# Age and length composition weighting for U.S. blueline tilefish (*Caulolatilus microps*)

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# Age and length composition weighting for U.S. blueline tilefish (*Caulolatilus microps*)

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## Introduction

The SEDAR 32 data workshop developed raw length and age compositions for each of the fisheries where sufficient data were available. The fishery-dependent data collection for lengths and ages may be biased due to sampling protocols, state-specific sampling effort, or other non-random methods. The selection of fish from which to collect ageing structures may be biased because the selection process is rarely randomized. One technique to overcome bias in the length sampling is to weight samples by the associated landings at a spatial and temporal scale at which the bias is expected. Usually this is unknown and samples are weighted at the finest scale available without losing data (e.g. length samples with no associated landings). In this document we describe how the length data were weighted and how these weightings are extended to the age data. These methods have been used in previous SEDAR assessments and completed between the data and assessment workshops.

## Data Description

### Commercial – general

Biological sample data were obtained from the NMFS/SEFSC Trip Interview Program (TIP). Data were filtered to eliminate those records: 1) that included a size or effort bias, 2) where lengths were collected using a non-random method, 3) were not from commercial trips, 4) were selected by quota sampling, or 5) the data was not collected shore-side. These data were further limited to those that could be assigned a year, gear, and state. Length samples were assigned a state based on landing location or sample location if there was no landing location assigned.

### Commercial-Lengths

The number of fish sampled had a high of 394 for longline gear in 2009 and 279 for handline gear in 2006 (Table 1). The number of fish sampled by state relative to estimated landings was less than 1% in most years and states.

All blueline tilefish lengths were converted to FL in mm using the formula provided by the SEDAR 32 Life History Group and binned into one centimeter intervals (e.g. 25cm interval = 24.5cm to 25.4cm) The length data and landings data were divided into handlines and longlines.

**Recreational Lengths**

*MRFSS/MRIP Biological Sampling*
The MRFSS/MRIP angler intercept survey includes the sampling of fish lengths from the harvested (landed, whole condition) catch. Up to 15 of each species landed per angler interviewed are measured to the nearest mm along a center line (defined as tip of snout to center of tail along a straight line, not curved over body). In those fish with a forked tail, this measure would typically be referred to as a fork length, and in those fish that do not have a forked tail it would typically be referred to as a total length with the exception of some fishes that have a single, or few, caudal fin rays that extend further. Weights are typically collected for the same fish measured. When time is constrained a weight may be collected without a length measurement.

*Headboat Survey Biological Sampling*
Lengths were collected from 1972 to 2011 by headboat dockside samplers. From 1972 to 1975, only North Carolina and South Carolina were sampled whereas Georgia and northeast Florida were sampled beginning in 1976. The Southeast Region Headboat Survey conducted dockside sampling for the entire range of Atlantic waters along the southeast portion of the US from the NC-VA border through the Florida Keys beginning in 1978. Weights are typically collected for the same fish measured during dockside sampling.

*Old Dominion University*

An Old Dominion University (ODU) study provided total lengths of blueline tilefish landed in Virginia in the recreational fishery during 2007-2011. The carcasses were collected in coolers or freezers at recreational ports or marinas. For this reason trip information is not available. Due to low sample sizes of

blueline tilefish lengths from the MRFSS/MRIP for the states north of North Carolina these data were considered for inclusion in the length composition.

Any existing weight measurements without an associated fork length measurement were converted to fork length using the following equation derived for the combined South Atlantic stock by the Life History Working Group at the SEDAR 32 data workshop:

FL_mm=428.4*Wgt (kg)^0.31

Any existing total length measurements without an associated fork length measurement were converted to fork length using the following equation derived for the combined South Atlantic stock by the Life History Working Group at the SEDAR 32 data workshop:

FL =1.32+0.94*TL

Annual numbers of blueline tilefish measured for length and the percentage of estimated catch (number) that was sampled from the recreational fishery are reported by state in Table 2. In certain years and regions, the number of fish measured exceeded the estimated recreational landings. Due to Southeast Regional Headboat Survey (SRHS) vessel confidentiality requirements Georgia and east Florida are grouped (GA/EFL). All states north of North Carolina are grouped (VA North) due to low sample sizes and minimal landings in these areas.

SRHS length samples are available beginning in 1972. However the landings time series begins in 1974. Nominal length compositions and length sample sizes were provided in the Recreational Working Group section of the Data Workshop Report (Figure 4.11.6, Table 4.10.6) beginning in 1972.

**Commercial Ages**

Overall, 2,623 fish were collected and aged between 2003 and 2011 (Table 3). Age samples of blueline tilefish came predominately from North Carolina for both handline and longline (Table 3). The number of fish aged by state relative to estimated landings was less than 5% in most years and states. ,

## Recreational Ages

Aging structures and other biological samples are not collected during MRFSS/MRIP assignments because of concerns over the introduction of bias to survey data collection. Biological samples (scales, otoliths, spines, stomachs and gonads) are collected by the SRHS and processed for aging, diet studies, and maturity studies. Aging structures provided from the charter boat mode were collected ad hoc by MRFSS/MRIP state subcontractors and SRHS port agents.

Annual numbers of blueline tilefish sampled for age and the percentage of estimated catch (number) that was sampled from the recreational fishery are reported by state in Table 4.

## Weighting methods

### Commercial

The commercial landings estimates for SEDAR 32 were developed at the year and state level. Therefore, the finest scale to weight the SEFSC-TIP length data was by year and state for each of the gear groupings (handline, longline and combined). For each year, the state-specific length composition was multiplied by the proportion of landings from that state. The weighted state-specific length compositions were then combined and scaled to sum to one.

### Recreational

The recreational landings estimates for SEDAR 32 were developed at the year and state level in order to consolidate the MRFSS/MRIP and SRHS landings estimates. Therefore, the finest scale to weight the length data was year and state data for each of the survey. For each year, the state-specific length composition was multiplied by the proportion of landings from that state. The weighted state-specific length compositions were then combined and scaled to sum to one.

### Ages (Commercial and Recreational)

The fishery-dependent age composition estimates were weighted to correct biases in age composition due to non-representative sampling. This weighting method was adapted from a technique to reduce bias associated with non-representative age sampling to produce unbiased growth curves (Chih, 2009)

and has been previously used in SEDAR assessments. Lengths are recorded for each fish sampled for age. A reweighting value (*RW*) associated with the year (*j*) and length interval (*i*) of the age sample was assigned to each age sample by fishery as in the formula:

$$RW_{ij} = \frac{LC_{ij}}{OL_{ij}/TO_j}$$

where $LC_{ij}$ is the weighted length composition value associated with the year *j* and length interval *i* of each aged fish, $OL_{ij}$ is the number of aged samples in length interval *i* and year *j* , and $TO_j$is the total number of aged samples in year *j*. This weighting corrects for a potential sampling bias of age samples relative to length samples (Chih, 2009). The numerator in this method differs slightly from the method used by Chih in that the length composition is weighted by the landings rather than the sample sizes (number of fish or number of trips).

**Recreational**

Age samples were collected during 2003, 2008-2011. Of those, 20.8% were collected in 2003 while 60.4% were collected in 2011. The age data from the recreational fishery were insufficient to analyze using traditional methods. The length composition of the aged fish was compared to the length composition to investigate sampling bias.

**Results**

**Commercial Lengths**

The commercial handline length compositions by state (pooled over years) is shown in Figure 1. The weighting of the length composition for the handline fishery had almost no influence (Figure 2). The commercial "other" lengths were excluded as data input because of poor sample size over most years and minimal landings.

The commercial longline length compositions by state (pooled over years) is shown in Figure 3. The weighting of the length composition for the longline fishery had almost no influence (Figure 4).

Due to low sample sizes in certain years, the commercial longline and handline length compositions were pooled to provide the assessment workshop a combined commercial length composition if needed. The commercial handline and longline length compositions (pooled over years are shown in Figure 5. The

weighting of the length composition for the combined longline-handline fishery had almost no influence (Figure 6).

## Recreational Lengths

The recreational length compositions by state (pooled over years) are shown in Figure 7. Weighting had limited influence on the length composition (Figure 8a, 1974-2006). The length composition during 2007-2011 was constructed both including (Figure 8b) and excluding (Figure 8c) the length samples from ODU to determine the effect of these samples on the length composition. Weighted length composition with and without ODU fish were very similar (Figure 8d).

## Ages

### Commercial

One way to investigate sampling bias related to the collection of age samples is to compare the length composition of the aged fish to the length composition of all fish sampled. For blueline tilefish, the length composition of the aged fish agree well with the length composition for years where more than approximately twenty trips were sampled for handline and longline (Figure 9 & Figure 10). The weighted age compositions are shifted to slightly older ages compared to the unweighted age compositions for the handline fishery (Figure 11). The weighted age compositions are very similar to the nominal age compositions for longline and the combined (handline and longline) age compositions (Figure 12 & Figure 13).

### Recreational

For recreationally-caught blueline tilefish, the length composition of the aged fish compared to the nominal length composition (pooled over years) is shown in Figure 14. Because the recreational age data were insufficient to analyze using traditional methods the data were combined to create one recreational age frequency (Figure 15).

## Discussion

There is minimal influence when weighting the commercial length or age composition for blueline tilefish. However, the weighted compositions are recommended for use as a matter of protocol and to remove whatever minimal bias may be present.

The commercial handline weighted length composition is given in Table 5. The commercial longline weighted length composition is given in Table 6. The combined (handline and longline) length composition is given in Table 7.

The maximum age of blueline tilefish is 43 years. Several factors were considered in determining a plus group, including the growth, maturity, and fecundity schedule and the age composition data. Based on these analyses a plus group is recommended at 15 years of age. The weighted age composition for ages 1 to 15+ for the commercial handline fishery is shown in Table 8. The weighted age composition for ages 1 to 15+ for the commercial longline fishery is shown in Table 9. The weighted age composition for the combined commercial handline/longline is shown in Table 10.

The ODU length samples have minimal influence on the weighted length composition due to minimal landings north of North Carolina. Therefore, the weighted compositions including the ODU samples are recommended for use as a matter of protocol and to remove whatever minimal bias may be present (Table 11).

The discrepancy between the nominal length distribution and the length distribution of age samples can be attributed to the low number of age samples and limited temporal distribution. The raw age data are in Appendix 1.

## Tables

Table 1. Number of fish sampled for lengths for blueline tilefish by year and gear and the percent of the estimated catch in numbers that was sampled by state for the combined commercial handline and longline gears.

| | Handline | | | | Longline | | | | Percent of fish sampled for lengths | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | FL | GA | NC | SC | FL | GA | NC | SC | FL | GA | NC | SC |
| 1983 | | | 17 | | | | | | 0.00 | 0.00 | 0.11 | 0.00 |
| 1984 | | 39 | 77 | 28 | | 5 | 45 | 40 | 0.00 | 0.29 | 0.66 | 0.36 |
| 1985 | 34 | 14 | 101 | 2 | 65 | | 31 | 42 | 0.15 | 0.25 | 2.48 | 0.95 |
| 1986 | 36 | 42 | 89 | | 27 | 20 | 7 | 39 | 0.29 | 1.65 | 1.39 | 0.28 |
| 1987 | | 48 | 64 | 19 | | | 18 | 29 | 0.00 | 1.49 | 0.62 | 0.67 |
| 1988 | 7 | 42 | 39 | 2 | | | 43 | 23 | 0.09 | 8.02 | 0.68 | 0.54 |
| 1989 | | 23 | 58 | | | | 29 | | 0.00 | 12.20 | 0.68 | 0.00 |
| 1990 | 40 | | 101 | 50 | 32 | | 59 | 8 | 0.42 | 0.00 | 0.65 | 0.80 |
| 1991 | 9 | 17 | 51 | 8 | 13 | 8 | 59 | 50 | 0.25 | 4.16 | 0.35 | 0.64 |
| 1992 | 33 | 9 | 56 | 19 | 69 | 6 | 55 | 31 | 0.74 | 0.75 | 0.29 | 0.31 |
| 1993 | 64 | 17 | 71 | | 64 | 19 | 65 | | 0.68 | 10.72 | 0.87 | 0.00 |
| 1994 | 44 | 15 | 57 | | 33 | 20 | 49 | | 0.97 | 9.36 | 0.47 | 0.00 |
| 1995 | 46 | 2 | 81 | | 49 | | 23 | 26 | 1.21 | 1.66 | 0.52 | 0.18 |
| 1996 | 72 | | 45 | | 35 | | 53 | 28 | 1.56 | 0.00 | 0.29 | 0.48 |
| 1997 | 36 | | 16 | | 34 | | | 25 | 0.49 | 0.00 | 0.07 | 0.21 |
| 1998 | 20 | 1 | 57 | | 55 | | | | 1.23 | 1.27 | 0.36 | 0.00 |
| 1999 | 52 | | 58 | 11 | 25 | | 26 | 8 | 2.13 | 0.00 | 0.37 | 0.34 |
| 2000 | 65 | | 71 | | 31 | | 42 | | 1.93 | 0.00 | 0.58 | 0.00 |
| 2001 | 93 | | 56 | 10 | 48 | | 51 | 32 | 2.52 | 0.00 | 0.44 | 1.14 |
| 2002 | 15 | 1 | 49 | 5 | 62 | | | 38 | 1.87 | 2.92 | 0.07 | 0.76 |
| 2003 | 8 | 6 | 56 | 26 | 40 | | | 35 | 2.04 | 7.09 | 0.24 | 0.99 |
| 2004 | 25 | 1 | 71 | 17 | 22 | | 35 | 38 | 1.92 | 5.68 | 0.89 | 1.09 |
| 2005 | 39 | | 64 | 16 | 23 | | | 22 | 1.64 | 0.00 | 0.48 | 0.80 |
| 2006 | 22 | | 254 | 25 | 2 | | 248 | 22 | 1.03 | 0.00 | 1.11 | 0.83 |
| 2007 | 25 | | 163 | 20 | 24 | | | 5 | 3.99 | 0.00 | 0.96 | 4.18 |
| 2008 | 19 | | 88 | 24 | 1 | | 192 | 22 | 1.24 | 0.00 | 0.30 | 3.87 |
| 2009 | 31 | | 176 | 26 | | | 381 | 13 | 2.87 | 0.00 | 0.61 | 5.39 |
| 2010 | 33 | | 111 | 16 | 4 | | 311 | 30 | 5.09 | 0.00 | 0.60 | 2.06 |
| 2011 | 8 | | 91 | 7 | | | 225 | | 3.33 | 0.00 | 1.51 | 0.87 |

**Table 2.** Number of blueline tilefish sampled for lengths and percentage of the estimated catch in numbers that was sampled by state for the recreational fishery.

| | Lengths (N) | | | | Percentage fish sampled for length | | | |
|---|---|---|---|---|---|---|---|---|
| Year | GA/EFL | SC | NC | VA | GA/EFL | SC | NC | VA |
| 1974 | - | 76 | 15 | - | - | 3.50 | 1.23 | - |
| 1975 | - | 30 | 48 | - | - | 2.17 | 25.95 | - |
| 1976 | - | 35 | 152 | - | - | 1.65 | 14.96 | - |
| 1977 | - | 12 | 54 | - | - | 3.63 | 5.77 | - |
| 1978 | - | 28 | 4 | - | - | 2.59 | 1.09 | - |
| 1979 | 32 | 29 | - | - | 67.49 | 16.57 | - | - |
| 1980 | 21 | 19 | 5 | - | 3.72 | 0.56 | 4.67 | - |
| 1981 | 26 | 6 | 4 | - | 3.85 | 0.81 | 1.95 | - |
| 1982 | - | 18 | - | - | - | 0.74 | - | - |
| 1983 | - | 40 | 3 | - | - | 1.72 | 12.00 | - |
| 1984 | 3 | 26 | - | - | 0.13 | 4.56 | - | - |
| 1985 | 1 | 16 | 3 | - | 3.23 | 2.61 | 60.00 | - |
| 1986 | 1 | 29 | - | - | 1.92 | 4.67 | - | - |
| 1987 | - | 8 | 1 | - | - | 2.25 | 0.04 | - |
| 1988 | 2 | 5 | 1 | - | 4.44 | 1.29 | 50.00 | - |
| 1989 | 10 | - | - | - | 5.85 | - | - | - |
| 1990 | 5 | 1 | - | - | 4.95 | 1.28 | - | - |
| 1991 | 2 | - | - | - | 0.85 | - | - | - |
| 1992 | - | - | - | - | - | - | - | - |
| 1993 | 3 | - | - | - | 0.10 | - | - | - |
| 1994 | - | - | - | - | - | - | - | - |
| 1995 | - | - | 2 | - | - | - | 0.04 | - |
| 1996 | - | 43 | 7 | - | - | 358.33[1] | 0.95 | - |
| 1997 | 35 | 31 | 15 | - | 7.57 | 1,033.33[1] | 0.10 | - |
| 1998 | 6 | 30 | - | - | 10.53 | 1,500.00[1] | - | - |
| 1999 | 19 | - | - | - | 2.38 | - | - | - |
| 2000 | 38 | 1 | - | - | 95.44 | 1.60 | - | - |
| 2001 | 19 | - | 15 | - | 6.18 | - | 0.32 | - |
| 2002 | 3 | - | - | - | 0.55 | - | - | - |
| 2003 | 26 | - | 15 | - | 0.50 | - | 0.69 | - |
| 2004 | 11 | - | 5 | - | 1.67 | - | 0.25 | - |
| 2005 | 6 | - | 30 | - | 0.43 | - | 0.45 | - |
| 2006 | 1 | - | 164 | - | 0.15 | - | 0.29 | - |
| 2007* | 16 | - | 283 | 59 | 0.63 | - | 0.35 | 17.12 |
| 2008* | 9 | - | 332 | 65 | 0.35 | - | 0.47 | 72.65 |
| 2009* | 25 | - | 122 | 83 | 0.38 | - | 0.64 | 30.29 |
| 2010* | 21 | - | 137 | 257 | 0.38 | - | 1.63 | * |
| 2011* | 31 | - | 79 | 570 | 0.56 | - | 1.19 | 820.97 |

[1]Note: In certain years and regions, the number of fish measured exceeded the estimated recreational landings.

*Note: ODU length samples are included in VA North 2007-2011 and do not have associated landings.

Table 3. Number of fish sampled for age for blueline tilefish by year and gear and the percent of the estimated catch in numbers that was sampled by state for the combined commercial handline and longline gears.

| | Handline | | | Longline | | | Percent of Fish Sampled | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | FL | NC | SC | FL | NC | SC | FL | NC | SC | |
| 2003 | 1 | | | 5 | | | 0.26 | 0.00 | 0.00 | 6 |
| 2004 | | | | | 2 | | 0.00 | 0.02 | 0.00 | 2 |
| 2005 | 8 | 22 | | | | 21 | 0.21 | 0.17 | 0.44 | 51 |
| 2006 | | | 16 | | | 30 | 0.00 | 0.00 | 0.81 | 46 |
| 2007 | 8 | 58 | 21 | 21 | | 3 | 2.36 | 0.34 | 4.01 | 111 |
| 2008 | 24 | 61 | 22 | | 20 | 15 | 1.49 | 0.09 | 3.11 | 142 |
| 2009 | 36 | 60 | 26 | | 509 | 7 | 3.33 | 0.63 | 4.56 | 638 |
| 2010 | 39 | 113 | 28 | | 701 | 70 | 5.36 | 1.13 | 4.38 | 951 |
| 2011 | | 104 | 1 | | 571 | | 0.00 | 3.22 | 0.12 | 676 |
| Total | 116 | 418 | 114 | 26 | 1803 | 146 | | | | 2623 |

**Table 4.** Number of blueline tilefish sampled for age and percentage of the estimated catch in numbers that was sampled by state for the recreational fishery.

| | Age (N) | | Percentage fish sampled for age | |
|---|---|---|---|---|
| Year | GA/EFL | NC | GA/EFL | NC |
| 1974 | - | - | - | - |
| 1975 | - | - | - | - |
| 1976 | - | - | - | - |
| 1977 | - | - | - | - |
| 1978 | - | - | - | - |
| 1979 | - | - | - | - |
| 1980 | - | - | - | - |
| 1981 | - | - | - | - |
| 1982 | - | - | - | - |
| 1983 | - | - | - | - |
| 1984 | - | - | - | - |
| 1985 | - | - | - | - |
| 1986 | - | - | - | - |
| 1987 | - | - | - | - |
| 1988 | - | - | - | - |
| 1989 | - | - | - | - |
| 1990 | - | - | - | - |
| 1991 | - | - | - | - |
| 1992 | - | - | - | - |
| 1993 | - | - | - | - |
| 1994 | - | - | - | - |
| 1995 | - | - | - | - |
| 1996 | - | - | - | - |
| 1997 | - | - | - | - |
| 1998 | - | - | - | - |
| 1999 | - | - | - | - |
| 2000 | - | - | - | - |
| 2001 | - | - | - | - |
| 2002 | - | - | - | - |
| 2003 | - | 20 | - | 0.9224 |
| 2004 | - | - | - | - |
| 2005 | - | - | - | - |
| 2006 | - | - | - | - |
| 2007 | - | - | - | - |
| 2008 | - | 1 | - | 0.0014 |
| 2009 | 10 | - | 0.1525 | - |
| 2010 | - | 7 | - | 0.0835 |
| 2011 | 46 | 12 | 0.8323 | 0.1803 |

Table 5. Weighted length composition (FL in cm) for commercial handline blueline tilefish.

| Year | N(fish) | N(trips) | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1983 | 22 | 5 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1984 | 404 | 49 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0028 | 0.0000 | 0.0000 | 0.0028 |
| 1985 | 560 | 75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 278 | 46 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 232 | 37 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0054 | 0.0000 |
| 1988 | 134 | 26 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0095 | 0.0165 |
| 1989 | 136 | 31 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0054 | 0.0217 |
| 1990 | 396 | 40 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0020 | 0.0000 | 0.0041 |
| 1991 | 169 | 39 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 190 | 29 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0058 | 0.0000 | 0.0058 | 0.0128 |
| 1993 | 339 | 41 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0030 |
| 1994 | 281 | 32 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0039 | 0.0077 |
| 1995 | 375 | 46 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0023 | 0.0023 | 0.0000 | 0.0000 | 0.0114 | 0.0000 |
| 1996 | 209 | 24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0017 | 0.0000 | 0.0000 |
| 1997 | 62 | 20 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 156 | 17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 | 0.0042 |
| 1999 | 342 | 34 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0040 | 0.0000 |
| 2000 | 462 | 52 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0050 | 0.0000 | 0.0025 | 0.0025 | 0.0021 | 0.0025 |
| 2001 | 334 | 48 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0041 | 0.0041 | 0.0000 |
| 2002 | 121 | 33 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0008 | 0.0000 |
| 2003 | 337 | 43 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0008 | 0.0000 |
| 2004 | 624 | 46 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0023 | 0.0045 | 0.0116 |
| 2005 | 463 | 45 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0015 | 0.0015 | 0.0015 |
| 2006 | 909 | 50 | 0.0047 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0010 | 0.0010 | 0.0030 | 0.0030 | 0.0010 |
| 2007 | 329 | 67 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0031 | 0.0000 | 0.0000 |
| 2008 | 211 | 64 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0079 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 361 | 76 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2010 | 210 | 70 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0069 | 0.0000 | 0.0000 |
| 2011 | 136 | 41 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0075 | 0.0000 | 0.0000 |

Table 5 (Continued).

| Year | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1983 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0909 | 0.0000 | 0.0000 | 0.0455 |
| 1984 | 0.0028 | 0.0000 | 0.0033 | 0.0000 | 0.0206 | 0.0127 | 0.0056 | 0.0290 | 0.0295 | 0.0318 | 0.0305 | 0.0458 | 0.0407 |
| 1985 | 0.0000 | 0.0000 | 0.0022 | 0.0022 | 0.0022 | 0.0044 | 0.0098 | 0.0142 | 0.0153 | 0.0251 | 0.0087 | 0.0120 | 0.0164 |
| 1986 | 0.0000 | 0.0000 | 0.0043 | 0.0000 | 0.0082 | 0.0028 | 0.0043 | 0.0096 | 0.0206 | 0.0113 | 0.0113 | 0.0249 | 0.0142 |
| 1987 | 0.0054 | 0.0000 | 0.0054 | 0.0200 | 0.0200 | 0.0116 | 0.0347 | 0.0246 | 0.0124 | 0.0361 | 0.0139 | 0.0124 | 0.0493 |
| 1988 | 0.0095 | 0.0315 | 0.0395 | 0.0190 | 0.0300 | 0.0095 | 0.0380 | 0.0285 | 0.0095 | 0.0110 | 0.0380 | 0.0260 | 0.0245 |
| 1989 | 0.0109 | 0.0054 | 0.0163 | 0.0109 | 0.0271 | 0.0054 | 0.0109 | 0.0380 | 0.0163 | 0.0217 | 0.0617 | 0.0163 | 0.0326 |
| 1990 | 0.0090 | 0.0176 | 0.0131 | 0.0413 | 0.0398 | 0.0365 | 0.0635 | 0.0403 | 0.0314 | 0.0685 | 0.0435 | 0.0534 | 0.0357 |
| 1991 | 0.0000 | 0.0000 | 0.0154 | 0.0125 | 0.0154 | 0.0154 | 0.0256 | 0.0432 | 0.0882 | 0.0563 | 0.0409 | 0.0256 | 0.0422 |
| 1992 | 0.0122 | 0.0116 | 0.0058 | 0.0180 | 0.0122 | 0.0244 | 0.0064 | 0.0366 | 0.0302 | 0.0302 | 0.0196 | 0.0295 | 0.0667 |
| 1993 | 0.0000 | 0.0029 | 0.0086 | 0.0086 | 0.0118 | 0.0029 | 0.0086 | 0.0178 | 0.0204 | 0.0320 | 0.0352 | 0.0377 | 0.0411 |
| 1994 | 0.0000 | 0.0116 | 0.0231 | 0.0039 | 0.0000 | 0.0077 | 0.0100 | 0.0146 | 0.0370 | 0.0254 | 0.0524 | 0.0400 | 0.0385 |
| 1995 | 0.0068 | 0.0134 | 0.0114 | 0.0180 | 0.0155 | 0.0203 | 0.0248 | 0.0136 | 0.0544 | 0.0385 | 0.0360 | 0.0205 | 0.0383 |
| 1996 | 0.0087 | 0.0017 | 0.0138 | 0.0366 | 0.0208 | 0.0034 | 0.0225 | 0.0346 | 0.0366 | 0.1186 | 0.0907 | 0.0645 | 0.0296 |
| 1997 | 0.0095 | 0.0000 | 0.0095 | 0.0000 | 0.0000 | 0.0000 | 0.0311 | 0.0596 | 0.0000 | 0.0406 | 0.0501 | 0.0285 | 0.0000 |
| 1998 | 0.0212 | 0.0254 | 0.0127 | 0.0169 | 0.0085 | 0.0254 | 0.0339 | 0.0296 | 0.0254 | 0.0423 | 0.0254 | 0.0495 | 0.0339 |
| 1999 | 0.0000 | 0.0040 | 0.0095 | 0.0079 | 0.0199 | 0.0119 | 0.0254 | 0.0532 | 0.0508 | 0.0850 | 0.0459 | 0.0468 | 0.0413 |
| 2000 | 0.0046 | 0.0025 | 0.0167 | 0.0067 | 0.0088 | 0.0117 | 0.0125 | 0.0368 | 0.0343 | 0.0485 | 0.0459 | 0.0748 | 0.0810 |
| 2001 | 0.0015 | 0.0096 | 0.0178 | 0.0167 | 0.0086 | 0.0156 | 0.0268 | 0.0349 | 0.0248 | 0.0681 | 0.0334 | 0.0644 | 0.0482 |
| 2002 | 0.0084 | 0.0084 | 0.0084 | 0.0084 | 0.0084 | 0.0357 | 0.0084 | 0.0084 | 0.0530 | 0.0589 | 0.0770 | 0.0337 | 0.0344 |
| 2003 | 0.0000 | 0.0031 | 0.0035 | 0.0004 | 0.0221 | 0.0163 | 0.0314 | 0.0442 | 0.0532 | 0.0815 | 0.0966 | 0.0706 | 0.0364 |
| 2004 | 0.0035 | 0.0138 | 0.0175 | 0.0233 | 0.0280 | 0.0231 | 0.0241 | 0.0151 | 0.0559 | 0.0505 | 0.0300 | 0.0486 | 0.0726 |
| 2005 | 0.0015 | 0.0059 | 0.0284 | 0.0133 | 0.0162 | 0.0328 | 0.0285 | 0.0298 | 0.0654 | 0.1024 | 0.0601 | 0.0303 | 0.0344 |
| 2006 | 0.0090 | 0.0170 | 0.0351 | 0.0391 | 0.0513 | 0.0373 | 0.0428 | 0.0453 | 0.0481 | 0.0655 | 0.0511 | 0.0493 | 0.0650 |
| 2007 | 0.0000 | 0.0061 | 0.0061 | 0.0031 | 0.0215 | 0.0338 | 0.0307 | 0.0276 | 0.0399 | 0.0399 | 0.0411 | 0.0461 | 0.0798 |
| 2008 | 0.0000 | 0.0000 | 0.0158 | 0.0158 | 0.0158 | 0.0000 | 0.0000 | 0.0316 | 0.0160 | 0.0237 | 0.0632 | 0.0319 | 0.0316 |
| 2009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0113 | 0.0000 | 0.0075 | 0.0038 | 0.0150 | 0.0376 | 0.0226 | 0.0189 | 0.0603 |
| 2010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0076 | 0.0277 | 0.0069 | 0.0143 | 0.0277 | 0.0216 | 0.0000 | 0.0691 |
| 2011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0150 | 0.0150 | 0.0299 | 0.0150 | 0.0000 | 0.0223 | 0.0075 | 0.0374 | 0.0448 |

