

Northwest Atlantic



Fisheries Organization

Serial No. N4428

NAFO SCR Doc. 01/50  
Revised

**SCIENTIFIC COUNCIL MEETING – JUNE 2001**

Yellowtail Flounder (*Limanda ferruginea*) Distribution and Abundance on the Grand Bank,  
NAFO Divisions 3LNO, 1984-2000

by

Stephen J. Walsh, Michael F. Veitch, and William B. Brodie

Northwest Atlantic Fisheries Center, Science, Oceans and Environment Branch  
Department of Fisheries and Oceans, P. O. Box 5667  
St. John's, Newfoundland A1C 5X1

**Abstract**

Abundance and biomass indices of Grand Bank yellowtail flounder in NAFO Divisions 3LNO were derived from multi-species, annual stratified-random bottom trawl surveys conducted by Canada during the spring of 1984-2000 and during the fall from 1990 to 2000. After declining in stock size and geographical range from the mid 1980s to the mid 1990s, recent surveys have indicated that the stock size has increased dramatically and has again expanded its northward range to re-occupy habitats in the northern Grand Bank.

**Introduction**

Multi-species, annual stratified-random bottom trawl surveys have been conducted by the Newfoundland region of the Canadian Dept of Fisheries and Oceans on the Grand Bank, in Div. 3LNO, during the spring of each year since 1971. Since 1990, a second series of surveys have been carried out on the Grand Bank during the fall period, October to December. However, since 1971 there has been two changes in survey gears and only one set of conversion factors has been developed for the 1984-1995 time series, only data from 1984 will be presented here.

From both the spring and fall surveys, swept area abundance and biomass estimates are derived for yellowtail flounder (*Limanda ferruginea*) and serve as fishery-independent indices of stock size. Because catchability of the survey trawl is unknown and assumed to be  $\leq 1.0$ , the indices are considered to be relative estimates of stock size.

The purpose of this paper is to describe the results of these annual surveys. Attention will be directed to monitor annual changes in stock size and recent changes in temporal and spatial patterns of distribution.

**Materials and Methods**

*Survey design:* The stratification scheme is based on depth and shown in Fig. 1 (see Doubleday 1981 for a review of procedures). The 1984-2000 spring and the 1990-99 fall surveys covered depths from 45 to 731 m. However, beginning in 1994 it was decided to extend the coverage of the fall surveys to depths deeper than 731 m. Mechanical problems with the survey vessel did not permit these deepwater strata (Fig. 1) to be fished in 1995 or in 1996. In 1997 there was insufficient time for the survey to cover these depth strata beyond 731 m. In 1998-2000 surveys, the extended coverage met with some success, however, these changes have negligible effect on estimation of the relative abundance and biomass of yellowtail flounder because the stock is found almost exclusively in depths less than 100 m. Nevertheless, the addition of deepwater sets does lower the mean catch per tow in those years.

Summary of vessels and fishing sets in Campelen fall surveys in Div. 3LNO from 1996 - 2000.  
Depth range is given in meters, numbers of sets appear in parentheses.

Year	Division	Ship				Year	Division	Ship			
		Teleost	W.Templeman	A.Needler	Total			Teleost	W.Templeman		Total
1996	3L	805 - 1433 (31)	51 - 671 (180)		211	1999	3L	1366(1)	63-1407 (169)		170
	3N	390 - 1147 (13)		37 - 309 (54)	67		3N		39-664(68)		68
	3O	68 - 690 (24)	65 - 139 (19)	63 - 304 (15)	58		3O		58-692(75)		75
					<u>336</u>						<u>313</u>
1997	3L	161-1436 (71)	35-714 (134)		205	2000	3L	152-1430 (74)	42-447 (102)		176
	3N		41-769 (74)		74		3N	747-1419 (24)	46-642 (70)		94
	3O		62-611 (73)		73		3O	752-1424 (24)	62-654 (76)		100
					<u>352</u>						<u>370</u>
1998	3L	691-1437 (32)	34-675 (172)		204						
	3N	834-1447 (12)	37-1079 (78)		90						
	3O		82-1076 (87)		87						
					<u>381</u>						

*Survey gears and vessels:* From 1971 to 1982 the surveys of the Grand Bank were conducted by the 54 m side trawler, the FRV *A. T. Cameron* (ATC) using a two bridle Yankee 41.5 otter trawl rigged with rubber disk footgear. In 1983, this trawl was replaced by the three bridle Engel 145 Hi-Lift otter trawl rigged with large steel bobbin footgear and, at the same time, the *A.T. Cameron* was replaced by the 50 m stern trawler, the *CCGS Wilfred Templeman* (WT). Occasionally the *W. Templeman's* sister ship, the *CCGS Alfred Needler* (AN) took part in the surveys. In 1995, the old standard Engel trawl was replaced by a three bridle Campelen 1800 shrimp trawl rigged with 35 cm diameter rockhopper footgear (see Fig. 2-4; Table 1). The Yankee and the Engel trawls were both towed at 3.5 kts, while, the Campelen is towed at 3.0 kts (see McCallum and Walsh 1996 for details). The Campelen trawl surveys of the Grand Bank began in the fall of 1995 aboard the *W. Templeman*. The Campelen trawl also replaced the Yankee 41 shrimp trawl used in the annual fall juvenile groundfish surveys from 1985-94 (McCallum and Walsh, 1996). Beginning in 1996, the 63 m stern trawler, *CCGS Teleost*, began fishing mostly the deepwater survey sets beyond 731 m in Div. 3LNO, however, shallower sets have been also been fished when necessary. The Campelen trawl onboard that vessel is identical in construction and rigging as the one on the *Wilfred Templeman*. Since 1993, the geometry and performance of all bottom trawl surveys have been monitored by Scanmar trawl mounted acoustic instrumentation (McCallum and Walsh, 1999; 2001)

*Time series:* Conversion factors have been derived from comparative fishing trials to convert the 1984-95 spring and 1990-94 fall Engel trawl survey data into Campelen trawl units and were presented in Walsh *et al.* (1998a, 1998b). Survey data from 1971-82 time period has not been converted to Campelen trawl units and the unconverted time series can be found in the 1997 assessment paper (see Walsh *et al.*, 1997). To-date, conversion factors for yellowtail flounder have also not been derived for the 1985-94 juvenile groundfish series and this data is found in the 1995 assessment paper (see Walsh *et al.*, 1995). Consequently, only survey data from 1984 onward are reported here.

*Fishing and catch protocols:* The Campelen carries out 15-minute tows using a towing speed of 3.0 kts and covers an average tow distance of 0.75 nautical miles (see Table 1). The catches are standardized to distance towed. The average wingspread used in estimating swept area abundance indices is 18.23 m and the average swept area is estimated to be 0.00727m<sup>2</sup>. After each set, all species in the catch are separated, counted and weighed. From each haul the total catch or a sub-sample is taken to collect biological data on size, age, maturity and feeding for all commercial species.

## Results

In all years and in both time series, the majority of yellowtail flounder were caught in less than 100 m on the Grand Bank; however, occasionally small catches have been taken in deep waters along the slope edge in Div. 3O in the spring survey and in Div. 3N during the fall surveys.

### A) Spring groundfish surveys 1984-2000

Tables 2 to 7 give the survey catch rates in the form of stratified mean number and weight-per-tow by stratum. Tables 8-15 show abundance and biomass per stratum, along with confidence limits, for stock size in Div. 3L, 3N, and 3O, respectively, and for a combined Div. 3LNO estimate for the time period 1984-2000. Figures 5 and 6 show plots of the abundance and biomass estimates from surveys during the 1984-2000 period. The high 1999 survey estimates point to a 'year effect' (Walsh *et al.*, 2000; STACFIS, 2000).

**Abundance trends:** Tables 8-10 and Figure 5 show the population abundance trends by Division from 1984-99, with 95% confidence intervals, and the combined abundance index.

In Div. 3L, there has been a continuous decline from a high of 50 million fish in 1985 to "0.0" fish abundance in 1995. Since 1996, the amount of yellowtail flounder has been increasing in this division. For the 1996-98 period the population size has fluctuated around an average value of 1.8 million fish; still much lower than the 1984-85 average of 48 million fish. However, in 1999, the abundance estimate of 55.4 million fish was the highest in the time series (Fig. 5; Table 8). In the 2000 survey, the abundance estimate decreased by 26% to 40.7 million fish.

In Div. 3N, for the period of 1984-88, the population size decreased from a high of 435 million fish in 1984 to 135 million fish in 1988, increased almost 4 times to a high of 478 million fish in 1989, mainly due to the strong 1985 and 1986 year-classes. From 1990 to 1994, the survey abundance again declined continuously to a low of 126 million fish. In 1995, there was a small increase in population size followed by a 3-fold increase to 475 million fish in 1996. Since 1995, there has been a continuous increase in population size reaching a high of 965 million fish in 1999. In the 2000 survey, the abundance estimate decreased by 28% to 695 million fish (Fig. 5, Table 9)

In Div. 3O, the abundance showed an increasing trend from 1984 to 1987 reaching 91 million fish followed by a 37% decrease in 1988 to 57 million fish. From 1988 to 1991 the population fluctuated around an average level of 53 million fish before declining to 28 million fish in 1992. In 1993, the population estimate of 101 million was almost 4 times that of the 1992 estimate. This anomalous high estimate in 1993 may have been produced by the high catch rates in stratum 352 and is reflected in the high variability around the estimate (see Fig. 5). However, in 1994 and 1995 the population abundance again dropped back to an average level of 25 million fish in line with the 1992 estimate. In 1996 the population size again showed a dramatic increase of almost 6 times the average of 1994-95 estimate of 25 million fish. Between 1996 and 1998 the population has fluctuated around an average size of 153 million fish and then in 1999, the estimate jumped by 76% to reach the highest estimate of 269 million fish (Table 10; Fig 5). In the 2000 survey, the abundance decreased by 31% to 186.5 million fish.

**Div. 3LNO:** Table 11 and Fig 5 presents the combined total population estimate for the Div. 3LNO. In the time series 1984-2000, there appears to be three trend periods. The first trend occurs between 1984 and 1989 when the population size decreased by 63% from 544 million fish in 1984 to 203 million fish in 1988. The second trend saw the population size increase in size by 162% from 1988 to 1989 (inflated by use catches of the 1985 year-class in particular in stratum 360) followed by another gradual decline from 533 million fish (1989) to 148 million fish in 1994. The third trend began with an increase a 26% increase in population size from 1994 to 1995, followed by a 242% increase from 187 million fish in 1995 to 640 million in 1996. From 1996 to 1999 the abundance increased steadily to a high of 1.3 billion fish in 1999 before declining by 29% to 923 million fish in the 2000 survey. This large increase in population abundance from 1996 to 1998 is partially explained by the high efficiency of the "new" survey trawl, introduced in the fall of 1995, in catching juveniles and young adults when compared to the "old" standard trawl. This efficiency is reflected in the size composition of the survey catches for those years. However, the sudden 77% increase in abundance from 1998 to 1999, the highest in the time series at 1.3 billion fish, may not be indicative of a natural increase in stock size. Catch rates were very high in many strata throughout all Divisions and STACFIS (2000) agreed in 2000 that there are 'year effects' in 1999 survey (Tables 2-4). The 2000 survey abundance estimate is more in line with and 26% higher than the 1998 estimate (Fig. 5)

**Biomass trends:** Tables 12-15 and Fig. 6 shows the trends in survey biomass and associated 95% confidence intervals from 1984-2000. Similar to the trend seen in the 1999 abundance estimate the biomass is also anomalously high.

In Div. 3L, the biomass index has declined steadily from a high of about 22,000 tons in 1984 to “0.0” t in 1994 and 1995. From 1996 to 1998, the stock has shown a marginal increase to stabilize at an average biomass level of 500 tons. The 1999 biomass estimate of 28,000 tons is over 5 times higher than the average size of the last three years. (Table 12; Fig. 6A). In the 2000 survey, the biomass decreased by 36% to 18,000 tons.

In Div. 3N, the majority of the stock is distributed in and around the Southeast Shoal area (strata 375, 376, 360 and 361 in Fig. 1). The biomass index declined gradually from 168,000 tons in 1984 to 46,000 tons 1994. After a 25% increase in 1995 the biomass jumped by 80% to 104,000 tons and then continued increasing to a high of 144,000 tons in 1998 (Table 13; Fig. 6A). In 1999, the biomass estimate of 238,000 tons was 66% higher than the 1998 estimate. In the 2000 survey, the biomass decreased by 17% to 197,000 tons.

In Div. 3O<sup>1</sup>, the biomass index show moderate fluctuations around an average value of 27,000 tons for the period 1984-92, increasing to 42,000 tons in 1993 and then declining to an average of 11,000 tons during the 1994-95 period. In 1996, the survey biomass dramatically increased 6 fold to 71,000 tons and has since declined to an average value of 56,000 tons for the 1997 and 1998 period (Table 14; Fig 6A). Whether some of these fluctuations are related to movement between Div. 3N and 3O are unknown. In 1999, the biomass increased by 70% over the 1998 estimate to a high of 98,000 tons. In the 2000 survey, the biomass decreased by 27% to 72,000 tons (Table 14, Fig 6A).

In Div. 3LNO, the majority of the survey biomass is found in Div. 3N and since 1989 there has been negligible amounts in Div. 3L until the 1999 survey. Table 15 and Fig. 6B show the cumulative biomass of all divisions for the time period 1984 to 2000. Total stock biomass had been steadily declining from a high of 218,000 tons in 1984 to 56,000 tons in 1994. In 1995, the overall decline in biomass levels had ceased and stock size increased by 27%. In 1996, the biomass suddenly jumped by 150%, coinciding with a change to a more efficient survey gear in the fall of 1995. Between 1996 and 1997 the stock remained stable at an average level of 175,000 t and then again increased in 1998 by 15% to a level of 202,000 tons. The 81% jump in stock size in 1999 to a level of 365,000 tons, together with the huge increase in abundance, is indicative of a change in catchability. STACFIS (2000) noted that increases in biomass were seen in many strata, indicative of an ‘anomalous’ year effect. In the 2000 survey, the biomass had decreased by 21% to 287,000 tons, more in line with the 1998 estimate.

#### B) Fall groundfish surveys, 1990-2000

Tables 16-21 show the survey catch rates in the form of stratified mean number and weight-per-tow by stratum and division for the fall surveys, 1990-2000. Tables 22-29 show abundance and biomass per stratum, along with confidence intervals, and Fig. 7 and 8 shows plots of the abundance and biomass estimates by division from 1990-2000 and a combined Div. 3LNO estimate for the same time period.

**Abundance trends:** Tables 22-25 and Figure 7 show the abundance trends by Division up to 2000, with 95% confidence intervals, and the combined abundance estimate for Div. 3LNO.

In Div 3L, population size decreased from 4 million fish in 1990 to 0.1 million in 1994. From 1995 the population size showed an increase from approximately 4 million fish to an average level of 6 million fish for the 1996-97 period and then doubled in size to 13 million fish in 1998 (Table 22; Fig. 7). In the 1998-2000 surveys, these fish were found in three strata (350, 363 and 372; see Fig. 1) in depths less than 100 m similar to the distribution occupied in the mid-1980s as determined from the spring surveys. Since the 1998 survey, the abundance has shown a steady increase to 37.9 million fish in the 2000 survey, a 84% increase over the 1999 estimate.

In Div. 3N from 1990-94, the survey abundance fluctuated around an average size of 222 million fish. In 1995 survey abundance increased sharply by 96% over the 1994 survey estimate and continued to increase to a high of 860.3 million fish in 2000 (Table 23; Fig 7). The wide confidence interval associated with the 2000 estimate probably reflects the three high catches in stratum 376 which ranged from 1392 to 3994 fish. The stratum abundance showed a 183% increase from 1999-2000 and is largest in the time series for that stratum

<sup>1</sup> In the 1998 assessment of this stock (Walsh *et al.*, 1998b) the estimates for Div.3O were slightly lower because of an error which resulted in the deletion of stratum 340 in all years. This error has been corrected.

In Div. 3Q, there has been no discernible trend in the data for the period 1990-96 and the population level fluctuated around an average size of 55 million fish (Table 24; Fig 7). In 1997, the population size almost tripled to 159 million fish and in the 1998-1999 surveys the population size fluctuated around an average level of 180 million fish. In the 2000 survey, the abundance increased by 44% to 254 million fish of which 48% was found in stratum 352.

In Div. 3LNO, Table 25 and Fig. 7 present the total abundance estimates for Div. 3LNO. The overall population size fluctuated around an average level of 273 million fish from 1990-94 then doubled in size in 1995 to 579 million fish. This coincided with the introduction of the new survey gear in the fall of 1995. Since then the population has steadily increased to a record high of 1.2 billion fish in 2000, the largest in the time series (Table 25). This represents a 19% increase over the 1999 estimate of 957 million fish. Fifty-five (55) percent of the 2000 estimate comes from the two strata (375 and 376) making up the Southeast Shoal (Fig. 1).

**Biomass trends:** Tables 26 to 29 and Fig. 8 show the trends in survey biomass by division and for the combined Div. 3LNO.

In Div. 3L, the biomass has shown a decrease from 1990 level of 2,000 tons to “0.0 tons” in 1994. Noteworthy is that a 0.0 tons biomass was also estimated for the 1994 and 1995 spring series. From 1995-97 the stock fluctuated around an average level of 1,700 tons and then increases by a factor of 4 to 5 000 tons. In the 1999 survey, the biomass increased by 100% to 10,000 tons and then by an additional 30% to 13,000 tons in the 2000 survey (Table 26; Fig 8A). These increases in biomass are thought to be the result of an extension of the range of yellowtail flounder with increasing stock size (see spatial section below).

In Div. 3N, from 1990-92 the stock size has fluctuated around an average value of 47,000 tons before doubling in size in 1993. Since then the stock has shown an upward increasing trend to a high of 253,000 tons in 2000, an increase of 32% since 1999. (Table 27; Fig. 8A). Much of this increase comes from three large catches in stratum 376 ranging from 420 to 1150 kg, which accounted for 24% of the biomass in this division.

In Div. 3Q, the survey biomass index, in Table 28, showed no obvious trend from 1990-96, fluctuating around an average level of 20,000 tons. In 1997, the biomass almost tripled in size. Since then the biomass has shown a decrease in stock size probably reflective of movements between Div. 3N (Table 28; Fig. 8A). Both estimates of the 1997 and 1998 are close in agreement with the spring estimate for those years. In 2000, the biomass was estimated to be 70,000 tons, 31% higher than the 1999 estimate of 48,000 tons. In 2000, almost half of the biomass was found in stratum 352, which borders the dividing line with Div. 3N, in 1999, similar to other years and to the spring time series.

In Div. 3LNO, similar to the spring surveys, the majority of the stock is in Div. 3N. In Div. 3L, however, the survey coverage in the shallow strata was not extensive as in recent years due mechanical problems. Since 1993, when the survey biomass was estimated to be 113, 000 tons, there has been an increasing upward trend to 2000. From 1996 to 1997, the biomass increased by 40% and reached its highest point in the time series at 335,000 tons in 2000, a 34% increase over the 1999 estimate (Table 29; Fig. 8B). In the spring series, the upward trend began in 1995 while in the fall series it began in 1993. Fifty-five (55) percent of the biomass in the 2000 survey was found on the Southeast Shoals (strata 375 and 376). Deletion of the large 1150 kg tow in stratum 376 reduces the biomass to 276,000 tons, which is more in line with the 1999 estimate of 250,000 tons.

### Summary

Since 1995, the surveys have shown that the stock has been increasing in size after the decline in the late-1980s and early-1990s. In the 1999 fall survey, the huge increase in abundance and biomass was not evident as seen in the 1999 spring survey and the 1999 spring survey is regarded as an anomalous ‘year’ effect (STACFIS, 2000). In the 2000 surveys, both the spring and fall abundance estimates are lower than that estimated from the 1999 surveys, being more in line with the 1998 surveys. The fall biomass estimate of 335,000 tons is 17% higher than the spring estimate of 287,000 tons.

### Spatial analysis

Figures 9 and 10 show the standard number and weight from the catches of individual fishing sets plotted as point estimates using the Campelen trawl data from the 1999 and 2000 spring and fall surveys. In all surveys, yellowtail flounder were most abundant in and around the Southeast Shoal in Div. 3N (Fig. 1), straddling the Canadian 200 mile limit and extending into the Regulatory Area confirming earlier descriptions of distribution (Walsh, 1992; Brodie *et al.*, 1998; Walsh *et al.*, 1999; 2000; 2001a). Yellowtail flounder appear to be more abundant in the Regulatory Area of Div. 3N in 1999-2000 surveys than in previous years and the northward distribution of the stock has extended in Div. 3L, similar to historical times when the stock size was high. Brodie *et al.* (1998) noted that the northward extension of yellowtail flounder on the Grand Bank contracted with decreasing stock size during the mid to late-1980s and early -1990s so that the bulk of the stock was south of the 45°N (Fig. 11). Figure 11 shows a plot of the proportion of biomass north of 45°N from 1973 to 2000 and it is obvious that the range of the stock has recently been extending northward. However, in the 2000 fall survey the decrease in the range may be associated with the poor survey coverage in Div. 3L. Recent tag returns from the 1998-2000 fishery have also confirm the northward extension of the stock in recent years (Walsh *et al.*, 2001b).

