

Preliminary species composition estimates of TIP samples from commercial landings in the U.S. Virgin Islands

by

Guillermo A. Diaz¹, and Monica Valle-Esquivel²

¹Southeast Fisheries Science Center
National Marine Fisheries Service
National Oceanographic and Atmospheric Administration
75 Virginia Beach Drive
Miami, FL 33149

²University of Miami
Rosenstiel School of Marine and Atmospheric Science
4600 Rickenbacker Causeway
Miami, FL 33149

Sustainable Fisheries Division Document No. SFD-0029

We estimated species composition of Trip Interview Program samples (TIP) from commercial landings in the U.S. Virgin Islands. Data was collected under the Inter-Jurisdictional Program and the State/Federal Cooperative Statistics Program. Both programs are between NOAA-Fisheries and the USVI Division of Fish & Wildlife.

The data set provides a record for each individual fish sampled. Species composition was estimated only from commercial landings records (i.e., fishing mode =1) and records where the sampled weight was not missing. A total of 251,867 records complied with the criteria. Table 1 shows total landings and total sampled weights from TIP records for each district. Generally, where both total landings and sampled weights were reported, there was a good agreement between the two values. However, in St. John/St. Thomas from 1992 to 1995 TIP records only contain sampled weights and no landing weights (Table 1). Discrepancies between sampled weights and weight units were found in 646 records (e.g. records indicating weight unit as kg but the sampled weight was expressed in g). The eighteen gear categories in the 251,867 records were combined into four major gear groups as follows:

1.- Nets

- Gear 400: ENTANGLING NETS(GILL), UNSPECIFIED.
- Gear 425: GILL NETS, OTHER
- Gear 500: GILL NETS, GL 1-2 INCH
- Gear 505: GILL NETS, GL 2-4 INCH

2.- Pots and Traps

- Gear 300: POTS AND TRAPS, COMBINED
- Gear 345: POTS AND TRAPS, FISH

3.- Hook and Line

- Gear 600: TROLL & HAND LINES, COMBINED.
- Gear 610: LINES HAND, OTHER STILL FSH.BOT
- Gear 611: ROD AND REEL
- Gear 613: ELECTRIC OR HYDRAULIC REEL
- Gear 614: BUOY (vertical longline)
- Gear 616: ELECTRIC ROD AND REEL(HAND)
- Gear 655: LINES TROLL, TUNA
- Gear 660: LINES TROLL, OTHER TOP WATERS
- Gear 661: LINES POWER TROLL, OTHER
- Gear 675: LINES LONG SET WITH HOOKS TOP

4.- Spear/SCUBA

- Gear 760: SPEARS
- Gear 943: DIVING OUTFITS, OTHER

Table 2 shows the percentage of the total reported and expanded landings sampled by TIP. A relatively high proportion of the total reported and expanded landings were sampled in St. Croix from 1984 to 1990. These proportions sharply decreased after this period. In the district St.

John - St. Thomas, TIP only sampled in years 1985, 1986, 1987 and 1993 with percentages not higher than 2.1%.

Tip Interview Program sampled weights were grouped by four gear groups described above. Tables 3-9 show the species composition expressed as percentage of total weight landed in each gear category by year and district.

To investigate the interannual variability of species composition by gear in the St. Croix district, we obtained a list of the ten species with the highest percentages by gear combining all years. The percentage of these species in each gear, and year combination were then estimated and plotted and are shown in Figure 1a-d. Figure 1a shows the species composition of sampled catches from Hook and Line. A sharp change in the species composition occurred in 1992. This change is most probably not the result of changes in the fishery itself, but a sharp decrease of sampling by TIP of catches from this gear (Table 1). Similar changes in species composition over time were observed for the other gears (Fig. 1b-d) and are most probably the result of low sample sizes.

The variability of species composition observed over time raises the question if the TIP samples are representative of the entire commercial landings or not. We performed an exploratory analysis to compare species composition of both TIP samples and reported landings. After 1993, commercial landings were reported as total weight landed by species-complex (e.g. 'groupers', 'snappers', 'tunas', etc.). We estimated species composition of TIP samples by species-complex to compare with those from the reported landings. Figure 2 shows the species composition by species complex of both reported landings and TIP samples. The TIP samples do not accurately reflect the species composition of the reported landings. These observed differences could be the result of several factors. We believe that some of these differences are the result of sampling only very small fractions of the reported catches (Table 2). However, we also acknowledge the possibility that the species and gear grouping performed during our analysis might not have followed the same protocol used by the scientist in the U.S. VI or might not reflect the way the fishery operates.

