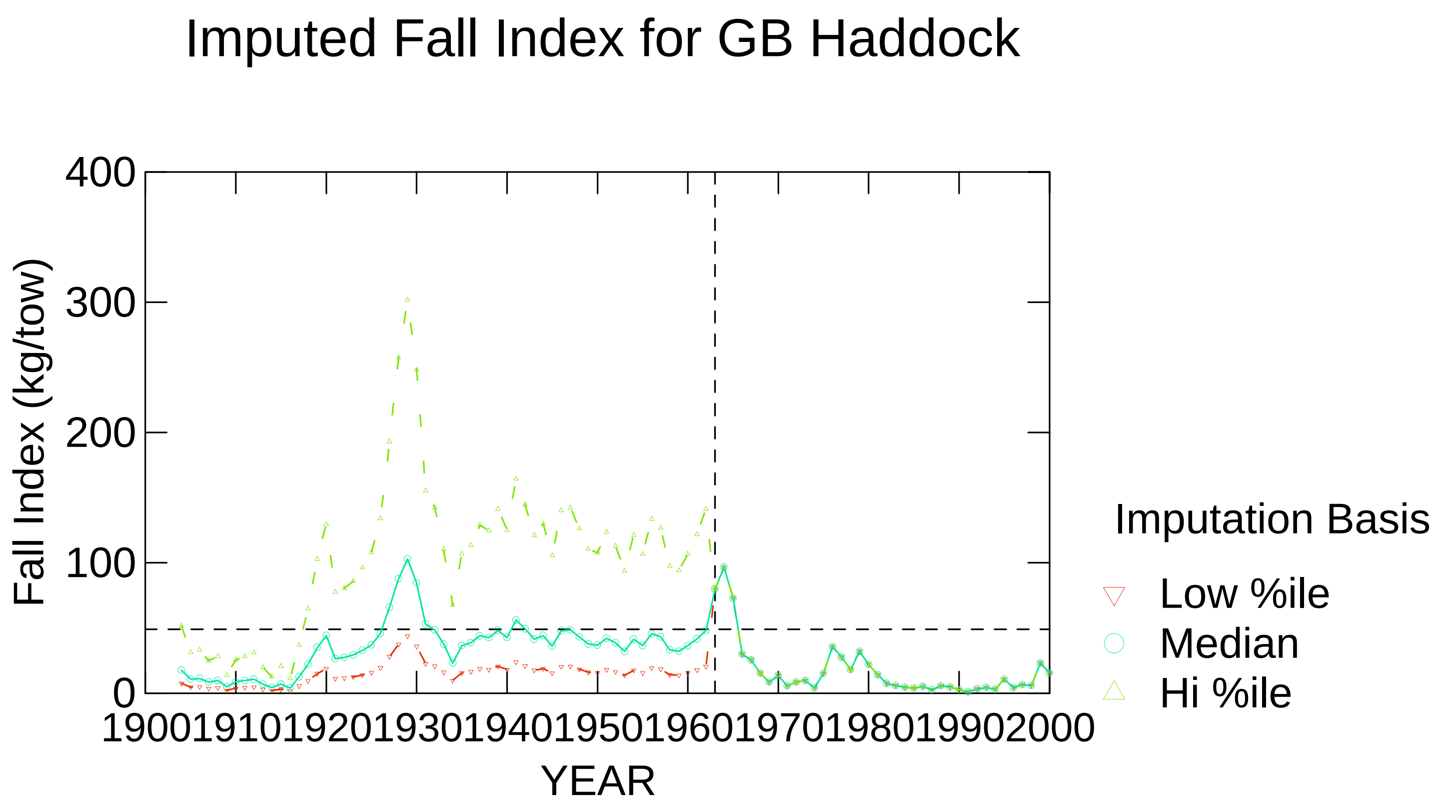


Figure C8.1. Imputed fall index values (kg/tow) for Georges Bank haddock. Low, median, and high survey values prior to 1963 are computed by multiplying the landings by the 10%-ile, 50%-ile, and 90%-ile of the ratio of landings to survey index for the period 1963 to 2000. The horizontal dashed line represents the 90%-ile of the concatenated series of the median imputed indices (1904-1962) and observed series (1963-2000).

