

SEDAR8-AW-Doc-08

**Additional information on Yellowtail snapper Commercial Catch Size frequency samples:
US Virgin Islands from 1983-2003**

by

Nancie J. Cummings

U.S. Department of Commerce
National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NMFS)
Southeast Fisheries Science Center (SFSC)

Sustainable Fisheries Division (SFD)
75 Virginia Beach Drive
Miami, Florida 33149

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Introduction

Since the mid 1980's samples of individual length and weight have been collected from the US Virgin Islands commercial fisherman landings. These collection programs have been supported by the Virgin Islands Department of Fish and Wildlife (DFW) and also through federal cooperative statistical grants with the National marine Fisheries Service (NMFS), Miami office. For the most part the sampling protocol has followed that recommended by the NMFS, Trip Interview Program (TIP) which aims to collect random samples from commercial fishing trips. More details regarding the NMFS, TIP sampling program can be found at the NOAA, SEFSC website (www.sefsc.noaa.gov) and <http://www.sefsc.noaa.gov/tip.jsp>) Nowlis (SEDAR8-DW-Doc-10) presented preliminary information on yellowtail snapper sampled in the US Virgin Islands commercial catches. This report provides additional information on those data.

Bennett (2004, SEDAR8-DW-06) presented summary information regarding these data collections at the SEDAR8 Data Workshop meeting held December 2004. During the SEDAR8 Data Workshop participants addressed important concerns of the data sets as regards missing data and the presence of outliers in the data, the latter thought to be mainly from coding inconsistencies. Information presented in this report is preliminary and subject to change as edits of the Puerto Rico size frequency data are ongoing.

Results

Annual distributions of yellowtail snapper sampled from commercial fisheries of the US Virgin Islands are presented in Table 1 and Figures 1- 5 for St. Croix, Figures 6 for St. John, and in Figures 7-8 for St. Thomas by the major and minor gears used to harvest this species (hook and lines, pots/traps, nets, dive gear, surface and bottom longlines, and seines) as identified in Cummings and Matos-Caraballo (2004, SEDAR8-DW-Doc08). For these preliminary reviews only annual distributions for each gear are shown here. Landings of yellowtail snapper in the US Virgin Islands are dominated by hook and lines and pots/traps and as expected sampling fractions for these gears are higher (see Tables 2-4). Partitioning the samples by gear was considered important for purposes of evaluating gear selectivity at least on a crude level. In addition stratification of the available samples spatially was considered important as the quantity of landings varied spatially. Table 1 presents summary information on the number of samples and the mean size by year and major island area (St. Croix, St. John, and St. Thomas).

Additional statistics (e.g., size range, variance of the sample, etc.) are available from the author in addition to intra year summaries of samples (year- month, gear, region strata). These summaries indicate that during the 21 year time period, 1983-2003, sampling has been extremely variable in all years, all islands, and within all gear strata. Overall St. Croix was sampled the most, followed by St. Thomas. However, large differences in sampling rates are present for the US Virgin Islands data. In St. Thomas, sampling occurred during 1985-1987 and apparently was halted until 1992, continued for five years and stopped again. Tables 2-5 provide a similar breakdown for each island by major and minor gears. In both St. Thomas and in St. John, sampling levels remained low throughout the 1990's and until this date. Historical levels of sampling effort in those islands disallow any kind of analyses of trends in changes of size

composition for yellowtail snapper fisheries in St. Thomas and/or St. John. Table 2 provides information for yellowtail snapper sampled in St. Croix. The basic summarized data indicate historical information on trends in size composition maybe be possible for the traps/pot catches. Other gears were erratically sampled (e.g., nets and lines (RR) and information on size from these gears is not likely useful except for lines in 1985, 1987, and 1988). The primary harvesting gears for yellowtail snapper in St. Croix is also lines and unfortunately pots/traps were sampled more often than were lines.

It is suggested that the annual size composition summaries for St. Croix pot catches be further evaluated for changes in annual average size of yellowtail snapper. Given the sampling levels it is not likely that further stratification of the observations can be made (e.g., by time period – months, seasons or perhaps by intra island area). It is also suggested that the tabled data be used as a guide in evaluating historical sampling levels as related to overall landings levels and in future planning of statistical field collection activities. It is noted that additional Biostatistical samples maybe forthcoming in the future that were previously collected but not processed. Once these additional samples are processed it is recommended that the size composition analyses be continued.

Literature Cited

Cummings, N. J. and D. Matos-Caraballo. 2004. The commercial reef fish fishery in Puerto Rico with emphasis on yellowtail snapper, *Ocyurus chrysurus*: landings, nominal fishing effort, and catch per unit of effort from 1983 through 2003. US Dept. Commerce, NOAA, NMFS, SEFSC SFD Doc. No. 2004-046 and SEDAR8-DW-Doc. 8, 83p.