At the present time, we do not recommend using the TIP data to estimate species composition of the reported and expanded landings. Further data analysis, with the help of scientist from the U.S.VI with knowledge of the fishery and the TIP reporting system, is necessary before we can reach a final decision regarding the TIP data set.

Table 1: Annual total landings and total sampled weights from TIP by gear category for a) St. Croix and b) St Thomas/St. John districts. Landings and sampled weights are expressed in kg.

a) Year	GILL		Hook and Line		Pots and traps		Spear	
	Landings	Sampled	Landings	Sampled	Landings	Sampled	Landings	Sampled
1983	--	--	--	--	--	3,794.9	--	--
1984	--	--	574.0	536.1	4,891.5	10,616.1	--	--
1985	--	--	2,188.3	1,770.5	4,573.9	4,726.3	--	--
1986	0.5	0.8	2,189.8	2,005.8	3,169.2	3,358.8	--	--
1987	--	--	3,065.2	2,819.6	7,726.4	9,407.5	--	8.8
1988	--	--	5,055.5	3,874.5	10,724.3	11,267.8	--	--
1989	--	--	1,772.6	1,689.2	6,311.7	6,611.8	--	--
1990	--	--	2,441.7	2,338.3	2,920.4	3,036.7	--	--
1991	--	--	1,607.2	2,035.9	936.7	2,226.2	2.3	139.1
1992	--	--	--	163.0	--	--	--	--
1993	--	259.9	--	274.4	--	795.3	--	--
1994	211.6	505.8	300.3	450.9	2,307.6	2,682.5	329.3	325.1
1995	1,003.8	1,027.4	360.6	383.6	1,390.3	1,449.8	101.9	113.4
1996	376.9	443.6	139.5	122.5	1,135.2	1,130.4	152.2	155.6
1997	125.9	123.8	38.1	37.5	1,685.6	1,715.3	222.4	234.4
1998	405.0	409.0	--	--	1,150.2	1,075.7	373.7	376.3
1999	--	--	--	--	1,335.4	1,348.2	286.3	287.9
2000	222.9	224.2	31.7	31.4	383.2	384.7	213.8	217.2
2001	744.7	753.8	68.4	70.4	287.2	307.8	291.7	296.6
2002	823.6	838.1	18.1	17.7	913.7	902.7	411.8	438.3

b) Year	GILL		Hook and Line		Pots and traps		Spear		Seine	
	Landings	Sampled	Landings	Sampled	Landings	Sampled	Landings	Sampled	Landings	Sampled
1983	--	--	--	--	--	--	--	--	--	--
1984	--	--	--	--	--	--	--	--	--	--
1985	377.3	41.6	2270.4	1485.9	5453.2	4387.9	--	--	--	--
1986	--	--	275.0	284.4	1373.8	1334.1	--	--	--	--
1987	--	--	43.5	43.4	764.5	729.4	--	--	--	--
1988	--	--	--	--	--	--	--	--	--	--
1989	--	--	--	--	--	--	--	--	--	--
1990	--	--	--	--	--	--	--	--	--	--
1991	--	--	--	--	--	--	--	--	--	--
1992	--	--	--	89.7	--	919.3	--	--	--	185.6
1993	--	--	68.0	253.2	--	2197.8	--	--	--	372.4
1994	--	--	--	208.7	--	642.7	--	--	--	53.1
1995	--	--	--	79.8	--	131.1	--	--	--	--
1996	--	--	--	--	--	--	--	--	--	--
1997	--	--	--	--	--	--	--	--	--	--
1998	--	--	--	--	--	--	--	--	--	--
1999	--	--	--	--	--	--	--	--	--	--
2000	--	--	--	--	--	--	--	--	--	--
2001	--	--	--	--	--	--	--	--	--	--
2002	--	--	--	54.0	--	1725.1	--	--	--	--

Table 2: Annual total landings (Landings) and total sampled weights (Sample) from TIP, total reported landings and expanded landings and percentage sampled by district. All weight units correspond to Kg.