Table 5 (Continued).

| Year | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1983 | 0.0000 | 0.0455 | 0.0000 | 0.0000 | 0.0909 | 0.0000 | 0.1364 | 0.0455 | 0.0455 | 0.0000 | 0.0000 | 0.0000 | 0.0455 |
| 1984 | 0.0399 | 0.0412 | 0.0389 | 0.0249 | 0.0732 | 0.0437 | 0.0368 | 0.0328 | 0.0406 | 0.0413 | 0.0317 | 0.0132 | 0.0596 |
| 1985 | 0.0218 | 0.0296 | 0.0538 | 0.0548 | 0.0449 | 0.0218 | 0.0470 | 0.0273 | 0.0405 | 0.0635 | 0.0383 | 0.0459 | 0.1030 |
| 1986 | 0.0263 | 0.0221 | 0.0314 | 0.0277 | 0.0831 | 0.0399 | 0.0410 | 0.0449 | 0.0531 | 0.0356 | 0.0560 | 0.0370 | 0.0642 |
| 1987 | 0.0370 | 0.0231 | 0.0417 | 0.0362 | 0.0592 | 0.0406 | 0.0531 | 0.0361 | 0.0246 | 0.0254 | 0.0330 | 0.0699 | 0.0646 |
| 1988 | 0.0110 | 0.0095 | 0.0205 | 0.0355 | 0.0505 | 0.0245 | 0.0554 | 0.0190 | 0.0559 | 0.0499 | 0.0220 | 0.0479 | 0.0464 |
| 1989 | 0.0346 | 0.0163 | 0.0475 | 0.0346 | 0.0475 | 0.0625 | 0.0400 | 0.0163 | 0.0387 | 0.0000 | 0.0054 | 0.0183 | 0.0700 |
| 1990 | 0.0217 | 0.0312 | 0.0430 | 0.0079 | 0.0357 | 0.0271 | 0.0521 | 0.0553 | 0.0370 | 0.0128 | 0.0157 | 0.0119 | 0.0418 |
| 1991 | 0.0307 | 0.0716 | 0.0371 | 0.0594 | 0.0422 | 0.0450 | 0.0287 | 0.0307 | 0.0240 | 0.0309 | 0.0236 | 0.0154 | 0.0420 |
| 1992 | 0.0353 | 0.0417 | 0.0353 | 0.0469 | 0.0727 | 0.0423 | 0.0312 | 0.0469 | 0.0583 | 0.0248 | 0.0196 | 0.0498 | 0.0294 |
| 1993 | 0.0501 | 0.0530 | 0.0294 | 0.0776 | 0.0732 | 0.0684 | 0.0563 | 0.0479 | 0.0270 | 0.0290 | 0.0296 | 0.0469 | 0.0325 |
| 1994 | 0.0362 | 0.0531 | 0.0639 | 0.0654 | 0.0747 | 0.0500 | 0.0377 | 0.0446 | 0.0577 | 0.0469 | 0.0254 | 0.0246 | 0.0408 |
| 1995 | 0.0629 | 0.0585 | 0.0447 | 0.0519 | 0.0587 | 0.0356 | 0.0407 | 0.0335 | 0.0492 | 0.0337 | 0.0199 | 0.0136 | 0.0178 |
| 1996 | 0.0500 | 0.0605 | 0.0346 | 0.0467 | 0.0417 | 0.0309 | 0.0346 | 0.0259 | 0.0225 | 0.0138 | 0.0154 | 0.0121 | 0.0400 |
| 1997 | 0.0812 | 0.0622 | 0.0000 | 0.0933 | 0.0406 | 0.0190 | 0.0622 | 0.0380 | 0.0380 | 0.0285 | 0.0380 | 0.0000 | 0.0501 |
| 1998 | 0.0311 | 0.0296 | 0.0537 | 0.0537 | 0.0664 | 0.0438 | 0.0085 | 0.0169 | 0.0679 | 0.0947 | 0.0169 | 0.0127 | 0.0552 |
| 1999 | 0.0691 | 0.0380 | 0.0404 | 0.0371 | 0.0673 | 0.0313 | 0.0141 | 0.0141 | 0.0337 | 0.0117 | 0.0321 | 0.0282 | 0.0307 |
| 2000 | 0.0518 | 0.0414 | 0.0710 | 0.0622 | 0.0606 | 0.0401 | 0.0284 | 0.0200 | 0.0238 | 0.0109 | 0.0242 | 0.0305 | 0.0305 |
| 2001 | 0.0442 | 0.0523 | 0.0574 | 0.0283 | 0.0538 | 0.0278 | 0.0584 | 0.0270 | 0.0474 | 0.0289 | 0.0330 | 0.0123 | 0.0589 |
| 2002 | 0.0602 | 0.0433 | 0.0946 | 0.0589 | 0.0589 | 0.0252 | 0.0446 | 0.0433 | 0.0176 | 0.0252 | 0.0265 | 0.0084 | 0.0446 |
| 2003 | 0.0598 | 0.0329 | 0.0691 | 0.0469 | 0.0481 | 0.0190 | 0.0350 | 0.0306 | 0.0070 | 0.0046 | 0.0132 | 0.0194 | 0.0264 |
| 2004 | 0.0315 | 0.0578 | 0.0498 | 0.0467 | 0.0475 | 0.0607 | 0.0341 | 0.0489 | 0.0128 | 0.0322 | 0.0116 | 0.0271 | 0.0171 |
| 2005 | 0.0265 | 0.0236 | 0.0213 | 0.0391 | 0.0177 | 0.0186 | 0.0191 | 0.0270 | 0.0193 | 0.0191 | 0.0269 | 0.0302 | 0.0227 |
| 2006 | 0.0421 | 0.0339 | 0.0368 | 0.0424 | 0.0250 | 0.0130 | 0.0192 | 0.0274 | 0.0237 | 0.0167 | 0.0219 | 0.0276 | 0.0169 |
| 2007 | 0.0361 | 0.0583 | 0.0369 | 0.0369 | 0.0344 | 0.0327 | 0.0405 | 0.0184 | 0.0501 | 0.0282 | 0.0311 | 0.0244 | 0.0269 |
| 2008 | 0.0363 | 0.0555 | 0.0476 | 0.0479 | 0.0585 | 0.0561 | 0.0418 | 0.0243 | 0.0419 | 0.0809 | 0.0207 | 0.0274 | 0.0577 |
| 2009 | 0.0265 | 0.0849 | 0.0566 | 0.0455 | 0.0645 | 0.0491 | 0.0238 | 0.0318 | 0.0200 | 0.0266 | 0.0220 | 0.0358 | 0.0516 |
| 2010 | 0.0219 | 0.0226 | 0.0154 | 0.0424 | 0.0501 | 0.0640 | 0.0444 | 0.0302 | 0.0449 | 0.0508 | 0.0813 | 0.0640 | 0.0359 |
| 2011 | 0.0449 | 0.0524 | 0.0449 | 0.0521 | 0.0373 | 0.0075 | 0.0060 | 0.0374 | 0.0674 | 0.0357 | 0.0269 | 0.0209 | 0.0150 |

Table 5 (Continued).

| Year | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1983 | 0.0000 | 0.0455 | 0.0455 | 0.0000 | 0.0455 | 0.0000 | 0.0000 | 0.0000 | 0.0909 | 0.0455 | 0.0909 | 0.0000 | 0.0000 |
| 1984 | 0.0432 | 0.0170 | 0.0249 | 0.0226 | 0.0137 | 0.0137 | 0.0244 | 0.0193 | 0.0117 | 0.0086 | 0.0061 | 0.0000 | 0.0132 |
| 1985 | 0.0285 | 0.0372 | 0.0482 | 0.0362 | 0.0340 | 0.0154 | 0.0142 | 0.0207 | 0.0175 | 0.0099 | 0.0099 | 0.0077 | 0.0076 |
| 1986 | 0.0531 | 0.0274 | 0.0043 | 0.0613 | 0.0314 | 0.0410 | 0.0096 | 0.0314 | 0.0218 | 0.0000 | 0.0028 | 0.0150 | 0.0203 |
| 1987 | 0.0285 | 0.0415 | 0.0339 | 0.0161 | 0.0115 | 0.0162 | 0.0000 | 0.0084 | 0.0108 | 0.0053 | 0.0053 | 0.0108 | 0.0000 |
| 1988 | 0.0369 | 0.0369 | 0.0505 | 0.0245 | 0.0220 | 0.0110 | 0.0000 | 0.0300 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0129 | 0.0387 | 0.0292 | 0.0000 | 0.0646 | 0.0313 | 0.0346 | 0.0109 | 0.0000 | 0.0163 | 0.0129 | 0.0000 | 0.0054 |
| 1990 | 0.0131 | 0.0050 | 0.0143 | 0.0082 | 0.0217 | 0.0038 | 0.0050 | 0.0082 | 0.0041 | 0.0000 | 0.0020 | 0.0143 | 0.0009 |
| 1991 | 0.0420 | 0.0051 | 0.0143 | 0.0143 | 0.0143 | 0.0102 | 0.0143 | 0.0000 | 0.0092 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0139 | 0.0236 | 0.0149 | 0.0149 | 0.0058 | 0.0033 | 0.0064 | 0.0081 | 0.0074 | 0.0097 | 0.0058 | 0.0091 | 0.0000 |
| 1993 | 0.0240 | 0.0328 | 0.0121 | 0.0149 | 0.0148 | 0.0088 | 0.0089 | 0.0116 | 0.0029 | 0.0059 | 0.0030 | 0.0000 | 0.0000 |
| 1994 | 0.0000 | 0.0185 | 0.0185 | 0.0154 | 0.0039 | 0.0177 | 0.0062 | 0.0000 | 0.0069 | 0.0000 | 0.0031 | 0.0000 | 0.0069 |
| 1995 | 0.0176 | 0.0157 | 0.0176 | 0.0155 | 0.0112 | 0.0174 | 0.0112 | 0.0023 | 0.0000 | 0.0087 | 0.0217 | 0.0000 | 0.0043 |
| 1996 | 0.0312 | 0.0067 | 0.0034 | 0.0067 | 0.0121 | 0.0121 | 0.0000 | 0.0121 | 0.0034 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0311 | 0.0406 | 0.0596 | 0.0190 | 0.0000 | 0.0095 | 0.0406 | 0.0000 | 0.0095 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0226 | 0.0226 | 0.0184 | 0.0269 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0221 | 0.0187 | 0.0377 | 0.0078 | 0.0046 | 0.0069 | 0.0159 | 0.0079 | 0.0070 | 0.0015 | 0.0023 | 0.0000 | 0.0030 |
| 2000 | 0.0205 | 0.0175 | 0.0150 | 0.0109 | 0.0046 | 0.0067 | 0.0021 | 0.0000 | 0.0042 | 0.0021 | 0.0025 | 0.0046 | 0.0000 |
| 2001 | 0.0086 | 0.0223 | 0.0123 | 0.0101 | 0.0111 | 0.0082 | 0.0108 | 0.0030 | 0.0041 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0265 | 0.0181 | 0.0265 | 0.0084 | 0.0084 | 0.0000 | 0.0000 | 0.0084 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0132 | 0.0163 | 0.0397 | 0.0268 | 0.0039 | 0.0031 | 0.0031 | 0.0000 | 0.0031 | 0.0000 | 0.0031 | 0.0093 | 0.0000 |
| 2004 | 0.0103 | 0.0218 | 0.0144 | 0.0156 | 0.0035 | 0.0033 | 0.0012 | 0.0035 | 0.0023 | 0.0098 | 0.0012 | 0.0000 | 0.0098 |
| 2005 | 0.0302 | 0.0149 | 0.0269 | 0.0185 | 0.0152 | 0.0427 | 0.0286 | 0.0181 | 0.0000 | 0.0029 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0170 | 0.0086 | 0.0170 | 0.0100 | 0.0145 | 0.0043 | 0.0045 | 0.0010 | 0.0000 | 0.0068 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0221 | 0.0213 | 0.0313 | 0.0104 | 0.0165 | 0.0146 | 0.0109 | 0.0011 | 0.0129 | 0.0056 | 0.0073 | 0.0000 | 0.0056 |
| 2008 | 0.0194 | 0.0570 | 0.0276 | 0.0176 | 0.0100 | 0.0006 | 0.0001 | 0.0000 | 0.0079 | 0.0081 | 0.0001 | 0.0015 | 0.0000 |
| 2009 | 0.0573 | 0.0283 | 0.0575 | 0.0358 | 0.0458 | 0.0145 | 0.0078 | 0.0121 | 0.0000 | 0.0114 | 0.0039 | 0.0002 | 0.0008 |
| 2010 | 0.0078 | 0.0284 | 0.0157 | 0.0212 | 0.0415 | 0.0419 | 0.0214 | 0.0357 | 0.0143 | 0.0014 | 0.0069 | 0.0138 | 0.0000 |
| 2011 | 0.0267 | 0.0628 | 0.0822 | 0.0299 | 0.0449 | 0.0150 | 0.0150 | 0.0075 | 0.0225 | 0.0134 | 0.0000 | 0.0000 | 0.0000 |

Table 5 (Continued).

| Year | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1983 | 0.0000 | 0.0000 | 0.0909 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1984 | 0.0056 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 0.0022 | 0.0011 | 0.0022 | 0.0000 | 0.0011 | 0.0011 | 0.0011 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 0.0068 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 0.0107 | 0.0000 | 0.0054 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0000 | 0.0054 | 0.0000 | 0.0054 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0020 | 0.0000 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1991 | 0.0000 | 0.0143 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0000 | 0.0017 | 0.0058 | 0.0081 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1993 | 0.0000 | 0.0000 | 0.0030 | 0.0000 | 0.0000 | 0.0000 | 0.0059 | 0.0000 | 0.0000 | 0.0000 |
| 1994 | 0.0062 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0043 | 0.0000 | 0.0043 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0000 | 0.0000 | 0.0000 | 0.0095 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0000 | 0.0000 | 0.0000 | 0.0022 | 0.0037 | 0.0037 | 0.0007 | 0.0007 | 0.0000 | 0.0000 |
| 2000 | 0.0021 | 0.0021 | 0.0021 | 0.0021 | 0.0000 | 0.0021 | 0.0042 | 0.0000 | 0.0000 | 0.0000 |
| 2001 | 0.0015 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0062 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0012 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0000 | 0.0195 | 0.0000 | 0.0090 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0056 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 0.0038 | 0.0045 | 0.0000 | 0.0000 | 0.0000 | 0.0007 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2010 | 0.0000 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2011 | 0.0000 | 0.0000 | 0.0150 | 0.0000 | 0.0075 | 0.0150 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Table 5 (Continued).

| Year | 81 | 82 | 83 | 84 |
|---|---|---|---|---|
| 1983 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1984 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0000 | 0.0020 | 0.0000 | 0.0000 |
| 1991 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1993 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1994 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0090 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0000 | 0.0000 | 0.0000 | 0.0011 |
| 2008 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Table 6. Weighted length composition (FL in cm) for commercial longline blueline tilefish.

| Year | N(fish) | N(trips) | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 638 | 17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 1023 | 24 | 0.0000 | 0.0000 | 0.0000 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0001 | 0.0001 |
| 1986 | 430 | 15 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 95 | 9 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 155 | 8 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 | 0.0000 |
| 1989 | 73 | 6 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 315 | 9 | 0.0018 | 0.0000 | 0.0000 | 0.0030 | 0.0000 | 0.0030 | 0.0000 | 0.0000 | 0.0000 | 0.0030 | 0.0048 |
| 1991 | 354 | 14 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0015 | 0.0000 | 0.0038 | 0.0015 |
| 1992 | 1550 | 42 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0001 | 0.0000 | 0.0001 | 0.0001 |
| 1993 | 3663 | 73 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0008 | 0.0010 | 0.0010 | 0.0006 |
| 1994 | 345 | 24 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0019 | 0.0009 | 0.0028 | 0.0000 | 0.0000 | 0.0000 | 0.0009 |
| 1995 | 372 | 23 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0010 | 0.0067 | 0.0067 |
| 1996 | 383 | 13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0019 | 0.0000 | 0.0067 |
| 1997 | 137 | 6 | 0.0000 | 0.0000 | 0.0000 | 0.0103 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0103 |
| 1998 | 123 | 5 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 72 | 9 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0044 | 0.0044 |
| 2000 | 118 | 9 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0060 |
| 2001 | 400 | 17 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0046 | 0.0000 | 0.0000 | 0.0018 | 0.0056 |
| 2002 | 509 | 28 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0024 | 0.0024 |
| 2003 | 248 | 19 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0052 | 0.0000 | 0.0052 | 0.0000 | 0.0412 |
| 2004 | 290 | 18 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0025 | 0.0000 | 0.0000 | 0.0042 | 0.0042 | 0.0167 |
| 2005 | 87 | 7 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 571 | 15 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0059 | 0.0000 |
| 2007 | 35 | 5 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 342 | 13 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 890 | 57 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 | 0.0000 | 0.0011 | 0.0034 |
| 2010 | 924 | 57 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 | 0.0023 | 0.0011 |
| 2011 | 596 | 38 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0017 | 0.0000 | 0.0000 |

Table 6 (Continued).

| Year | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0000 | 0.0000 | 0.0005 | 0.0009 | 0.0016 | 0.0005 | 0.0016 | 0.0048 | 0.0044 | 0.0037 | 0.0078 | 0.0074 | 0.0102 | 0.0126 |
| 1985 | 0.0018 | 0.0001 | 0.0038 | 0.0038 | 0.0111 | 0.0111 | 0.0132 | 0.0268 | 0.0377 | 0.0397 | 0.0356 | 0.0591 | 0.0377 | 0.0367 |
| 1986 | 0.0000 | 0.0000 | 0.0113 | 0.0051 | 0.0062 | 0.0113 | 0.0031 | 0.0154 | 0.0112 | 0.0357 | 0.0162 | 0.0255 | 0.0491 | 0.0469 |
| 1987 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0421 | 0.0188 | 0.0000 | 0.0094 | 0.0376 | 0.0000 | 0.0094 | 0.0421 | 0.0282 |
| 1988 | 0.0042 | 0.0000 | 0.0000 | 0.0108 | 0.0000 | 0.0000 | 0.0365 | 0.0000 | 0.0000 | 0.0042 | 0.0042 | 0.0342 | 0.0533 | 0.0407 |
| 1989 | 0.0000 | 0.0000 | 0.0137 | 0.0411 | 0.0274 | 0.0274 | 0.0411 | 0.0000 | 0.0000 | 0.0137 | 0.0411 | 0.0274 | 0.0685 | 0.0000 |
| 1990 | 0.0126 | 0.0126 | 0.0018 | 0.0018 | 0.0251 | 0.0120 | 0.0156 | 0.0156 | 0.0174 | 0.0180 | 0.0216 | 0.0258 | 0.0342 | 0.0336 |
| 1991 | 0.0030 | 0.0152 | 0.0015 | 0.0068 | 0.0294 | 0.0241 | 0.0271 | 0.0321 | 0.0533 | 0.0401 | 0.0347 | 0.0377 | 0.0545 | 0.0646 |
| 1992 | 0.0002 | 0.0024 | 0.0026 | 0.0113 | 0.0176 | 0.0244 | 0.0135 | 0.0275 | 0.0374 | 0.0420 | 0.0578 | 0.0565 | 0.0577 | 0.0717 |
| 1993 | 0.0030 | 0.0049 | 0.0082 | 0.0127 | 0.0168 | 0.0228 | 0.0270 | 0.0274 | 0.0379 | 0.0339 | 0.0340 | 0.0486 | 0.0534 | 0.0620 |
| 1994 | 0.0009 | 0.0113 | 0.0150 | 0.0263 | 0.0244 | 0.0244 | 0.0178 | 0.0310 | 0.0583 | 0.0291 | 0.0282 | 0.0535 | 0.0489 | 0.0657 |
| 1995 | 0.0010 | 0.0106 | 0.0039 | 0.0139 | 0.0106 | 0.0178 | 0.0452 | 0.0453 | 0.0712 | 0.0415 | 0.0448 | 0.0367 | 0.0701 | 0.0294 |
| 1996 | 0.0067 | 0.0163 | 0.0067 | 0.0106 | 0.0393 | 0.0403 | 0.0379 | 0.0635 | 0.0553 | 0.0586 | 0.1037 | 0.0720 | 0.0538 | 0.0640 |
| 1997 | 0.0103 | 0.0000 | 0.0103 | 0.0206 | 0.0000 | 0.0026 | 0.0437 | 0.0309 | 0.0257 | 0.0257 | 0.0643 | 0.0720 | 0.1311 | 0.1054 |
| 1998 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0081 | 0.0000 | 0.0081 | 0.0000 | 0.0081 | 0.0244 | 0.0081 | 0.0325 | 0.0325 | 0.0325 |
| 1999 | 0.0088 | 0.0132 | 0.0044 | 0.0130 | 0.0088 | 0.0086 | 0.0000 | 0.0130 | 0.0044 | 0.0130 | 0.0169 | 0.0908 | 0.0130 | 0.0088 |
| 2000 | 0.0120 | 0.0060 | 0.0000 | 0.0179 | 0.0120 | 0.0179 | 0.0060 | 0.0120 | 0.0359 | 0.0239 | 0.0120 | 0.0642 | 0.0658 | 0.0500 |
| 2001 | 0.0036 | 0.0000 | 0.0085 | 0.0234 | 0.0075 | 0.0082 | 0.0398 | 0.0224 | 0.0378 | 0.0278 | 0.0357 | 0.0534 | 0.0396 | 0.0586 |
| 2002 | 0.0024 | 0.0098 | 0.0000 | 0.0103 | 0.0049 | 0.0122 | 0.0196 | 0.0152 | 0.0242 | 0.0490 | 0.0419 | 0.0397 | 0.0375 | 0.0547 |
| 2003 | 0.0103 | 0.0258 | 0.0155 | 0.0309 | 0.0155 | 0.0412 | 0.0464 | 0.0464 | 0.0267 | 0.0052 | 0.0361 | 0.0319 | 0.0295 | 0.0628 |
| 2004 | 0.0000 | 0.0167 | 0.0134 | 0.0217 | 0.0159 | 0.0566 | 0.0514 | 0.0548 | 0.0642 | 0.0376 | 0.0526 | 0.0634 | 0.0634 | 0.0325 |
| 2005 | 0.0000 | 0.0000 | 0.0338 | 0.0000 | 0.0338 | 0.0338 | 0.0508 | 0.0677 | 0.0846 | 0.0508 | 0.0508 | 0.0338 | 0.0677 | 0.0514 |
| 2006 | 0.0000 | 0.0023 | 0.0057 | 0.0124 | 0.0275 | 0.0124 | 0.0377 | 0.0230 | 0.0460 | 0.0356 | 0.0388 | 0.0517 | 0.0521 | 0.0441 |
| 2007 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1077 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0088 | 0.1077 | 0.1077 |
| 2008 | 0.0000 | 0.0064 | 0.0064 | 0.0000 | 0.0032 | 0.0097 | 0.0199 | 0.0489 | 0.0586 | 0.0650 | 0.0631 | 0.0656 | 0.0431 | 0.0109 |
| 2009 | 0.0034 | 0.0103 | 0.0000 | 0.0103 | 0.0126 | 0.0023 | 0.0046 | 0.0103 | 0.0034 | 0.0264 | 0.0195 | 0.0539 | 0.0524 | 0.0424 |
| 2010 | 0.0011 | 0.0023 | 0.0011 | 0.0068 | 0.0056 | 0.0034 | 0.0045 | 0.0096 | 0.0096 | 0.0225 | 0.0332 | 0.0405 | 0.0501 | 0.0703 |
| 2011 | 0.0000 | 0.0000 | 0.0000 | 0.0034 | 0.0034 | 0.0117 | 0.0117 | 0.0067 | 0.0117 | 0.0117 | 0.0235 | 0.0285 | 0.0185 | 0.0235 |

Table 6 (Continued).

| Year | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0109 | 0.1545 | 0.0252 | 0.1569 | 0.1539 | 0.0135 | 0.0245 | 0.0095 | 0.0046 | 0.1436 | 0.0079 | 0.0047 | 0.0073 | 0.1450 |
| 1985 | 0.0383 | 0.0446 | 0.0479 | 0.0444 | 0.0370 | 0.0621 | 0.0902 | 0.0610 | 0.0573 | 0.0350 | 0.0427 | 0.0296 | 0.0277 | 0.0143 |
| 1986 | 0.0696 | 0.0774 | 0.0620 | 0.0767 | 0.0650 | 0.0499 | 0.0777 | 0.0348 | 0.0378 | 0.0213 | 0.0194 | 0.0306 | 0.0174 | 0.0195 |
| 1987 | 0.0376 | 0.1079 | 0.0609 | 0.0465 | 0.0703 | 0.0232 | 0.0559 | 0.1018 | 0.0326 | 0.0188 | 0.0138 | 0.0094 | 0.0421 | 0.0421 |
| 1988 | 0.0449 | 0.0772 | 0.1371 | 0.0552 | 0.0594 | 0.0491 | 0.0889 | 0.0403 | 0.0318 | 0.0360 | 0.0449 | 0.0234 | 0.0150 | 0.0000 |
| 1989 | 0.0822 | 0.0000 | 0.0411 | 0.0822 | 0.0822 | 0.0959 | 0.0822 | 0.0548 | 0.0548 | 0.0137 | 0.0548 | 0.0000 | 0.0000 | 0.0137 |
| 1990 | 0.0270 | 0.0708 | 0.0480 | 0.0617 | 0.0605 | 0.0611 | 0.0658 | 0.1168 | 0.0192 | 0.0197 | 0.0509 | 0.0521 | 0.0144 | 0.0155 |
| 1991 | 0.0665 | 0.0666 | 0.0499 | 0.0647 | 0.0678 | 0.0499 | 0.0366 | 0.0083 | 0.0188 | 0.0391 | 0.0138 | 0.0206 | 0.0114 | 0.0159 |
| 1992 | 0.0680 | 0.0508 | 0.0740 | 0.0599 | 0.0777 | 0.0486 | 0.0759 | 0.0196 | 0.0172 | 0.0107 | 0.0144 | 0.0112 | 0.0077 | 0.0025 |
| 1993 | 0.0674 | 0.0726 | 0.0615 | 0.0625 | 0.0583 | 0.0565 | 0.0482 | 0.0336 | 0.0211 | 0.0217 | 0.0212 | 0.0184 | 0.0124 | 0.0114 |
| 1994 | 0.0601 | 0.0808 | 0.0479 | 0.0460 | 0.0732 | 0.0629 | 0.0441 | 0.0394 | 0.0056 | 0.0178 | 0.0160 | 0.0094 | 0.0066 | 0.0207 |
| 1995 | 0.0451 | 0.0821 | 0.0955 | 0.0620 | 0.0716 | 0.0615 | 0.0278 | 0.0216 | 0.0155 | 0.0116 | 0.0078 | 0.0049 | 0.0106 | 0.0134 |
| 1996 | 0.0467 | 0.0375 | 0.0419 | 0.0356 | 0.0313 | 0.0294 | 0.0274 | 0.0346 | 0.0159 | 0.0048 | 0.0034 | 0.0019 | 0.0000 | 0.0096 |
| 1997 | 0.0437 | 0.0823 | 0.0745 | 0.0488 | 0.0205 | 0.0334 | 0.0257 | 0.0488 | 0.0026 | 0.0154 | 0.0103 | 0.0000 | 0.0180 | 0.0026 |
| 1998 | 0.0407 | 0.0407 | 0.0488 | 0.0894 | 0.0894 | 0.0732 | 0.0488 | 0.0732 | 0.0244 | 0.0732 | 0.0407 | 0.0244 | 0.0081 | 0.0163 |
| 1999 | 0.0213 | 0.0778 | 0.1512 | 0.0818 | 0.0778 | 0.0000 | 0.0042 | 0.0251 | 0.0042 | 0.0209 | 0.0000 | 0.0000 | 0.0042 | 0.0084 |
| 2000 | 0.0783 | 0.0261 | 0.0500 | 0.0179 | 0.0403 | 0.0321 | 0.0522 | 0.0142 | 0.0686 | 0.0060 | 0.0909 | 0.0484 | 0.0283 | 0.0201 |
| 2001 | 0.0442 | 0.0573 | 0.0504 | 0.0334 | 0.0322 | 0.0558 | 0.0249 | 0.0249 | 0.0306 | 0.0303 | 0.0347 | 0.0255 | 0.0337 | 0.0229 |
| 2002 | 0.0373 | 0.0530 | 0.0410 | 0.0783 | 0.0394 | 0.0405 | 0.0612 | 0.0247 | 0.0364 | 0.0188 | 0.0277 | 0.0310 | 0.0280 | 0.0231 |
| 2003 | 0.0272 | 0.0670 | 0.0398 | 0.0267 | 0.0370 | 0.0469 | 0.0623 | 0.0370 | 0.0202 | 0.0408 | 0.0440 | 0.0080 | 0.0061 | 0.0080 |
| 2004 | 0.0284 | 0.0652 | 0.0097 | 0.0430 | 0.0258 | 0.0362 | 0.0403 | 0.0208 | 0.0231 | 0.0358 | 0.0206 | 0.0042 | 0.0167 | 0.0097 |
| 2005 | 0.0683 | 0.1028 | 0.0514 | 0.0514 | 0.0006 | 0.0169 | 0.0338 | 0.0169 | 0.0000 | 0.0345 | 0.0006 | 0.0182 | 0.0026 | 0.0013 |
| 2006 | 0.0406 | 0.0394 | 0.0579 | 0.0693 | 0.0413 | 0.0507 | 0.0560 | 0.0470 | 0.0353 | 0.0296 | 0.0136 | 0.0298 | 0.0068 | 0.0079 |
| 2007 | 0.0000 | 0.2154 | 0.0000 | 0.0000 | 0.0088 | 0.2242 | 0.0264 | 0.0264 | 0.0176 | 0.0176 | 0.0351 | 0.0176 | 0.0176 | 0.0351 |
| 2008 | 0.0238 | 0.0064 | 0.0238 | 0.0212 | 0.0167 | 0.0592 | 0.0959 | 0.0592 | 0.0431 | 0.0341 | 0.0495 | 0.0322 | 0.0541 | 0.0129 |
| 2009 | 0.0436 | 0.0463 | 0.0292 | 0.0226 | 0.0173 | 0.0172 | 0.0288 | 0.0249 | 0.0441 | 0.0536 | 0.0463 | 0.0646 | 0.0639 | 0.0727 |
| 2010 | 0.0477 | 0.0533 | 0.0535 | 0.0293 | 0.0186 | 0.0191 | 0.0128 | 0.0196 | 0.0096 | 0.0264 | 0.0287 | 0.0450 | 0.0518 | 0.0591 |
| 2011 | 0.0352 | 0.0654 | 0.0839 | 0.1057 | 0.0789 | 0.0520 | 0.0503 | 0.0285 | 0.0168 | 0.0134 | 0.0117 | 0.0168 | 0.0185 | 0.0185 |