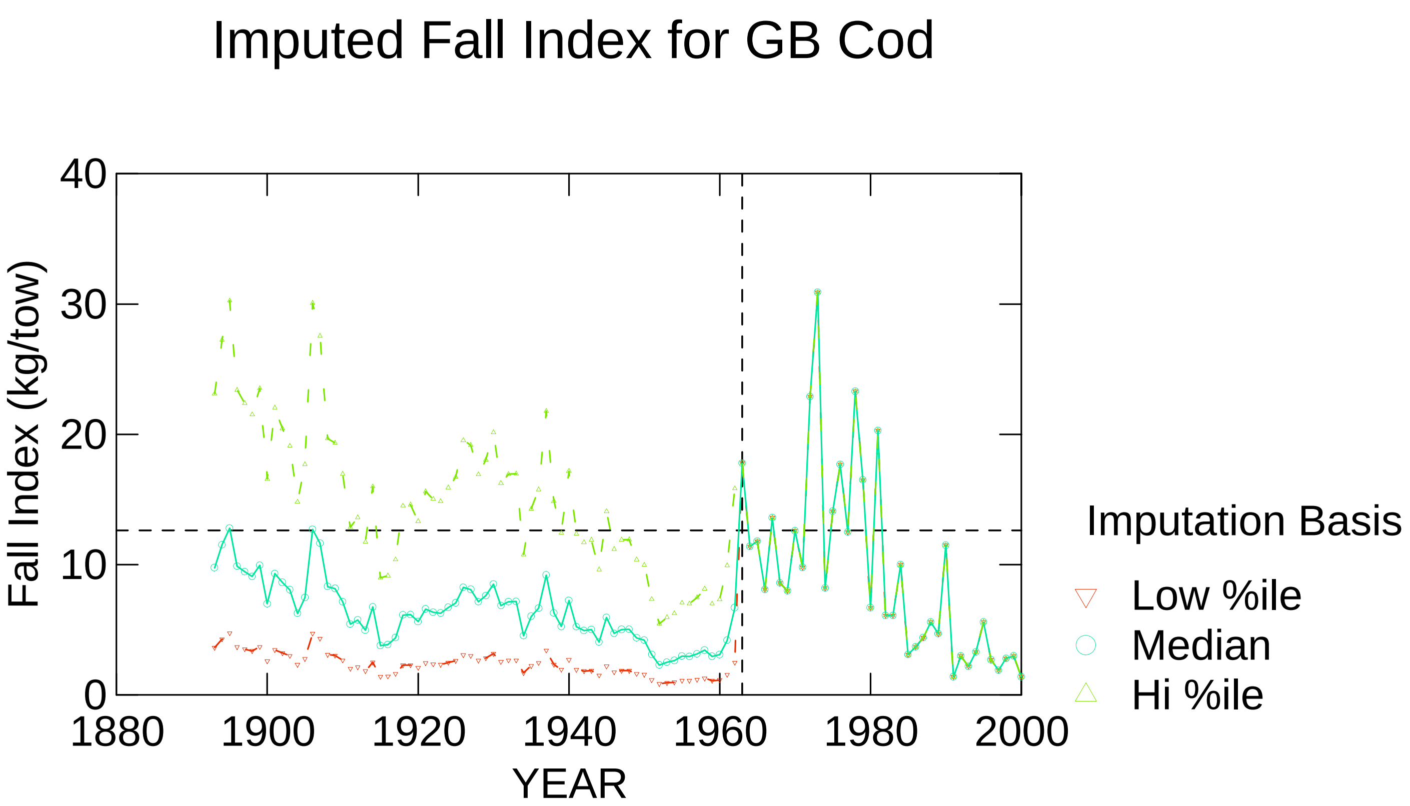


Figure C8.2. Imputed fall index values (kg/tow) for Georges Bank cod. Low, median, and high survey values prior to 1963 are computed by multiplying the landings by the 10%-ile, 50%-ile, and 90%-ile of the ratio of landings to survey index for the period 1963 to 2000. The horizontal dashed line represents the 90%-ile of the concatenated series of the median imputed indices (1904-1962) and observed series (1963-2000).