### **References**

- Brodie, W. B., S. J. Walsh, and D. B. Atkinson. 1998. The effect of stock abundance on range contraction of yellowtail flounder (*Pleuronectes ferruginea*) on the Grand Bank of Newfoundland in the Northwest Atlantic from 1975 to 1995. *J. Sea Res.*, **39**: 139-152.
- Doubleday, W. B. 1981. Manual on groundfish surveys in the Northwest Atlantic. *NAFO Sci. Coun. Studies*, **2**:55 p.
- McCallum, B.R and S.J Walsh 1996. Groundfish survey trawls used at the Northwest Atlantic Fisheries Centre, 1971-present. *NAFO SCR Doc.*, No. 96/50, 18 p.
- McCallum, B. R., and S. J Walsh. 1999. Analysis of the performance of the Campelen 1800 shrimp trawl during annual Canadian bottom trawl surveys of Subarea 2J + Divisions 3KLMNO, and 3PS from 1995-1998. *NAFO SCR Doc.*, No. 99/46.
- McCallum, B. R., and S. J. Walsh. 2000. Evaluating the success of the survey trawl standardization program at the Northwest Atlantic Fisheries Centre. *NAFO SCR Doc.*, No. 01/ 26, 20 p.
- STACFIS. 2000. Appendix IV, Report of Standing Committee on Fisheries Science (STACFIS). Pp 122-134. *In*: Northwest Atlantic Fisheries Organization Scientific Council Reports 2000 ISSN-0250-6416, 303 p.
- Walsh, S. J. 1992. Factors influencing distribution of juvenile yellowtail flounder (*Limanda ferruginea*) on the Grand Bank of Newfoundland. *Neth. J. Sea Res.*, **29**: 193-203.
- Walsh, S. J, W. B. Brodie, M. J. Morgan, W. R. Bowering, D. Orr, and M. Veitch. 1997. An Assessment of the Grand Bank Yellowtail Flounder Stock in NAFO Divisions 3LNO. *NAFO SCR Doc.*, No. 97/72, 54 p.
- Walsh, S. J, D. Orr, and W. B. Brodie. 1998a. Conversion factors for yellowtail flounder survey indices derived from comparative fishing trials between the Engel 145 otter trawl and the Campelen 1800 shrimp trawl. *NAFO SCR Doc.*, No. 98/60, 10 p.
- Walsh, S. J, W. B. Brodie, M. Veitch, D. Orr, C. McFadden, and D. Maddock Parsons. 1998b. An assessment of the Grand Bank yellowtail flounder stock in NAFO Divisions 3LNO. *NAFO SCR Doc.* No. 98/72, 78 p.
- Walsh, S. J., K. S. Whalen, and M. Simpson. 1999. Preliminary analysis of spatial and temporal variation in the distribution of juvenile yellowtail flounder on the Grand Bank: Investigating the methodology. *NAFO SCR Doc.*, No. 99/59.
- Walsh, S. J., M. F. Veitch, M. J. Morgan, W. R. Bowering, and B. Brodie. 2000. Distribution and abundance of yellowtail flounder (*Limanda ferruginea*) on the Grand Bank, NAFO Divisions 3LNO, as derived from annual Canadian bottom trawl surveys. *NAFO SCR Doc.*, No. 00/35, 54 p.
- Walsh, S. J, M. Simpson, M. J. Morgan, and D. Stansbury. 2001a. Distribution of juvenile yellowtail flounder, American plaice and Atlantic cod on the southern Grand Bank, NAFO Div. 3NO. *NAFO SCR Doc.*, No. 01/78, 48 p.
- Walsh, S. J, M. J. Morgan, W. B. Brodie, K. S. Dwyer, and L. Mansfield. 2001b. A new tagging program for yellowtail flounder on the Grand Bank, NAFO Divs. 3LNO. *NAFO SCR Doc.*, No. 01/53, 19 p.

Table 1. Trawl design, rigging and geometry of Campelen 1800 shrimp trawl used in annual bottom trawl surveys (Adopted from McCallum and Walsh 1996)

<b>Parameter</b>	<b>Measurement</b>
<b><i>Rigging</i></b>	
Doors	4.3m/1400 kg
Sweeps (m)	6.1
Bridles (m)	40
Buoyancy (kg)	226.5
Headline (m)	29.5
Fishing line (m)	19.5
<b><i>Footgear</i></b>	
Length (m)	35.6
Material	102 rubber disks (rockhopper)
Weight in air (kg)	501.3
Size (diameter cm)	35
<b><i>Mesh Size (mm)</i></b>	
Wings/square	80/60
Bellies	60/44
Codend	44
Liner	12.7
Material	Polyethelylene
<b><i>Geometry</i></b>	
Doorspread (m)	45 to 55
Wingspread (m)	15 to 17
Opening (m)	4 to 5
Towing speed (knots)	3.0
<b><i>Swept Area Abundance Model</i></b>	
Tow duration (min)	15
Tow distance (nm)	0.8
Average wingspread	18.23
Catchability coefficient	1.0
Swept area (m <sup>2</sup> )	0.00727

**Table 2. Mean Number per set of Yellowtail Flounder by stratum, Div 3L - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 28	1985 WT 28-30	1986 WT 48	1987 WT 58-60	1988 WT 70,71	1989 WT 82,83	1990 WT 96	1991 WT 106,107	1992 WT 120-122	1993 WT 137,138	1994 WT 152-154	1995 WT 169,170	1996 WT 189-191	1997 WT 205-208	1998 WT221-24	1999 WT240-41	2000 WT317,318
57-92	350	284,889.0	3.2	7.4	4.4	1.3	2.8	1.4	0.3	1.5	0.1	0.0	0.1	0.0	1.6	0.0	0.0	33.2	21.5
	363	244,858.7	45.6	27.6	14.5	13.1	9.9	3.4	7.6	1.3	0.2	0.0	0.0	0.0	4.4	1.0	0.0	94.8	97.9
	371	154,206.0		0.7	0.7	0.0	0.8	0.2	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.0		2.5	0.0
	372	338,400.3	96.6	117.1	62.0	24.4	13.9	19.5	8.0	4.0	0.6	0.7	0.1	0.0	2.5	2.4	5.1	47.3	28.2
	384	154,068.4		7.7	2.5	1.9	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.5
93-183	328	208,955.3	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	341	216,521.2	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	348	291,629.5		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	349	290,804.1	0.2	0.1	2.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	18.0	2.6
	364	387,509.6	1.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.5
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	390	203,728.0		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	344	205,516.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	347	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	366	191,760.2		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	369	132,196.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	386	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	389	112,937.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	391	38,792.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
275-366	345	196,987.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	346	118,990.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	368	45,945.4		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	387	98,768.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	388	49,659.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	392	19,946.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	729	25,586.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	733	64,378.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	735	37,416.6		0.0							0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
550-731	730	23,385.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	734	31,363.9		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	736	24,073.2		0.0							0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
732-914	737	31,226.4											0.0						
	741	30,676.1											0.0						
	745	47,871.3											0.0						
	748	21,872.2											0.0						
Mean No. (sets)			22.1(37)	9.4(221)	5.3(211)	2.4(181)	1.6(154)	1.6(205)	0.93(156)	0.45(143)	0.05(178)	0.05(181)	0.02(160)	0(151)	0.5(188)	0.2(158)	0.3(155)	9.6(175)	7.6(134)
Upper C.I.			39.3	14.6	7.8	3.6	2.4	2.6	1.6	0.7	0.1	0.1	0.0	0.0	0.7	0.4	0.8	15.6	11.3
Lower C.I.			5.0	4.2	2.8	1.2	0.9	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.1	-0.2	3.6	3.9



**Table 3. Mean Number per set of Yellowtail Flounder by stratum, Div 3N - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43 WT 29	1986 WT 47	1987 WT 58,59	1988 WT 70	1989 WT 82	1990 WT 95,96	1991 WT 106	1992 WT 119,120	1993 WT 136,137	1994 WT 152,153	1995 WT 168,169	1996 WT 189	1997 WT 205,206	1998 WT221-24	1999 WT238-40	2000 WT316,317
<=56	375	219,134.8	373.6	165.6	409.6	208.3	118.5	82.3	259.5	21.5	340.3	135.7	29.0	139.7	603.3	487.2	411.6	476.4	369.0
	376	206,204.1	91.5	220.3	162.3	719.6	125.7	977.0	521.3	764.1	183.7	35.0	2.3	10.8	67.8	1,029.8	524.8	911.0	349.5
57-92	360	411,582.8	289.7	155.3	32.3	33.0	7.0	480.3	91.7	50.1	140.2	41.9	6.8	133.2	364.7	126.2	374.4	680.3	215.7
	361	254,900.7	338.6	171.0	101.4	130.1	166.6	142.3	293.3	242.9	63.6	237.9	451.0	276.7	453.6	427.2	455.7	586.7	544.0
	362	346,653.9	227.1	74.4	159.9	103.3	73.3	50.9	79.4	53.7	7.5	86.8	2.3	0.6	169.3	210.5	300.0	507.7	519.1
	373	346,653.9	122.0	58.1	28.2	38.7	34.6	20.8	2.5	13.4	0.1	0.1	3.0	0.0	7.8	1.9	11.1	103.1	311.8
	374	128,069.4	59.7	38.5	14.8	7.6	4.2	0.2	1.8	0.4	1.0	0.0	0.0	3.3	15.3	10.7	5.8	248.7	225.5
	383	92,716.2	3.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93-183	369	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5
	377	13,756.1	0.0	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
275-366	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	723	21,322.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	725	14,443.9								0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732-914	752	18,433.2											0.0						
	756	14,581.5											0.0						
	760	21,184.4											0.0						
Mean No. (sets)			189.7(61)	104.6(85)	100.0(101)	128.1(91)	58.9(77)	208.4(94)	133.1(85)	111.7(93)	79.3(94)	60.4(85)	51.5(76)	66.1(89)	198.0(82)	233.2(71)	240.4(88)	402.1(82)	289.5(81)
Upper C.I.			251.2	135.1	141.7	202.3	86.3	335.7	206.4	165.4	127.0	103.6	89.1	101.0	254.8	349.9	324.1	499.8	356.3
Lower C.I.			128.2	74.1	58.3	53.9	31.6	81.2	59.9	57.9	31.6	17.1	13.8	31.3	141.1	116.5	156.8	304.4	222.8

**Table 4. Mean Number per set of Yellowtail Flounder by stratum, Div 3O -Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43	1986 WT 47	1987 WT 58	1988 WT 70	1989 WT 82	1990 WT 94,95	1991 WT 105	1992 WT 119,120	1993 WT 136	1994 WT 152	1995 WT 168	1996 WT 188,189	1997 WT 204,205	1998 WT221-24	1999 WT238,39	2000 WT315-317
57-92	330	287,365.1	1.0	14.8	5.0	1.5	1.1	2.0	1.2	9.2	0.0	0.1	0.0	0.0	1.8	0.6	0.5	0.6	47.2
	331	62,727.9	50.0	62.3	5.3	26.5	9.0	25.0		1.0	0.0	2.0	5.5	0.5	1.5	5.3	1.0	69.8	43.5
	338	261,090.9	30.0	22.2	10.6	4.1	48.9	13.2	11.3	17.1	18.0	13.0	5.0	10.0	66.0	68.1	54.3	63.7	43.2
	340	236,054.8	6.0	13.6	16.3	40.8	10.0	6.4	17.7	5.4	3.2	2.8	0.0	0.2	0.0	9.0	1.6	8.8	44.0
	351	346,653.9	80.0	85.6	80.7	39.5	75.2	43.5	52.4	24.5	7.2	5.8	0.3	0.8	28.5	65.3	50.7	324.2	105.3
	352	354,907.6	63.7	55.6	73.0	103.4	47.2	50.7	77.9	78.4	50.8	226.1	55.6	36.0	312.6	177.4	246.3	279.7	268.4
	353	17,6353.31	2.0	98.5	32.1	148.5	3.0	9.6	20.7	26.7	10.0	66.5	1.8	70.2	122.2	175.0	190.6	188.2	92.4
93-183	329	236,742.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.2
	332	144,026.5	0.0	0.6	14.2	9.2	0.3	30.4	1.8	1.3	1.0	13.3	0.3	1.5	6.5	1.3	7.5	4.8	0.0
	337	130,407.9	0.0	0.0	1.0	1.2	2.3	2.8	0.0	0.0	1.0	7.0	0.3	0.5	3.0	15.9	0.5	0.9	2.0
	339	80,473.2	1.0	0.3	0.3	0.3	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.0
	354	65,204.0	0.0	1.0	0.0	0.0	0.0	0.5	0.0	3.0	0.0	0.0	0.0	0.7	2.0	0.5	0.0	0.4	1.0
184-274	355	14,168.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.0
	333	20,771.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	4.9	0.0	0.0	0.0
275-366	334	12,655.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	6.3	0.0	0.0	0.0
	356	8,391.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
367-549	717	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
	719	10,454.6								0.0	0.0	0.0	0.0	0.0	0.8	3.5	0.0	0.0	0.0
	721	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.0
732-914	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>Mean No. (sets)</b>			<b>27.9(52)</b>	<b>34.2(93)</b>	<b>28.5(95)</b>	<b>36.9(91)</b>	<b>59.7(77)</b>	<b>18.9(101)</b>	<b>23.9(84)</b>	<b>19.7(107)</b>	<b>11.0(91)</b>	<b>39.8(75)</b>	<b>8.6(76)</b>	<b>11.2(80)</b>	<b>70.6(70)</b>	<b>54.6(75)</b>	<b>60.9(93)</b>	<b>105.4(86)</b>	<b>73.1(83)</b>
<b>Upper C.I.</b>			<b>45.8</b>	<b>46.2</b>	<b>39.5</b>	<b>52.6</b>	<b>85.2</b>	<b>26.1</b>	<b>36.5</b>	<b>30.0</b>	<b>15.9</b>	<b>80.5</b>	<b>17.6</b>	<b>19.2</b>	<b>96.3</b>	<b>89.1</b>	<b>83.4</b>	<b>141.2</b>	<b>96.8</b>
<b>Lower C.I.</b>			<b>9.9</b>	<b>22.1</b>	<b>17.5</b>	<b>21.2</b>	<b>34.2</b>	<b>11.8</b>	<b>11.2</b>	<b>9.3</b>	<b>6.1</b>	<b>-0.9</b>	<b>-0.4</b>	<b>3.1</b>	<b>44.9</b>	<b>20.1</b>	<b>38.3</b>	<b>69.7</b>	<b>49.4</b>

**Table 5. Mean Weight (Kg) per set of Yellowtail Flounder by stratum, Div 3L - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 28	1985 WT 28-30	1986 WT 48	1987 WT 58-60	1988 WT 70,71	1989 WT 82,83	1990 WT 96	1991 WT 106,107	1992 WT 120-122	1993 WT 137,138	1994 WT 152-154	1995 WT 169,170	1996 WT 189-191	1997 WT 205-208	1998 WT221-224	1999 WT240-41	2000 WT317,318
57-92	350	264,889.0	1.4	3.5	2.0	0.6	1.4	0.6	0.2	0.7	0.1	0.0	0.1	0.0	0.7	0.0	0.0	16.3	8.4
	363	244,858.7	22.2	12.6	6.9	6.3	4.5	1.6	3.4	0.6	0.1	0.0	0.0	0.0	2.2	0.5	0.0	51.6	43.6
	371	154,206.0		0.4	0.3	0.0	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.4	0.0
	372	338,400.3	46.5	48.2	28.7	11.2	6.2	9.9	4.0	2.0	0.3	0.4	0.1	0.0	1.1	0.7	1.4	24.2	12.0
	384	154,068.4		3.7	1.5	1.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2
93-183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	341	216,521.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	348	291,629.5		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	349	290,804.1	0.1	0.0	1.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	7.9	1.0
	364	387,509.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.2
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	344	205,516.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	347	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	366	191,760.2		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	369	132,196.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	386	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	389	112,937.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	391	38,792.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
275-366	345	196,987.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	346	118,990.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	368	45,945.4		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	387	98,768.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	388	49,659.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	392	19,946.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	729	25,586.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	733	64,378.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	735	37,416.6		0.0							0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
550-731	730	23,385.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	734	31,363.9		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	736	24,073.2		0.0							0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
732-914	737	31,226.4											0.0						-
	741	30,676.1											0.0						-
	745	47,871.3											0.0						-
	748	21,872.2											0.0						-
Mean Wt (No.sets)			10.7(37)	4.0(221)	2.5(211)	1.1(181)	0.7(154)	0.8(205)	0.44(156)	0.22(143)	.03(178)	.02(181)	0.01(160)	0.0(151)	0.2(188)	0.1(158)	0.1(155)	4.9(175)	3.2(134)
Upper C.I.			19.0	6.0	3.6	1.7	1.1	1.3	0.8	0.4	0.1	0.1	0.0	0.0	0.3	0.1	0.2	8.0	4.8
Lower C.I.			2.3	1.9	1.4	6.0	4.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	1.9	1.7

**Table 6. Mean Weight (Kg) per set of Yellowtail Flounder by stratum, Div 3N - Spring**

																	70.05		
Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43 WT 29	1986 WT 47	1987 WT 58,59	1988 WT 70	1989 WT 82	1990 WT 95,96	1991 WT 106	1992 WT 119,120	1993 WT 136,137	1994 WT 152,153	1995 WT 168,169	1996 WT 189	1997 WT 205,206	1998 WT221-24	1999 WT238-40	2000 WT316,317
<=56	375	219,134.8	150.0	78.2	181.6	103.8	50.6	21.2	84.3	11.7	118.4	49.5	12.1	59.7	78.7	87.5	90.8	100.2	70.1
	376	206,204.1	30.0	66.8	66.8	78.7	12.6	121.7	70.9	143.7	22.4	5.1	0.6	2.8	5.4	123.6	99.6	150.2	72.8
57-92	360	411,582.8	106.6	46.3	11.2	7.4	2.5	61.0	12.2	12.1	25.3	8.8	2.5	39.6	68.1	39.1	77.8	186.0	63.5
	361	254,900.7	126.7	59.9	38.3	58.1	70.2	43.5	105.0	82.3	29.6	82.5	163.9	108.5	106.1	102.5	122.4	123.3	129.2
	362	346,653.9	86.8	32.1	61.2	40.3	35.1	24.6	30.3	24.4	2.9	40.9	1.3	0.3	83.5	97.1	111.8	166.3	162.4
	373	346,653.9	52.9	26.4	13.9	17.8	18.2	11.1	0.9	7.1	0.0	0.0	0.9	0.0	1.9	1.0	3.2	32.0	121.1
	374	128,069.4	30.1	21.1	8.9	4.3	2.3	0.1	0.6	0.2	0.6	0.0	0.0	1.1	7.1	3.0	1.2	69.0	74.3
	383	92,716.2	2.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93-183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.1
	377	13,756.1	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
275-366	357	22,560.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	723	21,322.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	725	14,443.9								0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
	752	18,433.2											0.0						
732-914	756	14,581.5											0.0						
	760	21,184.4											0.0						
<b>Mean wt (No.sets)</b>			<b>73.1(61)</b>	<b>38.4(85)</b>	<b>41.5(101)</b>	<b>34.1(91)</b>	<b>22.4(77)</b>	<b>34.1(94)</b>	<b>33.0(85)</b>	<b>28.8(93)</b>	<b>20.8(94)</b>	<b>21.1(85)</b>	<b>18.9(76)</b>	<b>24.1(89)</b>	<b>43.3(82)</b>	<b>51.0(71)</b>	<b>59.8(88)</b>	<b>99.3(82)</b>	<b>82.2(81)</b>
<b>Upper C.I.</b>			<b>97.3</b>	<b>48.7</b>	<b>58.9</b>	<b>47.8</b>	<b>31.1</b>	<b>50.3</b>	<b>47.1</b>	<b>39.7</b>	<b>33.2</b>	<b>36.0</b>	<b>33.2</b>	<b>36.3</b>	<b>54.0</b>	<b>72.2</b>	<b>80.2</b>	<b>127.4</b>	<b>103.5</b>
<b>Lower C.I.</b>			<b>48.9</b>	<b>28.1</b>	<b>24.0</b>	<b>20.5</b>	<b>13.7</b>	<b>18.0</b>	<b>18.9</b>	<b>17.9</b>	<b>8.4</b>	<b>6.2</b>	<b>4.6</b>	<b>11.9</b>	<b>32.6</b>	<b>29.8</b>	<b>39.5</b>	<b>71.3</b>	<b>60.9</b>

**Table 7. Mean Weight (Kg) per set of Yellowtail Flounder by stratum, Div 30 - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43	1986 WT 47	1987 WT 58	1988 WT 70	1989 WT 82	1990 WT 94,95	1991 WT 105	1992 WT 119,120	1993 WT 136	1994 WT 152	1995 WT 168	1996 WT 188,189	1997 WT 204,205	1998 WT221-24	1999 WT238-39	2000 WT315-317
57-92	330	287,365.1	0.6	6.7	2.6	0.7	0.6	1.1	0.7	4.0	0.0	0.1	0.0	0.0	0.9	0.2	0.2	0.3	23.7
	331	62,727.9	21.7	29.5	2.8	13.2	4.6	14.8		0.6	0.0	1.4	2.8	0.2	0.5	1.6	0.0	27.3	19.1
	338	261,090.9	12.7	10.6	5.4	1.9	19.6	6.4	5.6	5.1	8.1	5.3	2.7	4.9	30.8	24.8	21.2	27.6	18.1
	340	236,054.8	2.9	6.6	7.5	18.3	4.7	3.2	8.5	2.7	1.6	1.5	0.0	0.0	0.0	3.4	0.8	4.2	17.8
	351	346,653.9	35.8	37.5	33.8	17.3	32.4	20.0	24.2	11.6	3.2	2.4	0.1	0.3	13.6	26.6	18.0	89.7	34.9
	352	354,907.6	28.1	24.5	30.0	42.9	21.3	22.7	31.5	38.3	19.9	93.0	22.7	15.4	129.7	72.0	83.5	110.1	100.0
	353	17,6353.31	1.1	43.2	15.9	75.7	1.6	4.9	9.9	13.0	4.6	29.8	1.1	31.8	60.5	56.3	90.8	103.2	41.8
93-183	329	236,742.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	332	144,026.5	0.0	0.3	7.7	5.0	0.1	11.9	0.8	0.7	0.5	6.2	0.2	0.9	3.5	0.5	2.3	1.8	0.0
	337	130,407.9	0.0	0.0	0.6	0.6	1.0	1.7	0.0	0.0	0.4	4.4	0.2	0.2	2.0	6.4	0.2	0.5	1.0
	339	80,473.2	0.6	0.2	0.1	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7
	354	65,204.0	0.0	0.6	0.0	0.0	0.0	0.1	0.0	1.6	0.0	0.0	0.0	0.3	0.9	0.4	0.0	0.1	0.6
184-274	355	14,168.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0
	333	20,771.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.6	0.0	0.0	0.0
275-366	334	12,655.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	3.1	0.0	0.0	0.0
	356	8,391.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
367-549	717	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
	719	10,454.6								0.0	0.0	0.0	0.0	0.0	0.5	2.0	0.0	0.0	0.0
	721	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	3.9	0.0	2.3	0.0	0.0	0.0
732-914	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>Mean wt (No.sets)</b>			<b>11.4(52)</b>	<b>15.2(52)</b>	<b>12.4(95)</b>	<b>16.7(91)</b>	<b>10.5(77)</b>	<b>8.7(101)</b>	<b>10.5(84)</b>	<b>9.1(107)</b>	<b>4.6(86)</b>	<b>16.7(75)</b>	<b>3.7(76)</b>	<b>4.9(80)</b>	<b>30.5(80)</b>	<b>20.8(75)</b>	<b>22.9(93)</b>	<b>38.7(86)</b>	<b>28.3(83)</b>
<b>Upper C.I.</b>			<b>18.5</b>	<b>20.6</b>	<b>16.8</b>	<b>23.9</b>	<b>14.7</b>	<b>11.6</b>	<b>15.8</b>	<b>14.3</b>	<b>6.7</b>	<b>33.3</b>	<b>7.1</b>	<b>8.7</b>	<b>41.6</b>	<b>32.5</b>	<b>31.6</b>	<b>51.3</b>	<b>36.8</b>
<b>Lower C.I.</b>			<b>4.4</b>	<b>9.9</b>	<b>7.9</b>	<b>9.5</b>	<b>6.3</b>	<b>5.9</b>	<b>5.2</b>	<b>4.1</b>	<b>2.4</b>	<b>0.1</b>	<b>0.2</b>	<b>1.3</b>	<b>19.4</b>	<b>9.2</b>	<b>14.1</b>	<b>26.1</b>	<b>19.7</b>