Year	District	Landing	Sample	Total reported	Total expanded	% to reported	% to expanded
1984	StCroix	5,465.4	11,152.1	143,949.9	176,478.2	7.7	6.3
1985	StCroix	6,762.3	6,496.8	79,556.3	90,694.2	8.2	7.2
1986	StCroix	5,359.4	5,365.4	54,463.3	123,316.9	9.9	4.4
1987	StCroix	10,791.5	12,235.9	50,209.6	113,283.4	24.4	10.8
1988	StCroix	15,779.8	15,142.3	14,704.8	24,499.5	103.0	61.8
1989	StCroix	8,084.3	8,301.0	97,256.4	175,215.1	8.5	4.7
1990	StCroix	5,362.1	5,375.0	163,077.3	350,388.9	3.3	1.5
1991	StCroix	2,546.2	4,401.3	485,185.2	870,023.2	0.9	0.5
1992	StCroix	--	163.0	345,162.9	561,010.7	0.05	0.03
1993	StCroix	--	1,329.6	164,051.7	205,476.1	0.8	0.6
1994	StCroix	3,148.8	3,964.3	233,575.0	274,339.2	1.7	1.4
1995	StCroix	2,856.6	2,974.1	128,990.8	132,860.5	2.3	2.2
1996	StCroix	1,803.8	1,852.1	198,777.7	201,570.5	0.9	0.9
1997	StCroix	2,072.0	2,111.1	246,909.2	251,566.4	0.9	0.8
1998	StCroix	1,928.9	1,861.0	129,249.7	133,804.6	1.4	1.4
1999	StCroix	1,621.7	1,636.1	212,931.7	219,319.7	0.8	0.7
2000	StCroix	851.6	857.5	270,114.9	278,218.5	0.3	0.3
2001	StCroix	1,392.1	1,428.7	317,869.3	327,405.6	0.4	0.4
2002	StCroix	2,167.2	2,196.8	185,466.0	191,030.0	1.2	1.1
1984	StTh/StJo	--	--	274,762.8	455,416.8	--	--
1985	StTh/StJo	8,101.0	5,915.4	279,206.1	564,879.2	2.1	1.0
1986	StTh/StJo	1,648.8	1,618.4	251,392.4	303,623.1	0.6	0.5
1987	StTh/StJo	807.9	772.9	115,598.8	280,996.5	0.7	0.3
1988	StTh/StJo	--	--	3,325.0	7,735.1	--	--
1989	StTh/StJo	--	--	49,902.9	71,911.2	--	--
1990	StTh/StJo	--	--	215,676.6	325,142.2	--	--
1991	StTh/StJo	--	--	694,916.3	976,462.8	--	--
1992	StTh/StJo	--	1,194.6	443,964.1	588,844.4	0.3	0.2
1993	StTh/StJo	68.0	2,823.4	313,089.4	424,626.7	0.9	0.7
1994	StTh/StJo	--	904.5	291,512.4	407,138.4	0.3	0.2
1995	StTh/StJo	--	210.8	266,618.2	330,143.0	0.1	0.1
1996	StTh/StJo	--	--	243,722.8	276,135.1	--	--
1997	StTh/StJo	--	--	277,713.2	301,221.4	--	--
1998	StTh/StJo	--	--	238,355.0	257,900.8	--	--
1999	StTh/StJo	--	--	232,979.8	244,628.8	--	--
2000	StTh/StJo	--	--	232,045.8	243,648.1	--	--
2001	StTh/StJo	--	--	297,713.9	312,599.6	--	--
2002	StTh/StJo	--	1,779.1	159,444.1	167,416.3	1.1	1.1

Table 3: Annual species composition, expressed as percentage of the total catch, of Hook and Line catches in the St. Croix District.