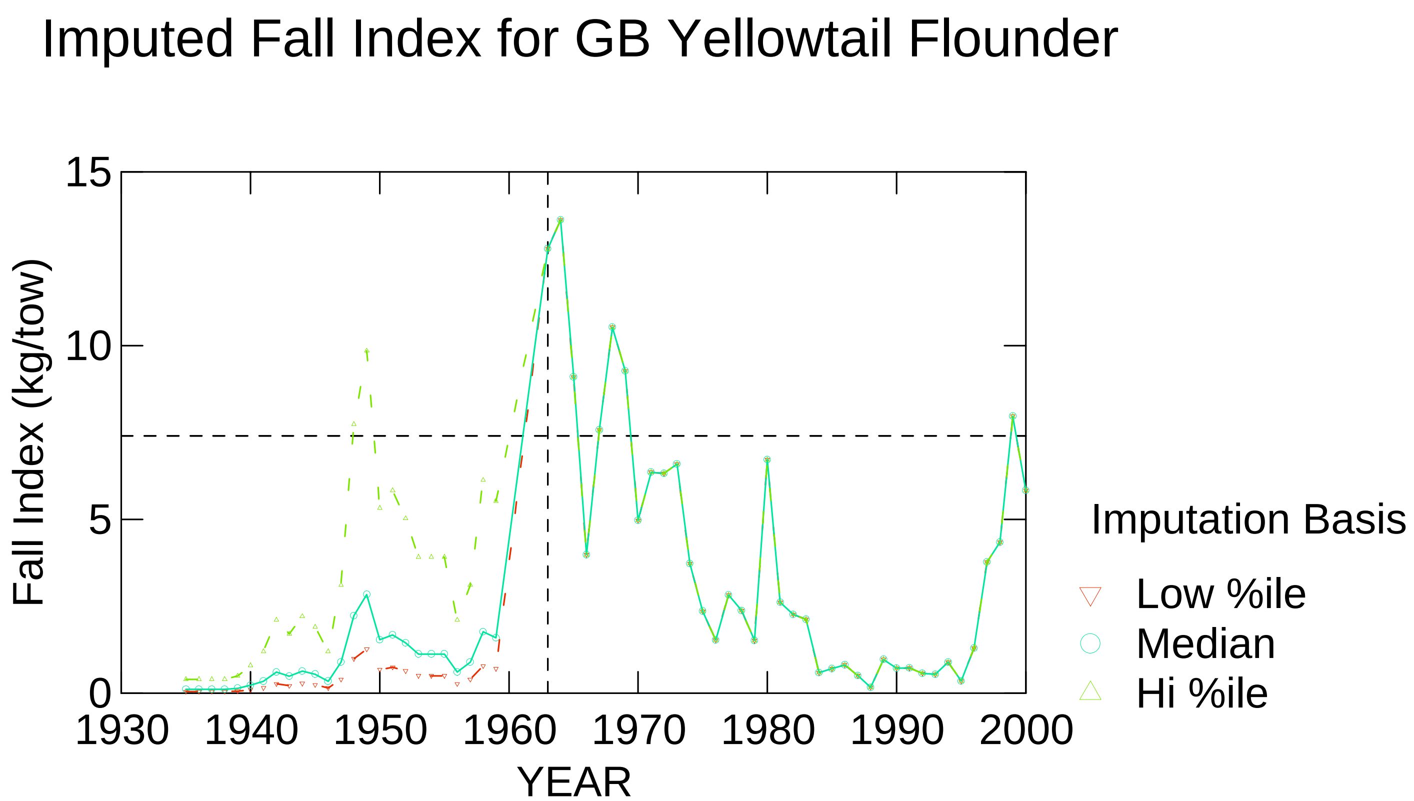


Figure C8.3. Imputed fall index values (kg/tow) for Georges Bank yellowtail flounder. Low, median, and high survey values prior to 1963 are computed by multiplying the landings by the 10%-ile, 50%-ile, and 90%-ile of the ratio of landings to survey index for the period 1963 to 2000. The horizontal dashed line represents the 90%-ile of the concatenated series of the median imputed indices (1904-1962) and observed series (1963-2000).