**Table 8. Abundance (millions) of Yellowtail Flounder by stratum, Div 3L - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 28	1985 WT 28-30	1986 WT 48	1987 WT 58-60	1988 WT 70,71	1989 WT 82,83	1990 WT 96	1991 WT 106,107	1992 WT 120-122	1993 WT 137,138	1994 WT 152-154	1995 WT 169,170	1996 WT 189-191	1997 WT 205-208	1998 WT221-24	1999 WT240-41	2000 WT317,318
30-56	784	36666.37																	
57-92	350	284,889.0	0.9	2.1	1.2	0.4	0.8	0.4	0.1	0.4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	9.4	6.1
	363	244,858.7	11.2	6.8	3.6	3.2	2.4	0.8	1.9	0.3	0.1	0.0	0.0	0.0	1.1	0.2	0.0	23.2	24.0
	371	154,206.0		0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0		0.4	0.0
	372	338,400.3	32.7	39.6	21.0	8.3	4.7	6.6	2.7	1.4	0.2	0.2	0.0	0.0	0.8	0.8	1.5	16.0	9.6
	384	154,068.4		1.2	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
93-183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	348	291,629.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	349	290,804.1	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.8
	364	387,509.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.2
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	344	205,516.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	347	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	366	191,760.2		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	369	132,196.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	386	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	389	112,937.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	391	38,792.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
275-366	345	196,987.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	346	118,990.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	368	45,945.4		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	387	98,768.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	388	49,659.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	392	19,946.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	729	25,586.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	733	64,378.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	735	37,416.6		0.0							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	730	23,385.4		0.0					0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	734	31,363.9		0.0					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	736	24,073.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
732-914	737	31,226.4											0.0					-	-
	741	30,676.1											0.0					-	-
	745	47,871.3											0.0					-	-
	748	21,872.2											0.0					-	-
<b>Abundance (millions)</b>			<b>45.4</b>	<b>49.9</b>	<b>26.9</b>	<b>12.3</b>	<b>8.1</b>	<b>7.9</b>	<b>4.7</b>	<b>2.2</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>0.0</b>	<b>2.5</b>	<b>1.2</b>	<b>1.6</b>	<b>55.4</b>	<b>40.7</b>
<b>Upper C.I.</b>			<b>80.7</b>	<b>77.5</b>	<b>39.7</b>	<b>18.4</b>	<b>11.9</b>	<b>13.2</b>	<b>8.3</b>	<b>3.6</b>	<b>0.7</b>	<b>0.7</b>	<b>0.3</b>	<b>0.0</b>	<b>3.8</b>	<b>2.0</b>	<b>4.3</b>	<b>89.9</b>	<b>60.3</b>
<b>Lower C.I.</b>			<b>10.2</b>	<b>22.3</b>	<b>14.2</b>	<b>6.2</b>	<b>4.3</b>	<b>2.7</b>	<b>1.1</b>	<b>0.8</b>	<b>-0.1</b>	<b>-0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>1.2</b>	<b>0.4</b>	<b>-1.1</b>	<b>20.9</b>	<b>21.0</b>

**Table 9. Abundance (millions) of Yellowtail Flounder by stratum, Div 3N - Spring**

Table 9. Abundance (millions) of Yellowtail Flounder by stratum, Div 3N - Spring												179,95191									
Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43 WT 29	1986 WT 47	1987 WT 58,59	1988 WT 70	1989 WT 82	1990 WT 95,96	1991 WT 106	1992 WT 119,120	1993 WT 136,137	1994 WT 152,153	1995 WT 168,169	1996 WT 189	1997 WT 205,206	1998 WT221-24	1999 WT238-40	2000 WT316,317		
<=56	375	219,134.8	81.9	36.3	89.8	45.6	26.0	18.0	56.9	4.7	74.6	29.7	6.4	30.6	132.2	106.8	90.2	104.4	78.7		
	376	206,204.1	18.9	45.4	33.5	148.4	25.9	201.5	107.5	157.6	37.9	7.2	0.5	2.2	14.0	212.3	108.2	187.9	72.1		
57-92	360	411,582.8	119.2	63.9	13.3	13.6	2.9	197.7	37.7	20.6	57.7	17.2	2.8	54.8	150.1	51.9	154.1	280.0	88.8		
	361	254,900.7	86.3	43.6	25.8	33.2	42.5	36.3	74.8	61.9	16.2	60.6	115.0	70.5	115.6	108.9	116.2	149.5	138.7		
	362	346,653.9	78.7	25.8	55.4	35.8	25.4	17.7	27.5	18.6	2.6	30.1	0.8	0.2	58.7	73.0	104.0	176.1	180.0		
	373	346,653.9	42.3	20.1	9.8	13.4	12.0	7.2	0.9	4.6	0.0	0.0	1.0	0.0	2.7	0.6	3.8	35.7	108.1		
	374	128,069.4	7.6	4.9	1.9	1.0	0.5	0.0	0.2	0.1	0.1	0.0	0.0	0.4	2.0	1.4	0.7	31.8	28.9		
	383	92,716.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
93-183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		
	377	13,756.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
184-274	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	381	25,036.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
275-366	357	22,560.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	379	14,581.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	380	15,957.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	723	21,322.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
367-549	725	14,443.9								0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	727	22,009.8								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
550-731	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
	752	18,433.2											0.0								
732-914	756	14,581.5											0.0								
	760	21,184.4											0.0								
Abundance (millions)			435.3	240.1	229.5	291.0	135.3	478.3	305.5	268.1	189.2	145.0	126.4	158.8	475.3	554.9	577.2	965.4	695.3		
Upper C.I.			576.5	310.0	325.1	459.6	198.0	770.4	473.6	397.2	303.0	248.8	218.8	242.5	611.8	832.5	778.1	1,200.0	855.6		
Lower C.I.			294.1	170.1	133.9	122.5	72.5	186.2	137.4	139.0	75.3	41.1	34.0	75.1	338.8	277.3	376.4	730.9	535.0		

**Table 10. Abundance (millions) of Yellowtail Flounder by stratum, Div 30 - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43	1986 WT 47	1987 WT 58	1988 WT 70	1989 WT 82	1990 WT 94,95	1991 WT 105	1992 WT 119,120	1993 WT 136	1994 WT 152	1995 WT 168	1996 WT 188,189	1997 WT 204,205	1998 WT221-224	1999 WT238,239	2000 WT315-317
57-92	330	287,365.1	0.3	4.3	1.4	0.4	0.3	0.6	0.3	2.6	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.2	13.6
	331	62,727.9	3.1	3.9	0.3	1.7	0.6	1.6		0.1	0.0	0.1	0.3	0.0	0.1	0.3	0.1	4.4	2.7
	338	261,090.9	7.8	5.8	2.8	1.1	12.8	3.4	2.9	4.5	4.7	3.4	1.3	2.6	17.2	17.8	14.2	16.6	11.3
	340	236,054.8	1.4	3.2	3.8	9.6	2.4	1.5	4.2	1.3	0.8	0.7	0.0	0.0	0.0	2.1	0.4	2.1	10.4
	351	346,653.9	27.7	29.7	28.0	13.7	26.1	15.1	18.2	8.5	2.5	2.0	0.1	0.3	9.9	22.7	17.6	112.4	36.5
	352	354,907.6	22.6	19.7	25.9	36.7	16.7	18.0	27.7	27.8	18.0	80.3	19.7	12.8	110.9	63.0	87.4	99.3	95.3
	353	17,6353.31	0.4	17.4	5.7	26.2	0.5	1.7	3.6	4.7	1.8	11.7	0.3	12.4	21.6	30.9	33.6	33.2	16.3
93-183	329	236,742.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	332	144,026.5	0.0	0.1	2.0	1.3	0.0	4.4	0.3	0.2	0.1	1.9	0.0	0.2	0.9	0.2	1.1	0.7	0.0
	337	130,407.9	0.0	0.0	0.1	0.2	0.3	0.4	0.0	0.0	0.1	0.9	0.0	0.1	0.4	2.1	0.1	0.1	0.3
	339	80,473.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
	354	65,204.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
184-274	355	14,168.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	333	20,771.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
275-366	334	12,655.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	356	8,391.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	717	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	719	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	721	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
732-914	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>Abundance (millions)</b>			<b>63.5</b>	<b>84.1</b>	<b>70.1</b>	<b>90.9</b>	<b>57.3</b>	<b>46.7</b>	<b>57.3</b>	<b>50.0</b>	<b>28.0</b>	<b>101.1</b>	<b>21.9</b>	<b>28.5</b>	<b>161.7</b>	<b>139.4</b>	<b>154.5</b>	<b>269.1</b>	<b>186.5</b>
<b>Upper C.I.</b>			<b>103.4</b>	<b>113.8</b>	<b>97.2</b>	<b>129.5</b>	<b>82.7</b>	<b>64.2</b>	<b>87.6</b>	<b>76.3</b>	<b>40.4</b>	<b>204.4</b>	<b>44.7</b>	<b>49.1</b>	<b>222.7</b>	<b>227.5</b>	<b>211.7</b>	<b>360.3</b>	<b>247.1</b>
<b>Lower C.I.</b>			<b>23.5</b>	<b>54.5</b>	<b>43.0</b>	<b>52.3</b>	<b>31.9</b>	<b>29.2</b>	<b>26.9</b>	<b>23.6</b>	<b>15.6</b>	<b>-2.2</b>	<b>-1.0</b>	<b>8.0</b>	<b>100.6</b>	<b>51.4</b>	<b>97.3</b>	<b>177.9</b>	<b>126.0</b>



Table 11. Abundance (millions) of Yellowtail Flounder by stratum, Div 3LN0 - Spring																			
Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27,28	1985 AN 43 WT 28-30	1986 WT 47,48	1987 WT 58-60	1988 WT 70,71	1989 WT 82-83	1990 WT 94-96	1991 WT 105-107	1992 WT 119-122	1993 WT 136-138	1994 WT 152-154	1995 WT 168-170	1996 WT 188-191	1997 WT 204-208	1998 WT221-224	1999 WT238-41	2000 WT315-18
<=56	375	219,134.8	81.9	36.3	89.8	45.6	26.0	18.0	56.9	4.7	74.6	29.7	6.4	30.6	132.2	106.8	90.2	104.4	78.7
	376	206,204.1	18.9	45.4	33.5	148.4	25.9	201.5	107.5	157.6	37.9	7.2	0.5	2.2	14.0	212.3	108.2	187.9	72.1
<b>TOTAL</b>			<b>100.7</b>	<b>81.7</b>	<b>123.2</b>	<b>194.0</b>	<b>51.9</b>	<b>219.5</b>	<b>164.4</b>	<b>162.3</b>	<b>112.5</b>	<b>36.9</b>	<b>6.8</b>	<b>32.8</b>	<b>146.2</b>	<b>319.1</b>	<b>198.4</b>	<b>292.2</b>	<b>150.8</b>
57-92	330	287,365.1	0.3	4.3	1.4	0.4	0.3	0.6	0.3	2.6	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.2	13.6
	331	62,727.9	3.1	3.9	0.3	1.7	0.6	1.6	0.1	0.1	0.0	0.1	0.3	0.0	0.1	0.3	0.1	4.4	2.7
	338	261,090.9	7.8	5.8	2.8	1.1	12.8	3.4	2.9	4.5	4.7	3.4	1.3	2.6	17.2	17.8	14.2	16.6	11.3
	340	236,054.8	1.4	3.2	3.8	9.6	2.4	1.5	4.2	1.3	0.8	0.7	0.0	0.0	0.0	2.1	0.4	2.1	10.4
	350	284,889.0	0.9	2.1	1.2	0.4	0.8	0.4	0.1	0.4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	9.4	6.1
	351	346,653.9	27.7	29.7	28.0	13.7	26.1	15.1	18.2	8.5	2.5	2.0	0.1	0.3	9.9	22.7	17.6	112.4	36.5
	352	354,907.6	22.6	19.7	25.9	36.7	16.7	18.0	27.7	27.8	18.0	80.3	19.7	12.8	110.9	63.0	87.4	99.3	95.3
	353	17,6353.31	0.4	17.4	5.7	26.2	0.5	1.7	3.6	4.7	1.8	11.7	0.3	12.4	21.6	30.9	33.6	33.2	16.3
	360	411,582.8	119.2	63.9	13.3	13.6	2.9	197.7	37.7	20.6	57.7	17.2	2.8	54.8	150.1	51.9	154.1	280.0	88.8
	361	254,900.7	86.3	43.6	25.8	33.2	42.5	36.3	74.8	61.9	16.2	60.6	115.0	70.5	115.6	108.9	116.2	149.5	138.7
	362	346,653.9	78.7	25.8	55.4	35.8	25.4	17.7	27.5	18.6	2.6	30.1	0.8	0.2	58.7	73.0	104.0	176.1	180.0
	363	244,858.7	11.2	6.8	3.6	3.2	2.4	0.8	1.9	0.3	0.1	0.0	0.0	0.0	1.1	0.2	0.0	23.2	24.0
	371	154,206.0		0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0		0.4	0.0
	372	338,400.3	32.7	39.6	21.0	8.3	4.7	6.6	2.7	1.4	0.2	0.2	0.0	0.0	0.8	0.8	1.7	16.0	9.6
	373	346,653.9	42.3	20.1	9.8	13.4	12.0	7.2	0.9	4.6	0.0	0.0	1.0	0.0	2.7	0.6	3.8	35.7	108.1
	374	128,069.4	7.6	4.9	1.9	1.0	0.5	0.0	0.2	0.1	0.1	0.0	0.0	0.4	2.0	1.4	0.7	31.8	28.9
	383	92,716.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	384	154,068.4		1.2	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
<b>TOTAL</b>			<b>442.7</b>	<b>292.1</b>	<b>200.4</b>	<b>198.5</b>	<b>150.7</b>	<b>308.6</b>	<b>202.7</b>	<b>157.4</b>	<b>104.7</b>	<b>206.5</b>	<b>141.5</b>	<b>154.1</b>	<b>491.7</b>	<b>373.9</b>	<b>533.9</b>	<b>990.3</b>	<b>770.1</b>
93-183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	329	236,742.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	332	144,026.5	0.0	0.1	2.0	1.3	0.0	4.4	0.3	0.2	0.1	1.9	0.0	0.2	0.9	0.2	1.1	0.7	0.0
	337	130,407.9	0.0	0.0	0.1	0.2	0.3	0.4	0.0	0.0	0.1	0.9	0.0	0.1	0.4	2.1	0.1	0.1	0.3
	339	80,473.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	348	291,629.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	349	290,804.1	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.7
	354	65,204.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	364	387,509.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.2
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	377	13,756.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.7</b>	<b>0.3</b>	<b>2.9</b>	<b>1.7</b>	<b>0.5</b>	<b>4.8</b>	<b>0.4</b>	<b>0.5</b>	<b>0.3</b>	<b>2.9</b>	<b>0.1</b>	<b>0.3</b>	<b>1.5</b>	<b>2.3</b>	<b>1.2</b>	<b>7.3</b>	<b>1.6</b>

[illegible]

Table 11 Con'd			1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Depth Range (m)	Stratum	No. of trawlable Units	AN 27,28	AN 43 WT 28-30	WT 47,48	WT 58-60	WT 70,71	WT 82-83	WT 94-96	WT 105-107	WT 119-122	WT 136-138	WT 152-154	WT 168-170	WT 188-191	WT 204-208	WT221-224	WT238-41	WT315-18
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
	730	23,385.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	734	31,363.9		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	736	24,073.2		0.0							0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
<b>TOTAL</b>				<b>0.0</b>						<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732-914	737	31,226.4											0.0						
	741	30,676.1											0.0						
	745	47,871.3											0.0						
	748	21,872.2											0.0						
	752	18,433.2											0.0						
	756	14,581.5											0.0						
	760	21,184.4											0.0						
	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>TOTAL</b>													<b>0.0</b>				<b>0.0</b>		
<b>Abundance (millions)</b>			<b>544.2</b>	<b>374.1</b>	<b>326.5</b>	<b>394.2</b>	<b>203.1</b>	<b>532.9</b>	<b>367.4</b>	<b>320.3</b>	<b>217.4</b>	<b>246.3</b>	<b>148.4</b>	<b>187.4</b>	<b>639.4</b>	<b>695.5</b>	<b>733.6</b>	<b>1,289.9</b>	<b>922.5</b>
<b>Upper C.I.</b>			<b>691.2</b>	<b>453.2</b>	<b>425.8</b>	<b>565.7</b>	<b>269.6</b>	<b>825.6</b>	<b>536.9</b>	<b>450.5</b>	<b>331.5</b>	<b>380.8</b>	<b>244.7</b>	<b>272.7</b>	<b>785.8</b>	<b>974.8</b>	<b>940.9</b>	<b>1,540.0</b>	<b>1,092.8</b>
<b>Lower C.I.</b>			<b>397.2</b>	<b>295.0</b>	<b>227.3</b>	<b>222.7</b>	<b>136.5</b>	<b>240.3</b>	<b>198.0</b>	<b>190.0</b>	<b>103.4</b>	<b>111.8</b>	<b>52.2</b>	<b>102.1</b>	<b>493.1</b>	<b>416.3</b>	<b>526.2</b>	<b>1,039.7</b>	<b>752.2</b>

**Table 12. Biomass estimates ('000t) of Yellowtail Flounder by stratum, Div 3L - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 28	1985 WT 28-30	1986 WT 48	1987 WT 58-60	1988 WT 70,71	1989 WT 82,83	1990 WT 96	1991 WT 106,107	1992 WT 120-122	1993 WT 137,138	1994 WT 152-154	1995 WT 169,170	1996 WT 189-191	1997 WT 205-208	1998 WT221-24	1999 WT 240-41	2000 WT317,318
57-92	350	284,889.0	0.4	1.0	0.6	0.2	0.4	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	4.6	2.4
	363	244,888.7	5.4	3.1	1.7	1.6	1.1	0.4	0.8	0.1	0.0	0.0	0.0	0.0	0.5	0.1	0.0	12.6	10.7
	371	154,206.0		0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
	372	338,400.3	15.7	16.3	9.7	3.8	2.1	3.4	1.3	0.7	0.1	0.1	0.0	0.0	0.4	0.2	0.5	8.2	4.1
	384	154,068.4		0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
93-183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	348	291,629.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	349	290,804.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.3
	364	387,509.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	344	205,516.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	347	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	366	191,760.2		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	369	132,196.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	386	135,222.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	389	112,937.7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	391	38,792.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275-366	345	196,987.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	346	118,990.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	368	45,945.4		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	387	98,768.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	388	49,659.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	392	19,946.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	729	25,586.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	733	64,378.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	735	37,416.6		0.0							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	730	23,385.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	734	31,363.9		0.0						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	736	24,073.2		0.0							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732-914	737	31,226.4											0.0						
	741	30,676.1											0.0						
	745	47,871.3											0.0						
	748	21,872.2											0.0						
<b>Biomass ('000t)</b>			<b>21.9</b>	<b>21.1</b>	<b>12.6</b>	<b>5.8</b>	<b>3.7</b>	<b>4.0</b>	<b>2.2</b>	<b>1.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>1.1</b>	<b>0.5</b>	<b>0.5</b>	<b>28.5</b>	<b>17.5</b>
<b>Upper C.I.</b>			<b>38.9</b>	<b>32.0</b>	<b>18.3</b>	<b>8.5</b>	<b>5.4</b>	<b>6.8</b>	<b>4.0</b>	<b>1.8</b>	<b>0.4</b>	<b>0.3</b>	<b>0.1</b>	<b>0.0</b>	<b>1.7</b>	<b>0.8</b>	<b>1.3</b>	<b>46.2</b>	<b>25.8</b>
<b>Lower C.I.</b>			<b>4.8</b>	<b>10.2</b>	<b>6.8</b>	<b>3.1</b>	<b>2.1</b>	<b>1.2</b>	<b>0.5</b>	<b>0.4</b>	<b>-0.1</b>	<b>-0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>	<b>0.1</b>	<b>-0.3</b>	<b>10.8</b>	<b>9.3</b>

**Table 13. Biomass estimates ('000t) of Yellowtail Flounder by stratum, Div 3N - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43 WT 29	1986 WT 47	1987 WT 58,59	1988 WT 70	1989 WT 82	1990 WT 95,96	1991 WT 106	1992 WT 119,120	1993 WT 136,137	1994 WT 152,153	1995 WT 168,169	1996 WT 189	1997 WT 205,206	1998 WT221-24	1999 WT 239-40	2000 WT316,317
<=56	375	219,134.8	32.9	17.1	39.8	22.8	11.1	4.6	18.5	2.6	25.9	10.8	2.7	13.1	17.3	19.2	19.9	21.9	15.4
	376	206,204.1	6.2	13.8	13.8	16.2	2.6	25.1	14.6	29.6	4.6	1.1	0.1	0.6	1.1	25.5	20.5	31.0	15.0
57-92	360	411,582.8	43.9	19.0	4.6	3.1	1.0	25.1	5.0	5.0	10.4	3.6	1.0	16.3	28.0	16.1	32.0	76.5	26.2
	361	254,900.7	32.3	15.3	9.8	14.8	17.9	11.1	26.8	21.0	7.5	21.0	41.8	27.7	27.1	26.1	31.2	31.4	32.9
	362	346,653.9	30.1	11.1	21.2	14.0	12.2	8.5	10.5	8.5	1.0	14.2	0.5	0.1	28.9	33.7	38.8	57.6	56.3
	373	346,653.9	18.3	9.1	4.8	6.2	6.3	3.8	0.3	2.5	0.0	0.0	0.3	0.0	0.6	0.3	1.1	11.1	42.0
	374	128,069.4	3.9	2.7	1.1	0.6	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.9	0.4	0.1	8.8	9.5
	383	92,716.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93-183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	377	13,756.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184-274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275-366	357	22,560.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	723	21,322.0								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	725	14,443.9								0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
732-914	752	18,433.2											0.0						
	756	14,581.5											0.0						
	760	21,184.4											0.0						
<b>Biomass ('000t)</b>			<b>167.7</b>	<b>88.2</b>	<b>95.1</b>	<b>77.5</b>	<b>51.4</b>	<b>78.3</b>	<b>75.7</b>	<b>69.1</b>	<b>49.6</b>	<b>50.8</b>	<b>46.3</b>	<b>57.9</b>	<b>103.9</b>	<b>121.3</b>	<b>143.7</b>	<b>238.5</b>	<b>197.3</b>
<b>Upper C.I.</b>			<b>223.2</b>	<b>111.9</b>	<b>135.2</b>	<b>108.5</b>	<b>71.4</b>	<b>115.4</b>	<b>108.1</b>	<b>95.3</b>	<b>79.1</b>	<b>86.5</b>	<b>81.5</b>	<b>87.2</b>	<b>129.7</b>	<b>171.7</b>	<b>192.6</b>	<b>305.8</b>	<b>248.4</b>
<b>Lower C.I.</b>			<b>112.1</b>	<b>64.5</b>	<b>55.1</b>	<b>46.6</b>	<b>31.4</b>	<b>41.2</b>	<b>43.3</b>	<b>42.9</b>	<b>20.1</b>	<b>15.0</b>	<b>11.2</b>	<b>28.6</b>	<b>78.2</b>	<b>70.9</b>	<b>94.8</b>	<b>171.1</b>	<b>146.2</b>