Bennett, J. 2004b. Status of NOAA Fisheries Commercial Landings and bio-statistical data for US Virgin Islands, 1983-present. US Dept. Commerce, NOAA, NMFS, SEFSC SEDAR8-DW-Doc. 7, 14pp.

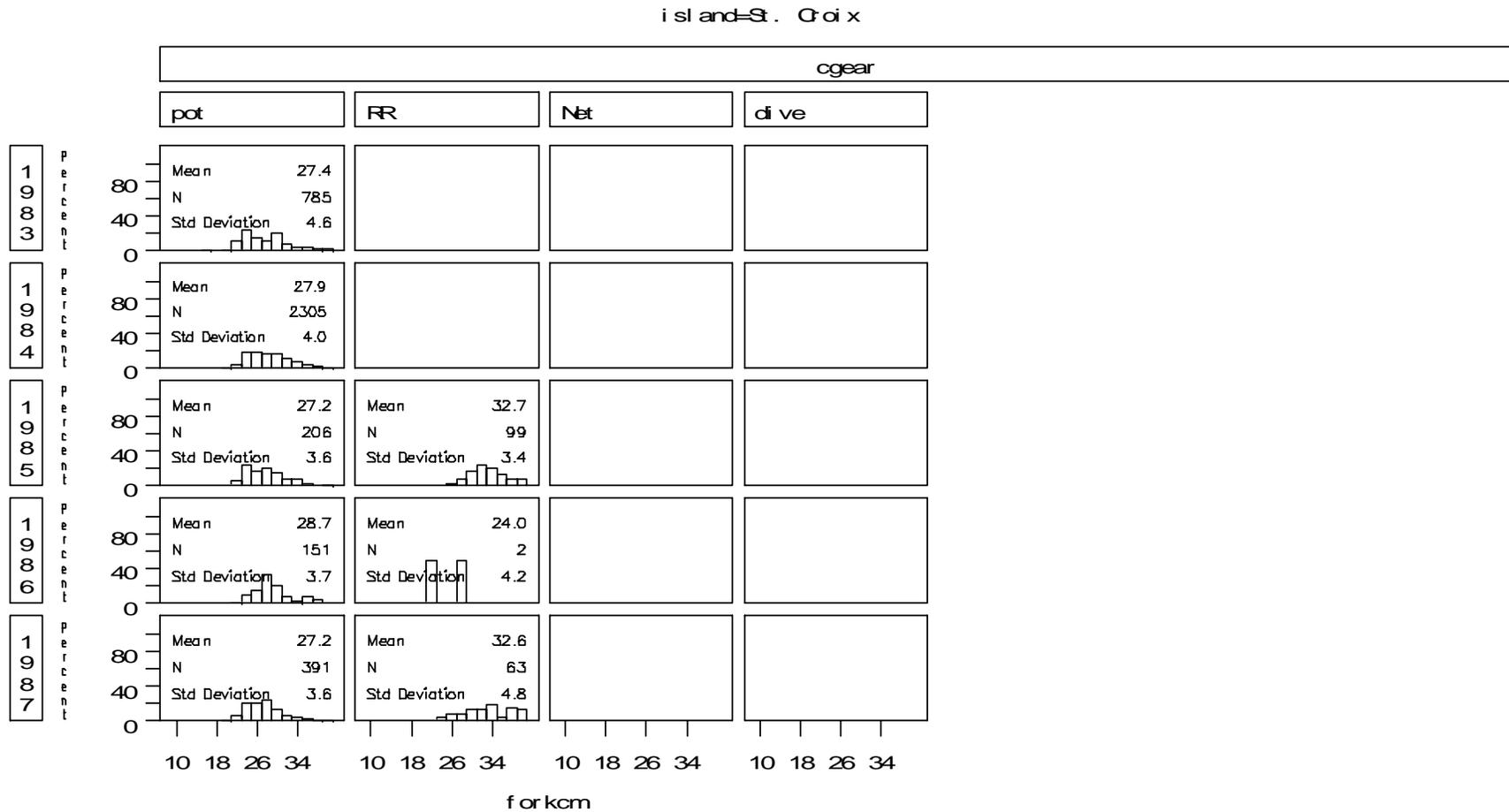


Figure 1. Distribution of yellowtail snapper commercial catch size frequency samples 1983-1987 by fishing gear. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 “ TL (9 inches FL, 22.9 cm FL) in 1989.