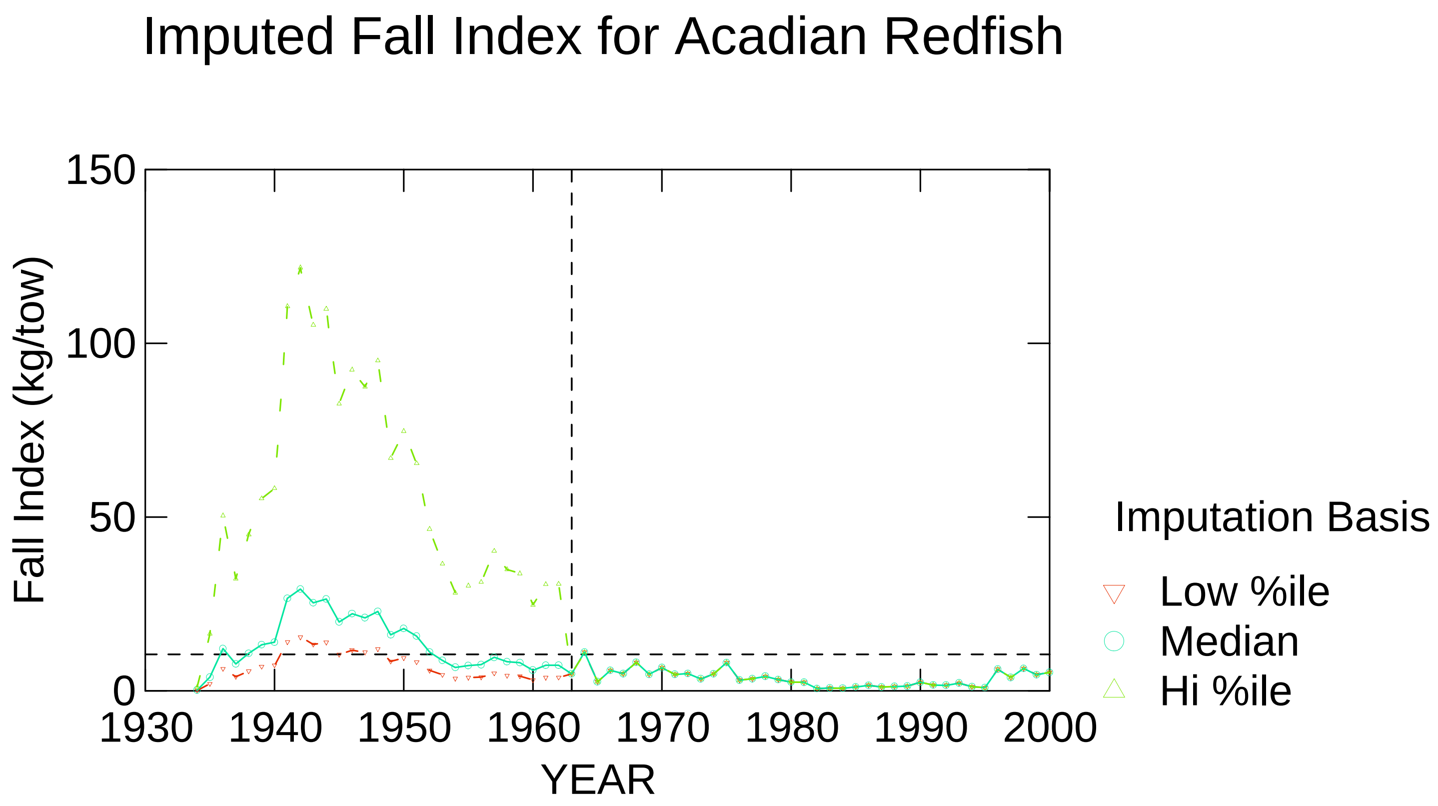


Figure C8.4. Imputed fall index values (kg/tow) for Acadian redfish. Low, median, and high survey values prior to 1963 are computed by multiplying the landings by the 25%-ile, 50%-ile, and 75%-ile of the ratio of landings to survey index for the period 1963 to 2000. The horizontal dashed line represents the 75%-ile of the concatenated series of the median imputed indices (1904-1962) and observed series (1963-2000).