**Table 14. Biomass estimates ('000t) of Yellowtail Flounder by stratum, Div 30 - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27	1985 AN 43	1986 WT 47	1987 WT 58	1988 WT 70	1989 WT 82	1990 WT 94,95	1991 WT 105	1992 WT 119,120	1993 WT 136	1994 WT 152	1995 WT 168	1996 WT 188,189	1997 WT 204,205	1998 WT221-24	1999 WT238-39	2000 WT315-317
57-92	330	287,365.1	0.2	1.9	0.7	0.2	0.2	0.3	0.2	1.1	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1	6.8
	331	62,727.9	1.4	1.9	0.2	0.8	0.3	0.9	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.0	1.7	1.2
	338	261,090.9	3.3	2.8	1.4	0.5	5.1	1.7	1.4	1.3	2.1	1.4	0.7	1.3	8.0	6.5	5.5	7.2	4.7
	340	236,054.8	0.7	1.5	1.8	4.3	1.1	0.8	2.0	0.6	0.4	0.4	0.0	0.0	0.0	0.8	0.2	1.0	4.2
	351	346,653.9	12.4	13.0	11.7	6.0	11.2	6.9	8.4	4.0	1.1	0.8	0.0	0.1	4.7	9.2	6.2	31.1	12.1
	352	354,907.6	10.0	8.7	10.7	15.2	7.5	8.0	11.2	13.6	7.1	33.0	8.1	5.5	46.0	25.6	29.7	39.1	35.5
	353	17,6353.31	0.2	7.6	2.8	13.4	0.3	0.9	1.7	2.3	0.8	5.3	0.2	5.6	10.7	9.9	16.0	18.2	7.4
93-183	329	236,742.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	332	144,026.5	0.0	0.0	1.1	0.7	0.0	1.7	0.1	0.1	0.1	0.9	0.0	0.1	0.5	0.1	0.3	0.3	0.0
	337	130,407.9	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.6	0.0	0.0	0.3	0.8	0.0	0.1	0.1
	339	80,473.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	354	65,204.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
184-274	355	14,168.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	333	20,771.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275-366	334	12,655.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	366	8,391.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367-549	717	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	719	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	721	10,454.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732-914	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>Biomass ('000t)</b>			<b>28.2</b>	<b>37.5</b>	<b>30.5</b>	<b>41.2</b>	<b>25.8</b>	<b>21.5</b>	<b>25.1</b>	<b>23.3</b>	<b>11.6</b>	<b>42.4</b>	<b>9.2</b>	<b>12.7</b>	<b>70.6</b>	<b>53.2</b>	<b>58.0</b>	<b>98.7</b>	<b>72.1</b>
<b>Upper C.I.</b>			<b>45.6</b>	<b>50.7</b>	<b>41.4</b>	<b>59.0</b>	<b>36.2</b>	<b>28.5</b>	<b>37.8</b>	<b>36.3</b>	<b>17.0</b>	<b>84.5</b>	<b>18.0</b>	<b>22.2</b>	<b>96.3</b>	<b>82.9</b>	<b>80.2</b>	<b>130.8</b>	<b>93.9</b>
<b>Lower C.I.</b>			<b>10.1</b>	<b>24.3</b>	<b>19.5</b>	<b>23.5</b>	<b>15.5</b>	<b>14.4</b>	<b>12.4</b>	<b>10.3</b>	<b>6.2</b>	<b>0.3</b>	<b>0.5</b>	<b>3.3</b>	<b>44.9</b>	<b>23.5</b>	<b>35.9</b>	<b>66.6</b>	<b>50.4</b>

**Table 15. Biomass estimates ('000t) of Yellowtail Flounder by stratum, Div 3LN0 - Spring**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27,28	1985 AM 43 WT 28-30	1986 WT 47,48	1987 WT 58-60	1988 WT 70,71	1989 WT 82-83	1990 WT 94-96	1991 WT 105-107	1992 WT 119-122	1993 WT 136-138	1994 WT 152-154	1995 WT 168-170	1996 WT 188-191	1997 WT 204-208	1998 WT221-24	1999 WT 238-41	2000 WT315-18
<=56	375	219,134.8	32.9	17.1	39.8	22.8	11.1	4.6	18.5	2.6	25.9	10.8	2.7	13.1	17.3	19.2	19.9	21.9	15.4
	376	206,204.1	6.2	13.8	13.8	16.2	2.6	25.1	14.6	29.6	4.6	1.1	0.1	0.6	1.1	25.5	20.5	31.0	15.0
<b>TOTAL</b>			<b>39.1</b>	<b>30.9</b>	<b>53.6</b>	<b>39.0</b>	<b>13.7</b>	<b>29.7</b>	<b>33.1</b>	<b>32.2</b>	<b>30.6</b>	<b>11.9</b>	<b>2.8</b>	<b>13.7</b>	<b>18.4</b>	<b>44.7</b>	<b>40.4</b>	<b>52.9</b>	<b>30.4</b>
57-92	330	287,365.1	0.2	1.9	0.7	0.2	0.2	0.3	0.2	1.1	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.1	6.8
	331	62,727.9	1.4	1.9	0.2	0.8	0.3	0.9	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.1	0.0	1.7	1.2
	338	261,090.9	3.3	2.8	1.4	0.5	5.1	1.7	1.4	1.3	2.1	1.4	0.7	1.3	8.0	6.5	5.5	7.2	4.7
	340	236,054.8	0.7	1.5	1.8	4.3	1.1	0.8	2.0	0.6	0.4	0.4	0.0	0.0	0.0	0.8	0.2	1.0	4.2
	350	284,889.0	0.4	1.0	0.6	0.2	0.4	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	4.6	2.4
	351	346,653.9	12.4	13.0	11.7	6.0	11.2	6.9	8.4	4.0	1.1	0.8	0.0	0.1	4.7	9.2	6.2	31.1	12.1
	352	354,907.6	10.0	8.7	10.7	15.2	7.5	8.0	11.2	13.6	7.1	33.0	8.1	5.5	46.0	25.6	29.7	39.1	35.5
	353	17,6353.31	0.2	7.6	2.8	13.4	0.3	0.9	1.7	2.3	0.8	5.3	0.2	5.6	10.7	9.9	16.0	18.2	7.4
	360	411,582.8	43.9	19.0	4.6	3.1	1.0	25.1	5.0	5.0	10.4	3.6	1.0	16.3	28.0	16.1	32.0	76.5	26.2
	361	254,900.7	32.3	15.3	9.8	14.8	17.9	11.1	26.8	21.0	7.5	21.0	41.8	27.7	27.1	26.1	31.2	31.4	32.9
	362	346,653.9	30.1	11.1	21.2	14.0	12.2	8.5	10.5	8.5	1.0	14.2	0.5	0.1	28.9	33.7	38.8	57.6	56.3
	363	244,858.7	5.4	3.1	1.7	1.6	1.1	0.4	0.8	0.1	0.0	0.0	0.0	0.5	0.1	0.0	12.6	49.0	
	371	154,206.0		0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.2	0.0
	372	338,400.3	15.7	16.3	9.7	3.8	2.1	3.4	1.3	0.7	0.1	0.1	0.0	0.0	0.4	0.2	0.5	8.2	4.1
	373	346,653.9	18.3	9.1	4.8	6.2	6.3	3.8	0.3	2.5	0.0	0.0	0.3	0.0	0.6	0.3	1.1	11.1	42.0
	374	128,069.4	3.9	2.7	1.1	0.6	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.9	0.4	0.1	8.8	9.5
	383	92,716.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	384	154,068.4		0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
<b>TOTAL</b>			<b>178.3</b>	<b>115.7</b>	<b>83.1</b>	<b>84.7</b>	<b>67.1</b>	<b>72.1</b>	<b>69.8</b>	<b>61.0</b>	<b>30.7</b>	<b>79.9</b>	<b>52.8</b>	<b>56.7</b>	<b>156.4</b>	<b>129.2</b>	<b>161.4</b>	<b>309.5</b>	<b>294.3</b>
93-183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	329	236,742.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	332	144,026.5	0.0	0.0	1.1	0.7	0.0	1.7	0.1	0.1	0.1	0.9	0.0	0.1	0.5	0.1	0.3	0.3	0.0
	337	130,407.9	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.6	0.0	0.0	0.3	0.8	0.0	0.1	0.1
	339	80,473.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	348	291,629.5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	349	290,804.1	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.3
	354	65,204.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	364	387,509.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.1
	365	143,201.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	370	181,580.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
	377	13,756.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.3</b>	<b>0.2</b>	<b>1.5</b>	<b>0.9</b>	<b>0.2</b>	<b>2.0</b>	<b>0.2</b>	<b>0.3</b>	<b>0.1</b>	<b>1.5</b>	<b>0.1</b>	<b>0.2</b>	<b>0.9</b>	<b>0.9</b>	<b>0.4</b>	<b>3.2</b>	<b>0.7</b>

**Table 15 Con'd**[illegible]



**Table 15 Con'd**

Depth Range (m)	Stratum	No. of trawlable Units	1984 AN 27,28	1985 AN 43 WT 28-30	1986 WT 47,48	1987 WT 58-60	1988 WT 70,71	1989 WT 82-83	1990 WT 94-96	1991 WT 105-107	1992 WT 119-122	1993 WT 136-138	1994 WT 152-154	1995 WT 168-170	1996 WT 188-191	1997 WT 204-208	1998 WT221-224	1999 WT 238-41	2000 WT315-18
550-731	718	15,269.3								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	724	17,057.6								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4								0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5								0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
	730	23,385.4		0.0						0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6		0.0						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
	734	31,363.9		0.0						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
	736	24,073.2		0.0						0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0
<b>TOTAL</b>				<b>0.0</b>						<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732-914	737	31,226.4											0.0						
	741	30,676.1											0.0						
	745	47,871.3											0.0						
	748	21,872.2											0.0						
	752	18,433.2											0.0						
	756	14,581.5											0.0						
	760	21,184.4											0.0						
	764	14,443.9											0.0						
	772	18,570.8											0.0						
<b>TOTAL</b>													<b>0.0</b>						
<b>Biomass ('000t)</b>			<b>217.7</b>	<b>146.8</b>	<b>138.2</b>	<b>124.6</b>	<b>81.0</b>	<b>103.8</b>	<b>103.1</b>	<b>93.4</b>	<b>61.4</b>	<b>93.3</b>	<b>55.6</b>	<b>70.6</b>	<b>175.6</b>	<b>174.9</b>	<b>202.2</b>	<b>365.7</b>	<b>287.0</b>
<b>Upper C.I.</b>			<b>276.2</b>	<b>175.3</b>	<b>179.7</b>	<b>159.5</b>	<b>103.0</b>	<b>141.4</b>	<b>137.5</b>	<b>121.8</b>	<b>91.5</b>	<b>143.7</b>	<b>92.2</b>	<b>100.9</b>	<b>210.8</b>	<b>231.3</b>	<b>254.9</b>	<b>440.2</b>	<b>342.2</b>
<b>Lower C.I.</b>			<b>159.3</b>	<b>118.3</b>	<b>96.7</b>	<b>89.6</b>	<b>59.0</b>	<b>66.1</b>	<b>68.8</b>	<b>65.0</b>	<b>31.3</b>	<b>42.8</b>	<b>19.0</b>	<b>40.3</b>	<b>140.4</b>	<b>118.6</b>	<b>149.6</b>	<b>291.2</b>	<b>231.8</b>

**Table 16. Mean Number of yellowtail by stratum, Div 3L - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
			WT 101	WT 114,115	WT 128-130	WT 145,146	WT 161,162	WT 176-179,181	WT 196-198	WT 213-217	WT230-33	WT 246-48	WT321-23
					GA 226			TEL 22,23	TEL 41	TEL 57,58	TEL75,76		TEL339-343
30 - 56	784	36,866.4							0.5	0.0	0.0		41.5
57 - 92	350	284,889.0	5.9	0.7	0.5	0.0	0.1	0.4	0.3	0.0	0.4	1.3	3.1
57 - 92	363	244,858.7	5.5	1.1	2.0	0.0	0.3	5.2	3.5	1.2	38.4	73.8	119.5
57 - 92	371	154,206.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57 - 92	372	338,400.3	3.9	4.8	3.8	7.7	0.0	6.4	16.9	17.2	10.2	6.5	18.0
57 - 92	384	154,068.4	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0
57 - 92	785	63,965.9							0.0	0.0	0.0		1.5
93 - 183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	343	72,219.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	348	291,629.5	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	349	290,804.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	364	387,509.6	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	365	143,201.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	370	181,580.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	385	324,093.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	390	203,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	786	11,555.1							0.5	0.0	0.5		5.5
93 - 183	787	84,325.0							0.0	0.0	1.0		0.0
93 - 183	788	34,865.4							0.0	0.0	0.0		0.0
93 - 183	790	12,242.9							0.0	0.0	0.0		0.0
93 - 183	793	9,904.4							0.0	0.0	0.0		0.0
93 - 183	794	29,713.2							0.0	0.0	0.0		0.0
93 - 183	797	13,481.0							0.0	0.0	0.0		0.0
93 - 183	799	9,904.4							0.0	0.0	0.0		0.0
184 - 274	344	217,821.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	347	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	366	191,760.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	369	132,196.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	386	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	389	112,937.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	391	38,792.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	795	22,560.0							0.0	0.0	0.0		0.0
184 - 366	789	11,142.5							0.0	0.0	0.0		0.0
184 - 366	791	42,368.8							0.0	0.0	0.0		0.0
184 - 366	798	13,756.1							0.0	0.0	0.0		0.0
275 - 366	345	196,987.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	346	118,990.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	368	45,945.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	387	98,768.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	388	49,659.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	392	19,946.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	796	24,073.2							0.0	0.0	0.0		0.0
367 - 549	729	25,586.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	731	29,713.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
367 - 549	733	64,378.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	735	37,416.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	792	6,878.1							0.0	0.0	0.0		0.0
550 - 731	730	23,385.4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	732	31,776.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	734	31,363.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	736	24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	737	31,226.4						0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	741	30,676.1							0.0	0.0	0.0	0.0	0.0
732 - 914	745	47,871.3							0.0	0.0	0.0	0.0	0.0
732 - 914	748	21,872.2							0.0	0.0	0.0	0.0	0.0
915 - 1097	738	30,401.0						0.0	0.0	0.0	0.0	0.0	0.0
915 - 1097	742	28,337.6							0.0	0.0	0.0	0.0	0.0
915 - 1097	746	53,924.0							0.0	0.0	0.0	0.0	0.0
915 - 1097	749	17,332.7							0.0	0.0	0.0		0.0
1098 - 1280	739	34,940.5							0.0	0.0	0.0	0.0	0.0
1098 - 1280	743	29,025.4							0.0	0.0	0.0	0.0	0.0
1098 - 1280	747	99,594.2							0.0	0.0	0.0	0.0	0.0
1098 - 1280	750	76,484.0							0.0	0.0	0.0	0.0	0.0
1281 - 1463	740	36,316.1							0.0	0.0	0.0	0.0	0.0
1281 - 1463	744	38,517.1							0.0	0.0	0.0	0.0	0.0
1281 - 1463	751	31,501.5							0.0	0.0	0.0		0.0
<b>Mean No. (sets)</b>			<b>0.8 (161)</b>	<b>0.4 (219)</b>	<b>0.4 (215)</b>	<b>0.5 (153)</b>	<b>0.0 (200)</b>	<b>0.7 (161)</b>	<b>1.1 (211)</b>	<b>1.0 (204)</b>	<b>2.1 (124)</b>	<b>3.5(170)</b>	<b>6.1(176)</b>
<b>Upper C.I.</b>			<b>1.6</b>	<b>0.6</b>	<b>0.6</b>	<b>1.3</b>	<b>0.1</b>	<b>1.3</b>	<b>2.2</b>	<b>2.7</b>	<b>5.0</b>	<b>8.6</b>	<b>11.2</b>
<b>Lower C.I.</b>			<b>0.0</b>	<b>0.2</b>	<b>0.2</b>	<b>-0.3</b>	<b>0.0</b>	<b>0.1</b>	<b>-0.1</b>	<b>-0.7</b>	<b>-0.8</b>	<b>-1.6</b>	<b>1.0</b>

**Table 17. Mean Number of yellowtail by stratum, Div 3N - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 113,114	1992 WT 128,129	1993 WT 144,145	1994 WT 160,161	1995 WT 176,177	1996 TEL 41,42 AN 253	1997 WT 212-214	1998 WT230-33 TEL75,76	1999 WT 246-48	2000 WT319-323 TEL338,339
<=56	375	219,134.8	40.7	58.0	.	76.5	329.8	398.5	216.7	212.6	0.0	.	460.5
<=56	376	206,204.1	323.3	342.8	323.0	674.8	206.3	711.6	831.3	873.3	0.4	1.3	2047.0
57 - 92	360	411,682.8	83.3	92.8	49.5	219.7	100.8	171.3	392.1	406.2	38.4	73.8	458.3
57 - 92	361	254,900.7	85.4	269.5	269.8	316.6	385.2	450.0	415.8	397.3	0.0	0.0	146.8
57 - 92	362	346,653.9	47.6	60.7	6.7	1.9	6.8	245.0	75.6	307.3	10.2	6.5	202.7
57 - 92	373	346,653.9	1.2	2.5	0.0	0.0	7.1	13.8	0.0	35.3	0.3	0.0	69.9
57 - 92	374	128,069.4	0.0	1.0	.	0.0	0.0	0.0	30.0	18.0	0.0	.	130.3
57 - 92	383	92,716.2	0.0	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	377	13,756.1	0.0	.	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.5
93 - 183	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	381	25,036.1	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	379	14,581.5	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	380	15,957.1	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	723	21,322.0	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	725	14,443.9	.	.	0.0	0.0	0.0	0.0	0.0	0.0	0.5	.	0.0
367 - 549	727	22,009.8	.	.	.	0.0	0.0	0.0	0.0	0.0	1.0	.	0.0
550 - 731	724	17,057.6	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	.	0.0
550 - 731	726	9,904.4	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0	.	0.0
550 - 731	728	21,459.5	.	.	.	.	0.0	0.0	0.0	0.0	0.0	.	0.0
732 - 914	752	18,433.2	.	.	.	.	.	.	.	0.0	0.0	.	0.0
732 - 914	756	14,581.5	.	.	.	.	.	.	.	0.0	0.0	.	0.0
732 - 914	760	21,184.4	.	.	.	.	.	.	.	0.0	0.0	.	0.0
915 - 1097	753	18,983.4	.	.	.	.	.	.	.	0.0	0.0	.	0.0
915 - 1097	757	14,031.2	.	.	.	.	.	.	.	0.0	0.0	.	0.0
915 - 1097	761	23,523.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1098 - 1280	754	24,761.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1098 - 1280	758	13,618.6	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1098 - 1280	762	29,163.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1281 - 1463	755	52,961.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1281 - 1463	759	17,470.3	.	.	.	.	.	.	.	0.0	0.0	.	0.0
1281 - 1463	763	35,903.4	.	.	.	.	.	.	.	.	.	.	0.0
Mean No. (sets)			65.9(80)	92.1 (67)	86.4 (34)	137.7 (70)	108.0 (73)	212.0 (90)	215.0 (82)	256.7(100)	2.1 (134)	3.5(170)	320.3(94)
Upper C.I.			108.2	151.7	198.7	227.0	179.3	294.2	302.9	321.4	5.0	8.6	494.3
Lower C.I.			23.6	32.5	-25.8	48.4	36.7	129.8	127.2	191.9	-0.8	-1.6	146.4

**Table 18. Mean Number of yellowtail by stratum, Div 3O - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 114	1992 WT 128	1993 WT 144	1994 WT 160,161	1995 WT 176,177	1996 WT 200 AN 253, TEL 42	1997 WT 212,213	1998 WT 229-30,33	1999 WT 244-45	2000 WT319,329 TEL338
57 - 92	330	287,365.1	1.3	0.1	1.3	3.3	0.1	8.2	0.2	7.3	1.7	23.8	3.3
57 - 92	331	62,727.9	6.7	29.0	8.0	16.0	0.0	2.0	0.0	1.0	3.5	14.0	3.4
57 - 92	338	261,090.9	8.5	20.0	2.0	8.8	0.3	97.0	0.5	38.2	31.2	35.8	78.0
57 - 92	340	236,054.8	5.6	36.0	0.3	5.0	1.6	4.8	0.0	28.2	23.2	37.3	4.8
57 - 92	351	346,653.9	36.9	15.9	1.8	35.3	7.0	15.8	11.6	107.3	207.4	135.3	272.6
57 - 92	352	354,907.6	47.9	172.4	150.5	56.7	69.7	121.9	134.3	249.0	269.9	255.0	369.7
57 - 92	353	176,353.3	28.0	0.0	0.0	8.7	0.0	8.7	7.0	82.8	0.5	73.5	30.0
93 - 183	329	236,742.6	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
93 - 183	332	144,026.5	0.8	0.3	2.3	15.7	5.0	3.3	3.0	0.0	0.3	1.7	1.0
93 - 183	337	130,407.9	0.0	1.0	0.0	0.0	0.0	0.0	19.0	1.3	5.3	0.3	0.9
93 - 183	339	80,473.2	1.0	2.5	0.0	0.0	1.0	0.0	0.3	0.5	0.0	.	1.5
93 - 183	354	65,204.0	1.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.5
184 - 274	355	14,168.8	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	333	20,221.5	0.0	0.0	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
184 - 274	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	334	13,205.9	0.0	0.0	0.0	0.0	0.5	0.0	.	0.0	0.0	0.0	0.0
275 - 366	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	356	8,391.2	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	717	22,835.1	0.0	.	.	0.0	3.0	0.0	.	0.0	0.0	0.0	0.0
367 - 549	719	10,454.6	0.0	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	721	10,454.6	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	718	18,433.2	.	.	.	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
550 - 731	720	.	.	.	.	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0
550 - 731	722	12,793.2	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	764	14,443.9	.	.	.	.	.	.	.	0.0	.	.	0.0
732 - 914	768	13,618.6	.	.	.	.	.	.	.	0.0	.	.	0.0
732 - 914	772	18,570.8	.	.	.	.	.	.	.	0.0	.	.	0.0
915 - 1097	765	17,057.6	.	.	.	.	.	.	.	0.0	.	.	0.0
915 - 1097	769	18,983.4	.	.	.	.	.	.	.	0.0	.	.	0.0
915 - 1097	773	17,807.8	.	.	.	.	.	.	.	0.0	.	.	0.0
1098 - 1280	766	19,808.8	.	.	.	.	.	.	.	.	.	.	0.0
1098 - 1280	770	17,807.8	.	.	.	.	.	.	.	.	.	.	0.0
1098 - 1280	774	18,570.8	.	.	.	.	.	.	.	.	.	.	0.0
1281 - 1463	767	21,734.7	.	.	.	.	.	.	.	.	.	.	0.0
1281 - 1463	771	24,073.2	.	.	.	.	.	.	.	.	.	.	0.0
1281 - 1463	775	21,322.0	.	.	.	.	.	.	.	.	.	.	0.0
an No. (sets)			16.1 (91)	33.1 (84)	22.7 (54)	16.4 (75)	11.3 (75)	31.2 (81)	22.7 (60)	62.7 (81)	69.0 (96)	71.4(75)	91.5(100)
Upper C.I.			24.0	52.3	51.5	27.3	21.5	50.5	37.7	84.4	98.8	97.2	131.3
Lower C.I.			8.1	14.0	-6.2	5.5	1.0	11.9	7.6	41.0	39.2	45.6	51.8