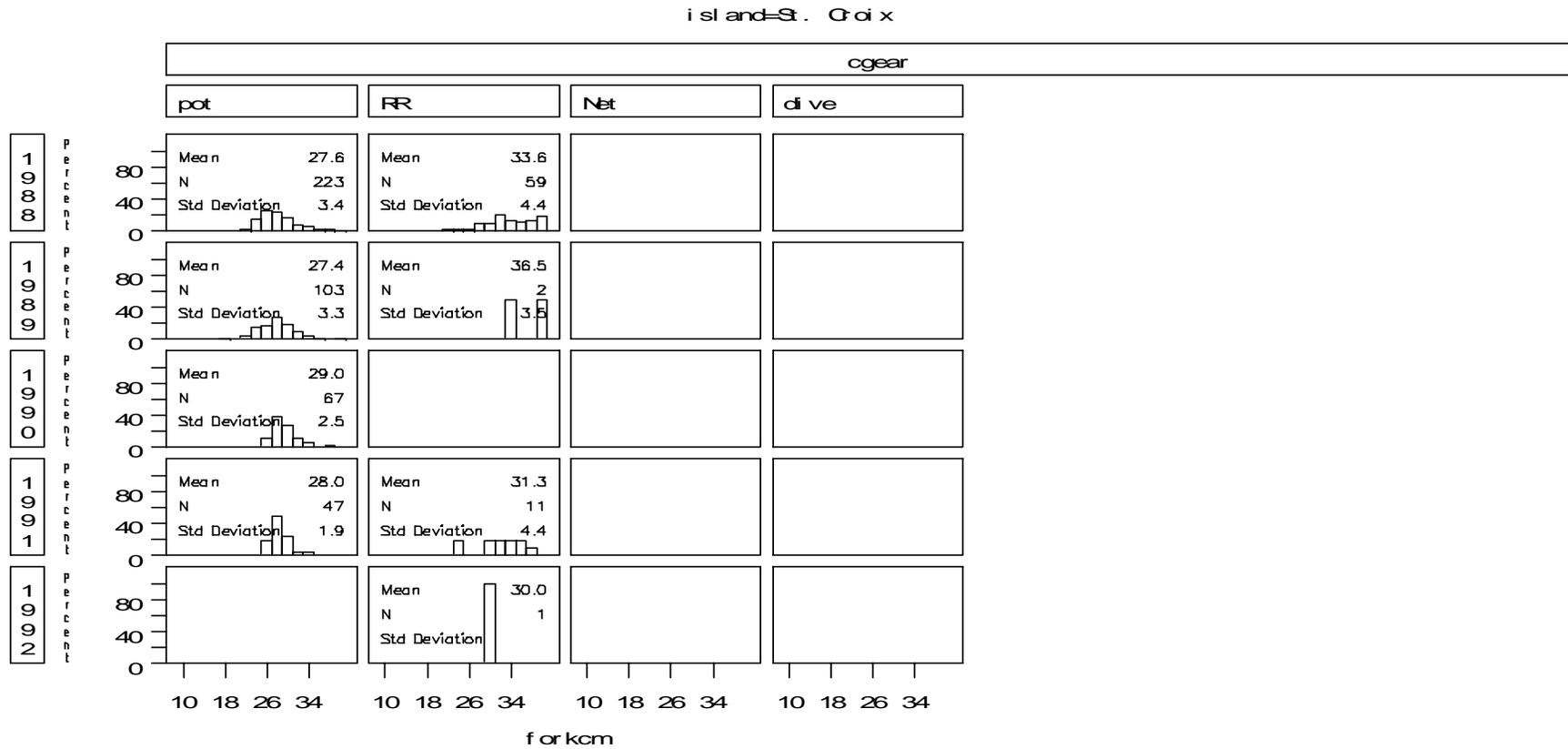


Figure 2 . Distribution of yellowtail snapper commercial catch size frequency samples 1988-1992 by fishing gear in St. Croix. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 " TL (9 inches FL, 22.9 cm FL) in 1989.