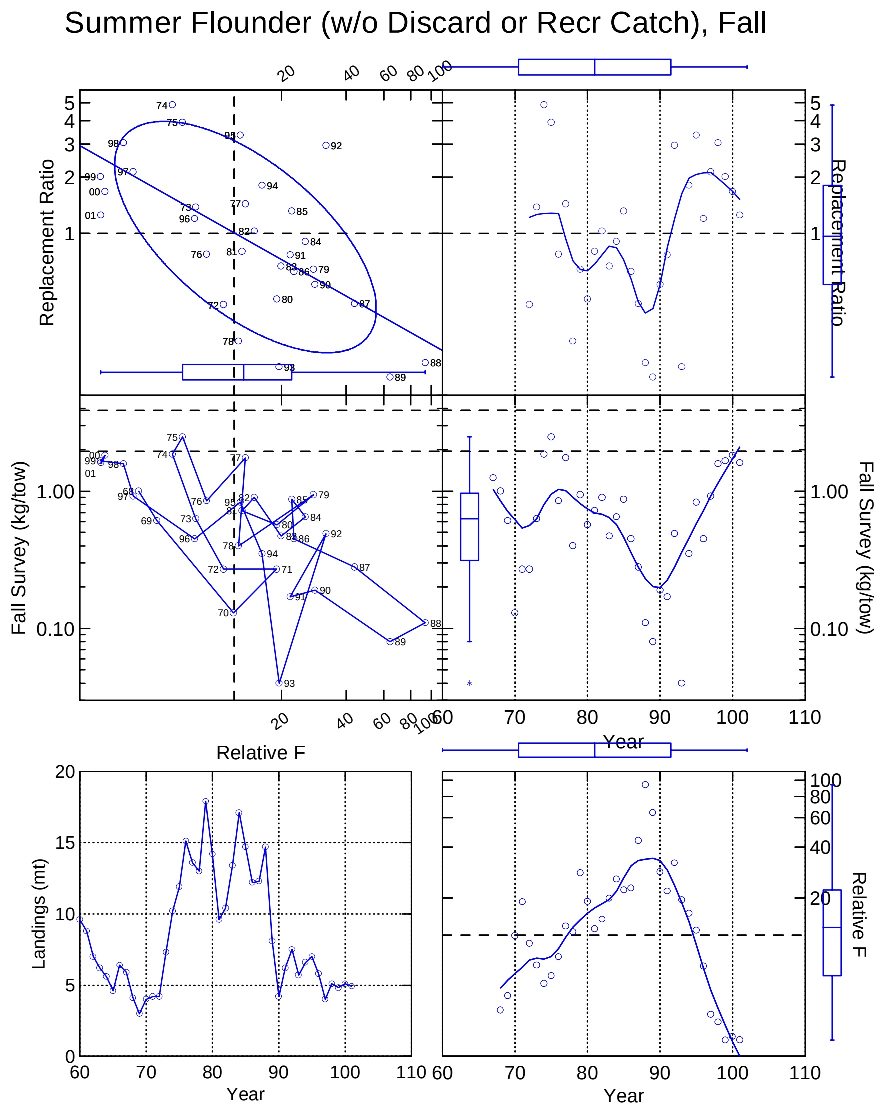


Figure 9.1 Six-panel plot depicting trends in relative biomass, landings, relative fishing mortality rate (landings/index) and replacement ratios for Summer Flounder commercial landings and the NEFSC fall survey. Horizontal dashed (- - -) lines represent replacement ratios = 1 in (A) an d (B), threshold relF in (F). Vertical dashed lines in (A) and (C) represent the derived relF thresholds. Smooth lines in (B), (D), and (F) are Lowess smooths (tension=0.3). The confidence ellipse in (A) has a nominal probability level of 0.68 The regression line in (A) represents a robust regression using bisquare downweighting of residual. Box plots depict marginal distributions of variables. See text for additional details.