Table 6 (Continued).

| Year | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0085 | 0.0135 | 0.0114 | 0.0099 | 0.0087 | 0.0092 | 0.0060 | 0.0059 | 0.0062 | 0.0006 | 0.0009 | 0.0003 | 0.0005 | 0.0003 |
| 1985 | 0.0238 | 0.0052 | 0.0052 | 0.0020 | 0.0027 | 0.0043 | 0.0011 | 0.0020 | 0.0004 | 0.0007 | 0.0000 | 0.0000 | 0.0000 | 0.0001 |
| 1986 | 0.0246 | 0.0073 | 0.0182 | 0.0061 | 0.0122 | 0.0153 | 0.0000 | 0.0041 | 0.0081 | 0.0020 | 0.0000 | 0.0020 | 0.0000 | 0.0020 |
| 1987 | 0.0138 | 0.0094 | 0.0138 | 0.0000 | 0.0094 | 0.0421 | 0.0138 | 0.0094 | 0.0188 | 0.0094 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0234 | 0.0192 | 0.0257 | 0.0000 | 0.0126 | 0.0042 | 0.0000 | 0.0000 | 0.0150 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 |
| 1989 | 0.0137 | 0.0137 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0137 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0096 | 0.0036 | 0.0000 | 0.0036 | 0.0000 | 0.0347 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1991 | 0.0083 | 0.0015 | 0.0000 | 0.0105 | 0.0053 | 0.0015 | 0.0030 | 0.0038 | 0.0015 | 0.0038 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0068 | 0.0071 | 0.0008 | 0.0078 | 0.0004 | 0.0025 | 0.0025 | 0.0018 | 0.0024 | 0.0023 | 0.0023 | 0.0023 | 0.0000 | 0.0000 |
| 1993 | 0.0075 | 0.0089 | 0.0057 | 0.0044 | 0.0023 | 0.0028 | 0.0010 | 0.0014 | 0.0008 | 0.0008 | 0.0004 | 0.0002 | 0.0002 | 0.0002 |
| 1994 | 0.0009 | 0.0009 | 0.0216 | 0.0009 | 0.0019 | 0.0009 | 0.0009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0106 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0082 | 0.0029 | 0.0019 | 0.0154 | 0.0010 | 0.0067 | 0.0000 | 0.0000 | 0.0058 | 0.0000 | 0.0000 | 0.0000 | 0.0010 | 0.0000 |
| 1997 | 0.0000 | 0.0103 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0244 | 0.0325 | 0.0163 | 0.0325 | 0.0081 | 0.0081 | 0.0081 | 0.0000 | 0.0163 | 0.0000 | 0.0081 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0778 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1468 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0734 | 0.0000 | 0.0000 |
| 2000 | 0.0142 | 0.0142 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0142 | 0.0142 | 0.0142 | 0.0000 | 0.0142 | 0.0000 |
| 2001 | 0.0417 | 0.0224 | 0.0193 | 0.0203 | 0.0169 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0174 | 0.0163 | 0.0277 | 0.0266 | 0.0147 | 0.0049 | 0.0098 | 0.0103 | 0.0000 | 0.0054 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0009 | 0.0028 | 0.0103 | 0.0019 | 0.0019 | 0.0206 | 0.0000 | 0.0019 | 0.0052 | 0.0019 | 0.0000 | 0.0000 | 0.0000 | 0.0052 |
| 2004 | 0.0042 | 0.0039 | 0.0025 | 0.0042 | 0.0042 | 0.0042 | 0.0042 | 0.0083 | 0.0025 | 0.0025 | 0.0042 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0026 | 0.0013 | 0.0019 | 0.0006 | 0.0176 | 0.0006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0169 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0059 | 0.0011 | 0.0090 | 0.0079 | 0.0183 | 0.0147 | 0.0090 | 0.0102 | 0.0000 | 0.0023 | 0.0000 | 0.0000 | 0.0011 | 0.0000 |
| 2007 | 0.0088 | 0.0088 | 0.0000 | 0.0000 | 0.0088 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0097 | 0.0103 | 0.0032 | 0.0064 | 0.0064 | 0.0000 | 0.0032 | 0.0006 | 0.0064 | 0.0097 | 0.0032 | 0.0000 | 0.0006 | 0.0032 |
| 2009 | 0.0619 | 0.0298 | 0.0195 | 0.0080 | 0.0080 | 0.0034 | 0.0057 | 0.0046 | 0.0023 | 0.0069 | 0.0023 | 0.0011 | 0.0011 | 0.0000 |
| 2010 | 0.0822 | 0.0529 | 0.0585 | 0.0343 | 0.0135 | 0.0079 | 0.0045 | 0.0011 | 0.0017 | 0.0000 | 0.0011 | 0.0000 | 0.0006 | 0.0006 |
| 2011 | 0.0201 | 0.0285 | 0.0470 | 0.0621 | 0.0235 | 0.0168 | 0.0117 | 0.0084 | 0.0084 | 0.0034 | 0.0050 | 0.0034 | 0.0017 | 0.0000 |

Table 6 (Continued).

| Year | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0018 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 0.0000 | 0.0000 | 0.0020 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 0.0000 | 0.0094 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1991 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1993 | 0.0004 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1994 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0000 | 0.0000 | 0.0000 | 0.0009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0000 | 0.0032 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 0.0011 | 0.0046 | 0.0000 | 0.0000 | 0.0011 | 0.0023 | 0.0000 | 0.0011 | 0.0000 | 0.0000 | 0.0011 | 0.0011 |
| 2010 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.0011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2011 | 0.0000 | 0.0000 | 0.0034 | 0.0017 | 0.0000 | 0.0034 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Table 7. Weighted length composition (FL in cm) for combined commercial handline and longline blueline tilefish.

| Year | (N)fish | (N)trips | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 1042 | 66 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.0006 |
| 1985 | 1583 | 99 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0001 | 0.0000 | 0.0000 |
| 1986 | 708 | 61 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 327 | 46 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0038 | 0.0000 |
| 1988 | 289 | 34 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0062 | 0.0107 |
| 1989 | 209 | 37 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0044 | 0.0177 |
| 1990 | 711 | 49 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.0024 | 0.0000 | 0.0037 |
| 1991 | 523 | 53 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 1740 | 71 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0027 | 0.0000 | 0.0027 | 0.0060 |
| 1993 | 4002 | 114 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 |
| 1994 | 626 | 56 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0030 | 0.0049 |
| 1995 | 747 | 69 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0009 | 0.0009 | 0.0000 | 0.0000 | 0.0043 | 0.0000 |
| 1996 | 592 | 37 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0013 | 0.0000 | 0.0000 |
| 1997 | 199 | 26 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0029 | 0.0000 | 0.0000 |
| 1998 | 279 | 22 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0037 | 0.0000 | 0.0037 |
| 1999 | 414 | 43 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0027 | 0.0000 |
| 2000 | 580 | 61 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 | 0.0021 | 0.0021 | 0.0018 | 0.0021 |
| 2001 | 734 | 65 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0029 | 0.0029 | 0.0000 |
| 2002 | 630 | 61 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 |
| 2003 | 585 | 62 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 |
| 2004 | 914 | 64 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0014 | 0.0027 | 0.0081 |
| 2005 | 550 | 52 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 | 0.0011 | 0.0011 |
| 2006 | 1480 | 65 | 0.0033 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0007 | 0.0007 | 0.0021 | 0.0021 | 0.0007 |
| 2007 | 364 | 72 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0030 | 0.0000 | 0.0000 |
| 2008 | 553 | 77 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0042 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 1251 | 133 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2010 | 1134 | 127 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0022 | 0.0000 | 0.0000 |
| 2011 | 732 | 79 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 | 0.0000 | 0.0000 |

Table 7 (Continued).

| Year | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0006 | 0.0000 | 0.0007 | 0.0000 | 0.0046 | 0.0028 | 0.0012 | 0.0068 | 0.0072 | 0.0083 | 0.0072 | 0.0114 | 0.0128 | 0.0123 |
| 1985 | 0.0000 | 0.0000 | 0.0002 | 0.0003 | 0.0003 | 0.0020 | 0.0009 | 0.0046 | 0.0047 | 0.0122 | 0.0109 | 0.0131 | 0.0259 | 0.0363 |
| 1986 | 0.0000 | 0.0000 | 0.0020 | 0.0000 | 0.0039 | 0.0013 | 0.0020 | 0.0105 | 0.0125 | 0.0086 | 0.0113 | 0.0134 | 0.0148 | 0.0184 |
| 1987 | 0.0038 | 0.0000 | 0.0038 | 0.0143 | 0.0143 | 0.0082 | 0.0247 | 0.0175 | 0.0088 | 0.0257 | 0.0220 | 0.0142 | 0.0351 | 0.0290 |
| 1988 | 0.0062 | 0.0205 | 0.0272 | 0.0124 | 0.0195 | 0.0077 | 0.0247 | 0.0186 | 0.0099 | 0.0072 | 0.0247 | 0.0296 | 0.0159 | 0.0072 |
| 1989 | 0.0088 | 0.0044 | 0.0133 | 0.0088 | 0.0221 | 0.0044 | 0.0088 | 0.0335 | 0.0209 | 0.0228 | 0.0554 | 0.0209 | 0.0265 | 0.0282 |
| 1990 | 0.0059 | 0.0114 | 0.0085 | 0.0278 | 0.0275 | 0.0281 | 0.0456 | 0.0267 | 0.0210 | 0.0532 | 0.0324 | 0.0401 | 0.0286 | 0.0202 |
| 1991 | 0.0000 | 0.0006 | 0.0096 | 0.0092 | 0.0102 | 0.0107 | 0.0217 | 0.0276 | 0.0578 | 0.0462 | 0.0347 | 0.0262 | 0.0384 | 0.0391 |
| 1992 | 0.0057 | 0.0054 | 0.0027 | 0.0084 | 0.0057 | 0.0114 | 0.0042 | 0.0184 | 0.0201 | 0.0234 | 0.0222 | 0.0209 | 0.0457 | 0.0364 |
| 1993 | 0.0000 | 0.0016 | 0.0039 | 0.0039 | 0.0048 | 0.0029 | 0.0063 | 0.0118 | 0.0156 | 0.0225 | 0.0275 | 0.0310 | 0.0326 | 0.0425 |
| 1994 | 0.0011 | 0.0068 | 0.0137 | 0.0023 | 0.0004 | 0.0049 | 0.0105 | 0.0148 | 0.0326 | 0.0250 | 0.0409 | 0.0310 | 0.0354 | 0.0452 |
| 1995 | 0.0026 | 0.0051 | 0.0049 | 0.0110 | 0.0101 | 0.0083 | 0.0160 | 0.0076 | 0.0293 | 0.0212 | 0.0247 | 0.0358 | 0.0426 | 0.0681 |
| 1996 | 0.0069 | 0.0013 | 0.0112 | 0.0288 | 0.0178 | 0.0041 | 0.0212 | 0.0287 | 0.0311 | 0.1017 | 0.0800 | 0.0589 | 0.0368 | 0.0512 |
| 1997 | 0.0068 | 0.0000 | 0.0068 | 0.0000 | 0.0029 | 0.0029 | 0.0222 | 0.0455 | 0.0059 | 0.0290 | 0.0365 | 0.0329 | 0.0088 | 0.0654 |
| 1998 | 0.0187 | 0.0225 | 0.0112 | 0.0150 | 0.0075 | 0.0225 | 0.0299 | 0.0262 | 0.0225 | 0.0384 | 0.0225 | 0.0447 | 0.0299 | 0.0284 |
| 1999 | 0.0000 | 0.0027 | 0.0065 | 0.0068 | 0.0150 | 0.0109 | 0.0215 | 0.0377 | 0.0388 | 0.0608 | 0.0341 | 0.0319 | 0.0323 | 0.0486 |
| 2000 | 0.0039 | 0.0021 | 0.0142 | 0.0057 | 0.0083 | 0.0117 | 0.0115 | 0.0312 | 0.0318 | 0.0429 | 0.0417 | 0.0643 | 0.0705 | 0.0494 |
| 2001 | 0.0024 | 0.0069 | 0.0127 | 0.0124 | 0.0077 | 0.0122 | 0.0191 | 0.0273 | 0.0244 | 0.0506 | 0.0262 | 0.0574 | 0.0408 | 0.0423 |
| 2002 | 0.0068 | 0.0068 | 0.0068 | 0.0073 | 0.0073 | 0.0292 | 0.0087 | 0.0068 | 0.0447 | 0.0484 | 0.0644 | 0.0309 | 0.0307 | 0.0532 |
| 2003 | 0.0013 | 0.0023 | 0.0039 | 0.0003 | 0.0271 | 0.0147 | 0.0300 | 0.0367 | 0.0474 | 0.0643 | 0.0822 | 0.0643 | 0.0390 | 0.0512 |
| 2004 | 0.0021 | 0.0084 | 0.0123 | 0.0158 | 0.0235 | 0.0141 | 0.0212 | 0.0144 | 0.0425 | 0.0370 | 0.0404 | 0.0497 | 0.0656 | 0.0443 |
| 2005 | 0.0011 | 0.0045 | 0.0218 | 0.0102 | 0.0124 | 0.0252 | 0.0219 | 0.0307 | 0.0502 | 0.0865 | 0.0540 | 0.0350 | 0.0421 | 0.0400 |
| 2006 | 0.0063 | 0.0119 | 0.0246 | 0.0291 | 0.0359 | 0.0261 | 0.0306 | 0.0334 | 0.0374 | 0.0541 | 0.0395 | 0.0458 | 0.0524 | 0.0433 |
| 2007 | 0.0000 | 0.0060 | 0.0060 | 0.0030 | 0.0208 | 0.0328 | 0.0298 | 0.0268 | 0.0387 | 0.0387 | 0.0398 | 0.0479 | 0.0774 | 0.0350 |
| 2008 | 0.0000 | 0.0000 | 0.0084 | 0.0084 | 0.0084 | 0.0000 | 0.0030 | 0.0198 | 0.0085 | 0.0141 | 0.0380 | 0.0263 | 0.0397 | 0.0468 |
| 2009 | 0.0000 | 0.0005 | 0.0000 | 0.0005 | 0.0079 | 0.0015 | 0.0087 | 0.0021 | 0.0130 | 0.0268 | 0.0138 | 0.0127 | 0.0386 | 0.0165 |
| 2010 | 0.0000 | 0.0000 | 0.0008 | 0.0015 | 0.0008 | 0.0032 | 0.0104 | 0.0030 | 0.0091 | 0.0127 | 0.0092 | 0.0031 | 0.0286 | 0.0135 |
| 2011 | 0.0000 | 0.0000 | 0.0014 | 0.0000 | 0.0023 | 0.0023 | 0.0045 | 0.0023 | 0.0028 | 0.0062 | 0.0111 | 0.0156 | 0.0125 | 0.0168 |

Table 7 (Continued).

| Year | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0120 | 0.0147 | 0.0113 | 0.0241 | 0.0195 | 0.0167 | 0.1276 | 0.0286 | 0.1313 | 0.1268 | 0.0134 | 0.0323 | 0.0170 | 0.0074 |
| 1985 | 0.0389 | 0.0371 | 0.0587 | 0.0383 | 0.0355 | 0.0390 | 0.0432 | 0.0473 | 0.0460 | 0.0371 | 0.0607 | 0.0913 | 0.0582 | 0.0557 |
| 1986 | 0.0293 | 0.0234 | 0.0266 | 0.0652 | 0.0436 | 0.0560 | 0.0620 | 0.0578 | 0.0572 | 0.0607 | 0.0438 | 0.0713 | 0.0435 | 0.0329 |
| 1987 | 0.0273 | 0.0297 | 0.0285 | 0.0543 | 0.0370 | 0.0486 | 0.0568 | 0.0350 | 0.0315 | 0.0437 | 0.0565 | 0.0621 | 0.0496 | 0.0389 |
| 1988 | 0.0077 | 0.0148 | 0.0350 | 0.0515 | 0.0301 | 0.0518 | 0.0393 | 0.0842 | 0.0518 | 0.0350 | 0.0483 | 0.0613 | 0.0381 | 0.0352 |
| 1989 | 0.0158 | 0.0463 | 0.0333 | 0.0514 | 0.0509 | 0.0479 | 0.0133 | 0.0392 | 0.0153 | 0.0197 | 0.0327 | 0.0723 | 0.0207 | 0.0417 |
| 1990 | 0.0266 | 0.0355 | 0.0142 | 0.0352 | 0.0294 | 0.0432 | 0.0608 | 0.0409 | 0.0300 | 0.0315 | 0.0293 | 0.0503 | 0.0496 | 0.0100 |
| 1991 | 0.0599 | 0.0362 | 0.0513 | 0.0468 | 0.0524 | 0.0428 | 0.0441 | 0.0336 | 0.0435 | 0.0401 | 0.0283 | 0.0400 | 0.0294 | 0.0102 |
| 1992 | 0.0419 | 0.0474 | 0.0520 | 0.0646 | 0.0581 | 0.0509 | 0.0490 | 0.0667 | 0.0436 | 0.0507 | 0.0491 | 0.0543 | 0.0169 | 0.0202 |
| 1993 | 0.0411 | 0.0323 | 0.0595 | 0.0608 | 0.0644 | 0.0632 | 0.0633 | 0.0485 | 0.0499 | 0.0475 | 0.0529 | 0.0423 | 0.0300 | 0.0255 |
| 1994 | 0.0433 | 0.0493 | 0.0606 | 0.0641 | 0.0565 | 0.0469 | 0.0594 | 0.0537 | 0.0465 | 0.0450 | 0.0403 | 0.0422 | 0.0161 | 0.0132 |
| 1995 | 0.0480 | 0.0447 | 0.0425 | 0.0658 | 0.0317 | 0.0434 | 0.0636 | 0.0779 | 0.0512 | 0.0519 | 0.0433 | 0.0240 | 0.0201 | 0.0156 |
| 1996 | 0.0601 | 0.0493 | 0.0521 | 0.0442 | 0.0379 | 0.0372 | 0.0283 | 0.0266 | 0.0184 | 0.0188 | 0.0158 | 0.0373 | 0.0320 | 0.0087 |
| 1997 | 0.0518 | 0.0184 | 0.0872 | 0.0665 | 0.0437 | 0.0569 | 0.0507 | 0.0485 | 0.0343 | 0.0330 | 0.0095 | 0.0431 | 0.0362 | 0.0297 |
| 1998 | 0.0290 | 0.0484 | 0.0513 | 0.0625 | 0.0425 | 0.0122 | 0.0197 | 0.0656 | 0.0941 | 0.0253 | 0.0197 | 0.0544 | 0.0285 | 0.0228 |
| 1999 | 0.0300 | 0.0329 | 0.0541 | 0.0501 | 0.0242 | 0.0164 | 0.0343 | 0.0710 | 0.0339 | 0.0466 | 0.0193 | 0.0223 | 0.0230 | 0.0141 |
| 2000 | 0.0387 | 0.0620 | 0.0625 | 0.0614 | 0.0416 | 0.0360 | 0.0210 | 0.0278 | 0.0119 | 0.0267 | 0.0307 | 0.0338 | 0.0195 | 0.0253 |
| 2001 | 0.0452 | 0.0512 | 0.0355 | 0.0497 | 0.0367 | 0.0543 | 0.0357 | 0.0483 | 0.0302 | 0.0327 | 0.0248 | 0.0491 | 0.0133 | 0.0247 |
| 2002 | 0.0444 | 0.0844 | 0.0552 | 0.0547 | 0.0310 | 0.0432 | 0.0452 | 0.0222 | 0.0355 | 0.0290 | 0.0146 | 0.0478 | 0.0262 | 0.0216 |
| 2003 | 0.0257 | 0.0605 | 0.0430 | 0.0433 | 0.0304 | 0.0329 | 0.0401 | 0.0155 | 0.0104 | 0.0194 | 0.0266 | 0.0358 | 0.0194 | 0.0173 |
| 2004 | 0.0499 | 0.0509 | 0.0532 | 0.0537 | 0.0497 | 0.0318 | 0.0553 | 0.0116 | 0.0364 | 0.0172 | 0.0306 | 0.0262 | 0.0144 | 0.0223 |
| 2005 | 0.0299 | 0.0281 | 0.0379 | 0.0293 | 0.0263 | 0.0306 | 0.0446 | 0.0268 | 0.0266 | 0.0208 | 0.0271 | 0.0253 | 0.0271 | 0.0115 |
| 2006 | 0.0344 | 0.0374 | 0.0452 | 0.0332 | 0.0224 | 0.0256 | 0.0310 | 0.0339 | 0.0325 | 0.0277 | 0.0345 | 0.0286 | 0.0260 | 0.0166 |
| 2007 | 0.0566 | 0.0357 | 0.0360 | 0.0366 | 0.0350 | 0.0393 | 0.0244 | 0.0486 | 0.0274 | 0.0304 | 0.0305 | 0.0269 | 0.0222 | 0.0212 |
| 2008 | 0.0600 | 0.0549 | 0.0562 | 0.0513 | 0.0348 | 0.0333 | 0.0159 | 0.0334 | 0.0528 | 0.0188 | 0.0423 | 0.0757 | 0.0381 | 0.0505 |
| 2009 | 0.0595 | 0.0405 | 0.0491 | 0.0592 | 0.0462 | 0.0323 | 0.0381 | 0.0240 | 0.0249 | 0.0200 | 0.0277 | 0.0417 | 0.0432 | 0.0352 |
| 2010 | 0.0225 | 0.0275 | 0.0411 | 0.0501 | 0.0683 | 0.0467 | 0.0460 | 0.0507 | 0.0361 | 0.0386 | 0.0334 | 0.0202 | 0.0158 | 0.0156 |
| 2011 | 0.0179 | 0.0267 | 0.0321 | 0.0213 | 0.0211 | 0.0308 | 0.0612 | 0.0814 | 0.0951 | 0.0710 | 0.0473 | 0.0450 | 0.0282 | 0.0238 |

Table 7 (Continued).

| Year | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.1173 | 0.0112 | 0.0067 | 0.0087 | 0.1183 | 0.0109 | 0.0131 | 0.0107 | 0.0090 | 0.0068 | 0.0101 | 0.0059 | 0.0046 | 0.0048 |
| 1985 | 0.0361 | 0.0422 | 0.0300 | 0.0267 | 0.0143 | 0.0235 | 0.0062 | 0.0056 | 0.0026 | 0.0031 | 0.0046 | 0.0012 | 0.0019 | 0.0005 |
| 1986 | 0.0132 | 0.0393 | 0.0310 | 0.0286 | 0.0148 | 0.0278 | 0.0142 | 0.0096 | 0.0045 | 0.0135 | 0.0177 | 0.0032 | 0.0021 | 0.0043 |
| 1987 | 0.0295 | 0.0155 | 0.0109 | 0.0236 | 0.0121 | 0.0100 | 0.0104 | 0.0078 | 0.0038 | 0.0104 | 0.0121 | 0.0116 | 0.0027 | 0.0093 |
| 1988 | 0.0454 | 0.0316 | 0.0225 | 0.0124 | 0.0000 | 0.0277 | 0.0067 | 0.0090 | 0.0000 | 0.0044 | 0.0015 | 0.0000 | 0.0000 | 0.0052 |
| 1989 | 0.0263 | 0.0102 | 0.0526 | 0.0255 | 0.0307 | 0.0114 | 0.0025 | 0.0133 | 0.0105 | 0.0000 | 0.0044 | 0.0000 | 0.0044 | 0.0000 |
| 1990 | 0.0162 | 0.0232 | 0.0324 | 0.0075 | 0.0087 | 0.0087 | 0.0039 | 0.0000 | 0.0026 | 0.0093 | 0.0128 | 0.0020 | 0.0000 | 0.0013 |
| 1991 | 0.0236 | 0.0142 | 0.0167 | 0.0107 | 0.0149 | 0.0031 | 0.0063 | 0.0000 | 0.0039 | 0.0020 | 0.0006 | 0.0011 | 0.0104 | 0.0006 |
| 1992 | 0.0126 | 0.0146 | 0.0087 | 0.0057 | 0.0043 | 0.0074 | 0.0073 | 0.0050 | 0.0068 | 0.0045 | 0.0013 | 0.0013 | 0.0018 | 0.0039 |
| 1993 | 0.0181 | 0.0188 | 0.0170 | 0.0111 | 0.0105 | 0.0091 | 0.0066 | 0.0058 | 0.0039 | 0.0015 | 0.0017 | 0.0006 | 0.0009 | 0.0016 |
| 1994 | 0.0182 | 0.0156 | 0.0061 | 0.0132 | 0.0121 | 0.0004 | 0.0045 | 0.0088 | 0.0022 | 0.0008 | 0.0045 | 0.0040 | 0.0000 | 0.0000 |
| 1995 | 0.0139 | 0.0107 | 0.0073 | 0.0132 | 0.0126 | 0.0074 | 0.0012 | 0.0033 | 0.0083 | 0.0000 | 0.0017 | 0.0017 | 0.0000 | 0.0017 |
| 1996 | 0.0037 | 0.0060 | 0.0099 | 0.0095 | 0.0021 | 0.0113 | 0.0032 | 0.0004 | 0.0033 | 0.0002 | 0.0014 | 0.0000 | 0.0000 | 0.0012 |
| 1997 | 0.0470 | 0.0165 | 0.0000 | 0.0119 | 0.0297 | 0.0000 | 0.0097 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0247 | 0.0284 | 0.0028 | 0.0009 | 0.0019 | 0.0028 | 0.0038 | 0.0019 | 0.0038 | 0.0009 | 0.0009 | 0.0009 | 0.0000 | 0.0019 |
| 1999 | 0.0324 | 0.0053 | 0.0032 | 0.0060 | 0.0135 | 0.0301 | 0.0048 | 0.0011 | 0.0016 | 0.0000 | 0.0021 | 0.0466 | 0.0000 | 0.0000 |
| 2000 | 0.0137 | 0.0231 | 0.0113 | 0.0100 | 0.0048 | 0.0022 | 0.0057 | 0.0018 | 0.0021 | 0.0039 | 0.0000 | 0.0018 | 0.0018 | 0.0039 |
| 2001 | 0.0175 | 0.0171 | 0.0153 | 0.0155 | 0.0143 | 0.0141 | 0.0093 | 0.0055 | 0.0058 | 0.0049 | 0.0000 | 0.0011 | 0.0000 | 0.0000 |
| 2002 | 0.0250 | 0.0122 | 0.0128 | 0.0054 | 0.0045 | 0.0102 | 0.0032 | 0.0054 | 0.0052 | 0.0029 | 0.0010 | 0.0019 | 0.0020 | 0.0000 |
| 2003 | 0.0399 | 0.0313 | 0.0049 | 0.0039 | 0.0044 | 0.0002 | 0.0030 | 0.0027 | 0.0028 | 0.0074 | 0.0054 | 0.0046 | 0.0005 | 0.0013 |
| 2004 | 0.0228 | 0.0175 | 0.0038 | 0.0085 | 0.0045 | 0.0038 | 0.0029 | 0.0069 | 0.0023 | 0.0016 | 0.0076 | 0.0023 | 0.0033 | 0.0010 |
| 2005 | 0.0287 | 0.0144 | 0.0159 | 0.0333 | 0.0222 | 0.0145 | 0.0003 | 0.0027 | 0.0002 | 0.0041 | 0.0002 | 0.0000 | 0.0150 | 0.0000 |
| 2006 | 0.0208 | 0.0111 | 0.0191 | 0.0051 | 0.0055 | 0.0025 | 0.0003 | 0.0075 | 0.0024 | 0.0055 | 0.0044 | 0.0027 | 0.0031 | 0.0000 |
| 2007 | 0.0309 | 0.0111 | 0.0166 | 0.0147 | 0.0117 | 0.0014 | 0.0127 | 0.0054 | 0.0071 | 0.0003 | 0.0054 | 0.0054 | 0.0000 | 0.0000 |
| 2008 | 0.0307 | 0.0326 | 0.0204 | 0.0258 | 0.0061 | 0.0045 | 0.0090 | 0.0058 | 0.0031 | 0.0038 | 0.0000 | 0.0015 | 0.0003 | 0.0030 |
| 2009 | 0.0558 | 0.0403 | 0.0540 | 0.0359 | 0.0359 | 0.0337 | 0.0129 | 0.0149 | 0.0057 | 0.0036 | 0.0020 | 0.0046 | 0.0045 | 0.0010 |
| 2010 | 0.0230 | 0.0263 | 0.0439 | 0.0486 | 0.0471 | 0.0673 | 0.0406 | 0.0403 | 0.0256 | 0.0136 | 0.0054 | 0.0031 | 0.0008 | 0.0013 |
| 2011 | 0.0239 | 0.0145 | 0.0210 | 0.0179 | 0.0179 | 0.0182 | 0.0276 | 0.0419 | 0.0527 | 0.0199 | 0.0142 | 0.0100 | 0.0071 | 0.0094 |