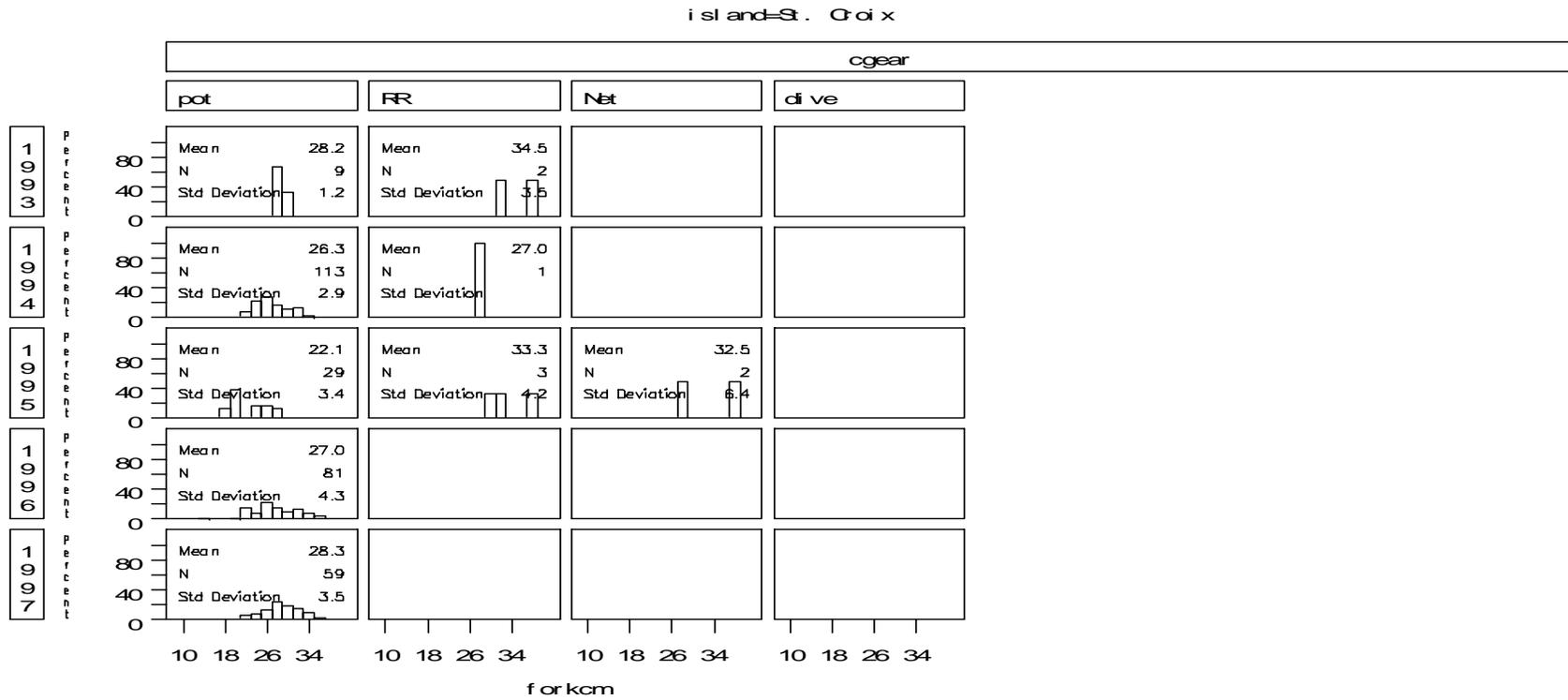


Figure 3. Distribution of yellowtail snapper commercial catch size frequency samples 1993-1997 by fishing gear in St. Croix. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 “ TL (9 inches FL, 22.9 cm FL) in 1989.