**Table 19. Mean Weight of yellowtail by stratum, Div 3L-Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 101	1991 WT 114,115	1992 WT 128-130 GA 226	1993 WT 145,146	1994 WT 161,162	1995 WT 176-179,181 TEL 22,23	1996 WT 196-198 TEL 41	1997 WT 213-217 TEL 57,58	1998 WT2230-33 TEL75,76	1999 WT 246-48	2000 WT321-23 TEL339-343
30 - 56	784	36,866.4	-	-	-	-	-	-	0.0	0.0	0.0	-	4.0
57 - 92	350	284,889.0	2.6	0.3	0.3	0.0	0.1	0.2	0.2	0.0	0.3	0.7	1.1
57 - 92	363	244,858.7	2.7	0.5	0.9	0.0	0.1	2.3	1.5	0.6	15.9	36.3	41.8
57 - 92	371	154,206.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57 - 92	372	338,400.3	1.9	2.3	1.7	3.3	0.0	1.9	5.4	3.3	3.6	1.4	5.3
57 - 92	384	154,068.4	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57 - 92	785	63,965.9	-	-	-	-	-	-	0.0	0.0	0.0	-	0.4
93 - 183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	343	72,219.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	348	291,629.5	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	349	290,804.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	364	387,509.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	365	143,201.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	370	181,580.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	385	324,093.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	390	203,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	786	11,555.1	-	-	-	-	-	-	0.0	0.0	0.2	-	0.3
93 - 183	787	84,325.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	788	35,903.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	790	12,242.9	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	793	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	794	29,713.2	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	797	13,481.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
93 - 183	799	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
184 - 274	344	217,621.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	347	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	366	191,760.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	369	132,196.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	386	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	389	112,937.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	391	38,792.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	795	22,560.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
184 - 366	789	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
184 - 366	791	31,226.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
184 - 366	798	13,756.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
275 - 366	345	196,987.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	346	118,990.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	368	45,945.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	387	98,768.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	388	49,659.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	392	19,946.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	796	24,073.2	-	-	-	-	-	-	0.0	0.0	0.0	-	0.1
367 - 549	729	25,586.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	731	29,713.2	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
367 - 549	733	64,378.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	735	37,416.6	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	792	6,878.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
550 - 731	730	23,385.4	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	732	31,776.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	734	31,363.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	736	24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	737	31,226.4	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
732 - 914	741	30,676.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
732 - 914	745	47,871.3	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
732 - 914	748	21,872.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
915 - 1097	738	30,401.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
915 - 1097	742	28,337.6	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
915 - 1097	746	53,924.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
915 - 1097	749	17,332.7	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
1098 - 1280	739	34,940.5	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1098 - 1280	743	29,025.4	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1098 - 1280	747	99,594.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1098 - 1280	750	76,484.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1281 - 1463	740	36,316.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1281 - 1463	744	38,517.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
1281 - 1463	751	31,501.5	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
Mean Wt (sets)			0.4 (161)	0.2 (219)	0.2 (215)	0.2 (153)	0.0 (200)	0.2 (161)	0.4 (211)	0.2 (203)	0.8 (204)	1.6(170)	2.0(176)
Upper C.I.			0.8	0.3	0.3	0.5	0.0	0.4	0.8	0.5	2.0	4.0	3.8
Lower C.I.			0.0	0.1	0.1	-0.1	0.0	0.0	-0.1	0.1	-0.8	-0.7	0.3

**Table 20. Mean Weight of yellowtail by stratum, Div 3N - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 113,114	1992 WT 128,129	1993 WT 144,145	1994 WT 160,161	1995 WT 176,177	1996 TEL 41,42 AN 253	1997 WT 212-214	1998 WT229-30,33 TEL76	1999 WT 245-47	2000 WT319-323 TEL338,339
<=56	375	219,134.8	14.6	23.0		36.4	142.0	67.7	54.8	70.1	87.1	112.2	115.8
<=56	376	206,204.1	97.2	53.0	52.3	151.7	49.4	118.6	117.2	157.4	174.3	182.9	607.1
57 - 92	360	411,582.8	16.4	20.1	19.5	60.3	27.3	39.6	89.4	114.8	136.4	147.5	148.2
57 - 92	361	254,900.7	37.3	77.0	95.3	116.9	161.0	133.7	122.5	142.9	146.3	69.6	40.7
57 - 92	362	346,653.9	19.5	18.6	3.0	1.0	3.0	35.0	23.0	79.7	54.1	101.3	50.6
57 - 92	373	346,653.9	0.6	1.4	0.0	0.0	2.5	2.8	0.0	12.2	15.6	17.5	23.4
57 - 92	374	128,069.4	0.0	0.9		0.0	0.0	0.0	8.2	6.2	7.9	78.1	40.6
57 - 92	383	92,716.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93 - 183	377	13,756.1	0.0		0.0	0.0	0.0	0.0	0.0	1.4	0.4	1.0	0.0
93 - 183	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	381	25,036.1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	379	14,581.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	380	15,957.1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	723	21,322.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	725	14,443.9			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	727	22,009.8				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	724	17,057.6		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	726	9,904.4				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	728	21,459.5					0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	752	18,433.2								0.0	0.0		0.0
732 - 914	756	14,581.5								0.0	0.0		0.0
732 - 914	760	21,184.4								0.0	0.0		0.0
915 - 1097	753	18,983.4								0.0	0.0		0.0
915 - 1097	757	14,031.2								0.0	0.0		0.0
915 - 1097	761	23,523.0								0.0	0.0		0.0
1098 - 1280	754	24,761.0								0.0	0.0		0.0
1098-1280	758	13,618.6								0.0	0.0		0.0
1098-1280	762	29,163.0									0.0		0.0
1281-1463	755	52,961.0								0.0	0.0		0.0
1281-1463	759	17,470.3								0.0	0.0		0.0
1281-1463	763	35,903.4											0.0
Mean Wt (sets)			20.6(80)	22.1 (67)	24.1 (34)	39.6 (70)	39.8 (73)	42.8 (90)	47.1 (82)	68.4 (100)	66.3(119)	79.9(70)	94.1(94)
Upper C.I.			35.6	36.6	43.7	62.6	66.4	56.5	65.0	87.1	85.0	100.3	143.9
Lower C.I.			5.6	7.6	4.6	16.6	13.1	29.1	29.3	49.6	47.5	59.6	44.3

**Table 21. Mean Weight of yellowtail by stratum, Div 30 - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 114	1992 WT 128	1993 WT 144	1994 WT 160,161	1995 WT 176,177	1996 WT 200 AN 253, TEL 42	1997 WT 212,213	1998 WT229,30,33	1999 WT 244-45	2000 WT319,329 TEL338
57 - 92	330	287,365.1	0.7	0.1	0.7	1.6	0.1	3.7	0.0	2.6	0.6	12.5	1.1
57 - 92	331	62,727.9	3.8	14.9	4.6	8.8	0.0	0.6	0.0	0.3	1.2	1.9	1.1
57 - 92	338	261,090.9	3.7	7.8	0.9	4.3	0.2	27.7	0.2	21.7	10.9	10.8	24.7
57 - 92	340	236,054.8	2.7	16.8	0.2	1.3	0.8	2.0	0.0	10.9	9.2	11.0	2.1
57 - 92	351	346,653.9	16.0	6.7	0.8	14.4	2.8	6.4	3.7	42.0	54.2	34.2	69.2
57 - 92	352	354,907.6	19.7	59.2	51.3	23.5	26.1	38.6	42.8	74.6	80.2	66.1	102.8
57 - 92	363	176,353.3	13.9	0.0	0.0	3.6	0.0	4.8	4.2	41.4	0.2	21.7	10.0
93 - 183	329	236,742.6	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
93 - 183	332	144,026.5	0.4	0.2	1.0	7.3	2.6	0.9	1.7	0.0	0.0	0.5	0.4
93 - 183	337	130,407.9	0.0	0.6	0.0	0.0	0.0	0.0	10.2	0.9	1.6	0.2	0.2
93 - 183	339	80,473.2	0.5	1.1	0.0	0.0	0.5	0.0	0.1	0.3	0.0		0.6
93 - 183	354	65,204.0	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.2
184 - 274	333	20,221.5	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
184 - 274	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
184 - 274	355	14,168.8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	334	13,205.9	0.0	0.0	0.0	0.0	0.2	0.0		0.0	0.0	0.0	0.0
275 - 366	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	356	8,391.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	717	22,835.1	0.0			0.0	1.0	0.0		0.0	0.0	0.0	0.0
367 - 549	719	10,454.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	721	10,454.6		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	718	18,433.2				0.0	0.0	0.0		0.0	0.0	0.0	0.0
550 - 731	720					0.0	0.0	0.0	0.0		0.0	0.0	0.0
550 - 731	722	12,793.2		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	764	14,443.9								0.0			0.0
732 - 914	768	13,618.6								0.0			0.0
732 - 914	772	18,570.8								0.0			0.0
915 - 1097	765	17,057.6								0.0			0.0
915 - 1097	769	18,983.4								0.0			0.0
915 - 1097	773	17,607.8								0.0			0.0
1098-1280	766	19,808.8											0.0
1098-1280	770	17,607.8											0.0
1098-1280	774	18,570.8											0.0
1281-1463	767	21,734.7											0.0
1281-1463	771	24,073.2											0.0
1281-1463	775	21,322.0											0.0
Mean Wt (sets)			7.0 (91)	12.2 (84)	7.9 (54)	6.9 (75)	4.3 (75)	10.1 (81)	7.6 (60)	22.7 (81)	19.9 (96)	19.6(75)	25.1(100)
Upper C.I.			10.5	18.1	17.5	11.1	8.2	15.0	12.7	31.7	28.2	26.1	35.5
Lower C.I.			3.5	6.3	-1.7	2.7	0.5	5.1	2.5	13.6	11.6	13.1	14.7

Table 22. Abundance (millions) of yellowtail by stratum, Div 3L - Fall

Depth Range (m)	Strat	No. of trawlable Units	1990 WT 101	1991 WT 114,115	1992 WT 128-130 GA 226	1993 WT 145,146	1994 WT 161,162	1995 WT 176-181 TEL 22,23	1996 WT 196-198 TEL 41	1997 WT 213-217 TEL 57,58	1998 WT230-33 TEL75,76	1999 WT 246-48	2000 WT321-23 TEL339-43
30 - 56 TOTAL	784	36,866.4	.	.	.	.	.	.	0.0 0.0	0.0 0.0	0.0 0.0	.	1.5 1.5
57 - 92	350	284,889.0	1.7	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.4	0.9
	363	244,858.7	1.3	0.3	0.5	0.0	0.1	1.3	0.9	0.3	9.4	18.1	29.3
	371	154,206.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	372	338,400.3	1.3	1.6	1.3	2.6	0.0	2.2	5.7	5.8	3.4	2.2	6.1
	384	154,068.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	785	63,965.9	.	.	.	.	.	.	0.0	0.0	0.0	.	0.1
TOTAL			4.3	2.1	1.9	2.6	0.1	3.6	6.7	6.1	12.9	20.6	36.3
93 - 183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	348	291,629.5	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	349	290,804.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	364	387,509.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	365	143,201.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.
	370	181,580.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	786	11,555.1	.	.	.	.	.	.	0.0	0.0	0.0	.	0.1
	787	84,325.0	.	.	.	.	.	.	0.0	0.0	0.1	.	0.0
	788	35,903.4	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	790	12,242.9	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	793	9,904.4	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	794	29,713.2	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	797	13,481.0	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	799	9,904.4	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
TOTAL			0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
184 - 274	344	217,621.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	347	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	366	191,760.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	369	132,196.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	386	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	389	112,937.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	391	38,792.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	795	22,560.0	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	789	9,904.4	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	791	31,226.4	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
	798	13,756.1	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
275 - 366	345	196,987.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	346	118,990.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	368	45,945.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	387	98,768.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	388	49,659.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	392	19,946.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	796	24,073.2	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
367 - 549	729	25,586.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	733	64,378.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	735	37,416.6	.	0.0	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
	792	6,878.1	.	.	.	.	.	.	.	0.0	0.0	.	0.0
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
550 - 731	730	23,385.4	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	734	31,363.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	736	24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	737	31,226.4	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	741	30,676.1	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	745	47,871.3	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	748	21,872.2	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
TOTAL								0.0	0.0	0.0	0.0	0.0	0.0
915 - 1097	738	30,401.0	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	742	28,337.6	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	746	53,924.0	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	749	17,332.7	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
TOTAL								0.0	0.0	0.0	0.0	0.0	0.0
1098 - 1280	739	34,940.5	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	743	29,025.4	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	747	99,594.2	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	750	76,484.0	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
TOTAL									0.0	0.0	0.0	0.0	0.0
1281 - 1463	740	36,316.1	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	744	38,517.1	.	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0
	751	31,501.5	.	.	.	.	.	.	0.0	0.0	0.0	.	0.0
TOTAL									0.0	0.0	0.0	0.0	0.0
Abundance (millions)			4.4	2.1	2.0	2.6	0.1	3.6	6.7	6.1	13.1	20.6	37.9
Upper C.I.			8.7	3.3	3.1	6.6	0.3	6.8	14.1	16.9	31.6	50.5	69.4
Lower C.I.			0.1	1.0	0.9	-1.4	-0.1	0.3	-0.7	-4.7	-5.4	-9.2	6.5

**Table 23. Abundance (millions) of yellowtail by stratum, Div 3N - Fall**

Depth Range (m)	Strat	No. of trawlable Units	1990 WT 102	1991 WT 113,114	1992 WT 128,129	1993 WT 144,145	1994 WT 160,161	1995 WT 176,177	1996 TEL 41,42 AN 253	1997 WT 212-214	1998 WT229,30,33 TEL76	1999 WT 245-47	2000 WT319-323 TEL338,339
<56	375	219,134.8	8.9	12.7	.	16.8	72.3	87.3	47.5	46.6	68.1	81.7	100.9
	376	206,204.1	66.7	70.7	66.6	139.1	42.5	146.7	171.4	180.1	161.3	149.0	422.1
<b>TOTAL</b>			<b>75.6</b>	<b>83.4</b>	<b>66.6</b>	<b>155.9</b>	<b>114.8</b>	<b>234.0</b>	<b>218.9</b>	<b>226.7</b>	<b>229.4</b>	<b>230.7</b>	<b>523.0</b>
57 - 92	360	411,582.8	34.3	38.2	20.4	90.4	41.5	70.5	161.4	167.2	205.3	201.9	188.6
	361	254,900.7	21.8	68.7	68.8	80.7	98.2	114.7	106.0	101.3	134.7	66.8	37.4
	362	346,653.9	16.5	21.0	2.3	0.6	2.3	84.9	26.2	106.5	48.3	198.3	70.3
	373	346,653.9	0.4	0.9	0.0	0.0	2.5	4.8	0.0	12.2	12.2	18.9	24.2
	374	128,069.4	0.0	0.1	.	0.0	0.0	0.0	3.8	2.3	2.0	23.4	16.7
	383	92,716.2	0.0	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>73.0</b>	<b>128.9</b>	<b>91.5</b>	<b>171.7</b>	<b>144.5</b>	<b>274.9</b>	<b>297.4</b>	<b>389.5</b>	<b>402.5</b>	<b>509.2</b>	<b>337.2</b>
93 - 183	369	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	377	13,756.1	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>
184 - 274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
275 - 366	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
367 - 549	723	21,322.0	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	725	14,443.9	.	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>				<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
550 - 731	724	17,057.6	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>				<b>0.0</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732 - 914	752	18,433.2	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	756	14,581.5	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	760	21,184.4	.	.	.	.	.	.	.	0.0	0.0	.	0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
915 - 1097	753	18,983.4	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	757	14,031.2	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	761	23,523.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
1098 - 1280	754	24,761.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	758	13,618.6	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	762	29,163.0	.	.	.	.	.	.	.	.	.	.	0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
1281- 1463	755	52,961.0	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	759	17,470.3	.	.	.	.	.	.	.	0.0	0.0	.	0.0
	763	35,903.4	.	.	.	.	.	.	.	.	.	.	0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
<b>Abundance (millions)</b>			<b>148.5</b>	<b>212.3</b>	<b>158.0</b>	<b>327.7</b>	<b>259.3</b>	<b>509.0</b>	<b>516.3</b>	<b>616.2</b>	<b>632.1</b>	<b>739.9</b>	<b>860.3</b>
<b>Upper C.I.</b>			<b>243.8</b>	<b>349.7</b>	<b>363.3</b>	<b>540.0</b>	<b>430.5</b>	<b>706.4</b>	<b>727.2</b>	<b>771.6</b>	<b>822.2</b>	<b>1003.0</b>	<b>1327.5</b>
<b>Lower C.I.</b>			<b>53.3</b>	<b>74.9</b>	<b>-47.2</b>	<b>115.3</b>	<b>88.2</b>	<b>311.5</b>	<b>305.4</b>	<b>460.8</b>	<b>442.0</b>	<b>476.9</b>	<b>393.1</b>

Table 24. Abundance (millions) of yellowtail by stratum, Div 30 - Fall													
Depth Range (m)	Strat	No. of trawlable Units	1990 WT 102	1991 WT113,114	1992 WT 128	1993 WT 144	1994 WT 160,161	1995 WT 176,177	1996 WT 200 AN 253, TEL 42	1997 WT 212,213	1998 WT229,30,33	1999 WT 244-45	2000 WT319,329 TEL338
57 - 92	330	287,365.0	0.4	0.0	0.4	1.0	0.0	2.4	0.0	2.1	0.5	6.8	1.0
	331	62,728.0	0.4	1.8	0.5	1.0	0.0	0.1	0.0	0.1	0.2	0.9	0.2
	338	261,091.0	2.2	5.2	0.5	2.3	0.1	25.3	0.1	10.0	8.1	9.3	20.4
	340	236,055.0	1.3	8.5	0.1	1.2	0.4	1.1	0.0	6.7	5.5	8.8	1.1
	351	346,654.0	12.8	5.5	0.6	12.2	2.4	5.5	4.0	37.2	71.9	46.9	94.5
	352	354,908.0	17.0	61.2	53.4	20.1	24.7	43.3	47.7	88.4	95.8	90.5	131.2
	353	176,353.0	4.9	0.0	0.0	1.5	0.0	1.5	1.2	14.6	0.1	13.0	5.3
<b>TOTAL</b>			<b>39.0</b>	<b>82.2</b>	<b>55.5</b>	<b>39.3</b>	<b>27.6</b>	<b>79.2</b>	<b>53.0</b>	<b>159.1</b>	<b>182.1</b>	<b>176.2</b>	<b>253.6</b>
93 - 183	329	236,743.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	332	144,026.0	0.1	0.0	0.3	2.3	0.7	0.5	0.4	0.0	0.1	0.2	0.1
	337	130,408.0	0.0	0.1	0.0	0.0	0.0	0.0	2.5	0.2	0.7	0.0	0.1
	339	80,473.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
	354	65,204.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>2.3</b>	<b>0.8</b>	<b>0.5</b>	<b>3.0</b>	<b>0.2</b>	<b>0.8</b>	<b>0.3</b>	<b>0.4</b>
184 - 274	333	20,221.0	0.0	0.0	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
	336	16,645.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	355	14,169.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
275 - 366	334	13,206.0	0.0	0.0	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
	335	7,979.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	356	8,391.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
367 - 549	717	22,835.0	0.0	.	.	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
	719	10,455.0	0.0	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	721	10,455.0	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	.	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
550 - 731	718	18,433.0	.	.	.	0.0	0.0	0.0	.	0.0	0.0	0.0	0.0
	720	14,443.9	.	.	.	0.0	0.0	0.0	0.0	.	0.0	0.0	0.0
	722	12,793.0	.	0.0	.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			.	<b>0.0</b>	.	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732 - 914	764	14,443.9	.	.	.	.	.	.	.	0.0	.	.	0.0
732 - 914	768	13,618.6	.	.	.	.	.	.	.	0.0	.	.	0.0
732 - 914	772	18,570.8	.	.	.	.	.	.	.	0.0	.	.	0.0
<b>TOTAL</b>			.	.	.	.	.	.	.	<b>0.0</b>	.	.	<b>0.0</b>
915 - 1097	765	17,057.6	.	.	.	.	.	.	.	0.0	.	.	0.0
915 - 1097	769	18,983.4	.	.	.	.	.	.	.	0.0	.	.	0.0
915 - 1097	773	17,607.8	.	.	.	.	.	.	.	0.0	.	.	0.0
<b>TOTAL</b>			.	.	.	.	.	.	.	<b>0.0</b>	.	.	<b>0.0</b>
1098-1280	766	19,808.8	.	.	.	.	.	.	.	.	.	.	0.0
1098-1280	770	17,607.8	.	.	.	.	.	.	.	.	.	.	0.0
1098-1280	774	18,570.8	.	.	.	.	.	.	.	.	.	.	0.0
<b>TOTAL</b>			.	.	.	.	.	.	.	.	.	.	<b>0.0</b>
1281-1463	767	21,734.7	.	.	.	.	.	.	.	.	.	.	0.0
1281-1463	771	24,073.2	.	.	.	.	.	.	.	.	.	.	0.0
1281-1463	775	21,322.0	.	.	.	.	.	.	.	.	.	.	0.0
<b>TOTAL</b>			.	.	.	.	.	.	.	.	.	.	<b>0.0</b>
<b>Abundance (millions)</b>			<b>39.6</b>	<b>82.7</b>	<b>55.8</b>	<b>41.6</b>	<b>28.5</b>	<b>79.7</b>	<b>56.2</b>	<b>159.2</b>	<b>183.0</b>	<b>176.5</b>	<b>254.1</b>
<b>Upper C.I.</b>			<b>59.0</b>	<b>130.4</b>	<b>126.9</b>	<b>69.3</b>	<b>54.5</b>	<b>128.9</b>	<b>93.5</b>	<b>214.2</b>	<b>262.0</b>	<b>240.3</b>	<b>364.3</b>
<b>Lower C.I.</b>			<b>20.1</b>	<b>34.9</b>	<b>-15.3</b>	<b>13.9</b>	<b>2.4</b>	<b>30.4</b>	<b>18.8</b>	<b>104.1</b>	<b>103.9</b>	<b>112.8</b>	<b>143.8</b>