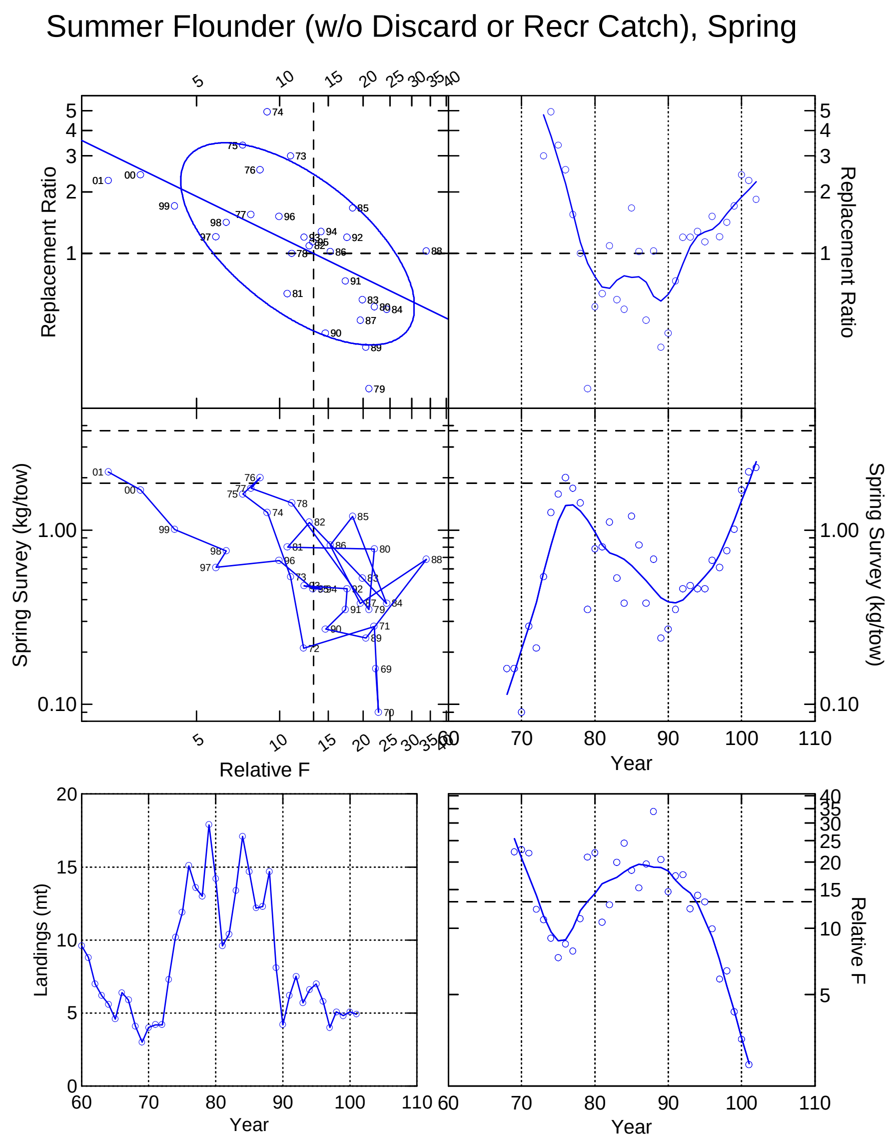


Figure 9.2 Six-panel plot depicting trends in relative biomass, landings, relative fishing mortality rate (landings/index) and replacement ratios for Summer Flounder commercial landings and the NEFSC spring survey. Horizontal dashed (- - -) lines represent replacement ratios = 1 in (A) an d (B), threshold relF in (F). Vertical dashed lines in (A) and (C) represent the derived relF thresholds. Smooth lines in (B), (D), and (F) are Lowess smooths (tension=0.3). The confidence ellipse in (A) has a nominal probability level of 0.68 The regression line in (A) represents a robust regression using bisquare downweighting of residual. Box plots depict marginal distributions of variables. See text for additional details.