SPECIES	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1999	2001	2002
AMBERJACKS						0.12											
ANGELFISH,FRENCH						0.08											
ANGELFISH,QUEEN					0.05												
BAR JACK		0.18			0.03		0.11		2.26								
BARRACUDA	3.84	0.31	1.25	2.79		0.26	0.23	0.25									
BARRACUDA,GREAT	1.58	1.11	0.34	12.35	15.73	5.62	5.37	3.20							16.89		
BEARDFISH					0.44					1.63							
BIGEYE SCAD			12.81			0.88											
BLACK JACK		0.20		0.14	0.14	0.21	0.31	0.14	6.10	16.50	4.70	4.28				10.61	
BLUE RUNNER		0.41	0.45	0.02		1.10											
BLUE TANG						1.30						1.36			9.24		
BONITO,ATLANTIC	0.21		0.93														
CHUBS								0.17									
CONEY		2.09	0.17	4.49	0.94	0.22	0.21	0.35		0.58	3.78	3.14		18.23	18.96		64.06
COWFISH,HONEYCOMB				0.11	0.22	0.30									2.55		
DOCTORFISH						1.00											
DOLPHINFISH	41.74	35.41	6.20	19.25	12.72	7.44	16.71	9.72			25.51						
DURGON,BLACK		0.03			0.24												
FILEFISH,ORANGESPOT					0.23	0.34											
FLYINGFISHES								0.90									
GLASSEYE SNAPPER			0.04														
GOATFISH,YELLOW					0.12	0.05											
GOATFISHES							0.03										
GRAYSBY		0.08													0.56		
GREATER AMBERJACK				0.06													
GROUPEY, TIGER		0.16															
GROUPEY, MISTY		0.86		0.84	0.96	0.42	0.55	0.25		3.21	6.97		2.55				
GROUPEY, NASSAU					0.12	0.14	0.36	0.14									
GROUPEY, YELLOWFIN					0.02	0.11	0.07	0.19			1.70						
GROUPEY, YELLOWMOUTH				0.07		0.17											
GRUNT,BLUESTRIPED															1.43		
GRUNT,BURRO					0.05	0.25											
GRUNT,CAESAR						0.24											
GRUNT,FRENCH					0.11	0.21											2.53
GRUNT,SPANISH				0.03													
GRUNT,STRIPED												0.79			2.79		
GRUNT,WHITE		0.19		0.03	0.65	1.08								1.82	14.26		
HALFBEAKS								0.02									
HIND,RED		13.56	5.29	9.68	14.09	10.95	19.78	15.57	16.70	4.77	1.23	0.35	4.93	9.96	6.45		4.15
HIND,ROCK							0.11										
HORSE-EYE JACK		0.70	0.30	0.42	0.30												
JACKS								0.45									
LIZARDFISHES				0.03													
MACKEREL,CERO	0.31	1.08	0.20	0.37	0.11	0.20	0.09	0.11									

Table 3 (continued)

SPECIES	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1999	2001	2002
MACKEREL,KING	5.88	1.77	4.95	1.17	4.70	0.92	0.29	0.15									
MACKERELS & TUNAS			0.14														
MARGATE		0.38						0.21			2.47						
MARGATE,BLACK											2.24						
MARLIN,BLUE		0.30															
NEEDLEFISH,KEELTAIL						1.15	0.05										
PARROTFISH,PRINCESS					0.07	0.58									2.41		
PARROTFISH,REDBAND					0.16	0.39											
PARROTFISH,REDFIN												1.60					
PARROTFISH,REDTAIL					1.18	1.74						49.27					
PARROTFISH,STOPLIGHT					1.13	2.41						2.25					
PERMIT					0.11												
POMFRET,BIGSCALE								0.10									
POMPANO DOLPHIN								3.47									
POMPANO,AFRICAN						0.06											
PORGY,G:CALAMUS													10.60				
PUDDINGWIFE (WRASSE)		0.08			0.10												
RAINBOW RUNNER		0.20	0.12	0.44	0.23	0.88	0.14			10.49	1.73						
SARDINE,REDEAR			0.00														
SNAPPER,BLACK					0.52	1.46	3.21	1.55		5.40	10.33	10.61	1.73			6.24	
SNAPPER,BLACKFIN	0.22	3.61	0.42	0.60	6.30	19.20	13.60	10.67	69.41	34.75	20.25	24.27	68.04	69.26		65.78	6.68
SNAPPER,CUBERA		0.06															
SNAPPER,DOG		0.03			0.87	0.15											
SNAPPER,LANE		0.06		0.01	0.01	0.16				0.85						0.56	
SNAPPER,MAHOGONY					0.03			0.02		0.56						2.07	
SNAPPER,MUTTON		5.31	0.37	2.51	9.04	1.76	0.44	1.83		3.12	0.24	0.92	12.16				
SNAPPER,SCHOOLMASTER					0.59	0.91	0.05	0.09		0.68	0.90					6.77	
SNAPPER,VERMILION					0.03												
SNAPPER,VERMILION,LAR					0.01												
SNAPPER,VERMILION,MED								0.02									
SNAPPER,VERMILION,SMA	0.14	0.30	0.44	0.18	0.31	0.32	2.98	3.07		15.19	9.30	0.28					
SNAPPER,YELLOWTAIL		5.77	0.04	3.20	2.46	0.12		0.34	2.03	1.10	0.43	0.88			4.22		
SNAPPERS,UNC				0.88	0.08												
SOLDIERFISH,BLACKBAR			0.02														
SQUIRRELFISH				0.03													
SQUIRRELFISH,LONGSPIN		0.21	0.10	0.01	0.08	0.12		0.04	3.50					0.73	7.81		2.76
SWORDFISH						0.12											
TILEFISH		0.03															
TILEFISH,EXTRA LARGE				0.03													
TILEFISH,LARGE				0.03													
TILEFISH,MEDIUM				0.03													
TILEFISH,SAND											0.27						
TILEFISH,SMALL				0.03													
TILEFISH,UNCLASSIFIED		0.02								1.17	2.68						