**Table 25. Abundance (millions) of Yellowtail Flounder by stratum, Div 3LN0 - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 101,102	1991 WT 113-115	1992 WT 128-130 GA 226	1993 WT 144-146	1994 WT 160-162	1995 WT 176-179,181 TEL 22,23	1996 WT196-98,200 TEL41,42,AN 263	1997 WT212-216 TEL57,58	1998 WT 229-33 TEL 75,76	1999 WT 244-48	2000 WT319-23 TEL338-43
30 - 56	784	36,866.4	-	-	-	-	-	-	0.0	0.0	0.0	-	1.5
TOTAL									0.0	0.0	0.0		1.5
<=56	375	219,134.8	8.9	12.7	-	16.8	72.3	87.3	47.5	46.6	68.1	81.7	100.9
	376	206,204.1	66.7	70.7	66.6	139.1	42.5	146.7	171.4	180.1	161.3	149.0	422.1
TOTAL			75.6	83.4	66.6	155.9	114.8	234.0	218.9	226.7	229.4	230.7	523.0
57 - 92	330	287,365.1	0.4	0.0	0.4	1.0	0.0	2.4	0.0	2.1	0.5	6.8	1.0
	331	62,727.9	0.4	1.8	0.5	1.0	0.0	0.1	0.0	0.1	0.2	0.9	0.2
	338	261,090.9	2.2	5.2	0.5	2.3	0.1	25.3	0.1	10.0	8.1	9.3	20.4
	340	236,054.8	1.3	8.5	0.1	1.2	0.4	1.1	0.0	6.7	5.5	8.8	1.1
	350	284,889.0	1.7	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.4	0.9
	351	346,653.9	12.8	5.5	0.6	12.2	2.4	5.5	4.0	37.2	71.9	46.9	94.5
	352	354,907.6	17.0	61.2	53.4	20.1	24.7	43.3	47.7	88.4	95.8	90.5	131.2
	353	176,353.3	4.9	0.0	0.0	1.5	0.0	1.5	1.2	14.6	0.1	13.0	5.3
	360	411,582.8	34.3	38.2	20.4	90.4	41.5	70.5	161.4	167.2	205.3	201.9	188.6
	361	254,900.7	21.8	68.7	68.8	80.7	98.2	114.7	106.0	101.3	134.7	66.8	37.4
	362	346,653.9	16.5	21.0	2.3	0.6	2.3	84.9	26.2	106.5	48.3	198.3	70.3
	363	244,858.7	1.3	0.3	0.5	0.0	0.1	1.3	0.9	0.3	9.4	18.1	29.3
	371	154,206.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	372	338,400.3	1.3	1.6	1.3	2.6	0.0	2.2	5.7	5.8	3.5	2.2	6.1
	373	346,653.9	0.4	0.9	0.0	0.0	2.5	4.8	0.0	12.2	12.3	18.9	24.2
	374	128,069.4	0.0	0.1	-	0.0	0.0	0.0	3.8	2.3	2.0	23.4	16.7
	383	92,716.2	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	384	154,068.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	785	63,965.9							0.0	0.0	0.0		0.1
			116.3	213.2	148.9	213.6	172.2	357.7	357.1	554.7	597.8	706.1	627.2
93 - 183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	329	236,742.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	332	144,026.5	0.1	0.0	0.3	2.3	0.7	0.5	0.4	0.0	0.0	0.2	0.1
	337	130,407.9	0.0	0.1	0.0	0.0	0.0	0.0	2.5	0.2	0.7	0.0	0.1
	339	80,473.2	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	-	0.1
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	348	291,629.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	349	290,804.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	354	65,204.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	364	387,509.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	365	143,201.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	370	181,580.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	377	13,756.1	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	786	11,555.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.1
	787	84,325.0	-	-	-	-	-	-	26.0	0.0	0.1	-	0.0
	788	35,903.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	790	12,242.9	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	793	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	794	29,713.2	-	-	-	-	-	-	0.0	0.0	0.0	-	-
	797	13,481.0	-	-	-	-	-	-	0.0	0.0	0.0	-	-
	799	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	-
TOTAL			0.5	0.3	0.4	2.3	0.8	0.5	3.0	0.2	1.0	0.3	0.5
184 - 274	333	20,221.5	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	344	217,621.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	347	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	355	14,168.8	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	366	191,760.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	369	132,196.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	386	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	389	112,937.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	391	38,792.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	795	22,560.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 25 Con'd													
Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 101,102	1991 WT 113-115	1992 WT 128-130 GA 226	1993 WT 144-146	1994 WT 160-162	1995 WT 176-179,181 TEL 22,23	1996 WT 188-191	1997 WT 204-208	1998 WT 229-33 TEL 75,76	1999 WT 244-48	2000 WT319-23 TEL338-43
184 - 366	789	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	791	31,226.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	798	13,756.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
275 - 366	334	13,205.9	0.0	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	345	196,987.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	346	118,990.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	356	8,391.2	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	368	45,945.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	387	98,768.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	388	49,659.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	392	19,946.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	796	24,073.2	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	<b>TOTAL</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
367 - 549	717	22,835.1	0.0	-	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	719	10,454.6	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	721	10,454.6	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	723	21,322.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	725	14,443.9	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	729	25,586.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	731	29,713.2	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	733	64,378.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	735	37,416.6	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	792	6,878.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	<b>TOTAL</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
550 - 731	718	18,433.2	-	-	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	720	14,443.9	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0
	722	12,793.2	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0
	724	17,057.6	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	730	23,385.4	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	732	31,776.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	734	31,363.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	736	24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>TOTAL</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732 - 914	737	31,226.4	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0
	741	30,676.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	745	47,871.3	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	748	21,872.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	752	18,433.2	-	-	-	-	-	-	-	-	0.0	-	0.0
	756	14,581.5	-	-	-	-	-	-	-	-	0.0	-	0.0
	760	21,184.4	-	-	-	-	-	-	-	-	0.0	-	0.0
	764	14,443.9	-	-	-	-	-	-	-	-	0.0	-	0.0
	768	13,618.6	-	-	-	-	-	-	-	-	0.0	-	0.0
	772	18,570.8	-	-	-	-	-	-	-	-	0.0	-	0.0
	<b>TOTAL</b>							<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
915 - 1097	738	30,401.0	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0
	742	28,337.6	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	746	53,924.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	749	17,332.7	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	753	18,963.4	-	-	-	-	-	-	-	-	0.0	-	0.0
	757	14,031.2	-	-	-	-	-	-	-	-	0.0	-	0.0
	761	23,523.0	-	-	-	-	-	-	-	-	0.0	-	0.0
	765	17,057.6	-	-	-	-	-	-	-	-	0.0	-	0.0
	769	18,963.4	-	-	-	-	-	-	-	-	0.0	-	0.0
	772	18,570.8	-	-	-	-	-	-	-	-	0.0	-	0.0
	<b>TOTAL</b>							<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1098 - 1280	739	34,940.5	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	743	29,025.4	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	747	99,594.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	750	76,484.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	754	24,761.0	-	-	-	-	-	-	-	-	0.0	-	0.0
	758	13,618.6	-	-	-	-	-	-	-	-	0.0	-	0.0
	762	23,523.0	-	-	-	-	-	-	-	-	-	-	0.0
	766	19,808.8	-	-	-	-	-	-	-	-	-	-	0.0
	770	17,607.8	-	-	-	-	-	-	-	-	-	-	0.0
	774	18,570.8	-	-	-	-	-	-	-	-	-	-	0.0
	<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1281 - 1463	740	36,316.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	744	36,517.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	751	31,501.5	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	755	52,961.0	-	-	-	-	-	-	-	-	0.0	-	0.0
	759	17,470.3	-	-	-	-	-	-	-	-	0.0	-	0.0
	763	35,903.4	-	-	-	-	-	-	-	-	-	-	0.0
	767	21,734.7	-	-	-	-	-	-	-	-	-	-	0.0
	771	24,073.2	-	-	-	-	-	-	-	-	-	-	0.0
	775	21,322.0	-	-	-	-	-	-	-	-	-	-	0.0
	<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Abundance (millions)</b>			<b>192.5</b>	<b>297.1</b>	<b>215.9</b>	<b>371.9</b>	<b>287.9</b>	<b>592.2</b>	<b>579.1</b>	<b>781.5</b>	<b>828.2</b>	<b>937.1</b>	<b>1,152.3</b>
<b>Upper C.I.</b>			<b>289.0</b>	<b>438.7</b>	<b>410.7</b>	<b>581.1</b>	<b>460.5</b>	<b>793.3</b>	<b>791.7</b>	<b>945.3</b>	<b>1,115.7</b>	<b>1,205.0</b>	<b>1,604.0</b>
<b>Lower C.I.</b>			<b>95.9</b>	<b>155.5</b>	<b>21.0</b>	<b>157.6</b>	<b>115.3</b>	<b>391.0</b>	<b>366.6</b>	<b>617.8</b>	<b>540.6</b>	<b>669.2</b>	<b>700.6</b>



Table 26. Cont'd

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 101	1991 WT 114,115	1992 WT 128-130 GA 226	1993 WT 145,146	1994 WT 161,162	1995 WT 176-179,181 TEL 22,23	1996 WT 196-198 TEL 41	1997 WT 213-217 TEL 57,58	1998 WT220-33 TEL75,76	1999 WT 246-48 TEL 88	2000 WT321-23 TEL339-343
732 - 914	737	31,226.4	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	741	30,676.1	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	745	47,871.3	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	748	21,872.2	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
915 -1097	738	30,401.0	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	742	28,337.6	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	746	53,924.0	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	749	17,332.7	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1098 -1280	739	34,940.5	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	743	29,026.4	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	747	99,594.2	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	750	76,484.0	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1281 -1463	740	36,316.1	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	744	38,517.1	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
	751	31,501.5	.	.	.	.	.	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>								<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Biomass ('000t)</b>			<b>2.1</b>	<b>1.0</b>	<b>0.9</b>	<b>1.1</b>	<b>0.0</b>	<b>1.2</b>	<b>2.2</b>	<b>1.3</b>	<b>5.2</b>	<b>9.6</b>	<b>12.5</b>
<b>Upper C.I.</b>			<b>4.1</b>	<b>1.6</b>	<b>1.5</b>	<b>2.7</b>	<b>0.1</b>	<b>2.2</b>	<b>5.3</b>	<b>3.1</b>	<b>12.8</b>	<b>23.6</b>	<b>23.4</b>
<b>Lower C.I.</b>			<b>0.0</b>	<b>0.4</b>	<b>0.4</b>	<b>-0.5</b>	<b>0.0</b>	<b>0.3</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-2.4</b>	<b>-4.4</b>	<b>1.6</b>

**Table 27. Biomass ('000t) of yellowtail by stratum, Div 3N - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 113,114	1992 WT 128,129	1993 WT 144,145	1994 WT 160,161	1995 WT 176,177	1996 TEL 41,42 AN 253	1997 WT 212-214	1998 WT 229,30,33 TEL 76	1999 WT 245-47	2000 WT319-323 TEL338,339
<=56	375	219,134.8	3.2	5.1		8.0	31.1	14.8	12.0	15.4	19.1	24.6	25.4
	376	206,204.1	20.1	10.9	10.8	31.3	10.2	24.4	24.2	32.5	35.9	37.7	125.2
<b>TOTAL</b>			<b>23.3</b>	<b>16.0</b>	<b>10.8</b>	<b>39.3</b>	<b>41.3</b>	<b>39.2</b>	<b>36.2</b>	<b>47.9</b>	<b>55.0</b>	<b>62.3</b>	<b>150.6</b>
57 - 92	360	411,582.8	6.7	8.3	8.0	24.8	11.2	16.3	36.8	47.2	56.1	60.6	61.0
	361	254,900.7	9.5	19.6	24.3	29.8	41.0	34.1	31.2	36.4	37.3	17.7	10.4
	362	346,653.9	6.8	6.4	1.0	0.3	1.0	12.1	8.0	27.6	18.8	35.1	17.5
	373	346,653.9	0.2	0.5	0.0	0.0	0.9	1.0	0.0	4.2	5.4	6.1	8.1
	374	128,069.4	0.0	0.1		0.0	0.0	0.0	1.1	0.8	1.0	10.0	5.2
	383	92,716.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>23.2</b>	<b>34.9</b>	<b>33.3</b>	<b>54.9</b>	<b>54.1</b>	<b>63.5</b>	<b>77.1</b>	<b>116.2</b>	<b>118.6</b>	<b>129.5</b>	<b>102.2</b>
93 - 183	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	377	13,756.1	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
184 - 274	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
275 - 366	357	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	379	14,581.5	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	380	15,957.1		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
367 - 549	723	21,322.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	725	14,443.9			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	727	22,009.8				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>				<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
550 - 731	724	17,057.6		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	726	9,904.4				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	728	21,459.5				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>				<b>0.0</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732 - 914	752	18,433.2								0.0	0.0		0.0
732 - 914	756	14,581.5								0.0	0.0		0.0
732 - 914	760	21,184.4								0.0	0.0		0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
915 - 1097	753	18,983.4								0.0	0.0		0.0
915 - 1097	757	14,031.2								0.0	0.0		0.0
915 - 1097	761	23,523.0								0.0	0.0		0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
1098-1280	754	24,761.0								0.0	0.0		0.0
1098-1280	758	13,618.6								0.0	0.0		0.0
1098-1280	762	29,163.0											0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
1281-1463	755	52,961.0								0.0	0.0		0.0
1281-1463	759	17,470.3								0.0	0.0		0.0
1281-1463	763	35,903.4											0.0
<b>TOTAL</b>										<b>0.0</b>	<b>0.0</b>		<b>0.0</b>
<b>Biomass ('000t)</b>			<b>46.5</b>	<b>50.9</b>	<b>44.1</b>	<b>94.2</b>	<b>95.5</b>	<b>102.8</b>	<b>113.2</b>	<b>164.2</b>	<b>173.6</b>	<b>191.9</b>	<b>252.8</b>
<b>Upper C.I.</b>			<b>80.3</b>	<b>84.4</b>	<b>79.9</b>	<b>148.9</b>	<b>159.5</b>	<b>135.7</b>	<b>156.1</b>	<b>209.2</b>	<b>222.7</b>	<b>240.9</b>	<b>386.5</b>
<b>Lower C.I.</b>			<b>12.6</b>	<b>17.4</b>	<b>8.4</b>	<b>39.5</b>	<b>31.5</b>	<b>69.9</b>	<b>70.3</b>	<b>119.1</b>	<b>124.5</b>	<b>143.0</b>	<b>119.1</b>

**Table 28. Biomass ('000t) of yellowtail by stratum, Div 30 - Fall**

Depth Range (m)	Stratum	No. of trawlable Units	1990 WT 102	1991 WT 114	1992 WT 128	1993 WT 144	1994 WT 160,161	1995 WT 176,177	1996 WT 200 AN 253, TEL 42	1997 WT 212,213	1998 WT229,30,33	1999 WT 244-45	2000 WT319,329 TEL338
57 - 92	330	287,365.1	0.2	0.0	0.3	0.5	0.0	1.1	0.0	0.8	0.2	3.6	0.3
	331	62,727.9	0.2	0.9	0.1	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	338	261,090.9	1.0	2.0	0.3	1.1	0.1	7.2	0.0	5.7	2.8	2.8	6.4
	340	236,054.8	0.6	4.0	0.2	0.3	0.2	0.5	0.0	2.6	2.2	2.6	0.5
	351	346,653.9	5.5	2.3	0.3	5.0	1.0	2.2	1.3	14.5	18.8	11.9	24.0
	352	354,907.6	7.0	21.0	0.4	8.3	9.3	13.7	15.2	26.5	28.5	23.5	36.5
	353	176,353.3	2.4	0.0	0.2	0.6	0.0	0.8	0.7	7.3	0.0	3.8	1.8
<b>TOTAL</b>			<b>16.9</b>	<b>30.2</b>	<b>1.8</b>	<b>16.3</b>	<b>10.6</b>	<b>25.5</b>	<b>17.2</b>	<b>57.4</b>	<b>52.6</b>	<b>48.3</b>	<b>69.5</b>
93 - 183	329	236,742.6	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	332	144,026.5	0.1	0.0	0.1	1.0	0.4	0.1	0.2	0.0	0.0	0.1	0.1
	337	130,407.9	0.0	0.1	0.1	0.0	0.0	0.0	1.3	0.1	0.2	0.0	0.0
	339	80,473.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	354	65,204.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.2</b>	<b>0.2</b>	<b>0.6</b>	<b>1.0</b>	<b>0.4</b>	<b>0.1</b>	<b>1.5</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.1</b>
184 - 274	355	14,168.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	333	20,221.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
275 - 366	334	13,205.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	335	7,978.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	356	8,391.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
367 - 549	717	22,835.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	719	10,454.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	721	10,454.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
550 - 731	718	18,433.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	720	14,443.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	722	12,793.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
732 - 914	764	14,443.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	768	13,618.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
732 - 914	772	18,570.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
915 - 1097	765	17,057.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
915 - 1097	769	18,983.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
915 - 1097	773	17,607.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1098-1280	766	19,808.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1098-1280	770	17,607.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1098-1280	774	18,570.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
1281-1463	767	21,734.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1281-1463	771	24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1281-1463	775	21,322.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Biomass ('000t)</b>			<b>17.3</b>	<b>30.5</b>	<b>19.4</b>	<b>17.5</b>	<b>10.9</b>	<b>25.7</b>	<b>18.9</b>	<b>57.5</b>	<b>52.8</b>	<b>48.4</b>	<b>69.7</b>
<b>Upper C.I.</b>			<b>25.9</b>	<b>45.2</b>	<b>43.1</b>	<b>28.1</b>	<b>20.7</b>	<b>38.4</b>	<b>31.5</b>	<b>80.5</b>	<b>74.8</b>	<b>64.4</b>	<b>98.6</b>
<b>Lower C.I.</b>			<b>8.6</b>	<b>15.8</b>	<b>4.3</b>	<b>6.8</b>	<b>1.2</b>	<b>13.1</b>	<b>6.2</b>	<b>34.5</b>	<b>30.8</b>	<b>32.3</b>	<b>40.8</b>

Table 29. Biomass ('000t) of Yellowtail Flounder by stratum, Div 3LN0-Fall

Depth Range (m)	Stratum	No. of trawable Units	1990 WT 101,102	1991 WT 113-115	1992 WT 128-130 GA 226	1993 WT 144-146	1994 WT 160-162	1995 WT 176-179,181 TEL 22,23	1996 WT196-98,200 TEL 41,42 AN 253	1997 WT212-17 TEL 57,58	1998 WT229-33 TEL 75,76	1999 WT 244-48	2000 WT319-23 TEL338-43
30 - 56	784	36,866.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.1
<b>TOTAL</b>									<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>0.1</b>
<=56	375	219,134.8	3.2	5.1	-	8.0	31.1	14.8	12.0	15.4	19.1	24.6	25.4
	376	206,204.1	20.1	10.9	10.8	31.3	10.2	24.4	24.2	32.5	35.9	37.7	125.2
<b>TOTAL</b>			<b>23.3</b>	<b>16.0</b>	<b>10.8</b>	<b>39.3</b>	<b>41.3</b>	<b>39.2</b>	<b>36.2</b>	<b>47.9</b>	<b>55.0</b>	<b>62.3</b>	<b>150.6</b>
57 - 92	330	287,365.1	0.2	0.0	0.2	0.5	0.0	1.1	0.0	0.8	0.2	3.6	0.3
	331	62,727.9	0.2	0.9	0.3	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	338	261,090.9	1.0	2.0	0.2	1.1	0.1	7.2	0.0	5.7	2.8	2.8	6.4
	340	236,054.8	0.6	4.0	0.0	0.3	0.2	0.5	0.0	2.6	2.2	2.6	0.5
	350	284,889.0	0.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3
	351	346,653.9	5.5	2.3	0.3	5.0	1.0	2.2	1.3	14.5	18.8	11.9	24.0
	352	354,907.6	7.0	21.0	18.2	8.3	9.3	13.7	15.2	26.5	28.5	23.5	36.5
	353	176,353.3	2.4	0.0	0.0	0.6	0.0	0.8	0.7	7.3	0.0	3.8	1.8
	360	411,582.8	6.7	8.3	8.0	24.8	11.2	16.3	36.8	47.2	56.1	60.7	61.0
	361	254,900.7	9.5	19.6	24.3	29.8	41.0	34.1	31.2	36.4	37.3	17.7	10.4
	362	346,653.9	6.8	6.4	1.0	0.3	1.0	12.1	8.0	27.6	18.8	35.1	17.5
	363	244,858.7	0.7	0.1	0.2	0.0	0.0	0.6	0.4	0.2	3.9	8.9	10.2
	371	154,206.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	372	338,400.3	0.6	0.8	0.6	1.1	0.0	0.6	1.8	1.1	1.2	0.5	1.8
	373	346,653.9	0.2	0.5	0.0	0.0	0.9	1.0	0.0	4.2	5.4	6.1	8.1
	374	128,069.4	0.0	0.1	-	0.0	0.0	0.0	1.1	0.8	1.0	10.0	5.2
	383	92,716.2	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	384	154,068.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	795	63,965.9	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
<b>TOTAL</b>			<b>42.2</b>	<b>66.1</b>	<b>53.4</b>	<b>72.3</b>	<b>64.7</b>	<b>90.2</b>	<b>96.5</b>	<b>174.9</b>	<b>176.3</b>	<b>187.5</b>	<b>184.1</b>
93 - 183	328	208,955.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	329	236,742.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	332	144,026.5	0.1	0.0	0.1	1.0	0.4	0.1	0.2	0.0	0.0	0.1	0.1
	337	130,407.9	0.0	0.1	0.0	0.0	0.0	0.0	1.3	0.1	0.2	0.0	0.0
	339	80,473.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
	341	216,521.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	342	80,473.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	343	72,219.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	348	291,639.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	349	250,804.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	354	65,204.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	359	57,913.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	364	387,509.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	365	143,201.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
	370	181,580.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	377	13,756.1	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	382	89,002.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	385	324,093.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	390	203,728.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	786	11,555.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	787	84,325.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	788	35,903.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	790	12,242.9	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	793	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	794	29,713.2	-	-	-	-	-	-	0.0	0.0	0.0	-	-
	797	13,481.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	799	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
<b>TOTAL</b>			<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>1.0</b>	<b>0.4</b>	<b>0.1</b>	<b>1.5</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.2</b>
184 - 274	333	20,221.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	336	16,644.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	344	217,621.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	347	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	355	14,168.8	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	358	30,951.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	366	191,760.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	369	132,196.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	378	19,121.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	381	25,036.1	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	386	135,222.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	389	112,937.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	391	38,792.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	795	22,560.0	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
<b>TOTAL</b>			<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
184 - 366	789	9,904.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	791	31,226.4	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
	798	13,756.1	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0
<b>TOTAL</b>									<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>0.0</b>