Table 7 (Continued).

| Year | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1984 | 0.0005 | 0.0007 | 0.0003 | 0.0004 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 0.0006 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0016 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 0.0011 | 0.0000 | 0.0011 | 0.0000 | 0.0011 | 0.0000 | 0.0000 | 0.0011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 0.0027 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0027 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0000 | 0.0000 | 0.0000 | 0.0015 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0070 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0013 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1991 | 0.0014 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0050 | 0.0012 | 0.0012 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1993 | 0.0005 | 0.0002 | 0.0001 | 0.0023 | 0.0001 | 0.0002 | 0.0001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1994 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0000 | 0.0000 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0068 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0000 | 0.0009 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0015 | 0.0026 | 0.0259 | 0.0005 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2000 | 0.0039 | 0.0022 | 0.0018 | 0.0057 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0011 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0013 | 0.0000 | 0.0000 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0010 | 0.0016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0069 | 0.0039 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0069 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0007 | 0.0000 | 0.0000 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0011 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0045 | 0.0015 | 0.0000 | 0.0003 | 0.0015 | 0.0000 | 0.0015 | 0.0000 | 0.0003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 0.0030 | 0.0010 | 0.0009 | 0.0005 | 0.0000 | 0.0005 | 0.0020 | 0.0000 | 0.0000 | 0.0005 | 0.0010 | 0.0000 | 0.0005 | 0.0000 |
| 2010 | 0.0000 | 0.0008 | 0.0000 | 0.0004 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0004 | 0.0000 | 0.0000 | 0.0008 | 0.0000 |
| 2011 | 0.0028 | 0.0054 | 0.0051 | 0.0014 | 0.0000 | 0.0000 | 0.0000 | 0.0028 | 0.0014 | 0.0000 | 0.0028 | 0.0000 | 0.0000 | 0.0000 |

Table 7 (Continued).

| Year | 88 | 89 | 90 |
|---|---|---|---|
| 1984 | 0.0000 | 0.0000 | 0.0000 |
| 1985 | 0.0000 | 0.0000 | 0.0000 |
| 1986 | 0.0000 | 0.0000 | 0.0000 |
| 1987 | 0.0000 | 0.0000 | 0.0000 |
| 1988 | 0.0000 | 0.0000 | 0.0000 |
| 1989 | 0.0000 | 0.0000 | 0.0000 |
| 1990 | 0.0000 | 0.0000 | 0.0000 |
| 1991 | 0.0000 | 0.0000 | 0.0000 |
| 1992 | 0.0000 | 0.0000 | 0.0000 |
| 1993 | 0.0000 | 0.0000 | 0.0000 |
| 1994 | 0.0000 | 0.0000 | 0.0000 |
| 1995 | 0.0000 | 0.0000 | 0.0000 |
| 1996 | 0.0000 | 0.0000 | 0.0000 |
| 1997 | 0.0000 | 0.0000 | 0.0000 |
| 1998 | 0.0000 | 0.0000 | 0.0000 |
| 1999 | 0.0000 | 0.0000 | 0.0000 |
| 2000 | 0.0000 | 0.0000 | 0.0000 |
| 2001 | 0.0000 | 0.0000 | 0.0000 |
| 2002 | 0.0000 | 0.0000 | 0.0000 |
| 2003 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0000 | 0.0000 | 0.0000 |
| 2007 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0000 | 0.0000 | 0.0000 |
| 2009 | 0.0000 | 0.0005 | 0.0005 |
| 2010 | 0.0000 | 0.0000 | 0.0000 |
| 2011 | 0.0000 | 0.0000 | 0.0000 |

Table 8. Weighted age composition for commercial handline blueline tilefish with ages 16-36 pooled to the 15-plus bin.

| Year | (N) Fish | (N) Trips | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 2003 | 1 | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 | 0.0000 |
| 2005 | 30 | 11 | 0.0000 | 0.0000 | 0.2026 | 0.0326 | 0.0000 | 0.3694 | 0.2939 |
| 2006 | 16 | 8 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0129 | 0.0129 |
| 2007 | 87 | 30 | 0.0000 | 0.0676 | 0.0855 | 0.1785 | 0.2242 | 0.1354 | 0.0842 |
| 2008 | 107 | 48 | 0.0000 | 0.0000 | 0.0304 | 0.3427 | 0.1495 | 0.2056 | 0.1312 |
| 2009 | 122 | 53 | 0.0000 | 0.0000 | 0.0264 | 0.1417 | 0.3996 | 0.2269 | 0.0908 |
| 2010 | 180 | 68 | 0.0000 | 0.0000 | 0.0342 | 0.1692 | 0.2840 | 0.1887 | 0.1617 |
| 2011 | 105 | 32 | 0.0000 | 0.0000 | 0.1539 | 0.1244 | 0.2831 | 0.1766 | 0.0419 |

| Year | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15+ |
|---|---|---|---|---|---|---|---|---|
| 2003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 0.0000 | 0.0000 | 0.1016 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.5800 | 0.2461 | 0.0682 | 0.0000 | 0.0400 | 0.0000 | 0.0000 | 0.0400 |
| 2007 | 0.0876 | 0.0351 | 0.0408 | 0.0184 | 0.0243 | 0.0069 | 0.0029 | 0.0086 |
| 2008 | 0.0631 | 0.0357 | 0.0101 | 0.0000 | 0.0017 | 0.0000 | 0.0011 | 0.0290 |
| 2009 | 0.0655 | 0.0243 | 0.0224 | 0.0000 | 0.0002 | 0.0000 | 0.0000 | 0.0021 |
| 2010 | 0.0911 | 0.0377 | 0.0205 | 0.0046 | 0.0023 | 0.0010 | 0.0025 | 0.0025 |
| 2011 | 0.0659 | 0.0789 | 0.0186 | 0.0030 | 0.0226 | 0.0000 | 0.0045 | 0.0266 |

Table 9. Weighted age composition for commercial longline blueline tilefish with ages 16-27 pooled to the 15-plus bin.

| Year | (N) Fish | (N) Trips | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 2003 | 5 | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.5172 | 0.4330 | 0.0000 |
| 2004 | 2 | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 21 | 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1817 | 0.2177 | 0.2511 |
| 2006 | 30 | 8 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1036 | 0.1472 | 0.2172 |
| 2007 | 24 | 5 | 0.0000 | 0.0000 | 0.0000 | 0.0597 | 0.0336 | 0.2437 | 0.1653 |
| 2008 | 35 | 5 | 0.0000 | 0.0000 | 0.1065 | 0.1067 | 0.1164 | 0.3678 | 0.1352 |
| 2009 | 516 | 48 | 0.0130 | 0.0106 | 0.0266 | 0.0188 | 0.0793 | 0.3338 | 0.2762 |
| 2010 | 771 | 53 | 0.0000 | 0.0023 | 0.0295 | 0.0632 | 0.1230 | 0.2473 | 0.2637 |
| 2011 | 571 | 38 | 0.0000 | 0.0051 | 0.0437 | 0.0818 | 0.1771 | 0.2154 | 0.2169 |

| Year | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15+ |
|---|---|---|---|---|---|---|---|---|
| 2003 | 0.0000 | 0.0000 | 0.0000 | 0.0498 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 |
| 2005 | 0.2739 | 0.0000 | 0.0000 | 0.0755 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2006 | 0.0663 | 0.1602 | 0.0000 | 0.0283 | 0.0249 | 0.0253 | 0.1224 | 0.1047 |
| 2007 | 0.4865 | 0.0000 | 0.0000 | 0.0112 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2008 | 0.0607 | 0.0766 | 0.0100 | 0.0000 | 0.0000 | 0.0192 | 0.0000 | 0.0010 |
| 2009 | 0.1282 | 0.0583 | 0.0153 | 0.0099 | 0.0026 | 0.0087 | 0.0037 | 0.0149 |
| 2010 | 0.1380 | 0.0726 | 0.0305 | 0.0125 | 0.0053 | 0.0023 | 0.0038 | 0.0061 |
| 2011 | 0.1521 | 0.0480 | 0.0338 | 0.0036 | 0.0103 | 0.0051 | 0.0035 | 0.0036 |

Table 10. Weighted age composition for combined commercial handline and longline blueline tilefish with ages 16-36 pooled to the 15-plus bin.

| Year | N(fish) | N(trips) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 2003 | 6 | 2 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3227 | 0.6555 | 0.0000 |
| 2004 | 2 | 1 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2005 | 51 | 13 | 0.0000 | 0.0000 | 0.0419 | 0.1137 | 0.1457 | 0.1785 | 0.2418 |
| 2006 | 46 | 16 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.1202 | 0.1151 | 0.2301 |
| 2007 | 111 | 35 | 0.0000 | 0.0239 | 0.1381 | 0.2103 | 0.2188 | 0.1087 | 0.0879 |
| 2008 | 142 | 53 | 0.0000 | 0.0000 | 0.0803 | 0.2195 | 0.1395 | 0.2535 | 0.1302 |
| 2009 | 638 | 101 | 0.0272 | 0.0070 | 0.0461 | 0.0643 | 0.1751 | 0.2895 | 0.2218 |
| 2010 | 951 | 121 | 0.0000 | 0.0104 | 0.0404 | 0.0924 | 0.1506 | 0.2229 | 0.2399 |
| 2011 | 676 | 70 | 0.0000 | 0.0055 | 0.0556 | 0.0854 | 0.1921 | 0.2092 | 0.1909 |

| Year | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15+ |
|---|---|---|---|---|---|---|---|---|
| 2003 | 0.0000 | 0.0000 | 0.0000 | 0.0218 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 2004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 |
| 2005 | 0.1961 | 0.0108 | 0.0196 | 0.0402 | 0.0000 | 0.0000 | 0.0000 | 0.0116 |
| 2006 | 0.1977 | 0.1442 | 0.0174 | 0.0345 | 0.0231 | 0.0093 | 0.0560 | 0.0525 |
| 2007 | 0.1290 | 0.0212 | 0.0385 | 0.0056 | 0.0092 | 0.0021 | 0.0034 | 0.0033 |
| 2008 | 0.0745 | 0.0598 | 0.0144 | 0.0000 | 0.0071 | 0.0050 | 0.0055 | 0.0109 |
| 2009 | 0.0913 | 0.0367 | 0.0159 | 0.0069 | 0.0026 | 0.0047 | 0.0025 | 0.0081 |
| 2010 | 0.1253 | 0.0628 | 0.0269 | 0.0111 | 0.0047 | 0.0026 | 0.0037 | 0.0064 |
| 2011 | 0.1404 | 0.0519 | 0.0308 | 0.0050 | 0.0119 | 0.0067 | 0.0043 | 0.0102 |

Table 11. Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1974 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1975 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1976 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1977 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1978 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1979 | - | - | - | - | - | - | - | - | - | - | - | - | 0.0328 | 0.0164 |
| 1980 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1981 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1982 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1983 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1984 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1985 | - | - | - | - | - | - | - | - | - | - | - | 0.0500 | - | - |
| 1986 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1987 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1988 | - | - | - | 0.1250 | - | - | - | - | - | 0.1250 | - | - | - | - |
| 1989 | - | - | - | - | - | 0.1000 | - | - | - | 0.1000 | - | - | 0.1000 | 0.2000 |
| 1990 | - | - | - | - | - | - | - | - | - | - | 0.1667 | - | - | 0.1667 |
| 1991 | 0.5000 | - | - | - | - | - | - | - | 0.5000 | - | - | - | - | - |
| 1992 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1993 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1994 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1995 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1996 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1997 | - | - | - | - | - | - | - | 0.0001 | - | - | 0.0003 | 0.0001 | 0.0002 | 0.0001 |
| 1998 | - | - | - | - | - | - | - | - | - | - | - | - | 0.0833 | - |
| 1999 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2000 | - | - | - | - | - | - | - | - | - | 0.0021 | 0.0021 | 0.0042 | - | 0.0042 |
| 2001 | - | - | - | - | - | - | - | - | - | - | - | - | 0.0006 | 0.0006 |
| 2002 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2003 | - | - | - | - | - | - | - | 0.0005 | - | 0.0005 | - | - | - | - |
| 2004 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2005 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2006 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2007 | - | - | - | - | - | - | - | - | 0.0033 | 0.0067 | 0.0033 | - | - | - |
| 2008 | - | - | - | - | - | - | - | - | - | 0.0000 | - | 0.0001 | - | 0.0000 |
| 2009 | - | - | - | - | - | - | - | - | - | 0.0067 | - | 0.0067 | 0.0067 | 0.0067 |
| 2010 | - | - | - | - | - | - | - | - | 0.0018 | - | 0.0018 | 0.0001 | 0.0000 | - |
| 2011 | - | - | - | - | - | - | - | - | - | - | - | 0.0161 | 0.0268 | 0.0295 |

Table 11 (continued). Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1974 | - | - | - | - | - | 0.0110 | - | - | - | 0.0220 | 0.0220 | 0.0440 | 0.0110 |
| 1975 | - | 0.0128 | - | - | - | - | 0.0128 | 0.0128 | - | 0.0256 | - | 0.0128 | - |
| 1976 | - | - | - | - | - | - | - | 0.0107 | - | - | 0.0107 | 0.0107 | 0.0107 |
| 1977 | - | - | - | - | - | - | - | 0.0152 | - | - | 0.0303 | 0.0152 | 0.0152 |
| 1978 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1979 | 0.0328 | 0.0328 | 0.0328 | 0.0164 | 0.0164 | 0.0492 | 0.0984 | 0.0656 | 0.0164 | 0.0164 | 0.0328 | 0.0820 | 0.0164 |
| 1980 | - | - | - | 0.0444 | - | 0.0444 | 0.0444 | 0.0222 | 0.0222 | 0.0444 | 0.0444 | 0.0667 | 0.0222 |
| 1981 | - | - | - | 0.0278 | - | - | - | 0.1111 | 0.1111 | - | 0.0556 | 0.0556 | - |
| 1982 | - | - | 0.0556 | - | - | - | - | - | - | 0.0556 | 0.0556 | - | - |
| 1983 | - | - | 0.0465 | 0.0233 | - | - | 0.0233 | - | - | - | - | 0.0465 | - |
| 1984 | - | - | - | - | - | - | - | 0.0690 | 0.0345 | 0.0690 | 0.0345 | - | - |
| 1985 | - | - | - | - | 0.0500 | - | 0.0500 | 0.0500 | 0.0500 | - | - | 0.0500 | - |
| 1986 | - | - | - | - | - | 0.1000 | 0.0667 | 0.0667 | - | - | - | 0.0667 | 0.0667 |
| 1987 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1988 | - | - | 0.1250 | - | - | 0.1250 | - | - | - | - | - | - | - |
| 1989 | - | - | 0.1000 | 0.1000 | - | 0.1000 | - | 0.2000 | - | - | - | - | - |
| 1990 | 0.1667 | - | 0.3333 | - | - | - | - | - | - | - | - | - | - |
| 1991 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1992 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1993 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1994 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1995 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1996 | - | 0.0339 | - | - | - | - | - | 0.0177 | - | 0.0516 | 0.0177 | 0.0516 | 0.0339 |
| 1997 | 0.0002 | 0.0001 | 0.0002 | 0.0001 | 0.0499 | - | 0.0001 | 0.0001 | 0.0001 | 0.0498 | 0.0499 | 0.0500 | - |
| 1998 | - | - | - | - | 0.0278 | 0.0556 | - | - | - | 0.0278 | 0.1111 | - | 0.0833 |
| 1999 | - | - | - | - | 0.0526 | - | - | 0.2105 | - | 0.0526 | - | - | 0.0526 |
| 2000 | 0.0146 | 0.0021 | 0.0084 | 0.0105 | 0.0042 | - | 0.0042 | - | 0.0021 | - | 0.0063 | - | 0.0021 |
| 2001 | - | 0.0012 | - | 0.0534 | 0.0521 | - | 0.0528 | 0.0012 | 0.0012 | 0.0006 | 0.0006 | 0.0006 | 0.0006 |
| 2002 | - | 0.3333 | - | - | - | - | - | - | - | - | - | 0.3333 | - |
| 2003 | - | 0.0285 | - | 0.0855 | 0.0285 | - | 0.0285 | - | 0.0005 | - | 0.0005 | 0.0855 | - |
| 2004 | - | - | - | - | - | - | - | - | 0.1133 | 0.2207 | - | - | - |
| 2005 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2006 | - | - | - | - | - | 0.0121 | 0.0303 | 0.0182 | 0.0061 | 0.0121 | 0.0182 | 0.0121 | 0.0182 |
| 2007 | - | - | - | - | - | 0.0033 | 0.0167 | 0.0033 | 0.0033 | 0.0069 | 0.0001 | 0.0001 | 0.0102 |
| 2008 | 0.0000 | 0.0030 | - | 0.0030 | - | 0.0029 | 0.0029 | 0.0059 | 0.0029 | 0.0059 | 0.0206 | 0.0147 | 0.0059 |
| 2009 | 0.0070 | 0.0205 | 0.0135 | 0.0073 | 0.0071 | 0.0081 | 0.0008 | 0.0004 | 0.0142 | 0.0071 | 0.0001 | 0.0071 | 0.0067 |
| 2010 | 0.0037 | 0.0038 | 0.0039 | 0.0039 | 0.0003 | 0.0025 | 0.0217 | 0.0009 | 0.0023 | 0.0027 | 0.0157 | 0.0107 | 0.0062 |
| 2011 | 0.0268 | 0.0028 | 0.0484 | 0.0217 | 0.0271 | 0.0592 | 0.0001 | 0.0190 | 0.0324 | 0.0485 | 0.0163 | 0.0324 | 0.0324 |

Table 11 (continued). Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1974 | - | 0.0110 | 0.0549 | 0.0220 | 0.0220 | 0.0440 | 0.0769 | 0.0440 | 0.0549 | 0.0220 | 0.0440 | 0.0440 |
| 1975 | 0.0385 | 0.0513 | - | 0.0256 | 0.0513 | 0.0385 | 0.0256 | 0.0256 | 0.0256 | 0.0128 | 0.0513 | 0.0513 |
| 1976 | 0.0321 | 0.0321 | 0.0214 | 0.0535 | 0.0374 | 0.0535 | 0.0481 | 0.0374 | 0.0428 | 0.0802 | 0.0428 | 0.0535 |
| 1977 | 0.0152 | 0.0758 | 0.0152 | 0.0152 | 0.0758 | 0.0606 | 0.0909 | 0.0303 | 0.0303 | 0.0606 | 0.0152 | 0.0455 |
| 1978 | - | - | - | 0.0313 | - | 0.0313 | - | 0.0313 | 0.0313 | 0.0938 | - | - |
| 1979 | - | - | 0.0164 | 0.0164 | - | 0.0656 | - | - | 0.0328 | 0.0164 | 0.0492 | 0.0492 |
| 1980 | - | 0.0667 | - | 0.0222 | - | - | 0.0444 | 0.0444 | 0.0222 | 0.0889 | 0.0444 | 0.0222 |
| 1981 | 0.0278 | 0.0833 | 0.0278 | 0.0278 | 0.0278 | 0.0278 | 0.0278 | - | 0.0278 | - | 0.0556 | 0.0556 |
| 1982 | - | 0.0556 | 0.1111 | 0.1667 | 0.1111 | - | 0.0556 | - | - | - | 0.0556 | - |
| 1983 | - | 0.0465 | - | 0.0233 | 0.0465 | 0.0233 | 0.0465 | 0.0465 | 0.0465 | 0.0698 | 0.1395 | 0.0465 |
| 1984 | 0.0345 | 0.0690 | 0.0345 | 0.0345 | 0.0690 | 0.0345 | 0.0345 | 0.0690 | 0.0690 | - | 0.0690 | 0.0345 |
| 1985 | 0.1000 | - | 0.1000 | 0.0500 | 0.0500 | 0.0500 | 0.1000 | 0.0500 | 0.0500 | - | - | - |
| 1986 | 0.0333 | - | 0.0333 | 0.0667 | 0.0333 | - | 0.1000 | - | 0.0333 | 0.0333 | 0.0333 | 0.1000 |
| 1987 | - | - | - | 0.0342 | - | 0.0171 | - | 0.0171 | 0.0171 | 0.8460 | 0.0171 | - |
| 1988 | - | - | - | 0.2500 | - | - | - | - | - | - | 0.1250 | - |
| 1989 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1990 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1991 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1992 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1993 | 0.3333 | - | - | - | - | - | - | - | - | - | - | - |
| 1994 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1995 | - | - | - | - | 0.5000 | - | - | - | - | - | - | - |
| 1996 | 0.0177 | 0.0177 | - | 0.0532 | - | - | 0.0710 | 0.0177 | 0.0532 | 0.0355 | 0.1032 | 0.0177 |
| 1997 | 0.0001 | 0.0001 | 0.0001 | 0.0499 | - | 0.0501 | 0.1497 | 0.0997 | 0.0001 | - | 0.1497 | 0.0998 |
| 1998 | - | - | - | 0.0278 | 0.0833 | 0.0833 | 0.0278 | - | 0.0833 | 0.0556 | 0.0556 | 0.0556 |
| 1999 | 0.0526 | 0.0526 | - | - | 0.0526 | - | - | - | - | - | - | 0.1053 |
| 2000 | - | 0.0021 | 0.0042 | 0.3082 | - | - | - | - | - | 0.3082 | - | - |
| 2001 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2002 | - | 0.3333 | - | - | - | - | - | - | - | - | - | - |
| 2003 | 0.0295 | - | 0.0285 | - | 0.0285 | 0.0285 | 0.0855 | 0.1709 | 0.1140 | 0.0855 | 0.0570 | - |
| 2004 | - | 0.1103 | 0.0010 | - | 0.0010 | 0.0010 | 0.0010 | - | - | 0.1103 | 0.1103 | - |
| 2005 | - | - | - | - | 0.0556 | 0.1667 | 0.1667 | 0.2222 | 0.0833 | - | - | - |
| 2006 | 0.0182 | 0.0242 | 0.0424 | 0.0606 | 0.0970 | 0.0303 | 0.0364 | 0.0788 | 0.0364 | 0.0667 | 0.0606 | 0.0182 |
| 2007 | 0.0134 | 0.0105 | 0.0202 | 0.0535 | 0.0635 | 0.0568 | 0.0466 | 0.0668 | 0.0534 | 0.0569 | 0.0801 | 0.0234 |
| 2008 | 0.0383 | 0.0236 | 0.0206 | 0.0325 | 0.0561 | 0.0472 | 0.0297 | 0.0266 | 0.0355 | 0.0471 | 0.0501 | 0.0383 |
| 2009 | 0.0205 | 0.0135 | 0.0338 | 0.0203 | 0.0202 | 0.0271 | 0.0271 | 0.0272 | 0.0069 | 0.0135 | 0.0741 | 0.0405 |
| 2010 | 0.0138 | 0.0279 | 0.0117 | 0.0022 | 0.0103 | 0.0255 | 0.0432 | 0.0315 | 0.0314 | 0.0527 | 0.0393 | 0.0471 |
| 2011 | 0.0056 | 0.0191 | 0.0163 | 0.0324 | 0.0164 | 0.0165 | 0.0029 | 0.0164 | 0.0190 | 0.0296 | 0.0001 | 0.0269 |

Table 11 (continued). Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1974 | 0.0220 | 0.0220 | 0.0110 | 0.0220 | 0.0220 | 0.0549 | 0.0549 | 0.0330 | 0.0330 | 0.0330 | 0.0220 | 0.0549 |
| 1975 | 0.0256 | - | 0.0385 | 0.0769 | 0.0256 | 0.0385 | 0.0256 | 0.0256 | 0.0128 | 0.0128 | 0.1026 | 0.0256 |
| 1976 | 0.0321 | 0.0695 | 0.0214 | 0.0374 | 0.0535 | 0.0321 | 0.0374 | 0.0535 | 0.0214 | 0.0053 | 0.0107 | 0.0107 |
| 1977 | 0.0303 | 0.0303 | 0.0758 | 0.0152 | 0.0606 | 0.0455 | - | - | 0.0606 | 0.0303 | - | - |
| 1978 | 0.0313 | 0.1250 | 0.0938 | 0.0625 | - | 0.0313 | 0.0313 | 0.0938 | 0.1250 | 0.0313 | 0.0313 | 0.0625 |
| 1979 | 0.0164 | 0.0328 | 0.0164 | 0.0164 | - | - | 0.0164 | - | 0.0328 | 0.0164 | - | 0.0164 |
| 1980 | 0.0667 | 0.0222 | 0.0222 | - | 0.0222 | 0.0222 | 0.0444 | - | - | 0.0667 | - | 0.0222 |
| 1981 | 0.0278 | - | - | 0.0556 | - | 0.0278 | - | - | - | 0.0278 | 0.0278 | 0.0278 |
| 1982 | 0.0556 | 0.1111 | - | 0.0556 | 0.0556 | - | - | - | - | - | - | - |
| 1983 | 0.0465 | 0.0233 | 0.0930 | 0.0465 | 0.0465 | - | - | - | 0.0233 | 0.0465 | - | - |
| 1984 | 0.0345 | - | - | - | 0.0345 | 0.0345 | - | - | 0.0345 | - | 0.0345 | 0.0345 |
| 1985 | - | 0.0500 | - | - | - | 0.0500 | - | - | 0.0500 | - | - | - |
| 1986 | 0.0333 | - | - | - | - | 0.0667 | - | - | 0.0667 | - | - | - |
| 1987 | - | 0.0342 | 0.0171 | - | - | - | - | - | - | - | - | - |
| 1988 | - | 0.1250 | - | - | - | - | - | - | - | - | - | - |
| 1989 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1990 | - | - | - | - | - | - | - | - | 0.1667 | - | - | - |
| 1991 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1992 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1993 | - | 0.3333 | 0.3333 | - | - | - | - | - | - | - | - | - |
| 1994 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1995 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1996 | 0.1242 | 0.0355 | 0.0355 | 0.0516 | 0.0177 | 0.0177 | 0.0355 | 0.0177 | - | 0.0532 | - | - |
| 1997 | 0.0002 | 0.0001 | - | 0.0001 | - | 0.0499 | - | 0.0001 | 0.0001 | - | 0.0498 | 0.0997 |
| 1998 | 0.0556 | 0.0278 | - | - | 0.0278 | - | 0.0278 | - | - | - | - | - |
| 1999 | 0.0526 | - | 0.0526 | - | - | 0.0526 | - | 0.0526 | 0.0526 | - | - | 0.0526 |
| 2000 | - | - | - | - | - | - | 0.0021 | - | - | - | - | - |
| 2001 | - | - | - | 0.0521 | - | - | 0.1043 | - | 0.1564 | 0.1564 | 0.0521 | 0.0521 |
| 2002 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2003 | - | 0.0285 | 0.0285 | - | - | - | 0.0285 | - | - | - | - | - |
| 2004 | - | 0.1103 | - | 0.1103 | - | - | 0.1103 | - | - | - | - | - |
| 2005 | 0.0278 | - | 0.1111 | 0.0278 | - | 0.1111 | - | - | 0.0278 | - | - | - |
| 2006 | 0.0061 | 0.0364 | 0.0424 | 0.0121 | 0.0182 | 0.0667 | 0.0303 | 0.0182 | 0.0364 | 0.0242 | 0.0061 | 0.0061 |
| 2007 | 0.0366 | 0.0169 | 0.0435 | 0.0203 | 0.0236 | 0.0367 | 0.0266 | 0.0167 | 0.0233 | 0.0201 | 0.0167 | 0.0233 |
| 2008 | 0.0413 | 0.0795 | 0.0678 | 0.0442 | 0.0295 | 0.0413 | 0.0354 | 0.0354 | 0.0177 | 0.0295 | 0.0118 | 0.0206 |
| 2009 | 0.0338 | 0.0607 | 0.0473 | 0.0003 | 0.0069 | 0.0741 | 0.0203 | 0.0272 | 0.0471 | 0.0202 | 0.0404 | 0.0337 |
| 2010 | 0.0257 | 0.0472 | 0.1021 | 0.0473 | 0.0315 | 0.0552 | 0.0471 | 0.0314 | 0.0471 | 0.0351 | 0.0394 | 0.0079 |
| 2011 | 0.0162 | 0.0135 | 0.0403 | 0.0135 | 0.0001 | 0.0136 | 0.0056 | 0.0002 | 0.0137 | 0.0538 | 0.0270 | 0.0136 |