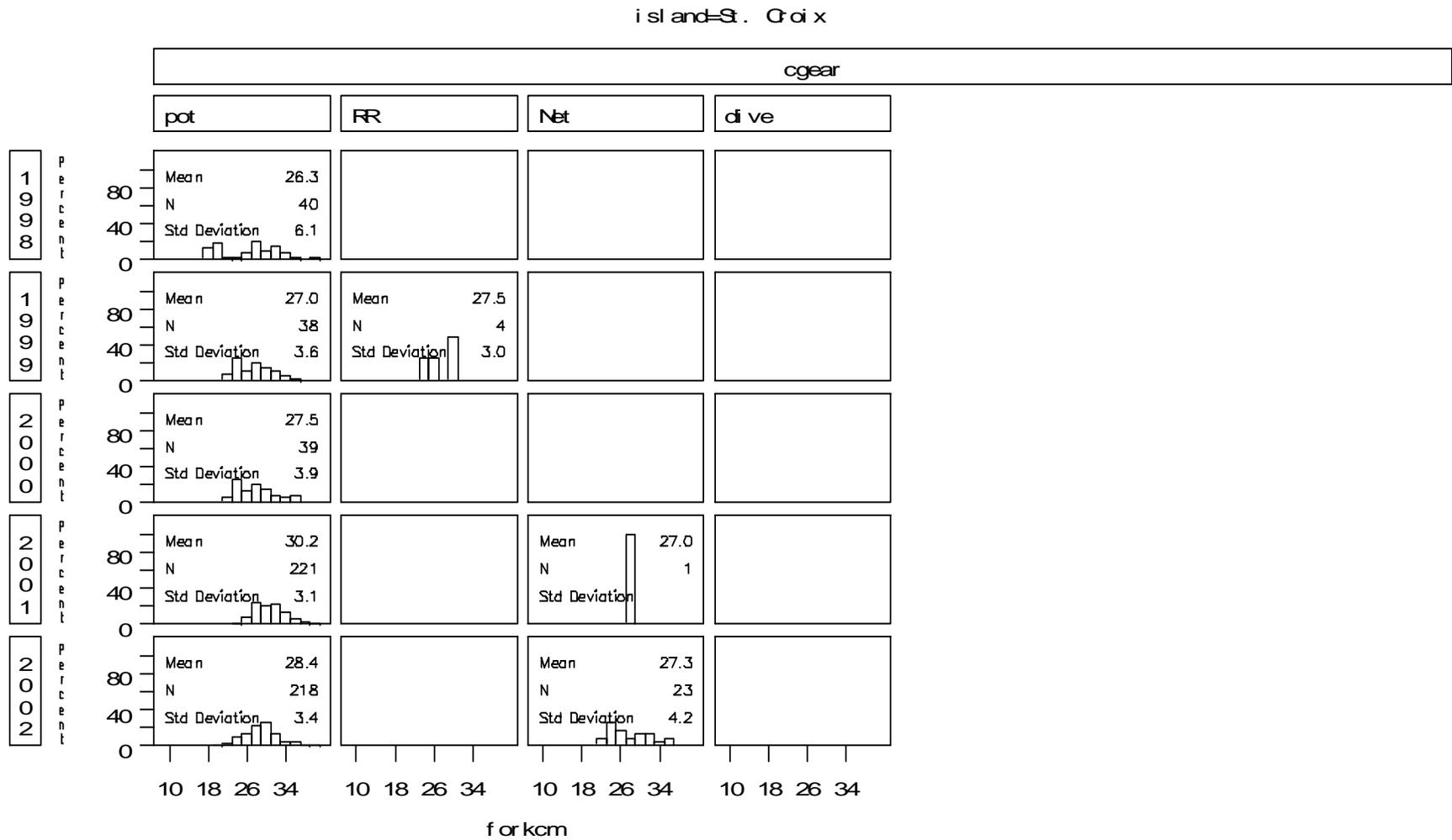


Figure 4. Distribution of yellowtail snapper commercial catch size frequency samples 1998-2002 by fishing gear in St. Croix. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 " TL (9 inches FL, 22.9 cm FL) in 1989.

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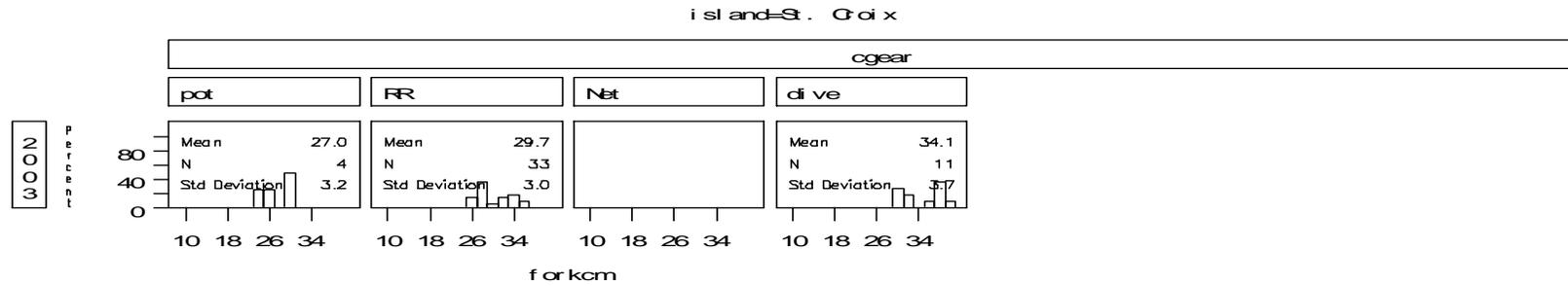


Figure 5. Distribution of yellowtail snapper commercial catch size frequency samples 1983-1987 by fishing gear. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 " TL (9 inches FL, 22.9 cm FL) in 1989.