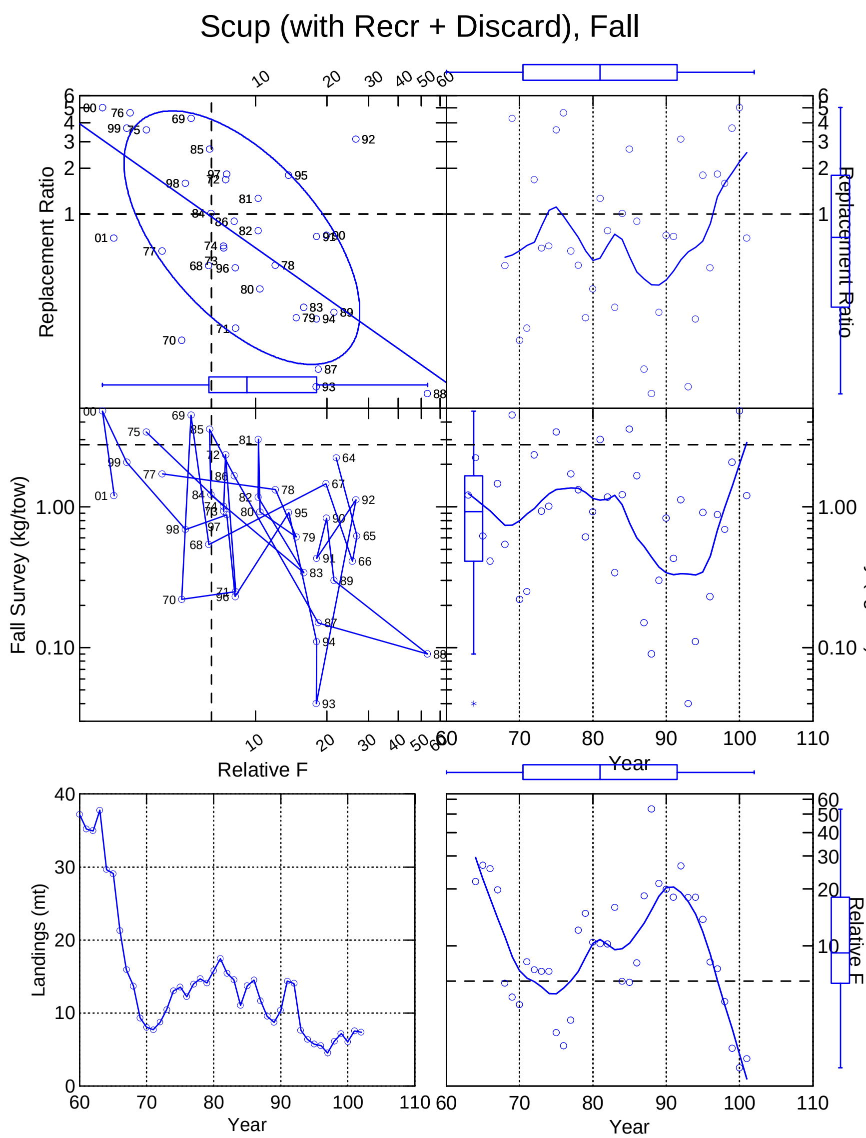


Figure 9.3 Six-panel plot depicting trends in relative biomass, landings, relative fishing mortality rate (landings/index) and replacement ratios for scup catch (commercial + recreational landings plus discards, and the NEFSC fall survey. Horizontal dashed (**- - -**) lines represent replacement ratios = 1 in (A) an d (B), threshold relF in (F). Vertical dashed lines in (A) and (C) represent the derived relF thresholds. Smooth lines in (B), (D), and (F) are Lowess smooths (tension=0.3). The confidence ellipse in (A) has a nominal probability level of 0.68 The regression line in (A) represents a robust regression using bisquare downweighting of residual. Box plots depict marginal distributions of variables. See text for additional details.

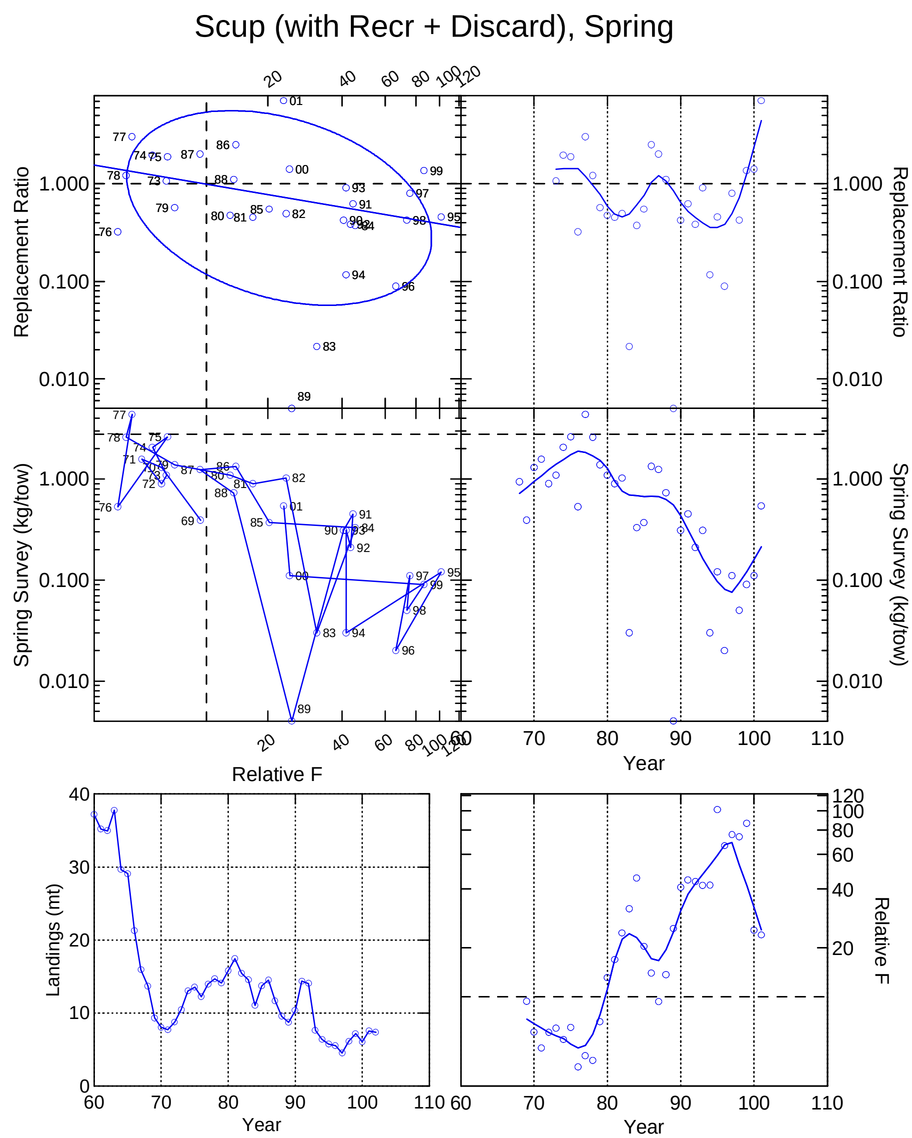
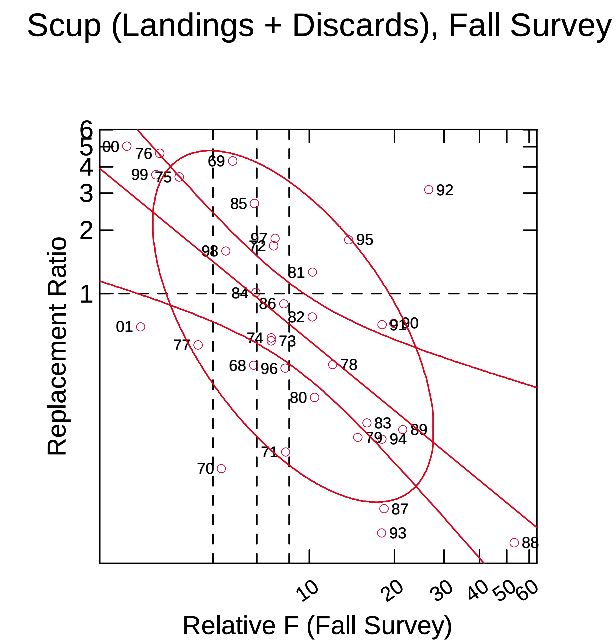