Table 29 Con'd														
Depth Range (m)	Stratum	No. of trawable Units	1990 WT 101, 102	1991 WT 113-115	1992 WT 128-130 GA 226	1993 WT 144-146	1994 WT 160-162	1995 WT 176-179, 181 TEL 22, 23	1996 WT196-98, 200 TEL 41, 42 AN 253	1997 WT 212-17 TEL 67, 68	1998 WT229-33 3EL 75, 76	1999 WT 244-48 TEL 88	2000 WT319-23 TEL338-43	
275 - 366	334	13,205.9	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
	335	7,870.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	345	196,987.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	346	118,990.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	366	8,391.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	367	22,560.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	368	45,945.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	379	14,681.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	380	15,957.1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	387	98,768.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	388	49,659.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
	392	19,946.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
	796	24,073.2							0.0		0.0			
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
367 - 549	717	22,836.1	0.0	-	-	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
	719	10,454.6	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	721	10,454.6	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	723	21,322.0	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	725	14,443.9	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	727	22,009.8	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	729	25,586.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	731	29,713.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	733	64,378.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	735	37,416.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	792	6,878.1							0.0		0.0		0.0	
	TOTAL		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	550 - 731	718	18,433.2	-	-	-	0.0	0.0	0.0		0.0	0.0	0.0	0.0
720		14,443.9	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	
722		12,793.2	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
724		17,057.6	-	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
726		9,804.4	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
728		21,459.5	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
730		23,365.4	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
732		31,776.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
734		31,363.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
736		24,073.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
732 - 914		737	31,226.4	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
		741	30,676.1	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0
	745	47,871.3	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	
	748	21,872.2	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	
	TOTAL								0.0	0.0	0.0	0.0	0.0	
915 - 1097	738	30,401.0	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	
	742	28,337.6	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	746	53,924.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	749	17,332.7	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	TOTAL							0.0	0.0	0.0	0.0	0.0	0.0	
1098 - 1280	739	34,940.5	-	-	-	-	-	-	0.0	0.0	0	0.0	0.0	
	743	29,025.4	-	-	-	-	-	-	0.0	0.0	0	0.0	0.0	
	747	99,594.2	-	-	-	-	-	-	0.0	0.0	0	0.0	0.0	
	750	76,484.0	-	-	-	-	-	-	0.0	0.0	0	0.0	0.0	
	TOTAL								0.0	0.0	0.0	0.0	0.0	
1281 - 1463	740	36,316.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	744	38,517.1	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	
	751	31,501.5	-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	
	TOTAL								0.0	0.0	0.0	0.0	0.0	
	732 - 914	737	31,226.4	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0
741		30,676.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
745		47,871.3	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
748		21,872.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
752		18,433.2	-	-	-	-	-	-	-	-	0.0	-	0.0	
756		14,581.5	-	-	-	-	-	-	-	-	0.0	-	0.0	
760		21,184.4	-	-	-	-	-	-	-	-	0.0	-	0.0	
764		14,443.9	-	-	-	-	-	-	-	-	0.0	-	0.0	
768		13,618.6	-	-	-	-	-	-	-	-	0.0	-	0.0	
772		18,570.8	-	-	-	-	-	-	-	-	0.0	-	0.0	
TOTAL								0.0	0.0	0.0	0.0	0.0	0.0	
915 - 1097		738	30,401.0	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0
		742	28,337.6	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	746	53,924.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	749	17,332.7	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	753	18,983.4	-	-	-	-	-	-	-	-	0.0	-	0.0	
	757	14,031.2	-	-	-	-	-	-	-	-	0.0	-	0.0	
	761	23,523.0	-	-	-	-	-	-	-	-	0.0	-	0.0	
	765	17,057.6	-	-	-	-	-	-	-	-	0.0	-	0.0	
	769	18,983.4	-	-	-	-	-	-	-	-	0.0	-	0.0	
	776	18,983.4	-	-	-	-	-	-	-	-	0.0	-	0.0	
	772	18,570.8	-	-	-	-	-	-	-	-	0.0	-	0.0	
	TOTAL							0.0	0.0	0.0	0.0	0.0	0.0	
	1098 - 1280	739	34,940.5	-	-	-	-	-	-	0.0	0.0	20.0	0.0	0.0
743		29,025.4	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
747		99,594.2	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
750		76,484.0	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
754		24,761.0	-	-	-	-	-	-	-	-	0.0	-	0.0	
758		13,618.6	-	-	-	-	-	-	-	-	0.0	-	0.0	
761		23,523.0	-	-	-	-	-	-	-	-	0.0	-	0.0	
766		19,008.8	-	-	-	-	-	-	-	-	0.0	-	0.0	
770		17,807.8	-	-	-	-	-	-	-	-	0.0	-	0.0	
774		18,570.8	-	-	-	-	-	-	-	-	0.0	-	0.0	
TOTAL									0.0	0.0	0.0	0.0	0.0	
1281 - 1463		740	36,316.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
		744	38,517.1	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0
	751	31,501.5	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	
	755	52,961.0	-	-	-	-	-	-	-	-	0.0	-	0.0	
	759	17,470.3	-	-	-	-	-	-	-	-	0.0	-	0.0	
	763	35,903.4	-	-	-	-	-	-	-	-	0.0	-	0.0	
	767	21,734.7	-	-	-	-	-	-	-	-	0.0	-	0.0	
	771	24,073.2	-	-	-	-	-	-	-	-	0.0	-	0.0	
	775	21,322.0	-	-	-	-	-	-	-	-	0.0	-	0.0	
	TOTAL								0.0	0.0	0.0	0.0	0.0	
	Biomass ('0000)			65.8	82.4	64.5	112.8	106.4	129.8	134.3	222.9	231.6	249.9	335.0
	Upper C.I.			99.8	117.5	103.8	168.0	171.0	164.3	178.3	272.5	285.2	301.8	463.5
	Lower C.I.			31.8	47.3	25.2	57.6	41.9	95.2	90.3	173.4	178.1	198.0	206.5



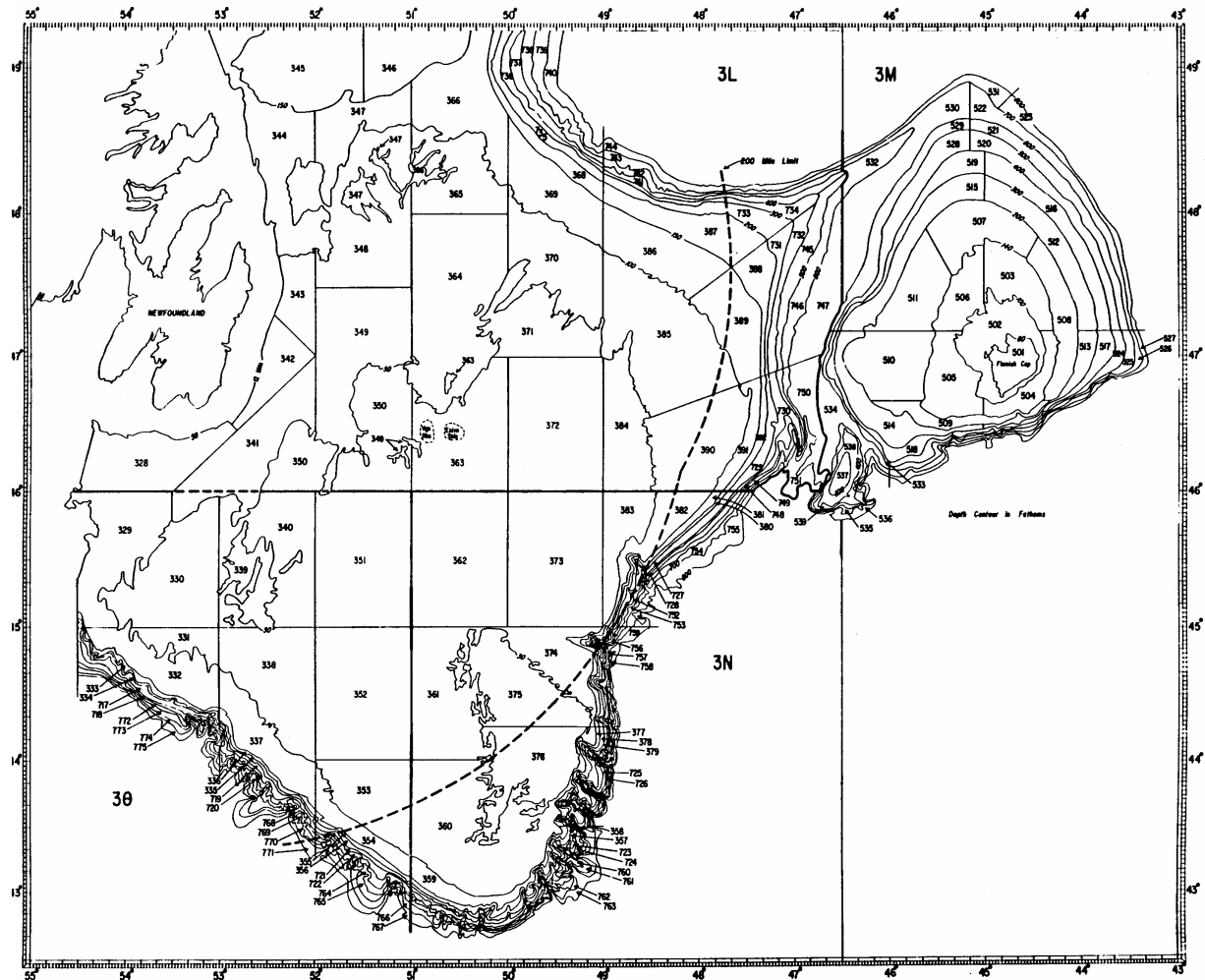


Fig. 1. Stratification chart of the Grand Banks, NAFO Divisions 3LNO, used in annual Canadian spring and fall bottom trawl surveys.

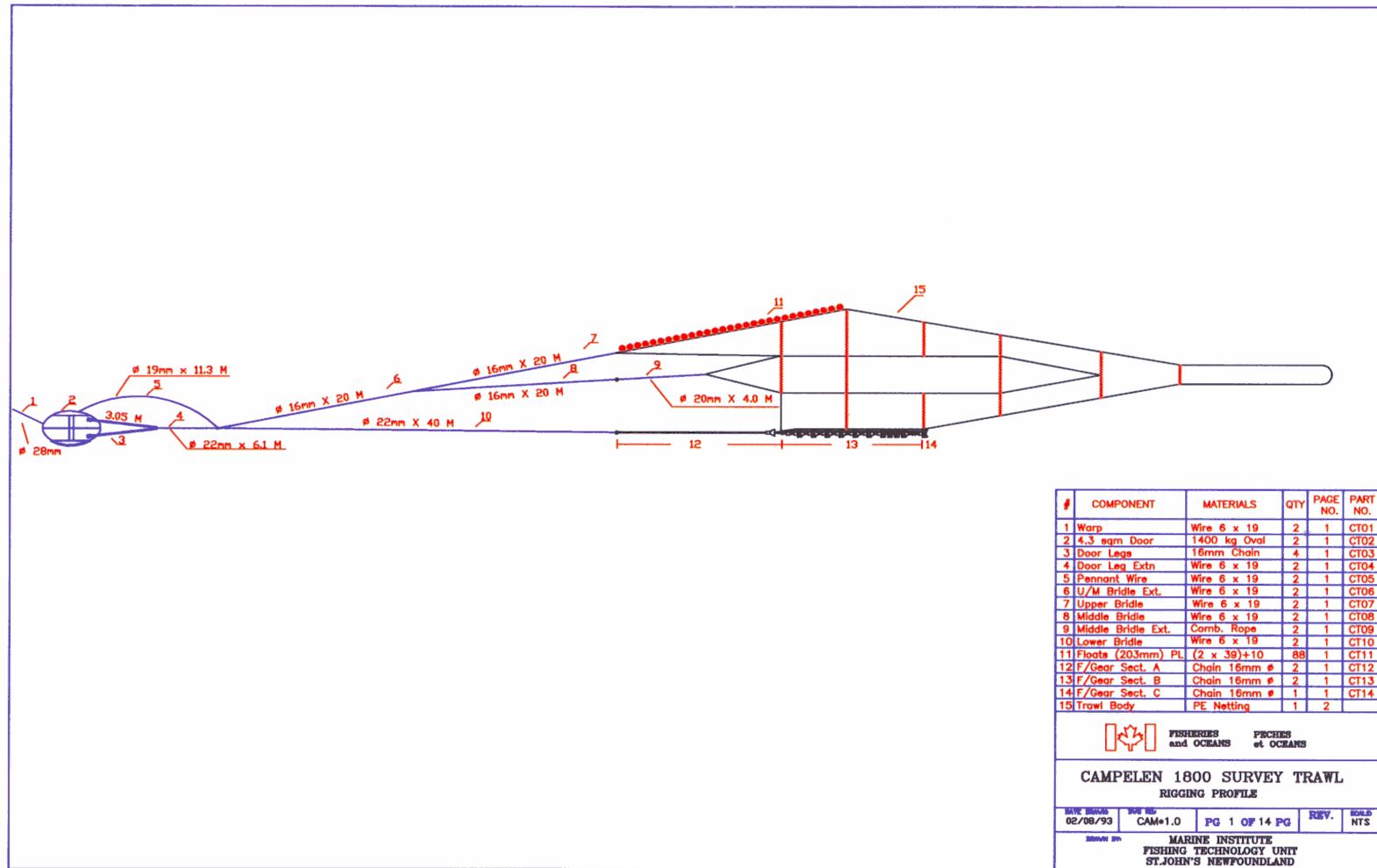


Fig. 2. Rigging profile of the Campelen 1800 shrimp trawl used in annual surveys of the Grand Bank

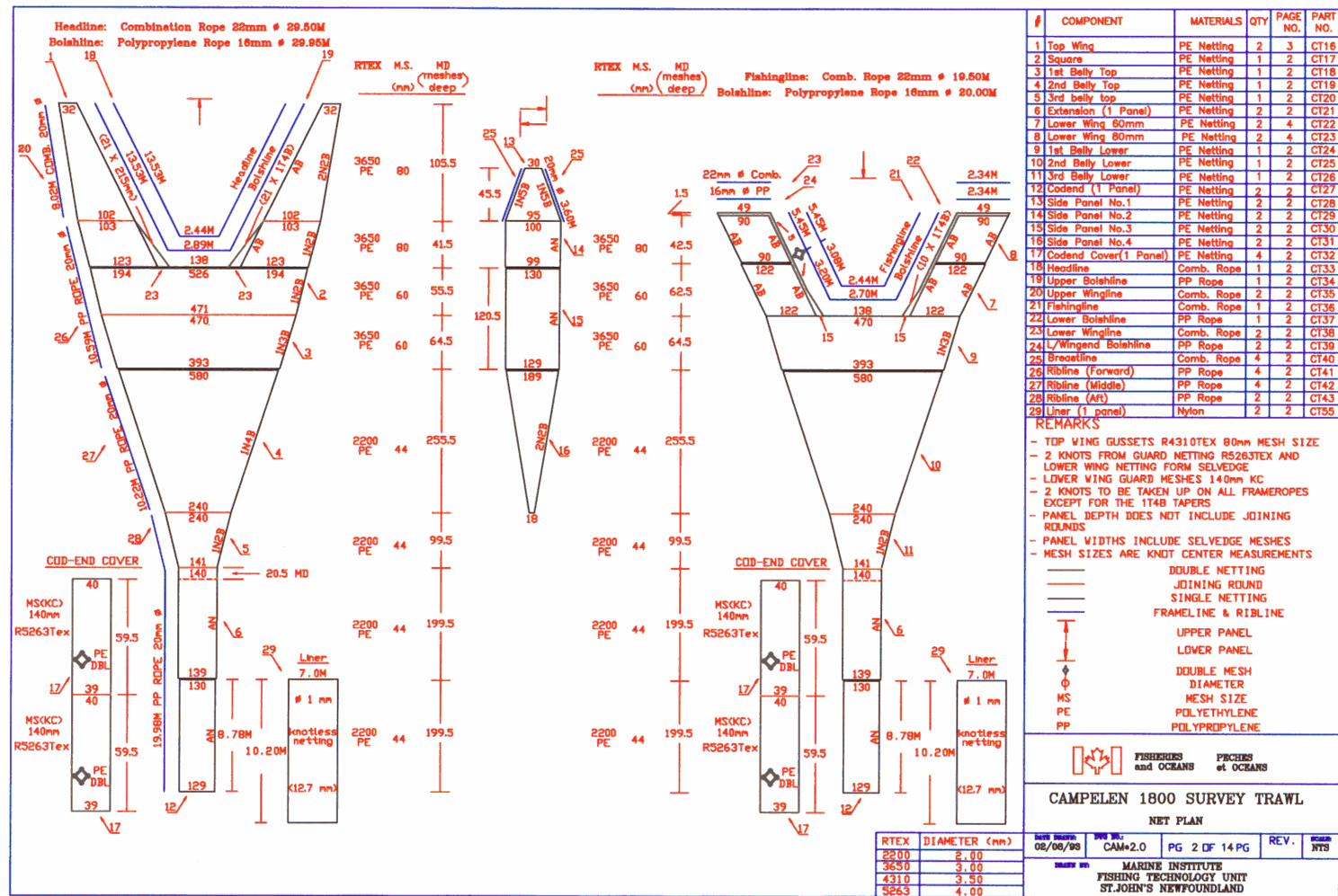


Fig. 3. Schematic diagram of net plan for the Campelen 1800 shrimp trawl.

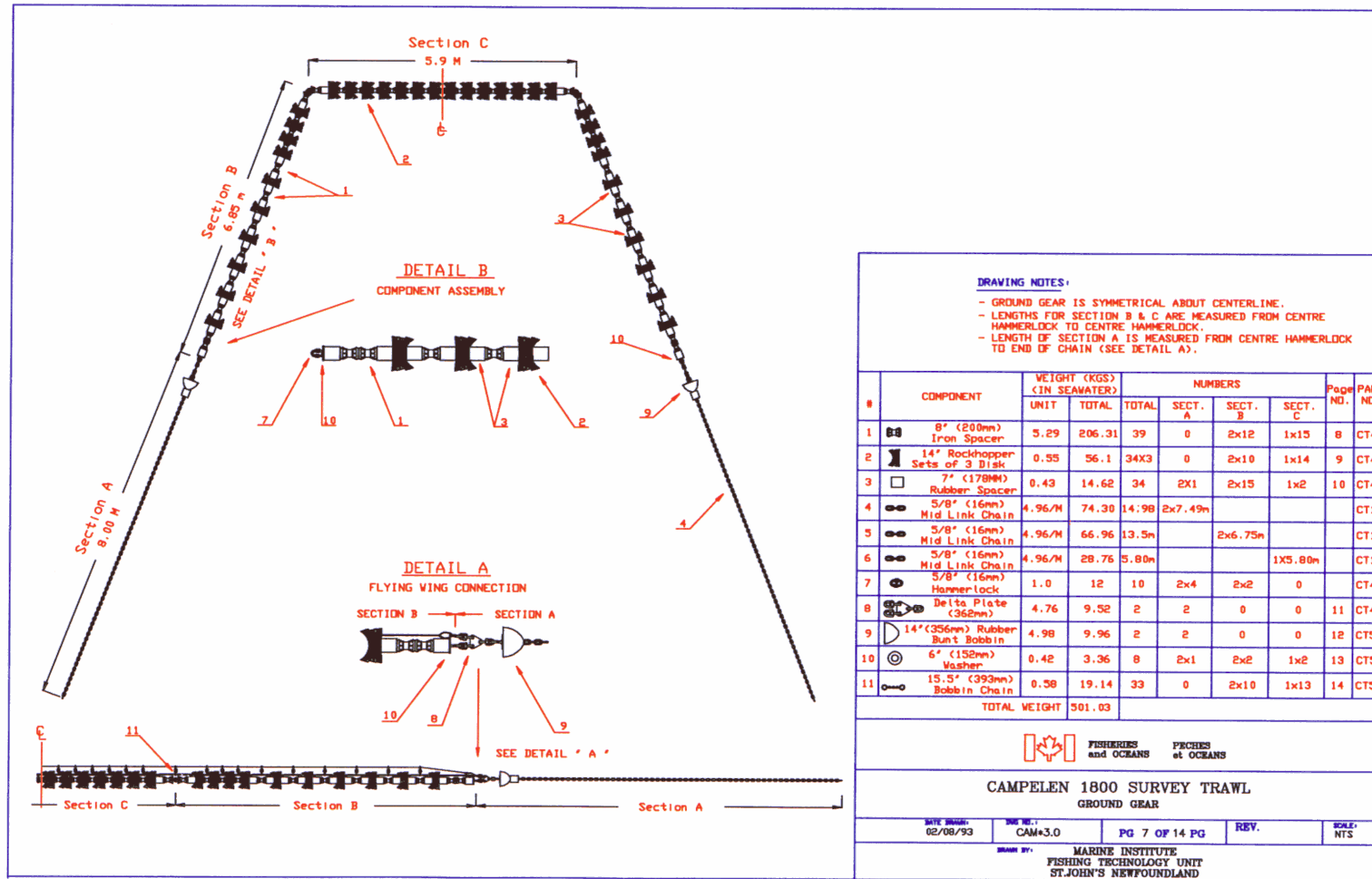


Fig. 4. Schematic plan of the rockhopper footgear of the Campelen 1800 shrimp trawl.

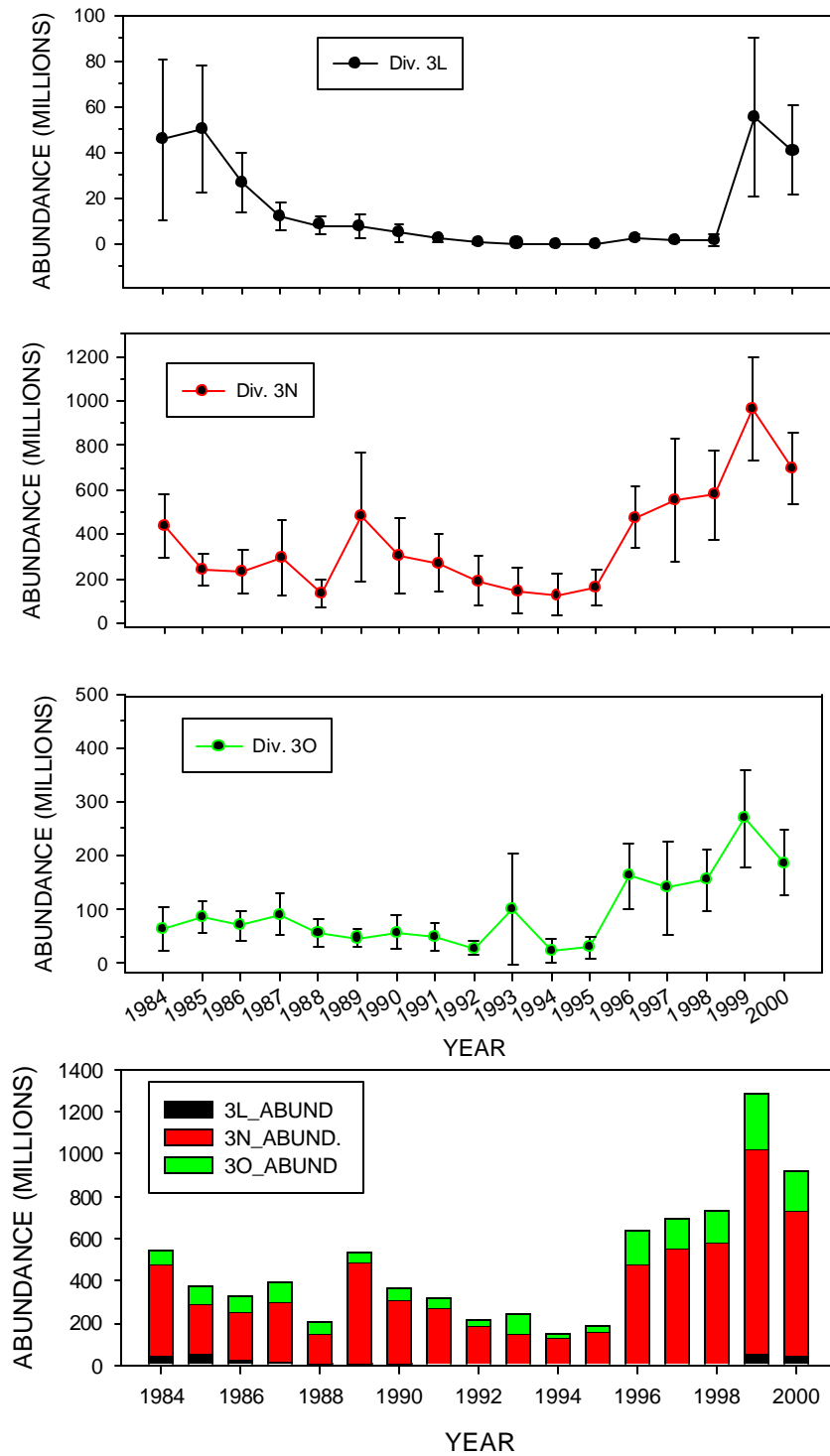


Fig. 5. Abundance estimates of yellowtail (with approx. 95% CI) from Canadian spring surveys in Campelen trawl units, 1984-2000, by NAFO Division and cumulative estimates for the combined Div 3LNO.