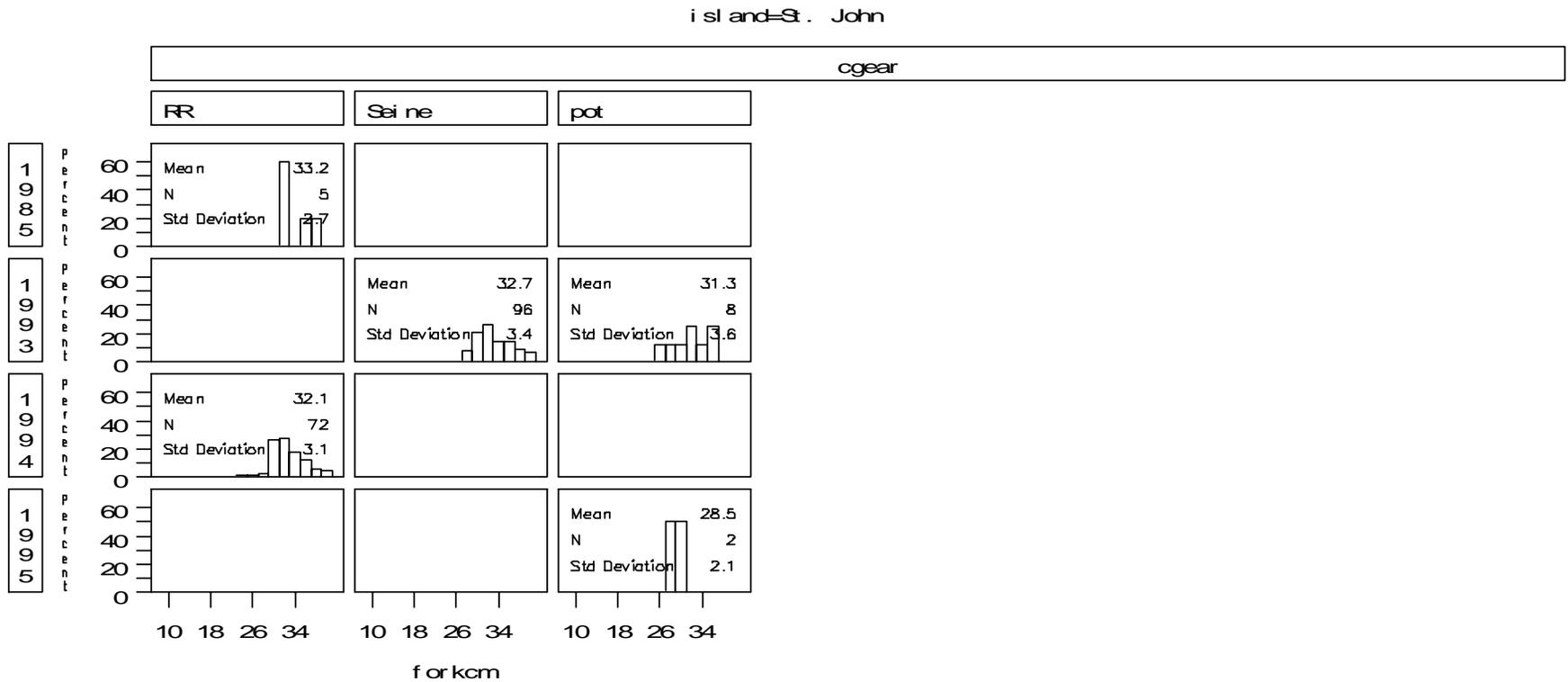


Figure 6. Distribution of yellowtail snapper commercial catch size frequency samples 1983-1995 by fishing gear in St. John. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 “ TL (9 inches FL, 22.9 cm FL) in 1989.