Table 3 (continued)

SPECIES	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1999	2001	2002
TRIGGERFISH,OCEAN		2.61		2.64	2.04	0.09											
TRIGGERFISH,QUEEN		2.86	0.47	0.58	2.80	0.25								3.03			
TUNA,BLACKFIN	5.45	2.32	1.23	5.33	3.65	7.14	3.51	6.37									
TUNA,BLUEFIN,GIANTS				0.08													
TUNA,BLUEFIN,MEDIUM				0.12													
TUNA,BLUEFIN,SCHOOL				0.11													
TUNA,BLUEFIN,UNC				0.08													
TUNA,BLUEFIN,YOUNG SC				0.07													
TUNA,LITTLE (TUNNY)	0.07		0.24	0.26	0.50	3.23	2.18	2.07									
TUNA,SKIPJACK		4.11	3.31	4.11	1.89	1.31	3.42	4.56									
			24.6														
TUNA,YELLOWFIN		2.25	0	7.23	3.17	3.60	3.64	4.13									
	40.5		35.5	18.7		17.8	15.6	12.4									
WAHOO	7	6.81	6	0	9.70	1	6	0			5.26						
								17.4								17.3	19.8
WENCHMAN		4.54		0.86	0.94	1.41	6.90	6								7	2

Table 4: Annual species composition, expressed as percentage of the total catch, of Pots and Traps catches in the St. Croix District.

SPECIES	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2002
ALMACO JACK		0.12							0.10										
ANGELFISH,FRENCH	0.05	0.20	0.64	0.03	0.36	0.21	0.25	0.34	0.22	0.06	0.46	0.19	0.03	0.47	0.03	0.18	0.09		0.37
ANGELFISH,GRAY	0.05	0.56	0.54	0.08	0.44	0.32	0.28	0.44	0.83	0.18	0.27	0.71	0.27	1.70	0.12	0.37			0.84
ANGELFISH,QUEEN	0.03	0.14	0.11	0.14	0.10	0.38	0.37	1.00	0.57	0.03	0.08	0.08	0.11	0.18	0.19				0.54
ANGELFISHES		0.00																	
BAR JACK	0.34	0.54	0.77	0.12	0.59	0.23	0.10	0.09	0.10	0.21	0.50	0.02	0.13	0.41		0.86	0.10	0.26	0.19
BARRACUDA,GREAT	0.23	0.27	0.09		0.81	0.08	0.57	0.16	0.01					0.19				0.30	
BEARDFISH	0.05																		
BIGEYE		0.02																	
BIGEYES																			0.06
BLACK JACK		0.12			0.02			0.27			0.35								
BLUE RUNNER	0.03	0.15			0.00		0.08	0.04											
BLUE TANG	7.35	4.75	8.80	3.80	15.43	9.48	5.96	7.36	9.07	14.51	7.33	5.35	6.94	8.20	10.40	7.36	2.50	3.56	12.52
BLUEFISH	0.91																		
BONITO,ATLANTIC		0.01																	
BUTTERFISH	1.96	0.08																	
BUTTERFLYFISH	0.01																		
BUTTERFLYFISH,BANDED															0.02				0.02
BUTTERFLYFISH,FOUREYE		0.00																	
BUTTERFLYFISH,SPOTFIN								0.01											
CHUB,BERMUDA			0.02		0.00									0.40					1.23
CONEY	0.48	5.29	3.75	5.60	4.73	1.96	1.83	0.09	0.11	0.98	2.03	1.81	0.77	2.92	3.40	4.30	1.96	1.45	1.55
COWFISH,HONEYCOMB	0.16	1.05	1.53	1.14	3.41	3.91	3.98	6.56	4.20	6.95	5.18	6.72	6.27	6.15	6.03	4.14	4.54	3.00	8.37
COWFISH,SCRAWLED		0.10	0.06		0.11	0.16	0.26	0.34	0.13	0.14	0.49	0.51	0.54	0.95	0.56	0.92		0.68	
CREOLE-FISH		0.00																	
CREVALLE																		0.88	0.20
DICK,SLIPPERY									0.01										
DOCTORFISH	6.24	2.86	1.01	1.21	1.68	7.65	4.81	5.27	4.10	4.94	3.26	1.12	1.44	2.95	8.02	4.11	5.37	1.64	8.96
DOLPHINFISH		3.04	0.04	0.10		0.04													
DRUM,SPOTTED		0.01																	
DURGON,BLACK		0.11			0.02									0.30					0.45
FILEFISH										0.06									
FILEFISH,ORANGE					0.06				0.27		0.01								
FILEFISH,ORANGESPOT	0.12	0.00	0.07	0.35	1.28	2.71	1.71	2.08	2.29	4.85	1.97	2.95	4.16	2.12	3.04	2.71	0.48	0.23	0.99
FILEFISH,SCRAWLED			0.04	0.03	0.03	0.00			0.04	0.06	0.42	0.03		0.04					
FILEFISH,WHITESPOTTED	0.65	0.27	0.31			1.40	0.75	0.84	1.61										0.25
FLOUNDER,PEACOCK		0.01	0.02																
GLASSEYE SNAPPER		0.00																	