Table 11 (continued). Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1974 | 0.0110 | 0.0110 | 0.0220 | 0.0110 | - | - | 0.0110 | - | - | - | - | - | - |
| 1975 | 0.0385 | 0.0385 | - | 0.0128 | 0.0128 | - | - | - | 0.0128 | - | - | - | - |
| 1976 | 0.0053 | 0.0214 | - | - | 0.0053 | 0.0053 | - | - | - | - | - | - | - |
| 1977 | 0.0152 | - | 0.0152 | - | - | 0.0152 | - | - | - | - | - | - | - |
| 1978 | - | - | 0.0313 | - | - | 0.0313 | - | - | - | - | - | - | - |
| 1979 | 0.0164 | 0.0164 | - | - | - | - | - | - | - | - | - | - | - |
| 1980 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1981 | - | - | 0.0278 | - | - | - | - | - | - | - | 0.0278 | - | - |
| 1982 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1983 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1984 | - | - | - | 0.0345 | - | - | - | - | - | - | - | - | - |
| 1985 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1986 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1987 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1988 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1989 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1990 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1991 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1992 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1993 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1994 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1995 | - | - | - | - | - | - | - | - | - | 0.5000 | - | - | - |
| 1996 | - | 0.0177 | - | - | - | - | - | - | - | - | - | - | - |
| 1997 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1998 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1999 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2000 | - | - | - | - | 0.3082 | - | - | - | - | - | - | - | - |
| 2001 | - | - | - | - | - | - | 0.2086 | 0.0521 | - | - | - | - | - |
| 2002 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2003 | 0.0285 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2004 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2005 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2006 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2007 | 0.0234 | 0.0034 | 0.0133 | 0.0167 | 0.0167 | - | - | - | - | 0.0067 | 0.0067 | 0.0033 | 0.0033 |
| 2008 | 0.0177 | 0.0059 | 0.0059 | 0.0029 | - | - | - | - | - | - | - | - | - |
| 2009 | 0.0070 | 0.0405 | 0.0070 | 0.0135 | 0.0070 | 0.0069 | 0.0067 | 0.0202 | 0.0069 | - | 0.0136 | 0.0069 | - |
| 2010 | 0.0081 | 0.0079 | 0.0001 | 0.0159 | 0.0157 | 0.0002 | 0.0001 | 0.0079 | 0.0001 | - | - | - | - |
| 2011 | 0.0001 | 0.0269 | 0.0403 | 0.0403 | 0.0135 | 0.0135 | 0.0002 | 0.0001 | 0.0135 | 0.0001 | 0.0000 | 0.0000 | 0.0000 |

Table 11 (continued). Weighted length composition (FL in cm) for recreational blueline tilefish (SRHS, MRFSS/MRIP, and ODU samples).

| Year | 81 | 82 | 83 | 84 |
|---|---|---|---|---|
| 1974 | - | - | - | - |
| 1975 | - | - | - | - |
| 1976 | - | - | - | - |
| 1977 | - | - | - | - |
| 1978 | - | - | - | - |
| 1979 | - | - | - | - |
| 1980 | - | - | - | - |
| 1981 | - | - | - | - |
| 1982 | - | - | - | - |
| 1983 | - | - | - | - |
| 1984 | - | - | - | - |
| 1985 | - | - | - | - |
| 1986 | - | - | - | - |
| 1987 | - | - | - | - |
| 1988 | - | - | - | - |
| 1989 | - | - | - | - |
| 1990 | - | - | - | - |
| 1991 | - | - | - | - |
| 1992 | - | - | - | - |
| 1993 | - | - | - | - |
| 1994 | - | - | - | - |
| 1995 | - | - | - | - |
| 1996 | - | - | - | - |
| 1997 | - | - | - | - |
| 1998 | - | - | - | - |
| 1999 | - | - | - | 0.0526 |
| 2000 | - | - | - | - |
| 2001 | - | - | - | - |
| 2002 | - | - | - | - |
| 2003 | - | - | - | - |
| 2004 | - | - | - | - |
| 2005 | - | - | - | - |
| 2006 | - | - | - | - |
| 2007 | - | - | - | - |
| 2008 | - | - | - | - |
| 2009 | - | - | 0.0001 | - |
| 2010 | 0.0079 | - | 0.0000 | - |
| 2011 | 0.0000 | 0.0000 | 0.0000 | - |

## Figures

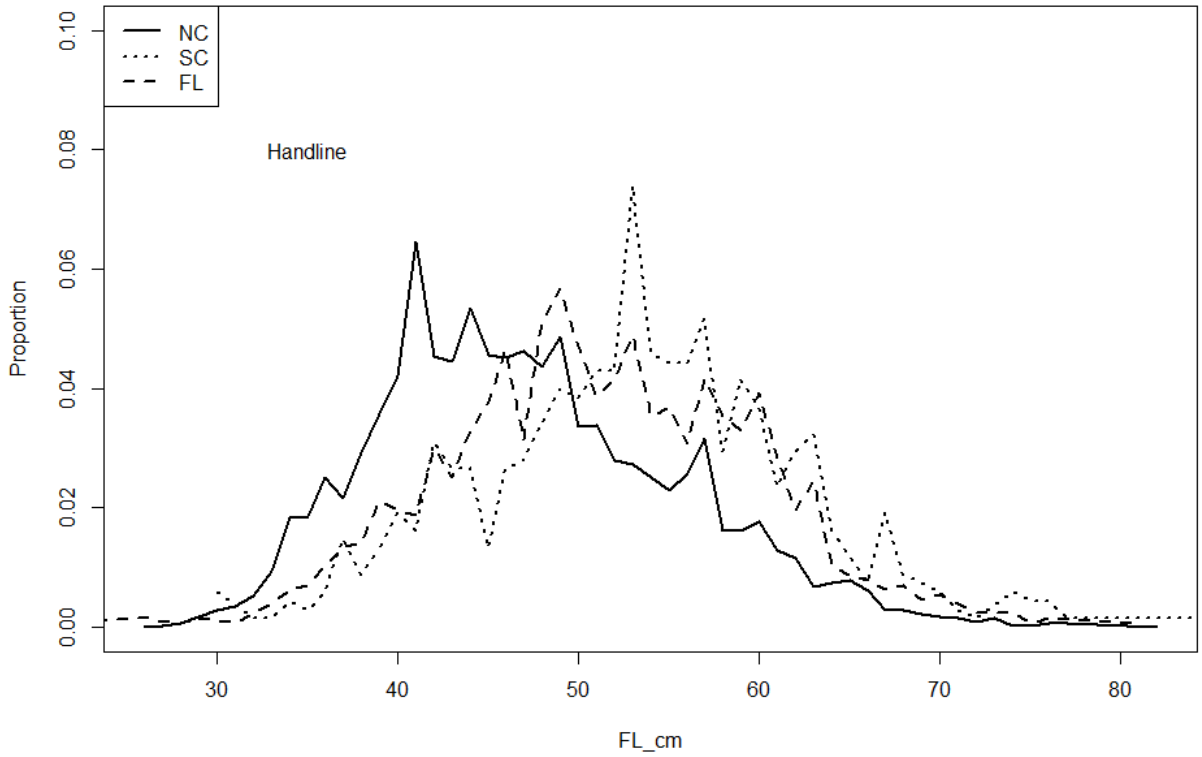



Figure 1. Length composition of blueline tilefish by state/region for all years for the commercial handline gear.

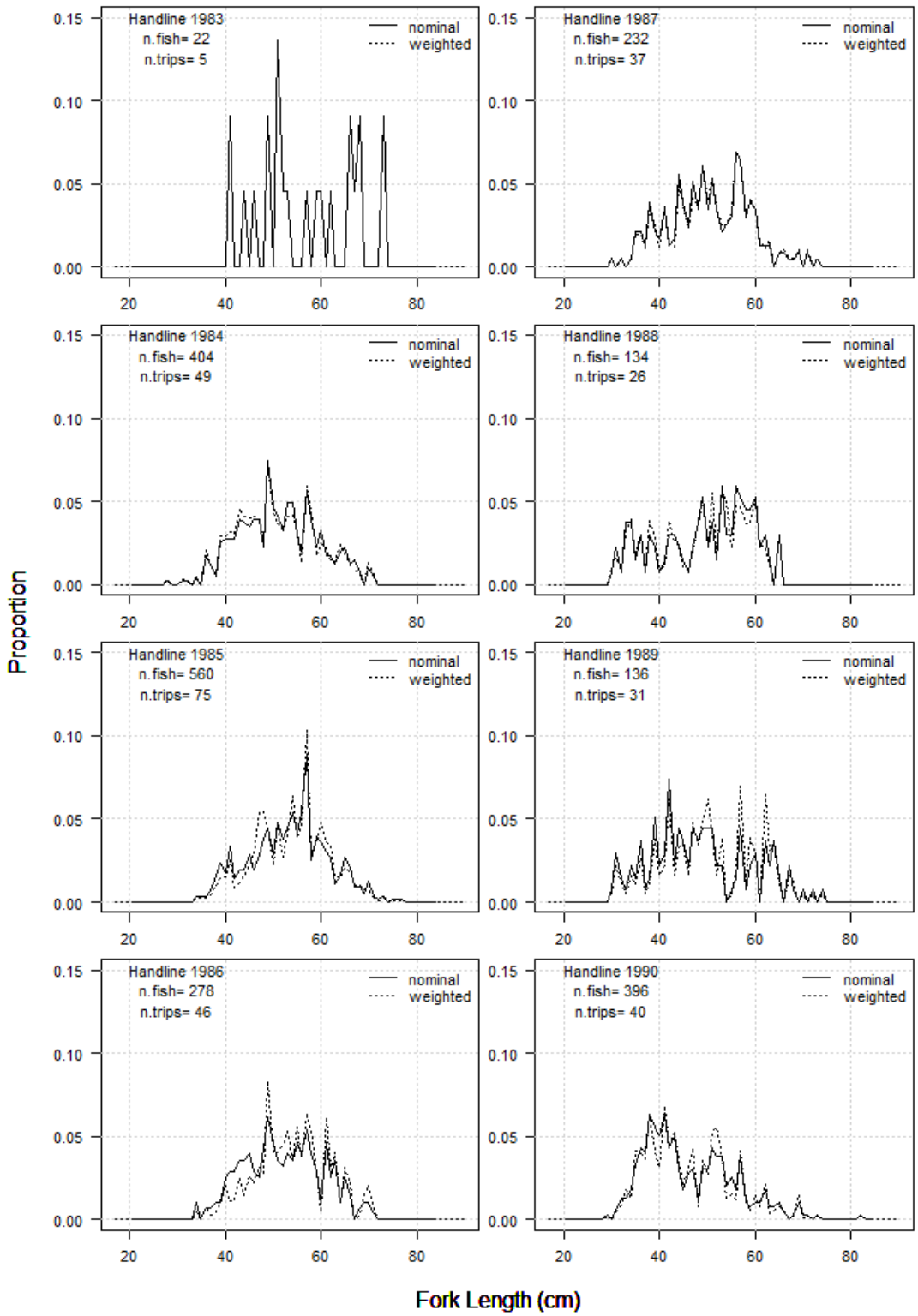



Figure 2. Weighted and un-weighted blueline tilefish length composition for handline gear by year.

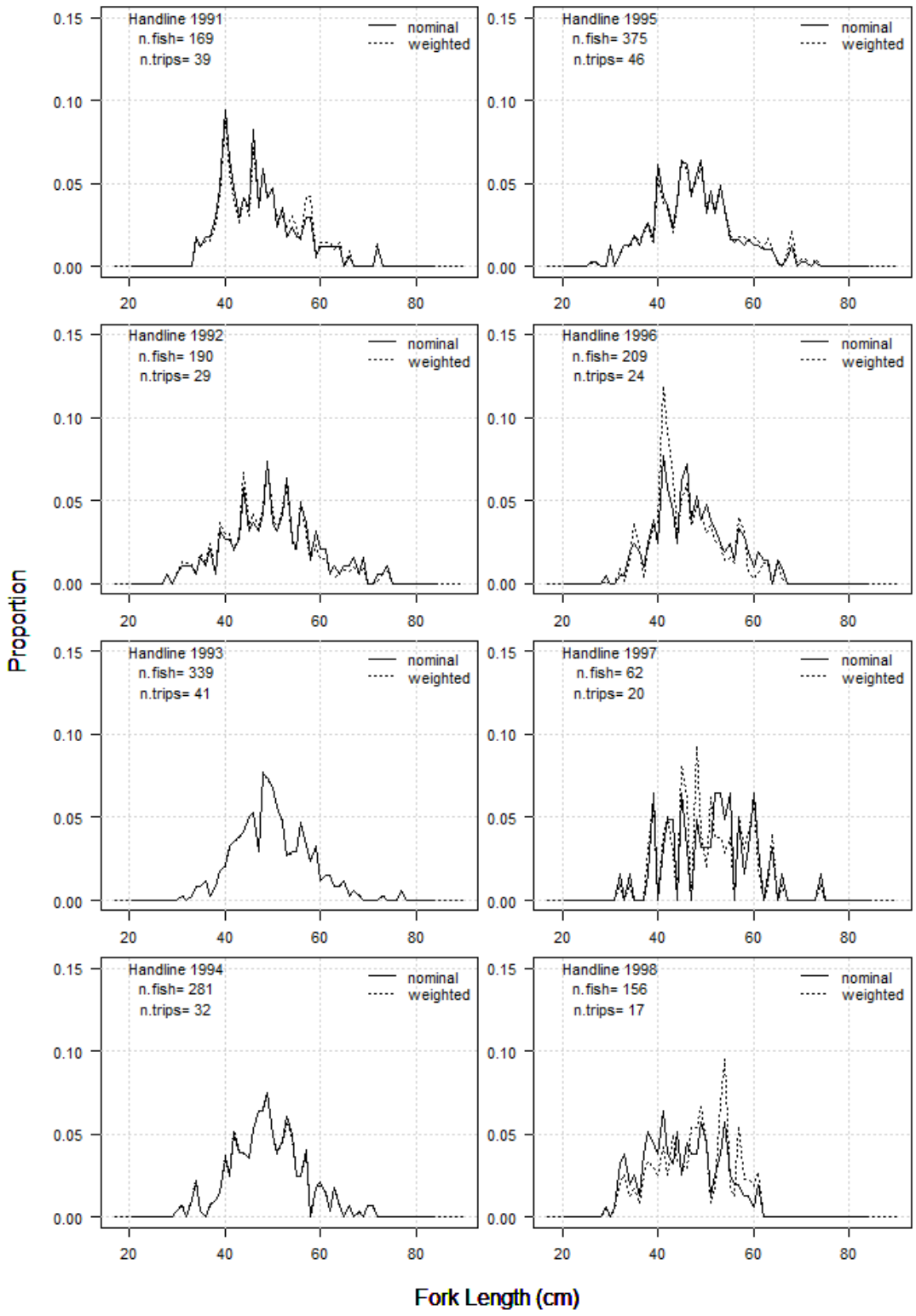



Figure 2 (continued).

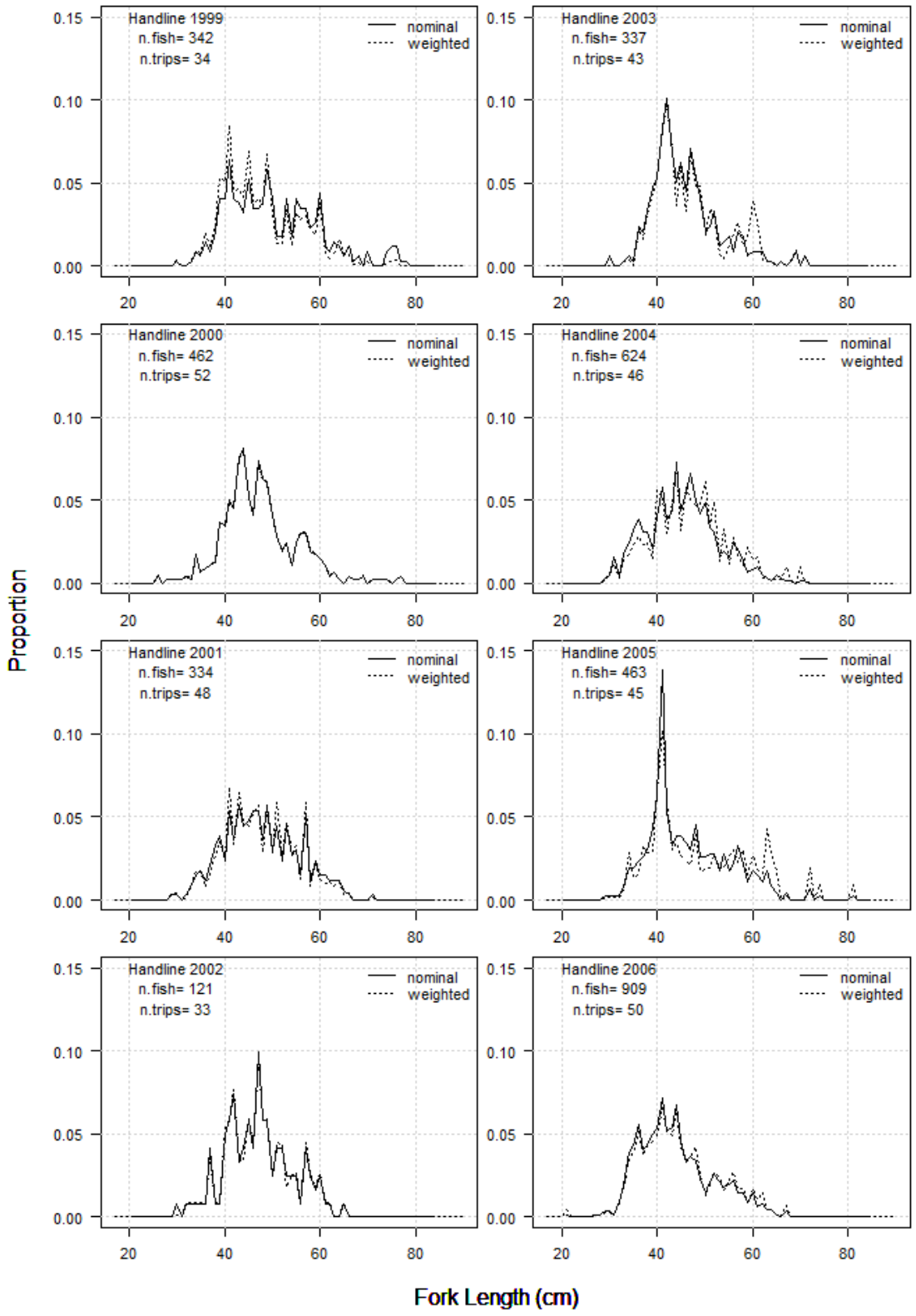



Figure 2 (continued).

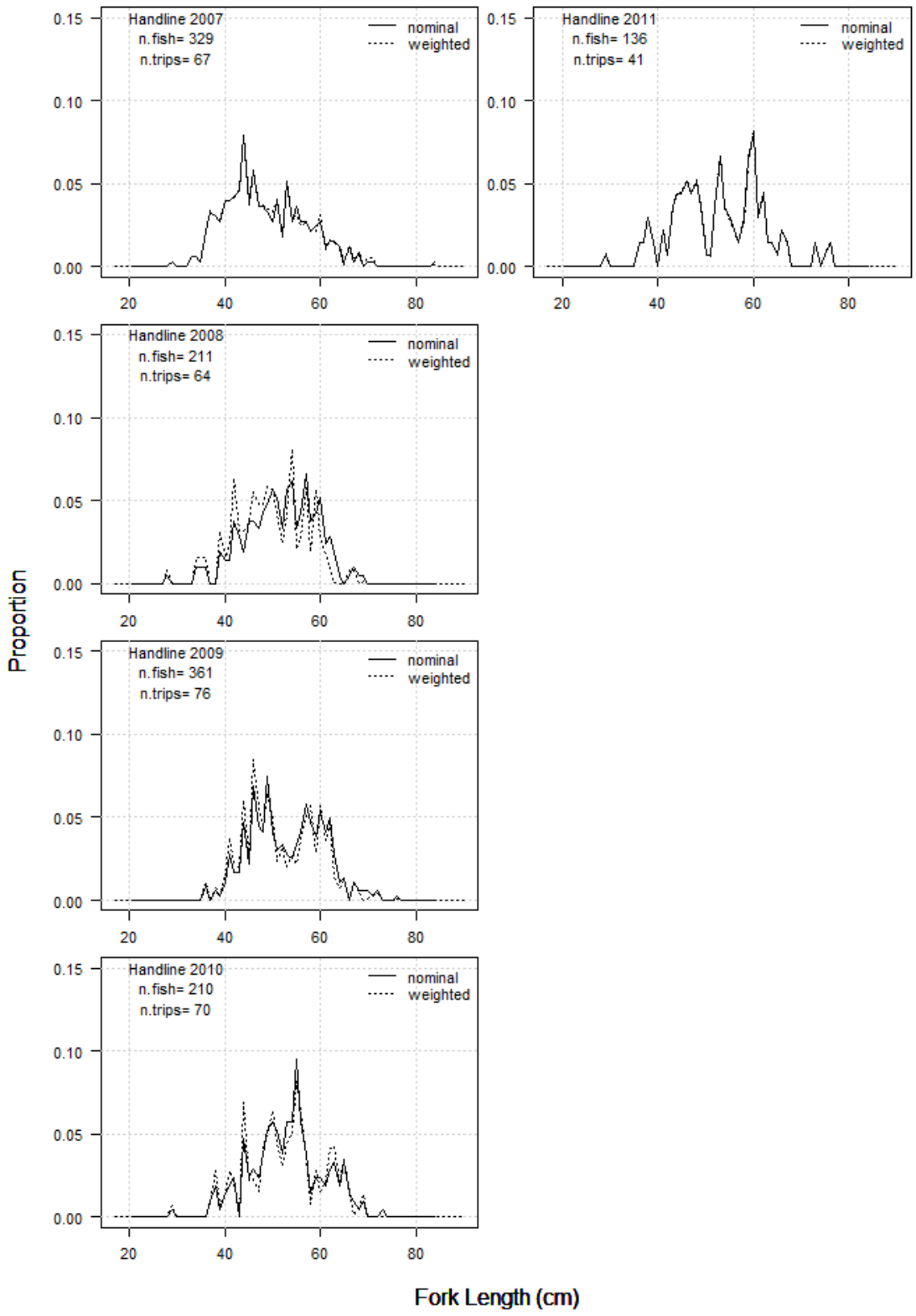



Figure 2 (continued).

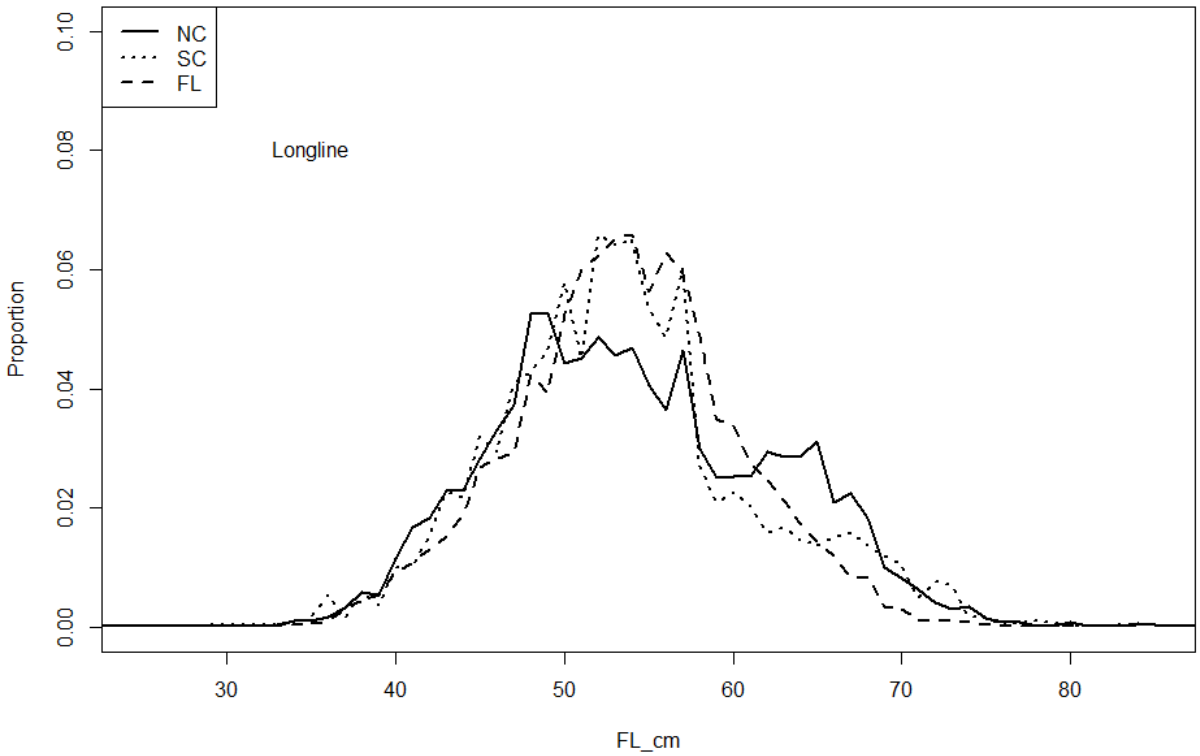



Figure 3. Length composition of blueline tilefish by state/region for all years for the commercial longline gear.

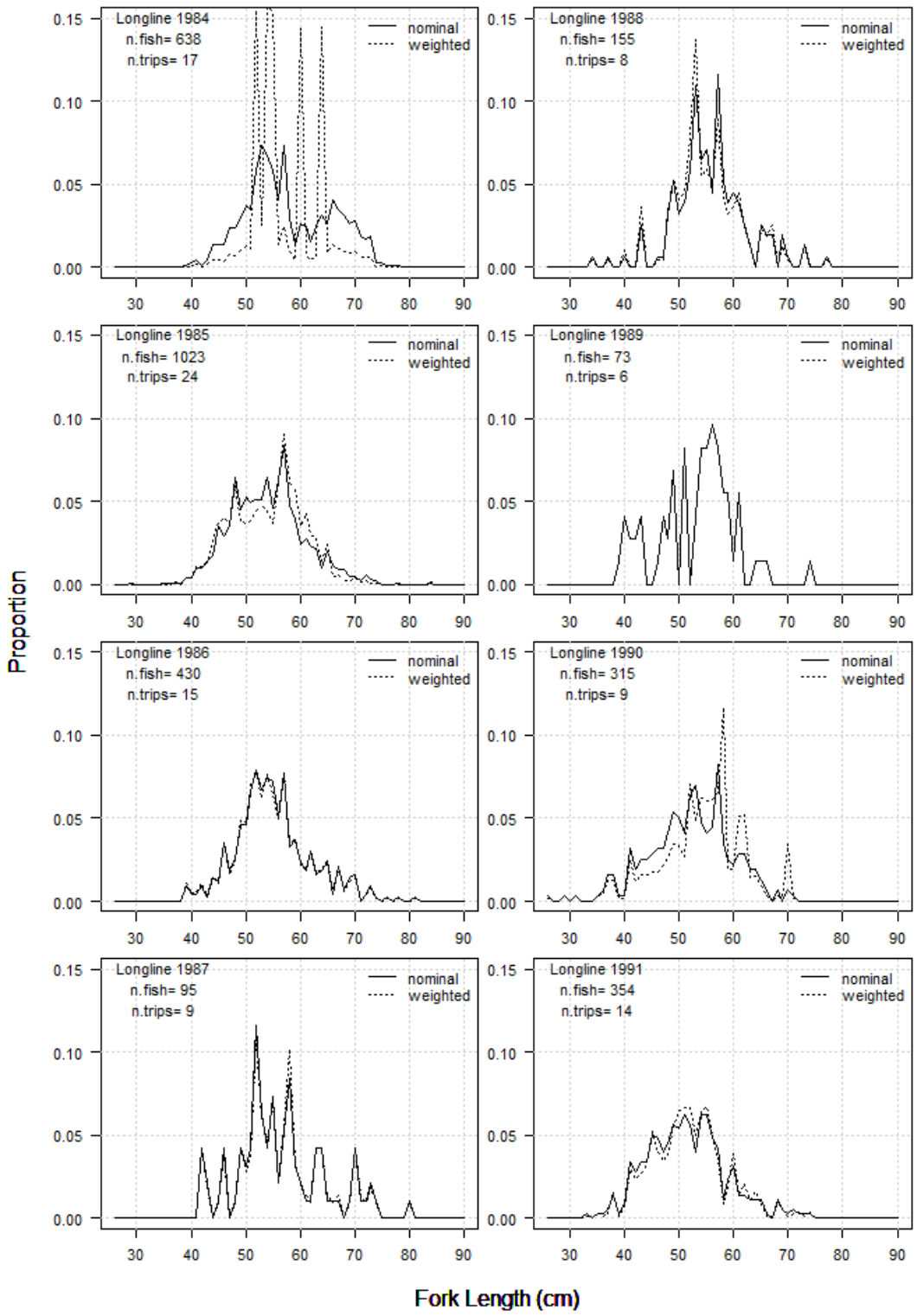



Figure 4. Weighted and un-weighted blueline tilefish length composition for longline gear by year.