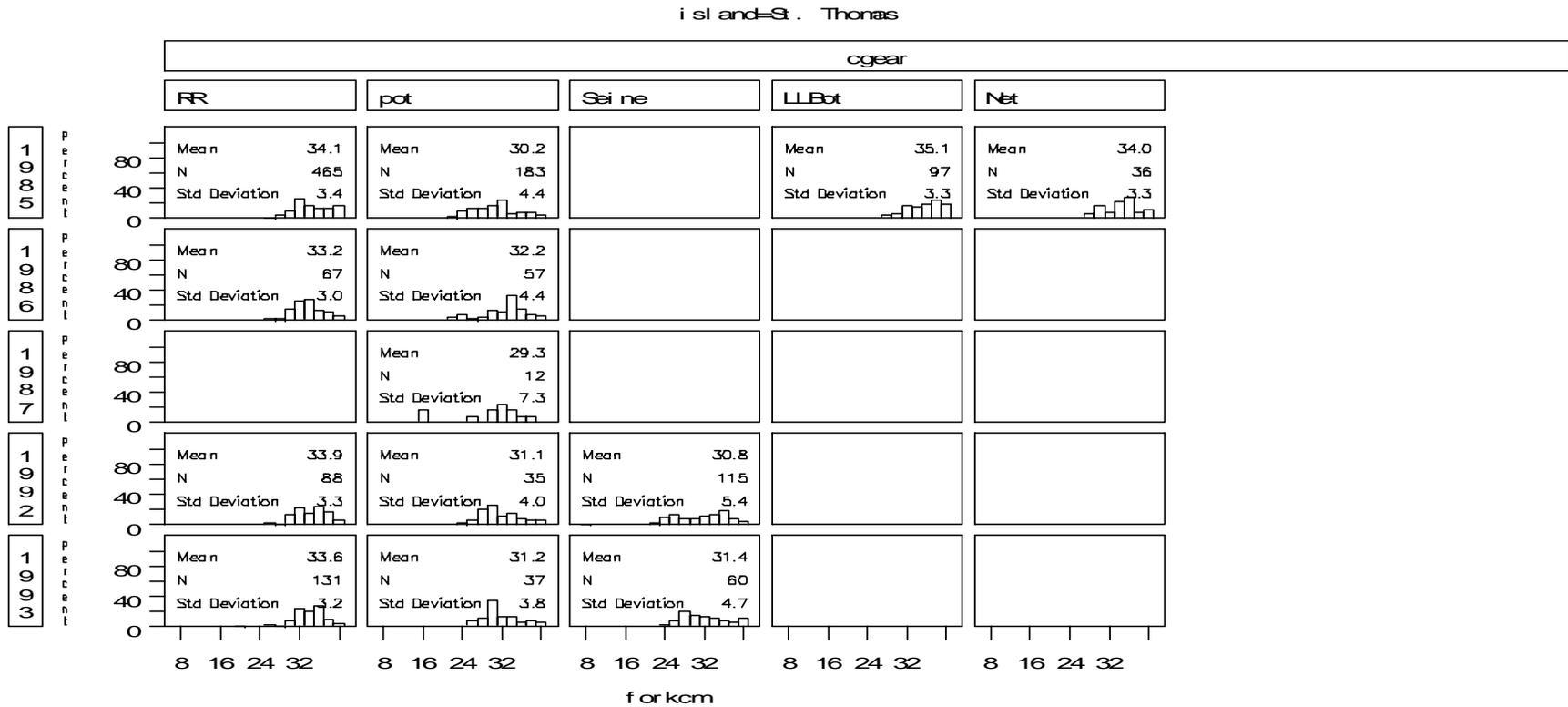


Figure 7. Distribution of yellowtail snapper commercial catch size frequency samples 1983-1993 by fishing gear in St. Thomas. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 “ TL (9 inches FL, 22.9 cm FL) in 1989.