GOATFISH,RED						0.01	0.04												
GOATFISH,SPOTTED			0.01				0.02		0.08		0.60	0.08	0.09	0.25	0.05	0.15	0.17	0.19	0.09
GOATFISH,YELLOW	0.00	1.79	2.32	2.59	3.02	0.48	0.38	0.02	0.03		0.30	0.11	0.03	0.23	0.10		0.09		1.10
GOATFISHES	4.76	0.91	0.79	2.19	0.51	0.07	0.14												

Table 4 (continued)

SPECIES	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2002
GRAYSBY		0.02	0.02		0.03	0.00					0.05	0.02		0.01		0.04	0.25		0.15
GROUPEL, TIGER		0.22	0.10		0.02				0.02				0.19						
GROUPEL,BLACK					0.01														
GROUPEL,GAG							0.01												
GROUPEL,MISTY	0.04			0.18	0.02						0.18								
GROUPEL,NASSAU	0.11	0.38	0.84	1.91	0.39	0.56	0.19	0.17	0.15										
GROUPEL,RED		0.02																	
GROUPEL,YELLOWFIN	0.06	0.45	1.41	2.67	0.99	0.43	0.33	0.04	0.07		0.29				0.05				0.33
GROUPEL,YELLOWMOUTH		0.04	0.01		0.06	0.09													
GROUPELS					0.03	0.16													
GRUNT, COTTONWICK		0.03	0.03		0.23	0.00	0.01	0.02											0.13
GRUNT, SMALLMOUTH			0.00		0.00														
GRUNT,BARRED																0.70			
GRUNT,BLUESTRIPE					0.22	0.22	0.08		0.56	1.65	1.49	0.76	1.49	0.64	1.06	0.71	0.44	0.29	0.85
GRUNT,BURRO	0.16	0.73	1.32	0.69	0.53	0.35	0.20	0.46											
GRUNT,CAESAR		0.12	0.03	0.03	0.32	0.69	1.03	0.83	0.47	1.76	0.43	0.58	0.60	0.48	0.58	0.40	0.34	0.41	0.45
GRUNT,FRENCH	1.23	1.33	0.61	0.03	1.93	1.24	2.34	0.07	0.01	0.52	0.26	0.26	1.01	1.51	1.03	0.37	1.16	0.94	1.68
GRUNT,SAILORS CHOICE			0.03		0.00	0.00	0.01												
GRUNT,SPANISH					0.01			0.02											
GRUNT,STRIPED		0.00									0.16	0.93	0.09		0.11	0.78	0.04		0.03
GRUNT,TOMTATE		0.00			0.06	0.01	0.11			0.03	0.02		0.02			0.03			0.05
GRUNT,WHITE	2.22	7.10	5.57	5.88	6.29	4.63	3.64	5.30	5.00	13.22	11.12	8.56	9.65	10.31	14.28	9.53	11.75	17.14	7.37
GRUNTS	6.95	0.02			0.01	0.01							0.04						
GUPPY											0.47								
HAMLET,BARRED		0.00																	
HIND,RED	2.51	3.36	2.00	9.63	1.78	1.44	1.48	0.94	0.58	0.70	2.21	0.94	1.45	1.52	1.62	1.55	2.30	0.93	0.96
HIND,ROCK	0.82	0.14	0.22	0.17	0.21	0.12	0.08	0.04											
HOGFISH		0.07	0.44	0.01	0.18	0.10	0.07	0.02	0.06										0.08
HOGFISH,SPANISH	0.08	0.13	0.04		0.07	0.04	0.09	0.06	0.01		0.07	0.11	0.05	0.11	0.04				0.40
HORSE-EYE JACK		0.29	0.03		0.04	0.06													
HOUNDFISH														0.18					
JACK, YELLOW	0.98	0.16	0.07	0.10	0.11	0.09	0.20			0.10								0.97	
LOBSTER,SPINY											0.04								
LOBSTERS,SPINY TAILS				6.79	12.02	4.18	0.90	20.08	12.69		15.05	33.90	37.52	26.12	16.08	20.74	29.11		2.79
MACKEREL,CERO		0.06	0.00		0.01														
MACKEREL,KING		0.53																	
MARGATE		0.10	0.01		0.05	0.07				0.18		0.16							0.85
MARGATE,BLACK	0.17	0.01																	
MARLIN,BLUE		0.41																	
MARLIN,WHITE		0.07																	
MOJARRA,RHOMBOID											0.01								