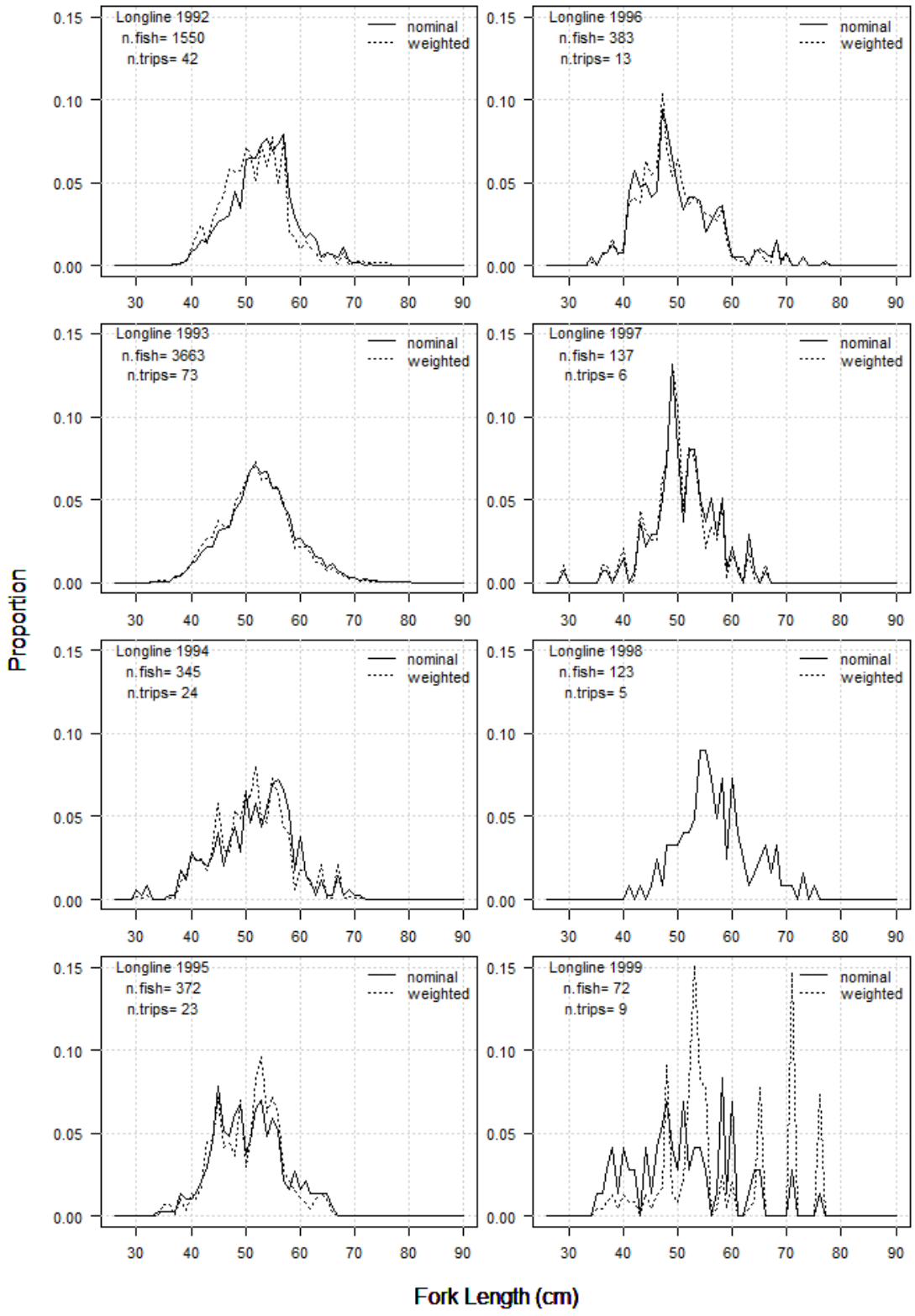



Figure 4 (continued).

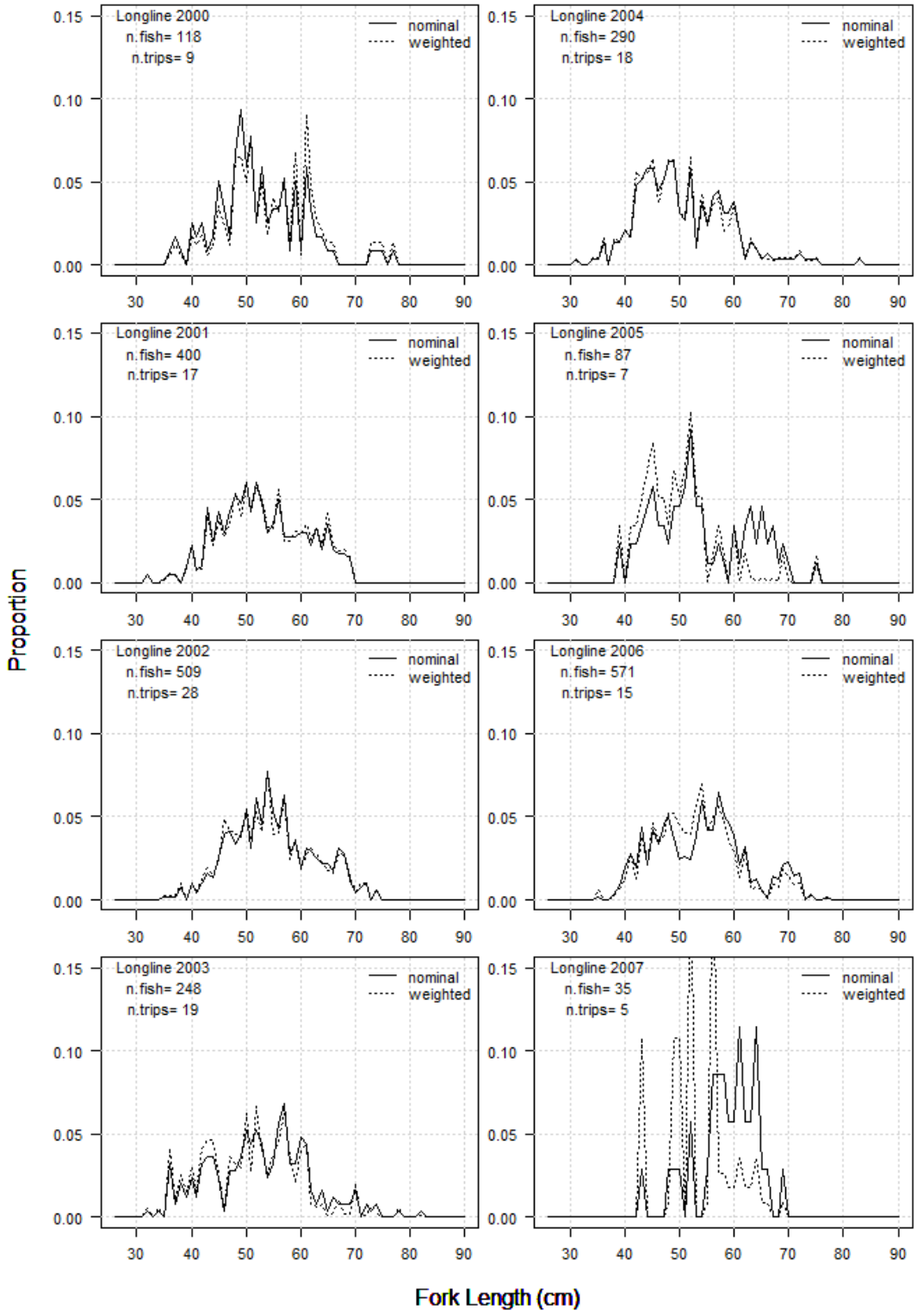



Figure 4 (continued).

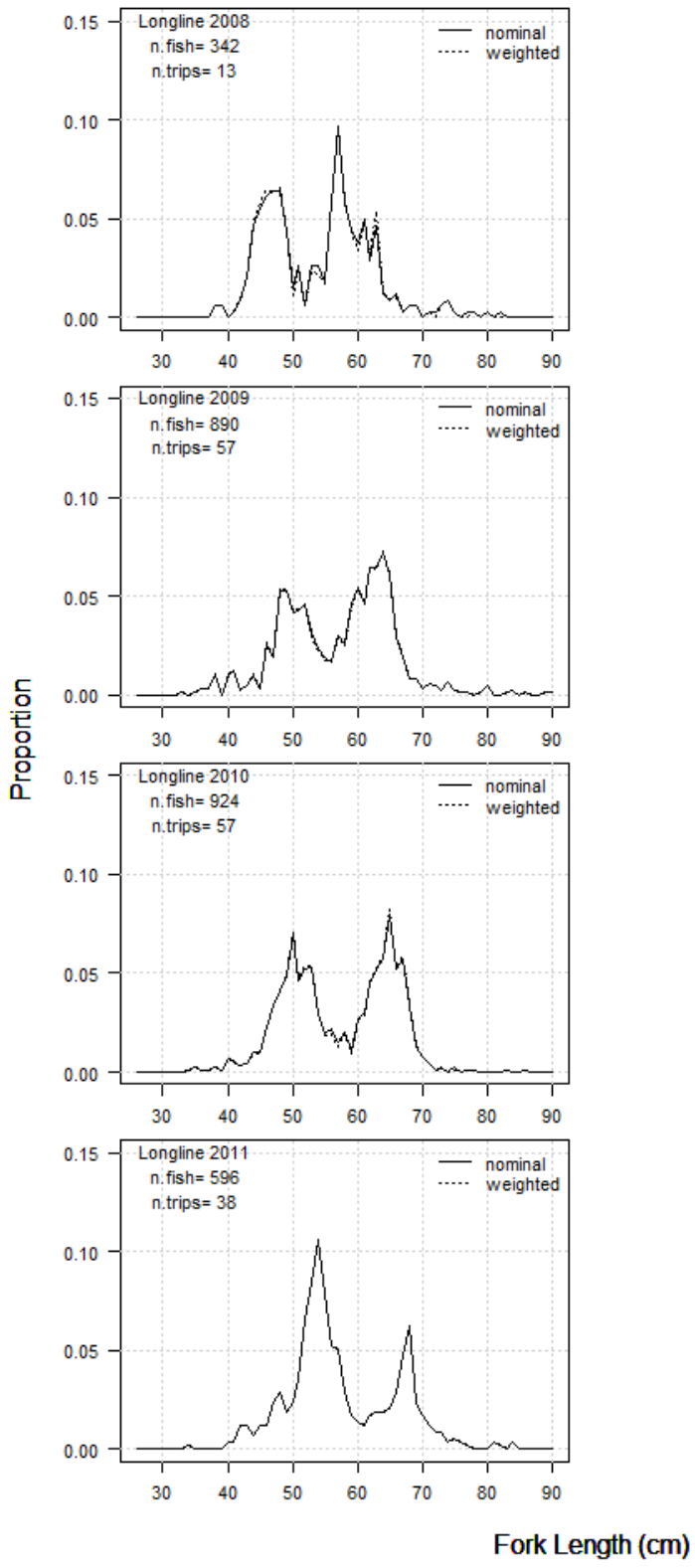



Figure 4 (continued).

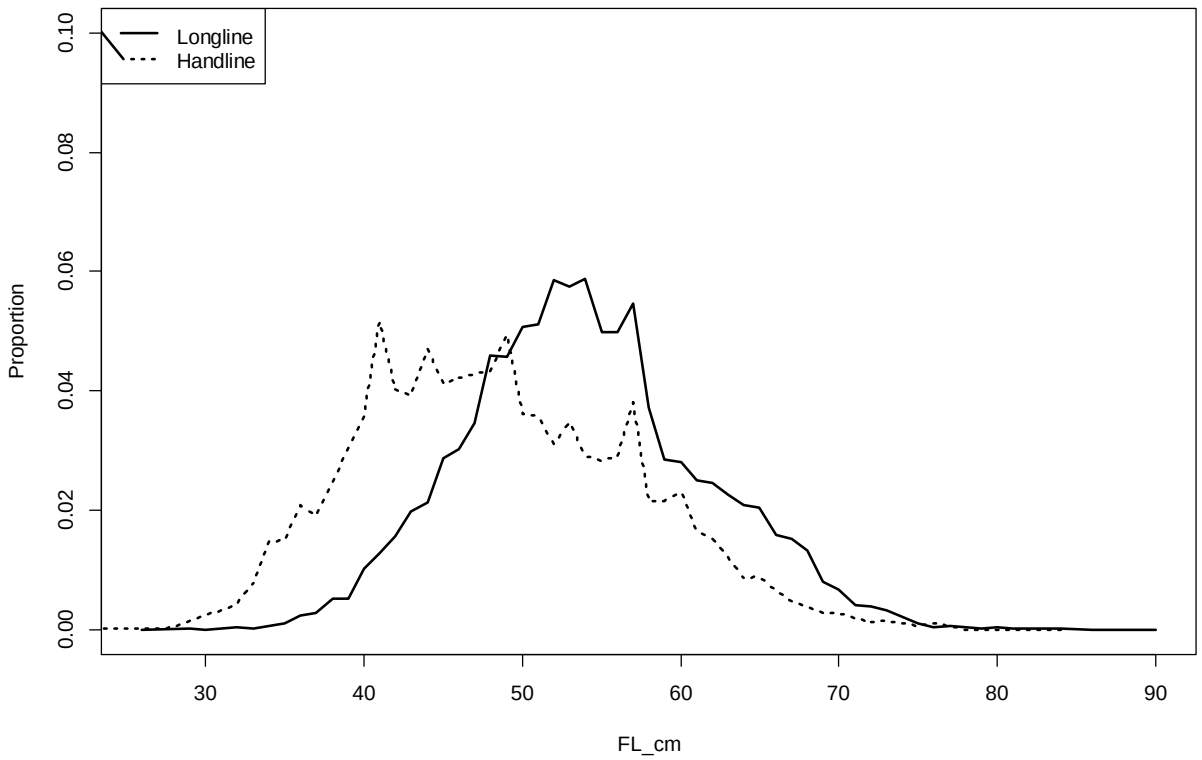



Figure 5. Length composition of blueline tilefish by fleet for all years for the commercial gears.

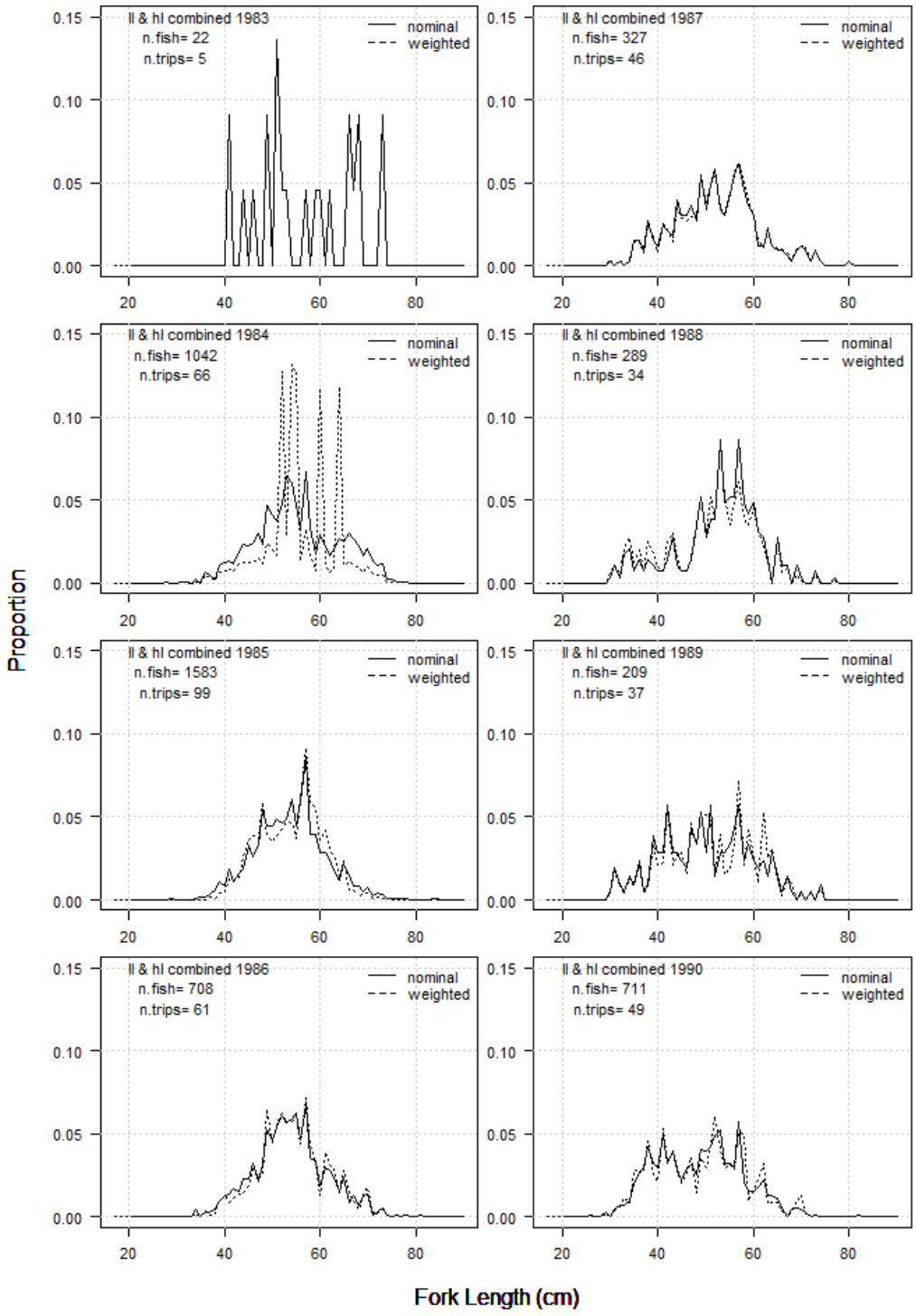



Figure 6. Weighted and un-weighted blueline tilefish length composition for combined handline and longline commercial gears by year.

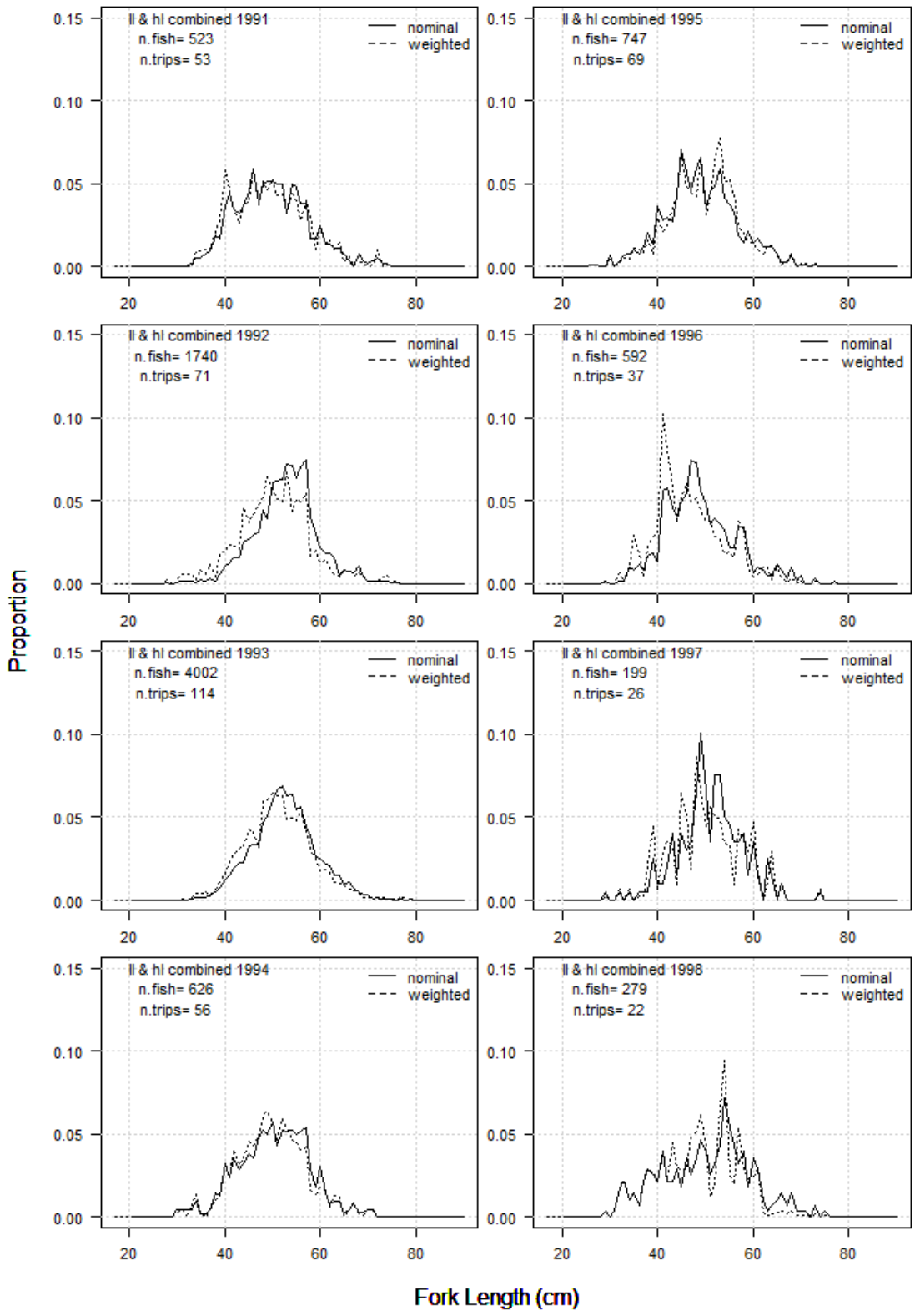



Figure 6 (continued).

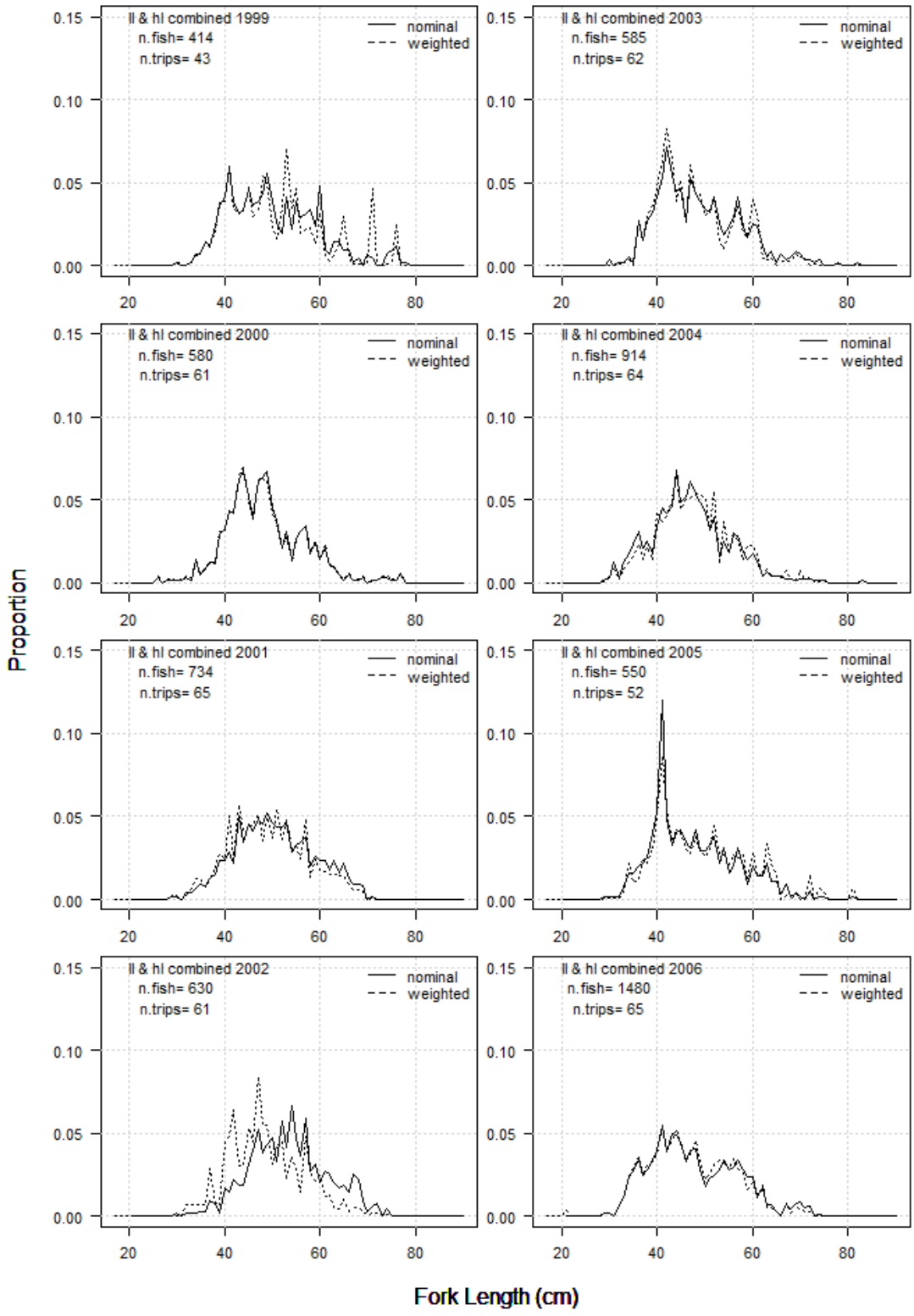



Figure 6 (continued).

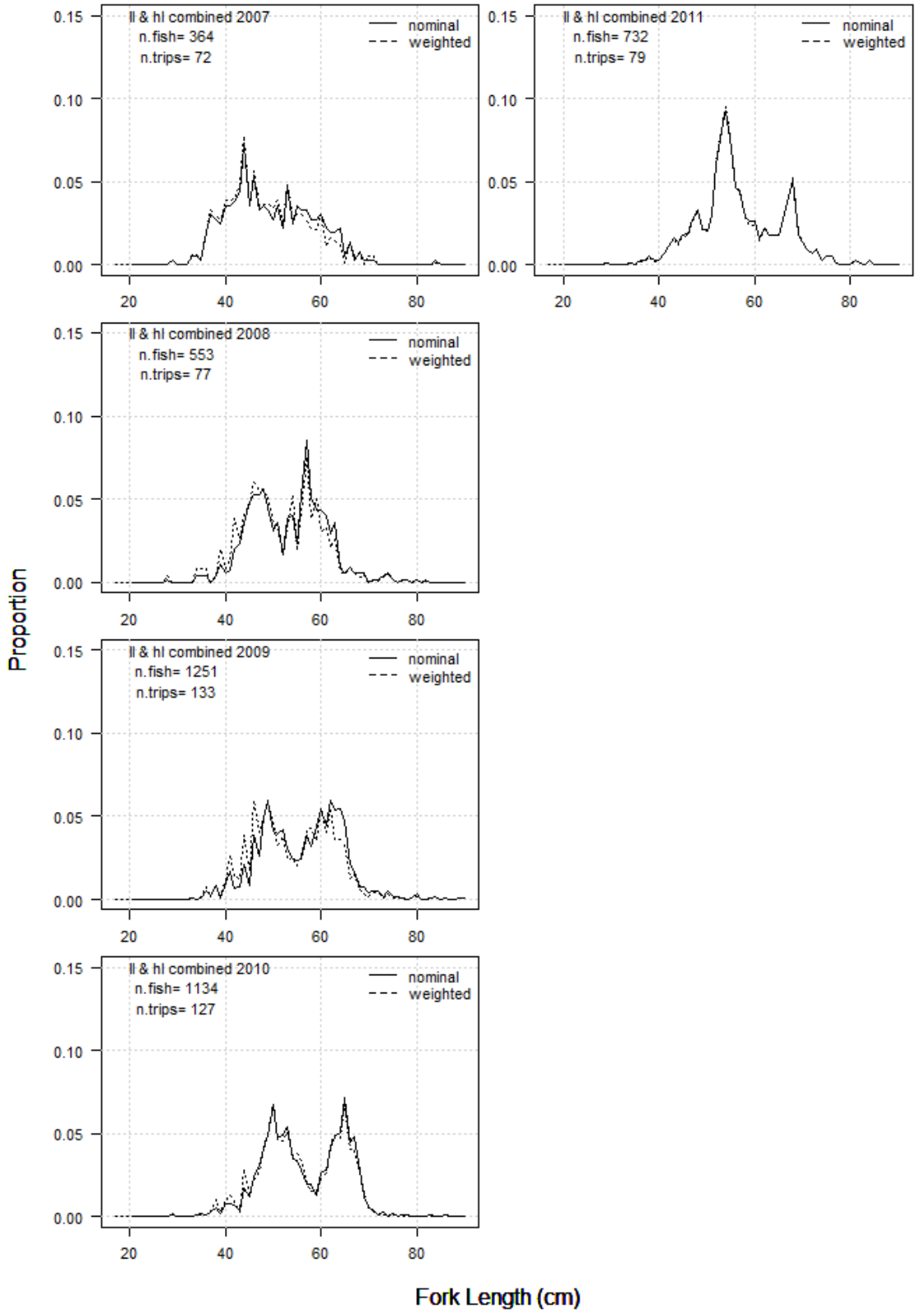



Figure 6 (continued).