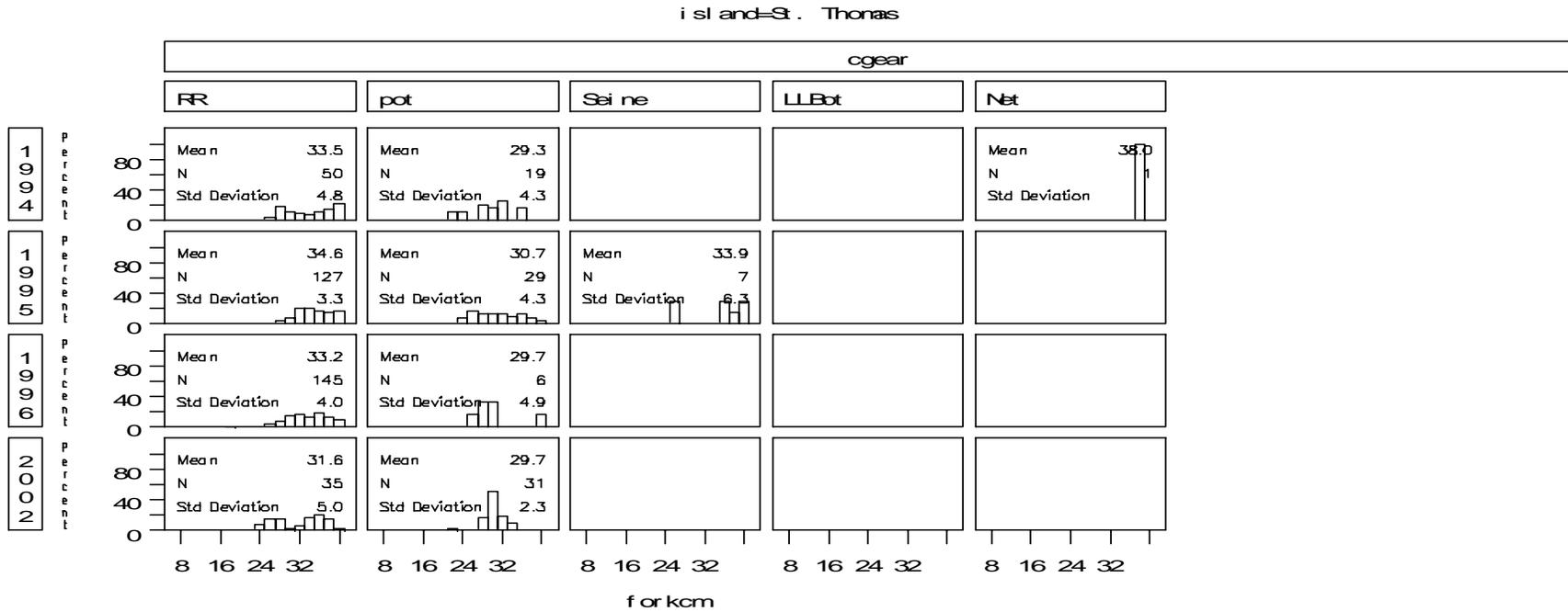


Figure 8. Distribution of yellowtail snapper commercial catch size frequency samples 1994-2002 by fishing gear in St. Thomas. Federal minimum size rule of 8 inches TL (6.5 inches FL, 16.4 cm FL) enacted 1985 increasing by one inch to 12 " TL (9 inches FL, 22.9 cm FL) in 1989.

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Table 1. Number of commercial catch size frequency observations for yellowtail snapper in the US Virgin Islands by island from 1983-2003.

	region									
	St. Croix		St. John		St. Thomas		Virgin Isl		All	
	forkcm		forkcm		forkcm		forkcm		forkcm	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
iy										
1983	832	28							832	28
1984	2654	28							2654	28
1985	341	31	5	33	1014	35	1	25	1361	34
1986	153	29			144	35			297	32
1987	483	29			12	29			495	29
1988	308	30							308	30
1989	105	28							105	28
1990	71	29							71	29
1991	84	29							84	29
1992	1	30			278	34	85	41	364	35
1993	11	29	106	33	255	34			372	33
1994	114	26	93	35	79	34			286	31
1995	34	24	2	29	186	35	2	29	224	33
1996	82	27			188	35			270	32
1997	59	28							59	28
1998	40	26							40	26
1999	42	27							42	27
2000	39	28							39	28
2001	226	31							226	31
2002	245	29			69	31			314	29
2003	48	30					3	30	51	30
All	5972	29	206	34	2225	35	91	40	8494	30

Table 2. Number of commercial catch size frequency observations for yellowtail snapper in the US Virgin Islands for St. Croix by major gear from 1983-2003.

----- astate=Vi rgin I slands regi on=St. Croi x -----

i y	cgear									
	Net		RR		di ve		pot		Al l	
	forkcm									
	N	Mean								
1983							832	28	832	28
1984							2363	28	2363	28
1985			127	36			208	27	335	31
1986			2	24			151	29	153	29
1987			85	36			396	27	481	29
1988			81	36			226	28	307	30
1989			2	37			103	27	105	28
1990							67	29	67	29
1991			11	31			47	28	58	29
1992			1	30					1	30
1993			2	35			9	28	11	29
1994			1	27			113	26	114	26
1995	2	33	3	33			29	22	34	24
1996							82	27	82	27
1997							59	28	59	28
1998							40	26	40	26
1999			4	28			38	27	42	27
2000							39	28	39	28
2001	1	27					225	31	226	31
2002	23	27					222	29	245	29
2003			33	30	11	34	4	27	48	30
Al l	26	28	352	35	11	34	5253	28	5642	29

Table 3. Number of commercial catch size frequency observations for yellowtail snapper in the US Virgin Islands for St. John by major gear from 1983-2003.

----- astate=Vi rgin I slands regi on=St. John -----

	cgear			
	RR	Sei ne	pot	Al l
	forkcm	forkcm	forkcm	forkcm

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	N	Mean	N	Mean	N	Mean	N	Mean
i y								
1985	5	33					5	33
1993			98	33	8	31	106	33
1994	93	35					93	35
1995					2	29	2	29
All	98	35	98	33	10	31	206	34

Table 4. Number of commercial catch size frequency observations for yellowtail snapper in the US Virgin Islands for St. Thomas by major gear from 1983-2003.

----- astate=Virgin Islands region=St. Thomas -----

i y	cgear											
	LLBot		Net		RR		Sei ne		pot		Al l	
	forkcm											
	N	Mean										
1985	109	36	48	37	640	37			201	31	998	36
1986					80	36			64	33	144	35
1987									12	29	12	29
1992					110	36	127	32	41	33	278	34
1993					151	35	66	32	38	31	255	34
1994			1	38	59	35			19	29	79	34
1995					144	36	13	37	29	31	186	35
1996					182	35			6	30	188	35
2002					37	32			32	30	69	31
Al l	109	36	49	37	1403	36	206	33	442	32	2209	35