MOJARRA, YELLOWFIN																			0.03
MOJARRAS		0.01																	
NEEDLEFISHES										0.13									
PARROTFISH	27.91	0.02																	

Table 4 (continued)

SPECIES	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2002
PARROTFISH,MIDNIGHT			0.08																
PARROTFISH,PRINCESS	0.21	0.93	1.36	0.88	2.50	2.89	3.11	0.58	0.06	0.20	0.70	0.58	0.27	0.34	1.55	0.55		0.14	0.57
PARROTFISH,QUEEN		0.25	0.30	0.27	0.83	0.75	0.97	0.84	0.03		0.34	0.10				0.80			0.11
PARROTFISH,REDBAND	0.73	2.86	0.73	0.32	4.01	2.39	4.19	0.11	0.01	0.18	1.75	0.52	0.29	0.94	1.45	1.63	0.14	0.13	1.15
PARROTFISH,REDFIN		0.06			0.08	0.04	0.01	0.05	0.05		0.08	0.04		0.27	0.07	0.29			1.47
PARROTFISH,REDTAIL	3.15	13.05	20.02	13.88	11.97	17.81	16.23	15.77	17.71	17.90	18.64	18.57	9.09	16.66	9.53	14.94	19.68	22.13	15.61
PARROTFISH,STOPLIGHT	2.55	12.94	23.33	24.27	9.83	21.75	33.77	19.49	31.50	6.29	5.99	3.09	1.30	2.94	2.56	8.13	0.85	0.49	0.94
PARROTFISH,STRIPED		0.04																	
PERMIT												0.02							
PIGFISH						0.00	0.00												
POMPANO,AFRICAN								0.03											
PORGY,G:CALAMUS			0.07								0.04	0.04					0.23		0.04
PORGY,G:PAGRUS		0.09	0.07		0.11														
PORGY,JOLTHEAD		0.04			0.12	0.03	0.04	0.11	0.01										0.10
PORGY,PLUMA									0.33										
PORGY,SHEEPSHEAD									0.04										
PORKFISH		0.09	0.07		0.01	0.01	0.04	0.16	0.04		0.13					0.03	0.14		0.02
PUDDINGWIFE (WRASSE)	0.04	0.05	0.01		0.05	0.05	0.02	0.02											0.07
RAINBOW RUNNER	0.22	0.02	0.05		0.02			0.07											
ROCK BEAUTY	0.56	0.31	0.18	0.05	0.03	0.29	0.28	0.73	0.06	0.08	0.13	0.08	0.12	0.14	0.40	0.22			0.31
SEA BREAM							0.01												
SHARK,CARIBBEAN REEF		0.02																	
SHARK,NURSE	1.82	0.89	1.53	0.67									0.34		0.92		1.56		
SHARK,REEF	1.60	0.07						0.08											
SHARK,TIGER		0.20																	
SHARKSUCKER													0.18						
SNAPPER,BLACK	0.02										0.14								
SNAPPER,BLACKFIN	0.03	0.91	0.21		0.03	0.01	0.01	0.02		0.73	0.91	0.06		0.03					1.60
SNAPPER,CUBERA	0.03	0.06			0.01														