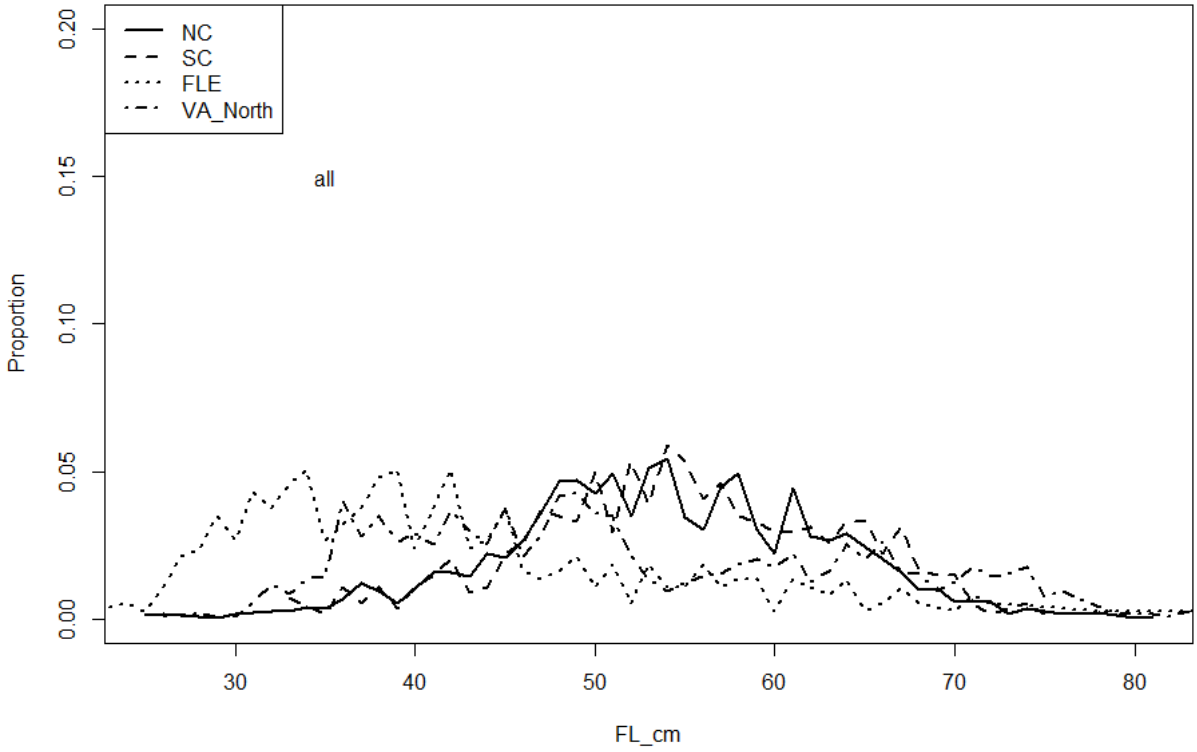



Figure 7. Length composition of blueline tilefish by state/region for all years for the recreational fleet.

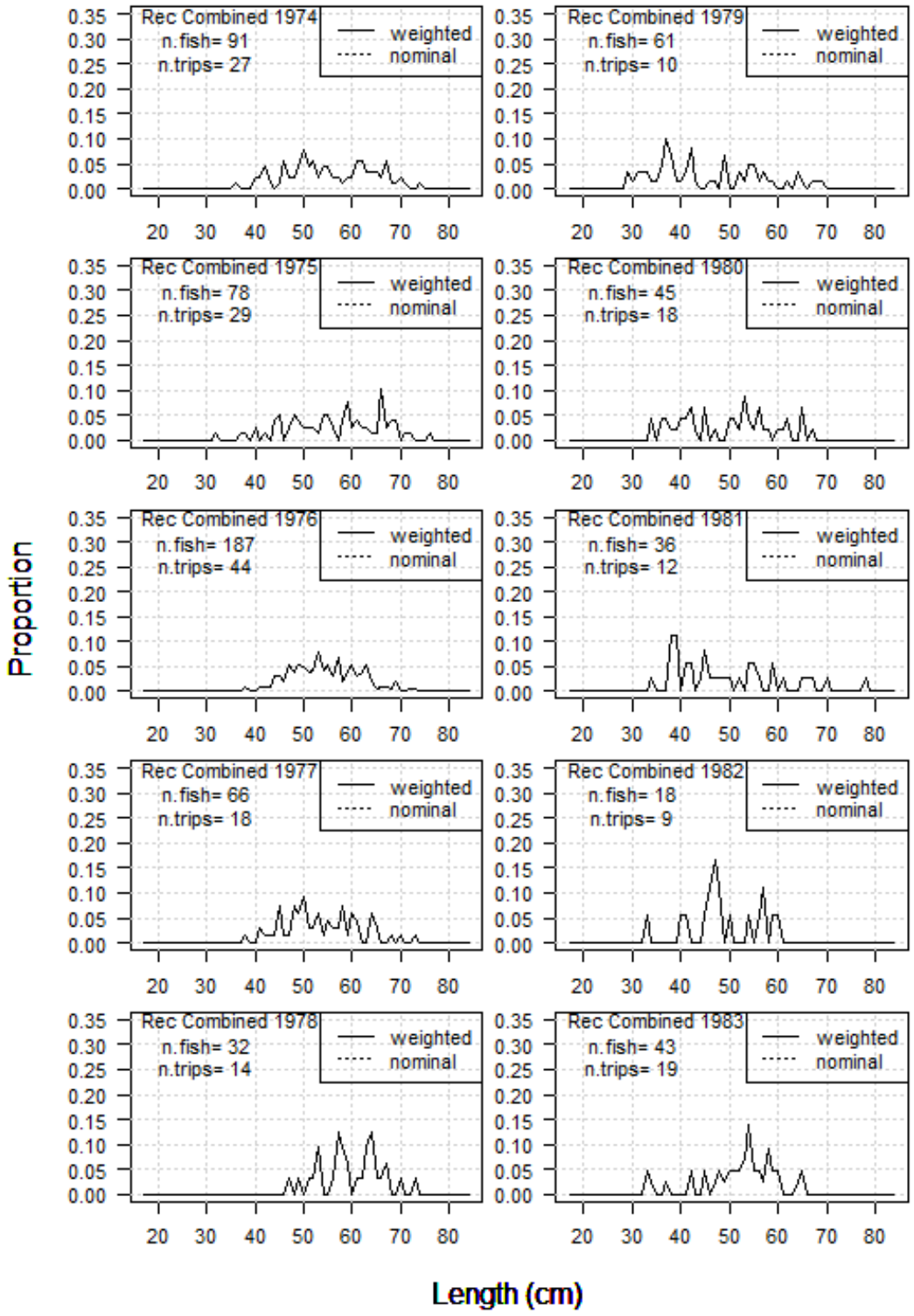



Figure 8a. Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (1974-2006).

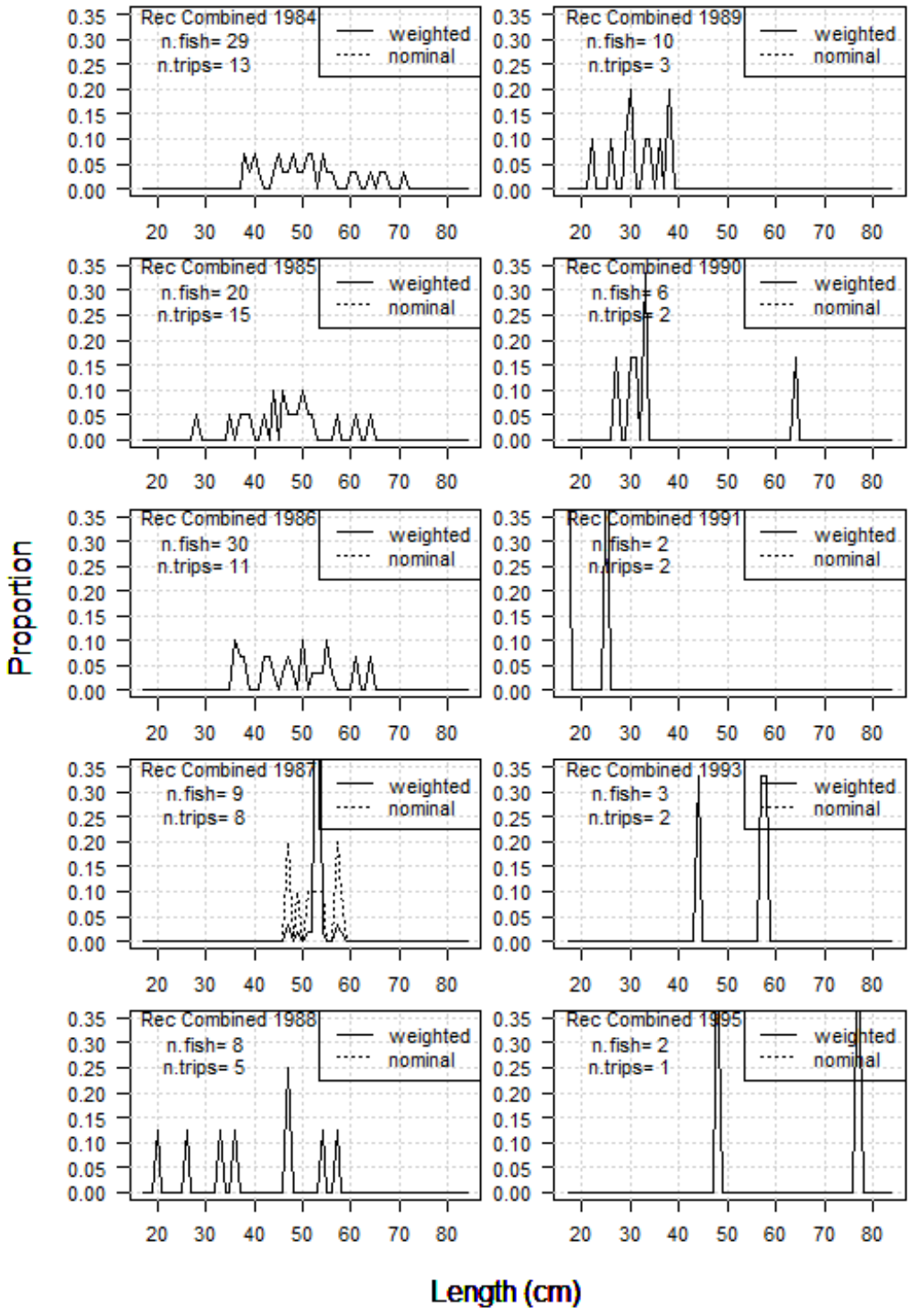



Figure 8a (continued). Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (1974-2006).

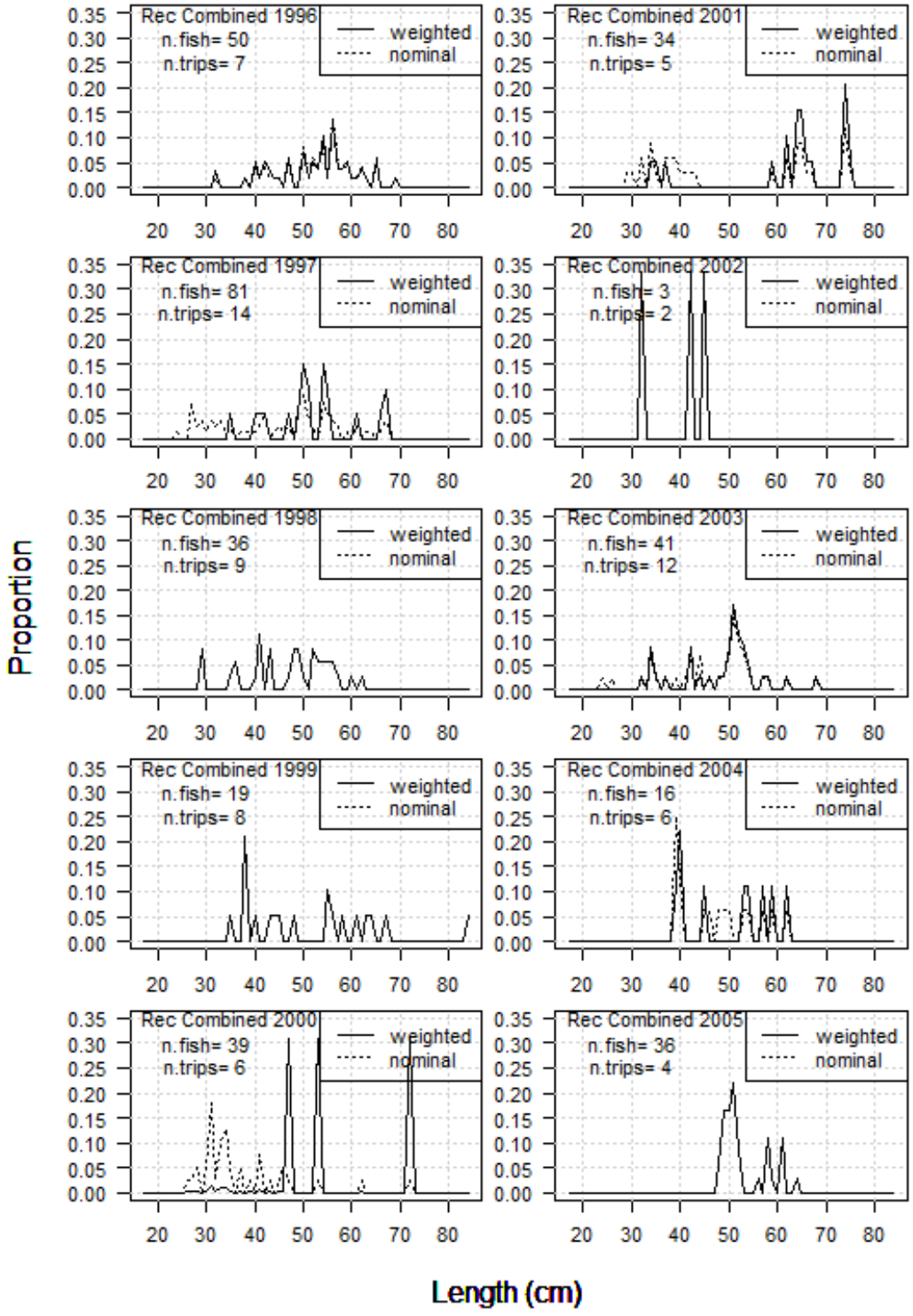
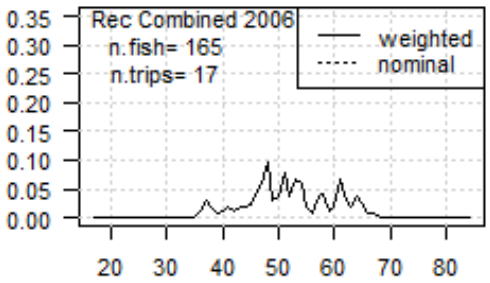



Figure 8a (continued). Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (1974-2006).




Proportion

Length (cm)

Figure 8a (continued). Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (1974-2006).

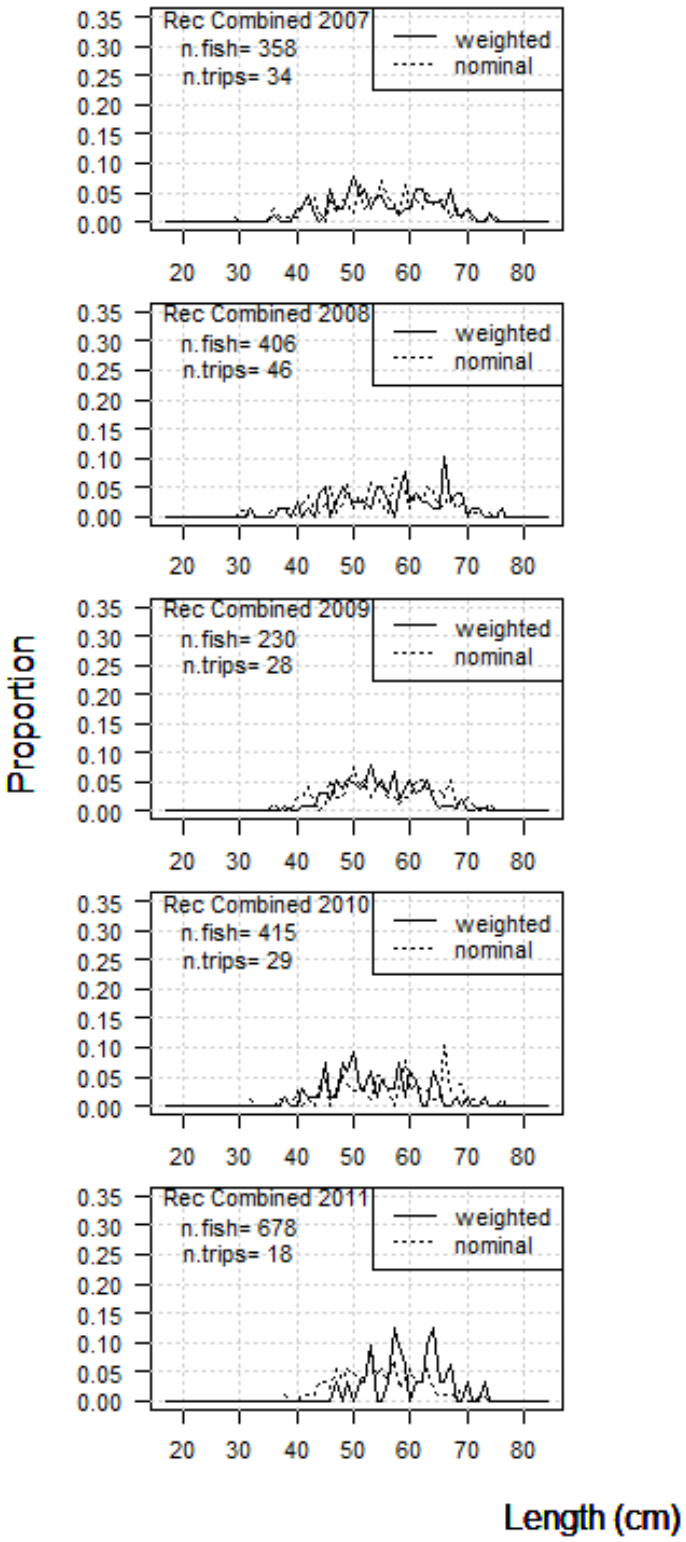



Figure 8b. Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS, MRFSS/MRIP, and ODU) by year (2007-2011).

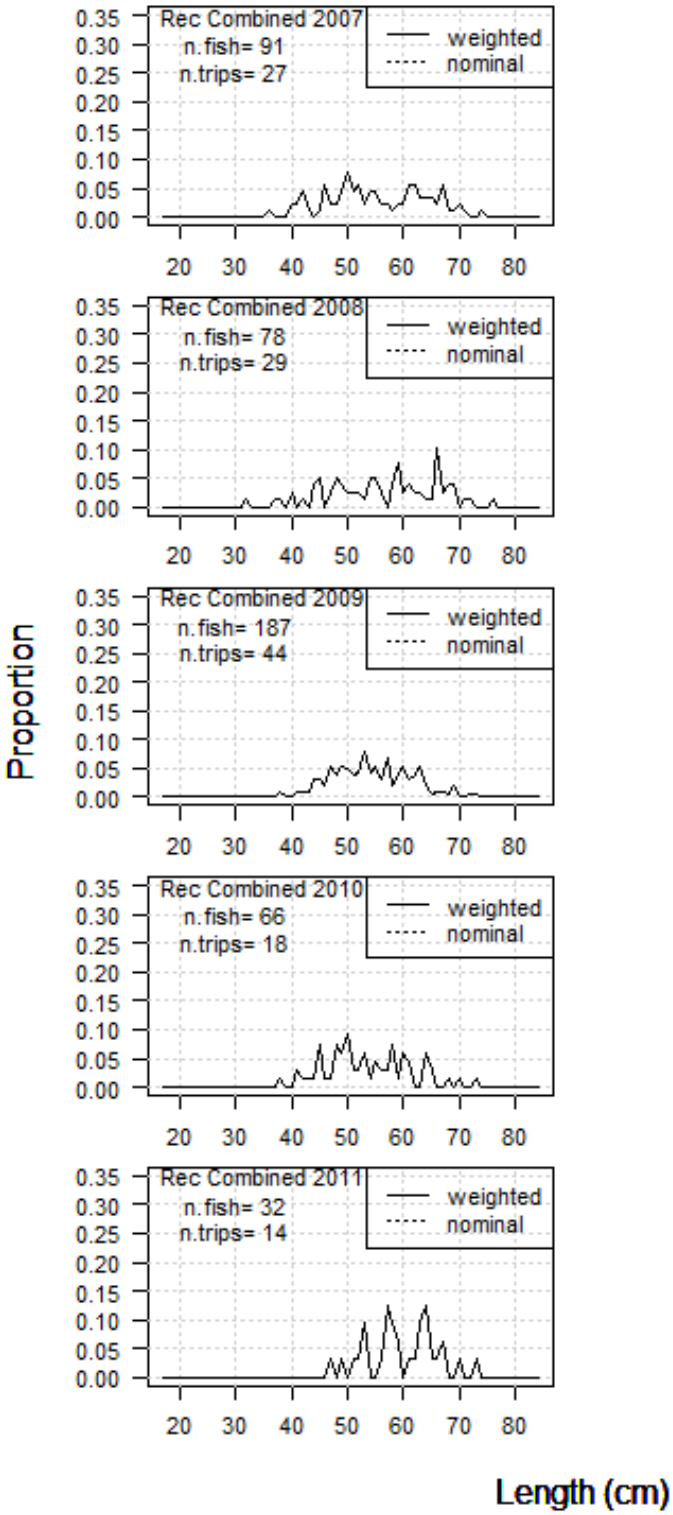



Figure 8c. Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (2007-2011).

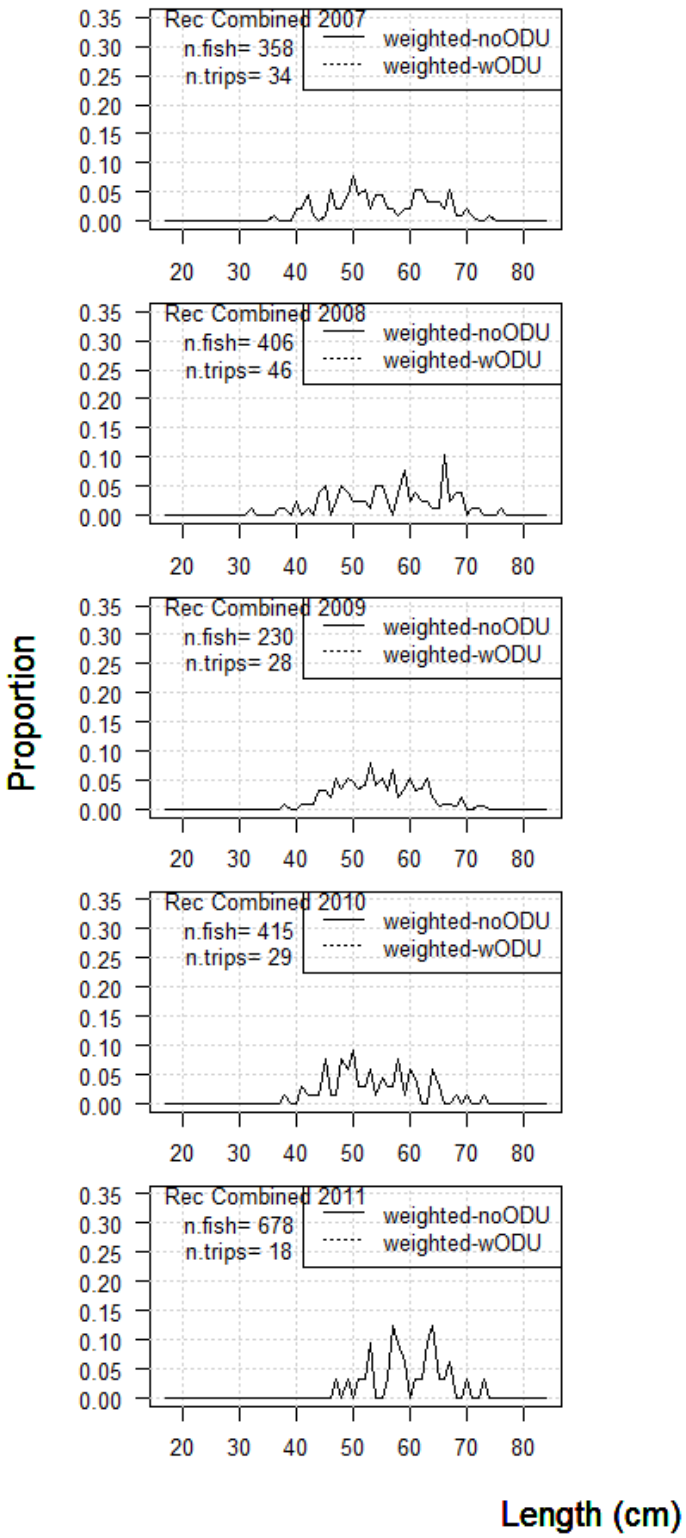



Figure 8d. Weighted and nominal blueline tilefish length composition for the recreational fishery (SRHS and MRFSS/MRIP) by year (2007-2011).

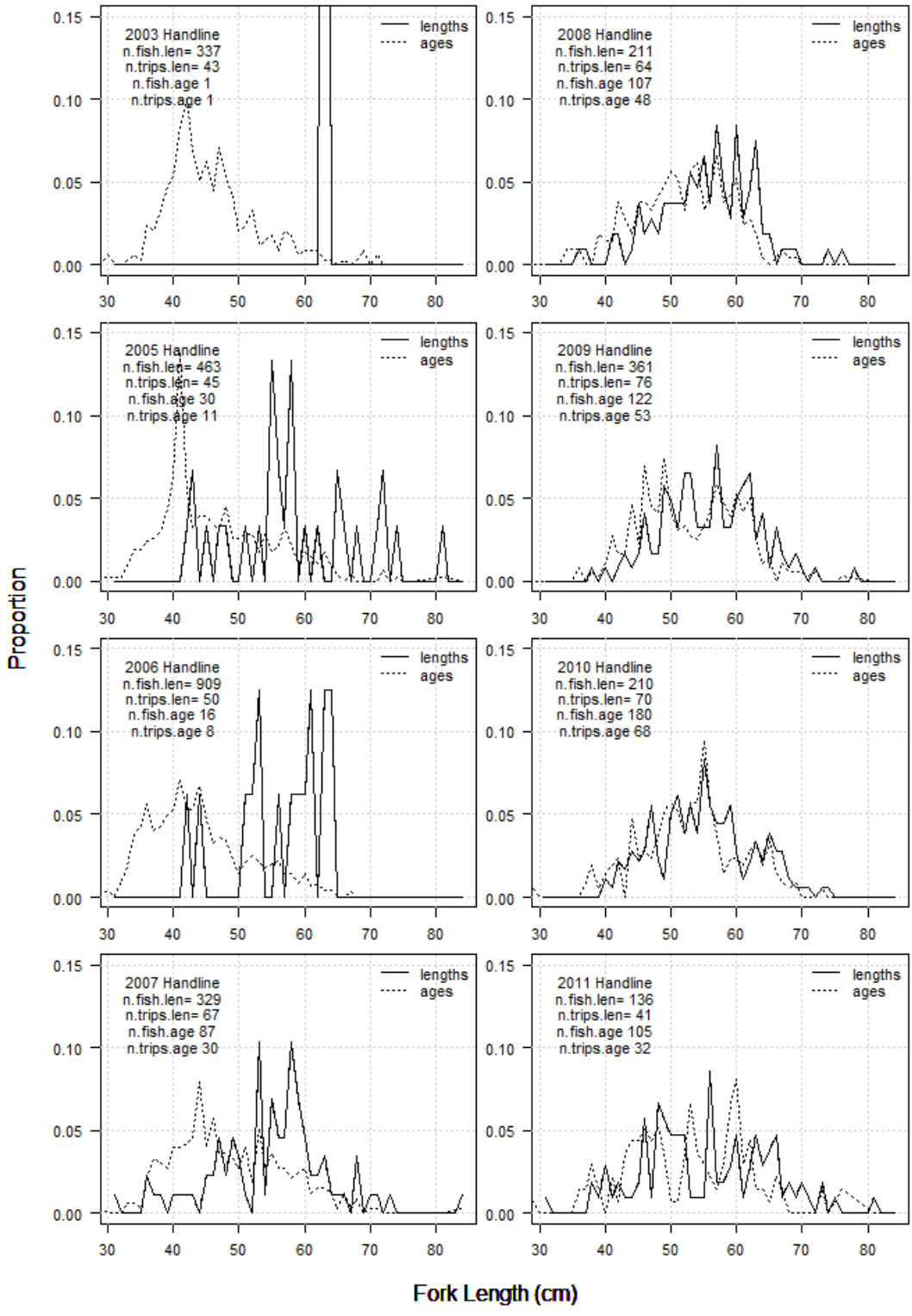



Figure 9. Un-weighted blueline tilefish length composition and length composition of the aged fish for handline gear by year.