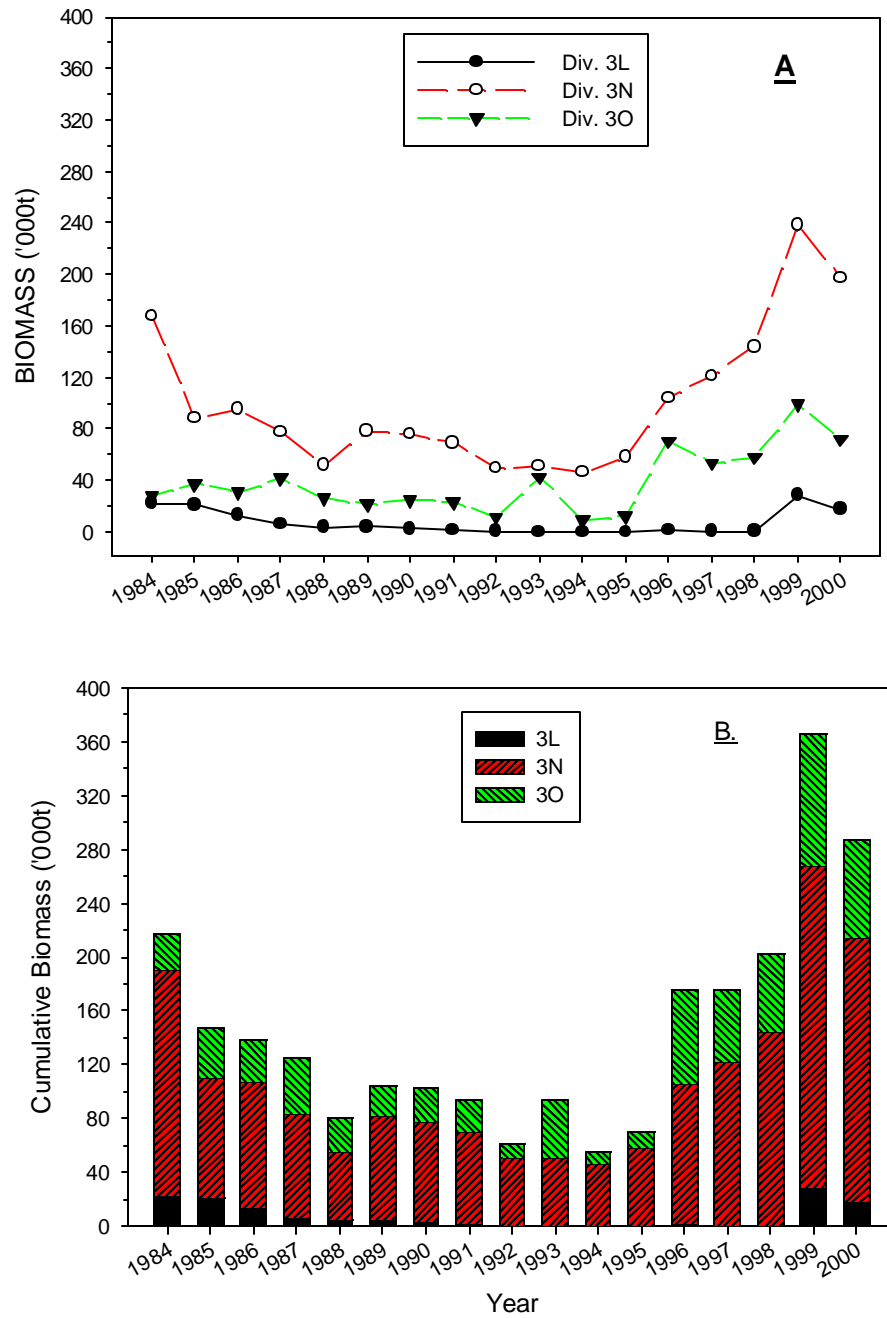


Fig. 6 **A.** Biomass estimates of yellowtail flounder by Division from the Canadian spring surveys from 1984-2000.  
**B.** Cumulative biomass estimates of yellowtail from Division 3LNO Canadian spring surveys from 1984-2000.

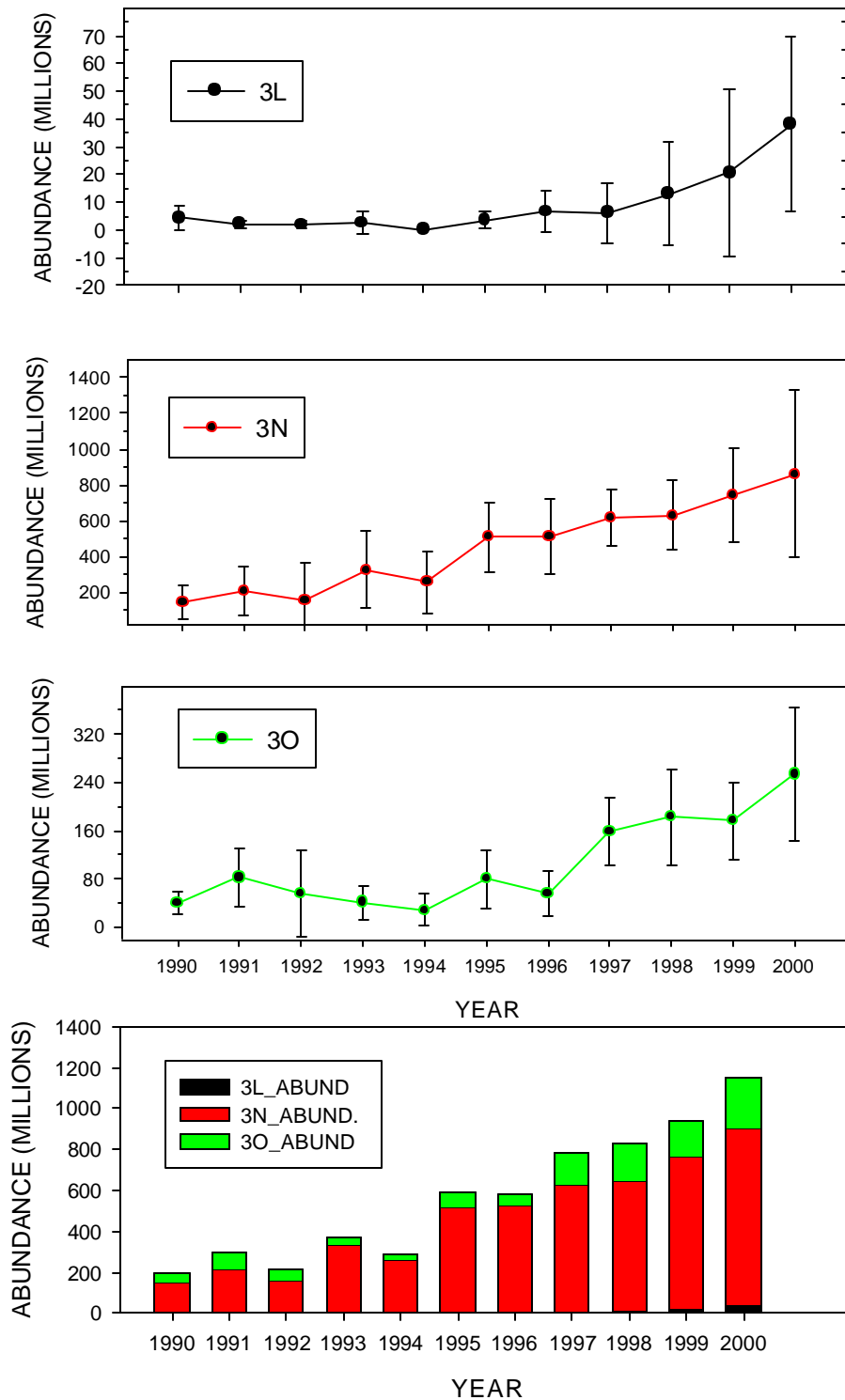


Fig. 7. Abundance estimates of yellowtail (with approx. 95% CI) from Canadian fall surveys in Campelen trawl units, 1990-2000, by NAFO Division and cumulative estimates for the combined Div. 3LNO.

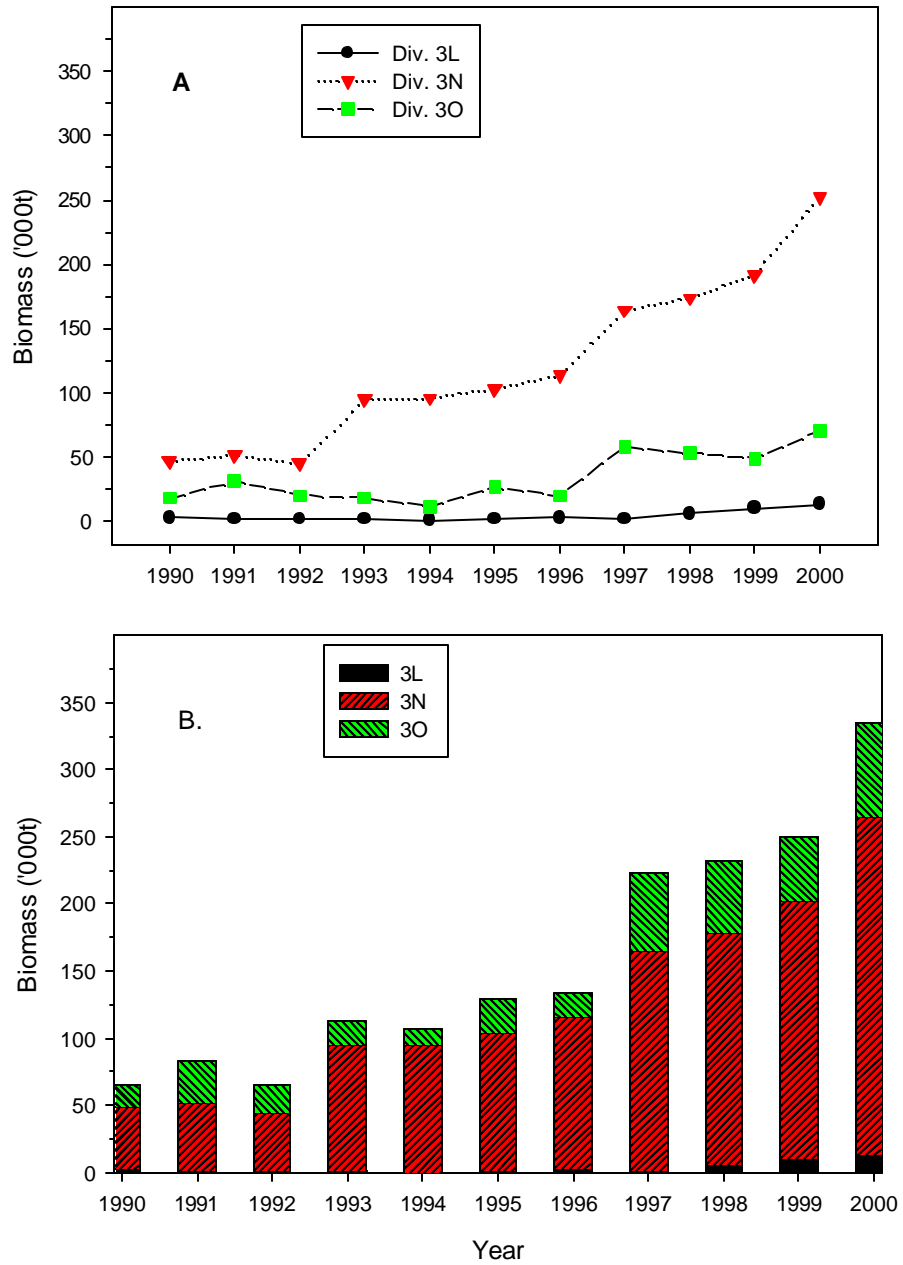


Fig.8. **A.** Biomass estimates of yellowtail flounder by Division from the Canadian fall surveys from 1990-2000.  
**B.** Cumulative biomass estimates of yellowtail flounder from Division 3LNO Canadian fall surveys from 1990-2000.



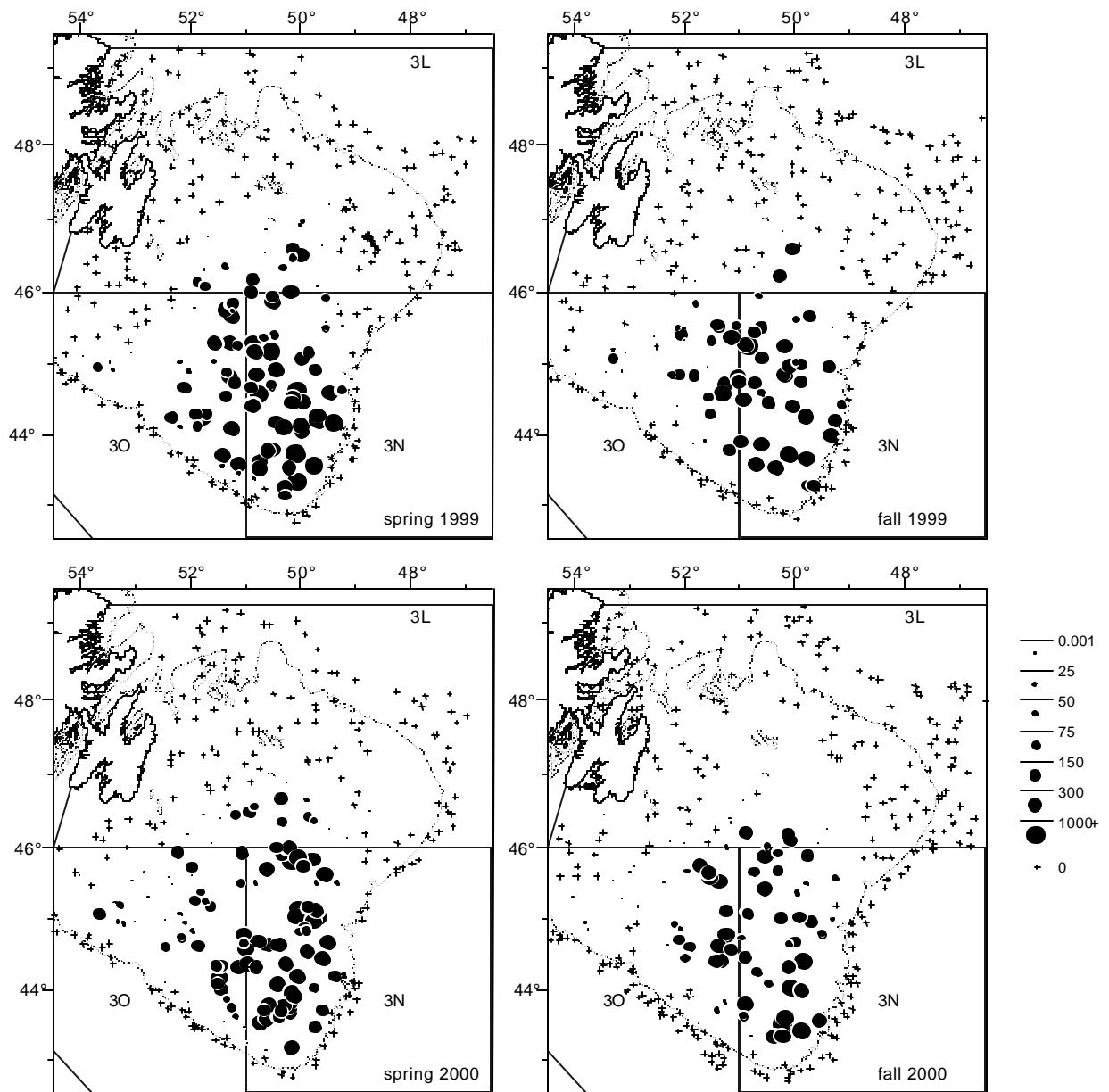


Fig. 9. Distribution of yellowtail flounder catches (number/tow) from stratified random spring and fall surveys with a Campelen 1800 shrimp trawl in Div. 3LNO.

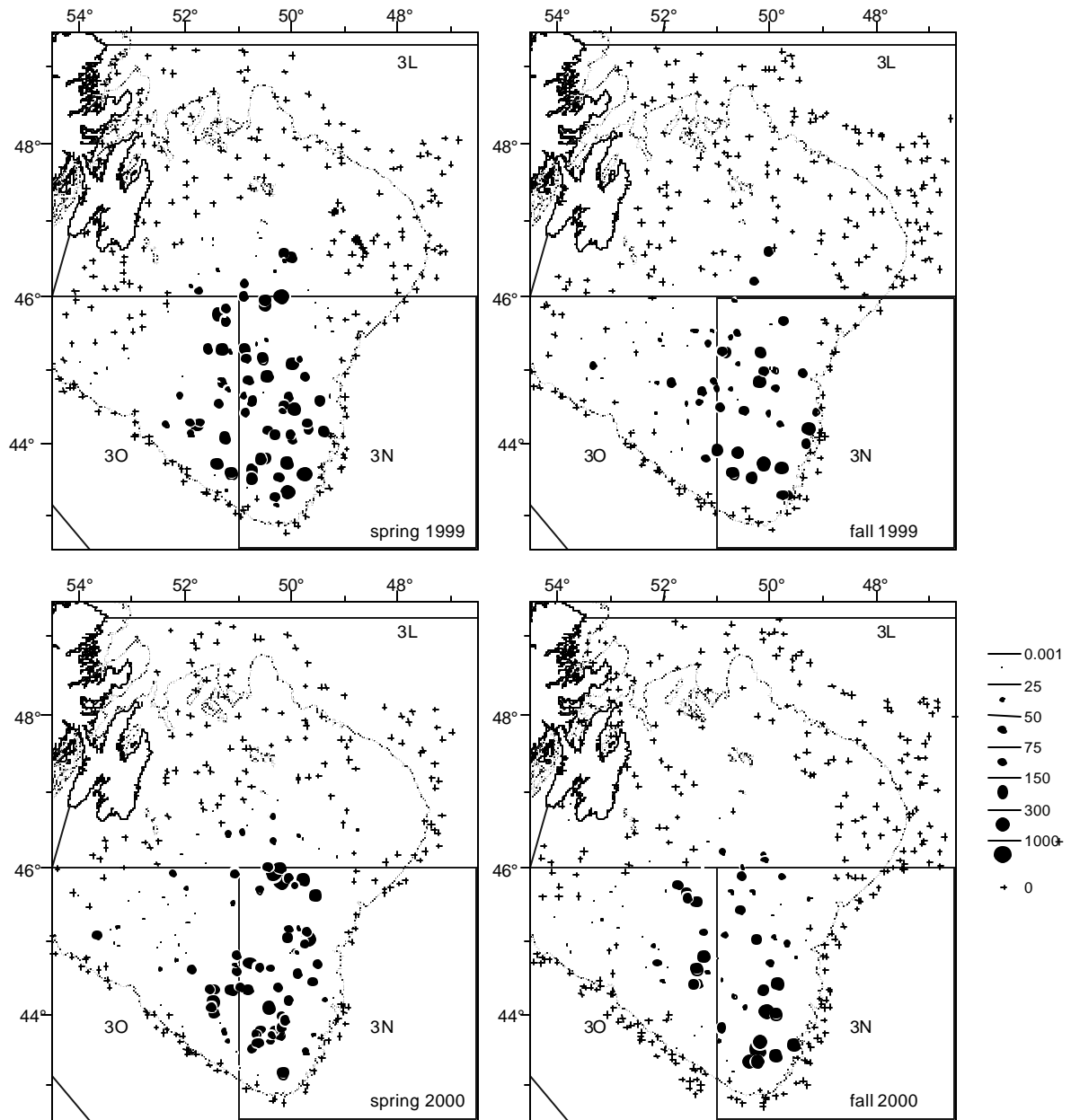


Fig. 10. Distribution of yellowtail flounder catches (kg/tow) from stratified random spring and fall surveys conducted with the Campelen 1800 shrimp trawl in Div. 3LNO.

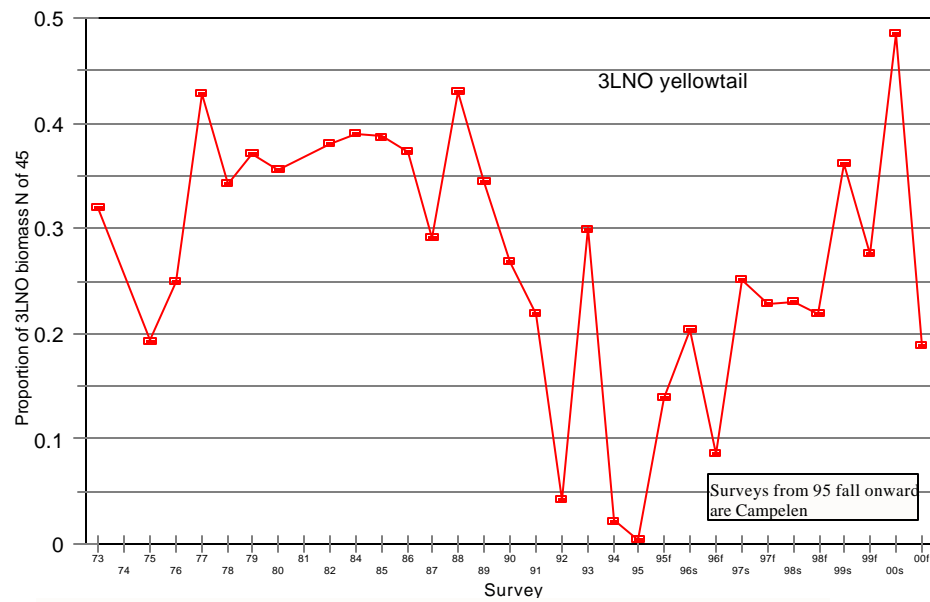


Fig. 11. Proportion of yellowtail flounder biomass located north of 45°N in Div. 3LNO. All data up to 1995 are from spring surveys.