Figure 9.4 Six-panel plot depicting trends in relative biomass, landings, relative fishing mortality rate (landings/index) and replacement ratios for scup catch (commercial + recreational landings plus discards, and the NEFSC spring survey. Horizontal dashed (- - -) lines represent replacement ratios = 1 in (A) an d (B), threshold relF in (F). Vertical dashed lines in (A) and (C) represent the derived relF thresholds. Smooth lines in (B), (D), and (F) are Lowess smooths (tension=0.3). The confidence ellipse in (A) has a nominal probability level of 0.68 The regression line in (A) represents a robust regression using bisquare downweighting of residual. Box plots depict marginal distributions of variables. See text for additional details.



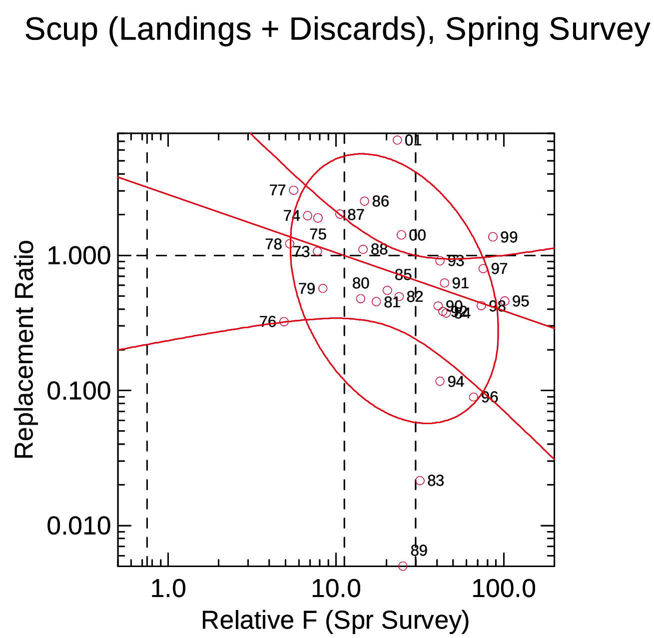


Fig 9.5 Comparison of relationship between replacement ratio and relative F for scup based on the fall (top) and spring (bottom) surveys. The vertical dashed lines depict the asymptotic parametric confidence intervals for point estimate of the relative F at replacement.