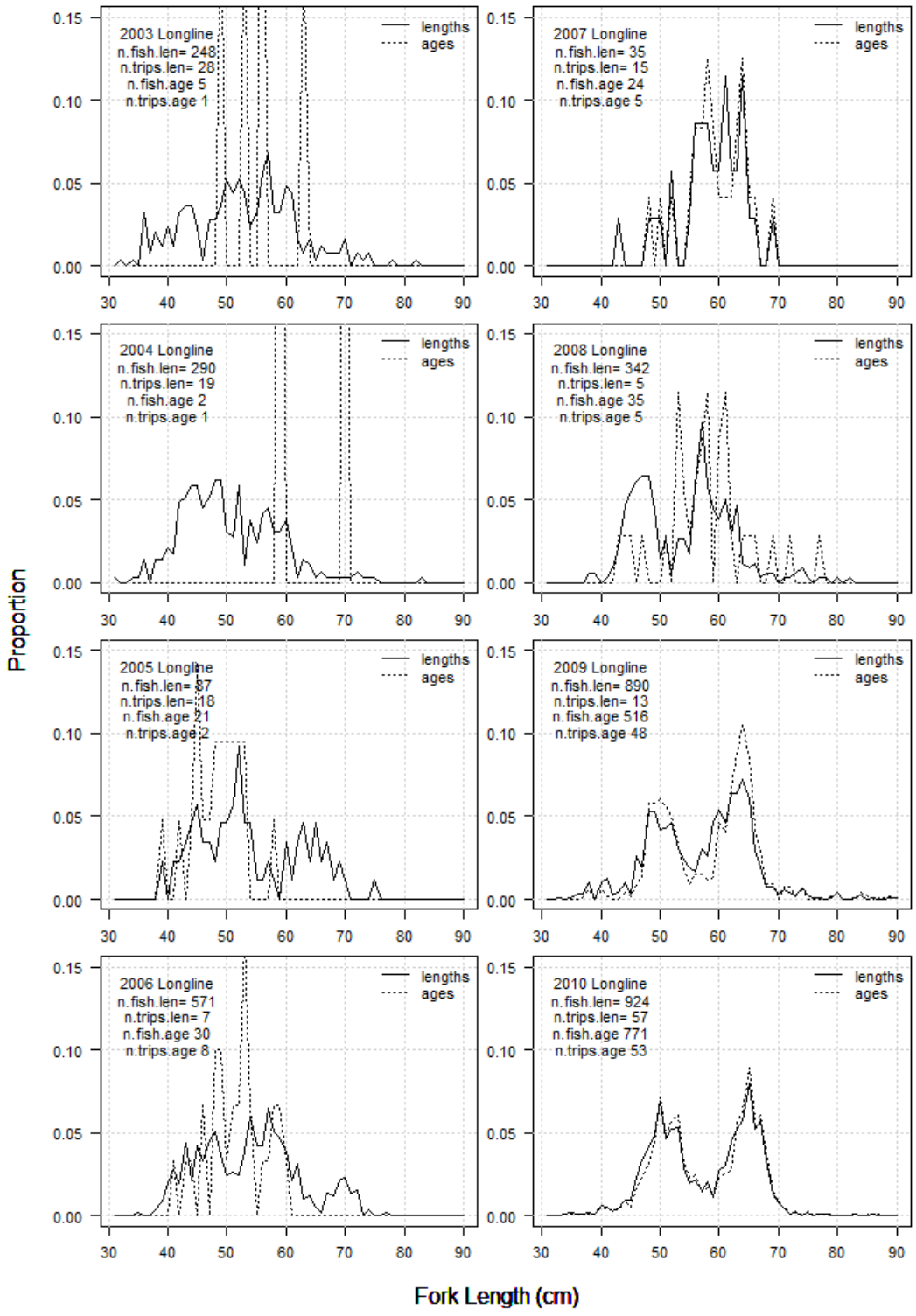
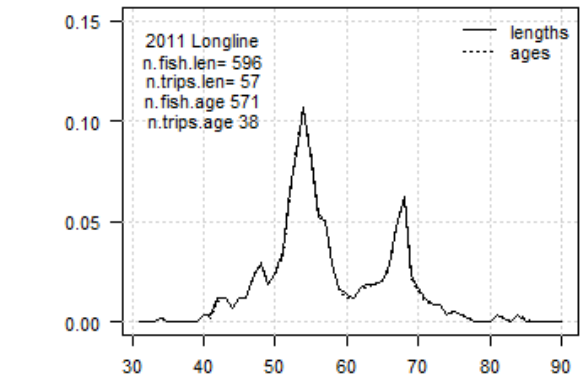



Figure 10. Un-weighted blueline tilefish length composition and length composition of the aged fish for longline gear by year.




Proportion

Fork Length (cm)

Figure 10 (continued).

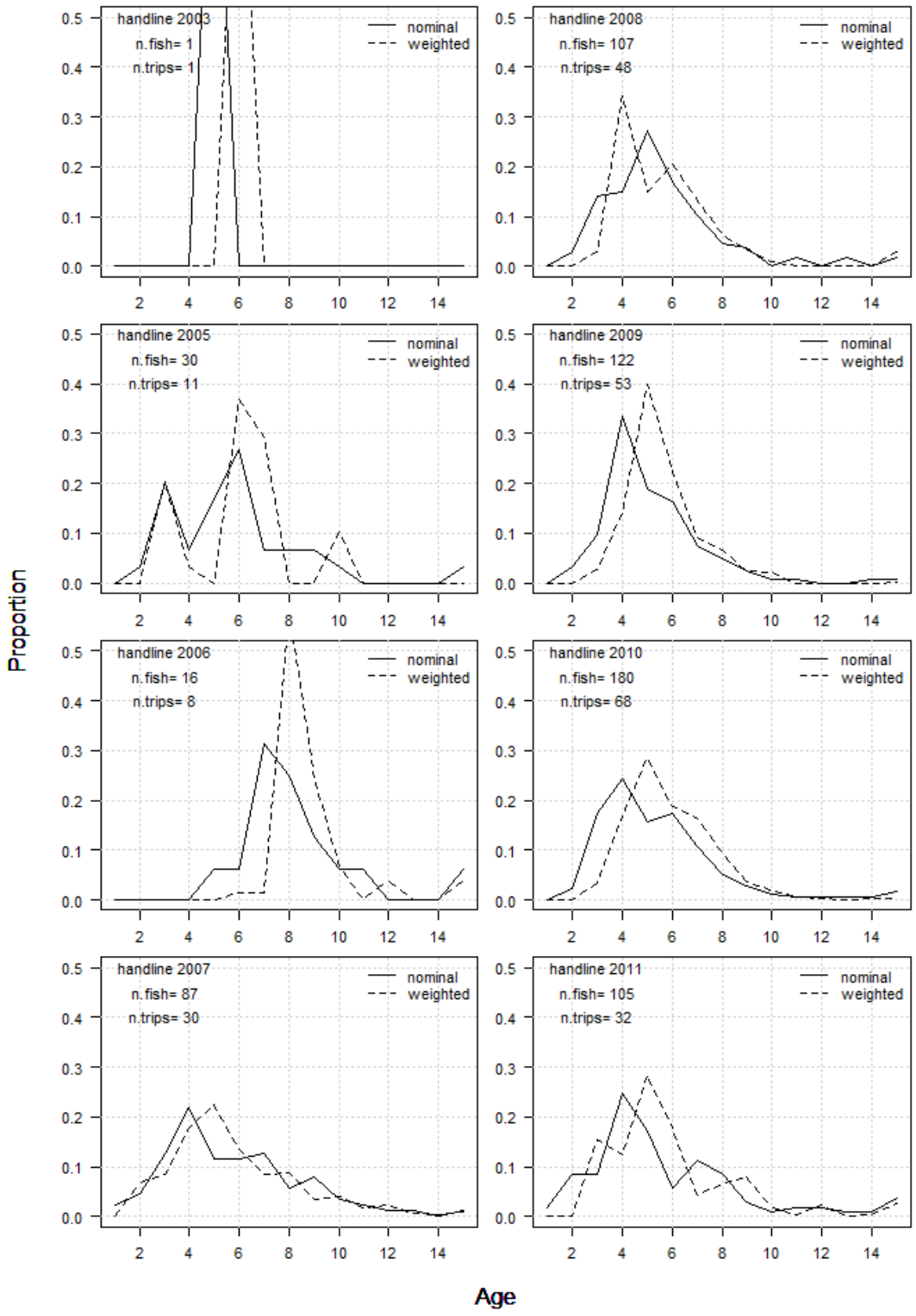



Figure 11. Weighted and un-weighted blueline tilefish age composition for handline gear by year.

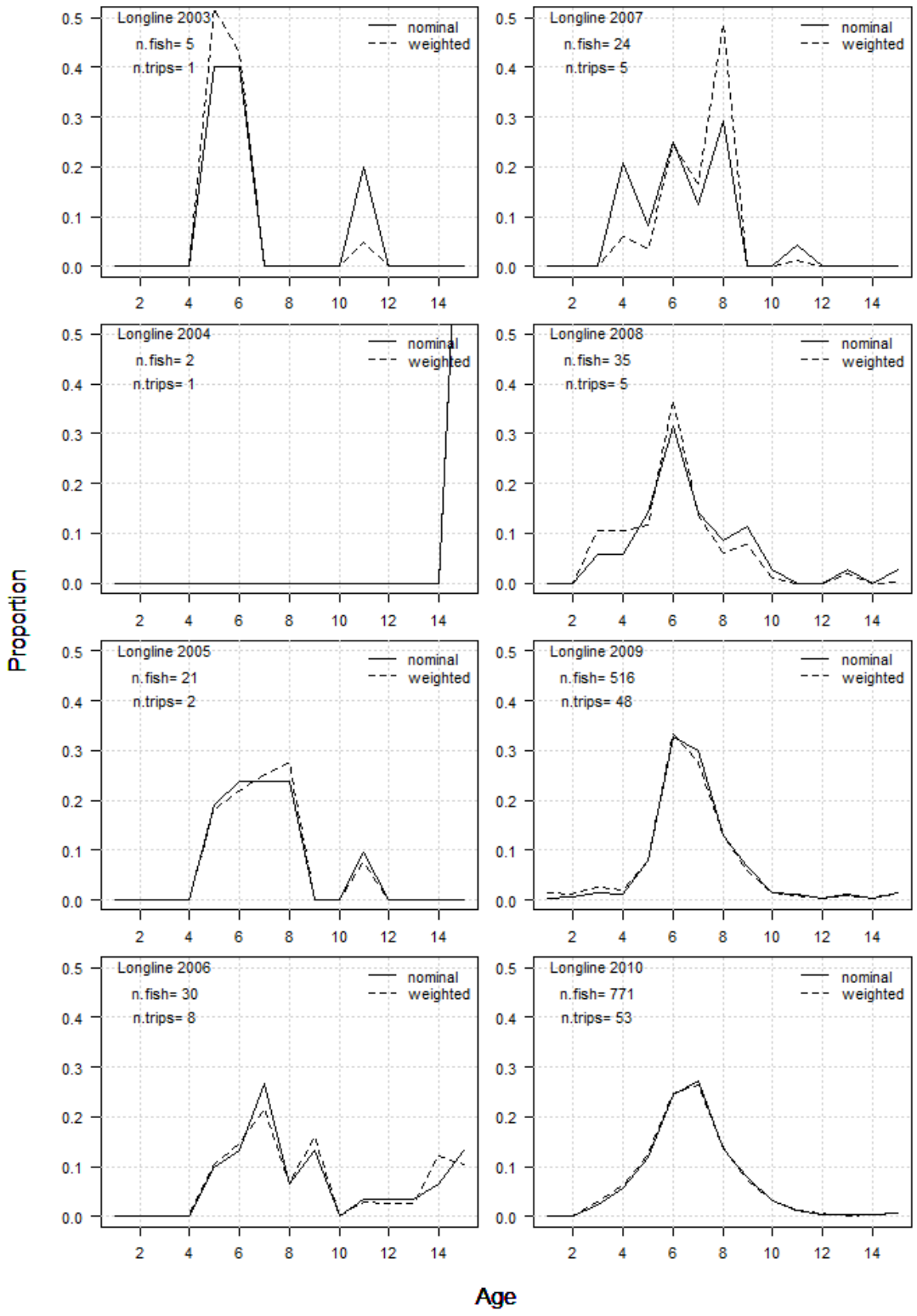
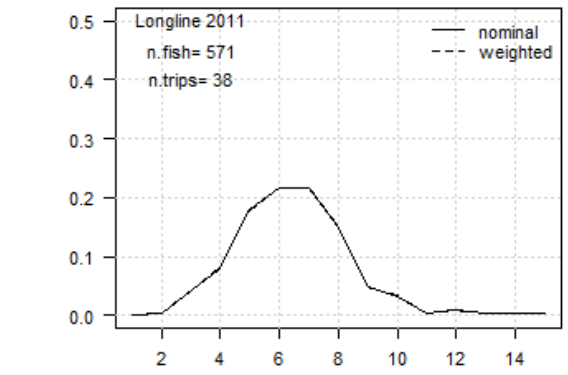



Figure 12. Weighted and un-weighted blueline tilefish age composition for longline gear by year.




Proportion

Age

Figure 12 (continued).

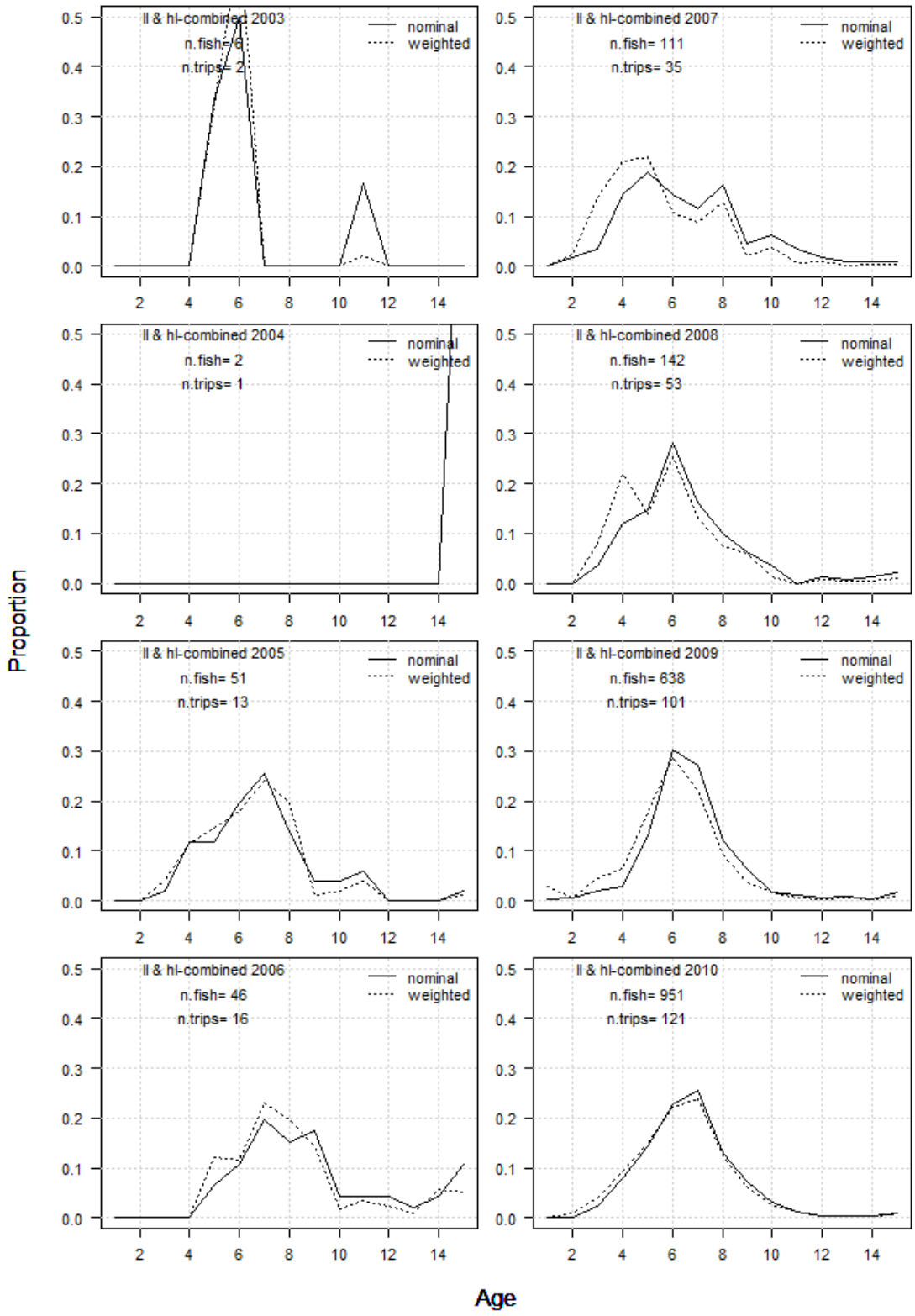
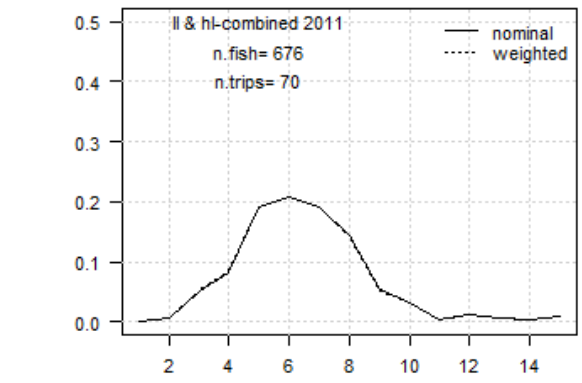



Figure 13. Weighted and un-weighted blueline tilefish age composition for combined handline and longline commercial gears by year.




Proportion

Age

Figure 13 (continued).

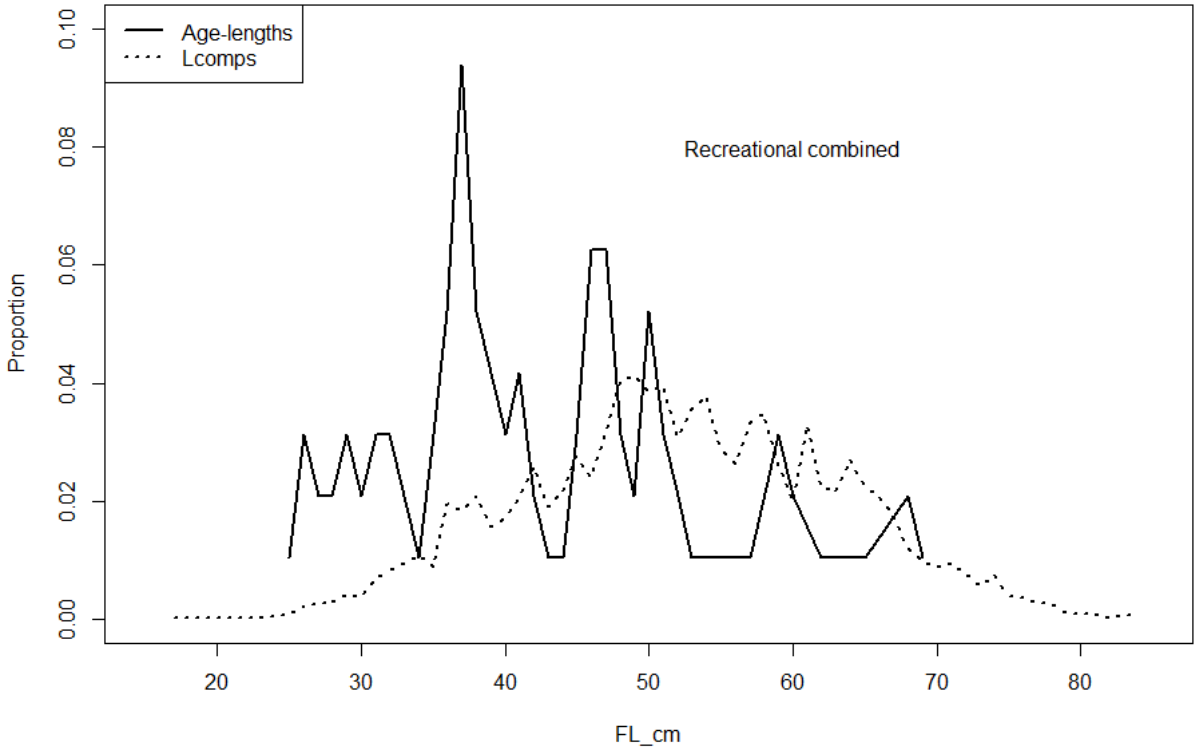



Figure 14. Length composition of aged blueline tilefish (2003, 2008-2011) and all blueline tilefish sampled for length (SRHS, MRFSS/MRIP, and ODU).

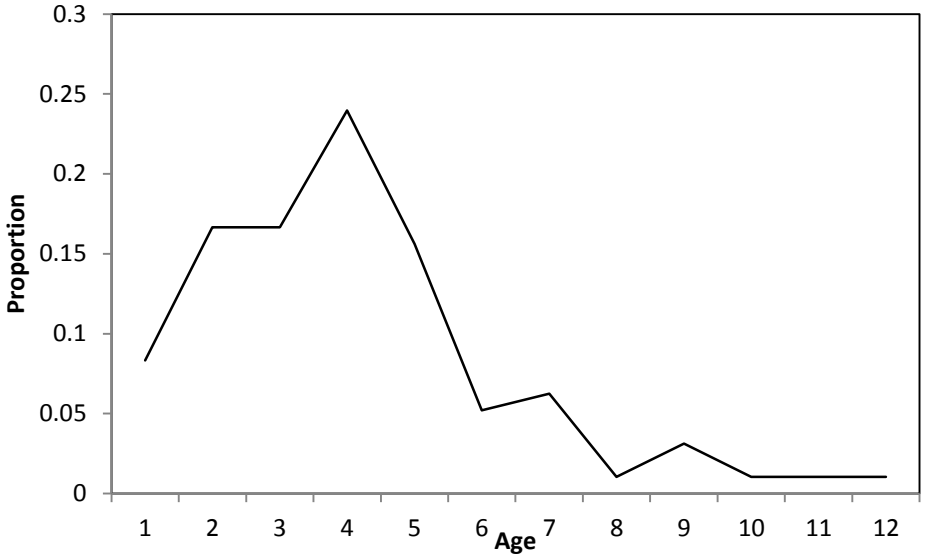



Figure 15. Combined age frequency of blueline tilefish aged in the recreational fishery (2003, 2008-2011).

Appendix 1. Blueline tilefish age sample data.

| Month | Day | Year | Trip_Type | State | area _fished | Gear | Sex | FL_mm | FL_cm | no_ Annuli |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15 | 2011 | HB | FL | 741 | HL | M | 349 | 35 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 383 | 38 | 4 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | U | 368 | 37 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 360 | 36 | 2 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 361 | 36 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 380 | 38 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 378 | 38 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 281 | 28 | 2 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 305 | 31 | 1 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 305 | 31 | 2 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | M | 524 | 52 | 5 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 374 | 37 | 3 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 377 | 38 | 4 |
| 1 | 15 | 2011 | HB | FL | 741 | HL | F | 374 | 37 | 3 |
| 1 | 30 | 2011 | HB | FL | 741 | HL | F | 420 | 42 | 4 |
| 1 | 30 | 2011 | HB | FL | 741 | HL | M | 442 | 44 | 5 |
| 1 | 30 | 2011 | HB | FL | 741 | HL | M | 460 | 46 | 4 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 518 | 52 | 6 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 365 | 37 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 320 | 32 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 311 | 31 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 296 | 30 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | M | 276 | 28 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 249 | 25 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 500 | 50 | 5 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 360 | 36 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 322 | 32 | 3 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 370 | 37 | 4 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 358 | 36 | 3 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 380 | 38 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 256 | 26 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 360 | 36 | 3 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 365 | 37 | 3 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 369 | 37 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | F | 265 | 27 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 294 | 29 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 400 | 40 | 3 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 270 | 27 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 296 | 30 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 291 | 29 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 259 | 26 | 1 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 288 | 29 | 2 |
| 3 | 13 | 2011 | HB | FL | 741 | HL | U | 255 | 26 | 2 |
| 8 | 12 | 2010 | HB | NC | 1 | HL | U | 410 | 41 | 4 |
| 8 | 12 | 2010 | HB | NC | 1 | HL | U | 403 | 40 | 4 |
| 7 | 1 | 2003 | CH | NC | 701 | HL | U | 586 | 59 | 9 |
| 8 | 15 | 2003 | CH | NC | 701 | HL | U | 512 | 51 | 5 |
| 8 | 15 | 2003 | CH | NC | 701 | HL | U | 602 | 60 | 5 |
| 8 | 12 | 2010 | HB | NC | 1 | HL | U | 469 | 47 | 3 |
| 8 | 26 | 2010 | HB | NC | 1 | HL | U | 490 | 49 | 5 |
| 8 | 26 | 2010 | HB | NC | 1 | HL | U | 645 | 65 | 7 |
| 2 | 2 | 2008 | HB | NC | 11 | HL | U | 320 | 32 | 3 |
| 6 | 14 | 2009 | CH | FL | 2 | HL | U | 550 | 55 | 10 |
| 6 | 14 | 2009 | CH | FL | 2 | HL | U | 590 | 59 | 9 |
| 6 | 14 | 2009 | CH | FL | 2 | HL | U | 680 | 68 | 7 |
| 6 | 14 | 2009 | CH | FL | 1 | HL | U | 510 | 51 | 8 |
| 7 | 19 | 2009 | HB | FL | 2 | HL | U | 478 | 48 | 7 |
| 7 | 19 | 2009 | HB | FL | 2 | HL | U | 474 | 47 | 7 |
| 8 | 2 | 2009 | CH | FL | | HL | U | 690 | 69 | 11 |
| 8 | 2 | 2009 | CH | FL | | HL | U | 594 | 59 | 12 |
| 8 | 2 | 2009 | CH | FL | | HL | U | 604 | 60 | 7 |
| 9 | 9 | 2010 | HB | NC | 1 | HL | U | 413 | 41 | 4 |
| 9 | 9 | 2010 | HB | NC | 1 | HL | U | 455 | 46 | 4 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 485 | 49 | 4 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 463 | 46 | 4 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 408 | 41 | 4 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 468 | 47 | 4 |
| 7 | 7 | 2011 | HB | NC | 1 | HL | U | 525 | 53 | 6 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 469 | 47 | 4 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 500 | 50 | 5 |
| 6 | 9 | 2011 | HB | NC | 1 | HL | U | 415 | 42 | 5 |
| 7 | 7 | 2011 | HB | NC | 1 | HL | U | 346 | 35 | 2 |
| 7 | 7 | 2011 | HB | NC | 1 | HL | U | 350 | 35 | 3 |
| 7 | 7 | 2011 | HB | NC | 1 | HL | U | 344 | 34 | 2 |
| 7 | 19 | 2011 | HB | NC | 1 | HL | U | 618 | 62 | 6 |
| 2 | 10 | 2011 | HB | FL | | HL | U | 450 | 45 | 5 |
| 2 | 10 | 2011 | HB | FL | | HL | U | 505 | 51 | 6 |
| 2 | 10 | 2011 | HB | FL | | HL | U | 425 | 43 | 5 |
| 8 | 10 | 2009 | CH | FL | | HL | U | 460 | 46 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 575 | 57 | 5 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 461 | 46 | 5 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 450 | 45 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 476 | 48 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 369 | 37 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 497 | 50 | 3 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 481 | 48 | 7 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 411 | 41 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 448 | 45 | 4 |
| 6 | 5 | 2003 | CH | NC | 709 | HL | U | 471 | 47 | 4 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 504 | 50 | 5 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 465 | 46 | 6 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 467 | 47 | 5 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 502 | 50 | 5 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 371 | 37 | 4 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 676 | 68 | 9 |
| 10 | 7 | 2003 | CH | NC | 709 | HL | U | 404 | 40 | 4 |