SNAPPER,DOG	0.08	0.32	0.08	0.14	0.14	0.10	0.20	0.03			0.06		0.05			0.03		0.29	
SNAPPER,GRAY					0.00		0.08												0.04
SNAPPER,LANE	0.03	0.07	0.11	0.23	0.10	0.04	0.03	0.09	0.06	0.03	0.21	0.03	0.13	0.04	0.29	0.38	0.38	0.29	0.15
SNAPPER,MAHOGONY	0.16	0.11	0.23	0.01	0.41	0.05	0.14	0.12	0.03	0.06	0.21	0.13	0.04	0.27	0.11	0.33	0.06	0.08	0.32
SNAPPER,MUTTON	1.68	0.64	1.06	1.99	0.57	0.33	0.86	0.70	0.53	0.85	0.36		0.09			0.42	0.45		0.35
SNAPPER,RED						0.01													
SNAPPER,SCHOOLMASTER	0.70	0.62	1.19	0.27	1.21	1.64	1.54	1.41	2.13	1.06	0.83	0.51	1.18	0.94	0.82	1.29	0.69	0.71	1.60
SNAPPER,VERMILION,SMA		0.10									0.07								
SNAPPER,YELLOWTAIL	8.27	8.71	1.47	1.60	1.38	0.72	0.56	0.91	0.73	0.38	1.83	0.54	2.57	1.41	0.91	1.04	3.72	33.27	4.30
SNAPPERS,UNC																	0.13		
SOLDIERFISH,BLACKBAR	0.14	0.01			0.05	0.06	0.12	0.01	0.00										
SPADEFISH,ATLANTIC	0.04	0.04	0.03		0.15	0.01	0.01												

SQUIRRELFISH			0.05		0.39															
SQUIRRELFISH, LONGSPIN	0.91	1.04	0.51	0.08	1.35	0.75	0.64	0.08				0.77	1.16	1.19	0.65	1.35	0.88	4.74	4.85	3.78
SQUIRRELFISHES								0.01	0.26											
STINGRAYS	1.78																			

Table 4 (continued)

SPECIES	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2002	
SURGEON, OCEAN	2.90	0.90	1.54	0.11	1.45	0.48	1.66	0.83	0.82	4.31	1.62	0.44	1.77	0.66	0.76	0.25	0.45	0.24	1.13	
TILEFISH, GOLDFACE																	0.26			
TILEFISH, SAND		0.05	0.01											0.02						
TILEFISH, UNCLASSIFIED		0.12									0.04									
TRIGGERFISH, OCEAN	0.12	0.17	0.07		0.06	0.01	0.06	0.05				0.18			0.04					
TRIGGERFISH, QUEEN	3.99	9.30	11.41	7.79	4.57	6.02	2.52	3.98	1.47	9.78	6.73	3.14	4.59	4.48	10.23	7.35	3.89	3.57	10.94	
TRIGGERFISHES	0.08				0.00	0.04	0.23				5.54	2.10	4.18	3.69	1.62	1.89	1.21	1.05	0.16	0.13
TRUNKFISH	0.44	0.02	0.06		0.02	0.01			0.22	0.59	0.07	0.10	0.08		0.08					
TRUNKFISH, SMOOTH	0.01	0.09	0.25	0.16	0.20	0.08	0.35	0.51	0.39	0.42	0.88	0.28	0.17	0.08	0.18	0.21		0.37	1.23	
TRUNKFISH, SPOTTED		0.09	0.08		0.13	0.02	0.04	0.21	0.10	0.27	0.19	0.04	0.08	0.08	0.08	0.08	0.22	0.39	0.10	
TUNA, BLACKFIN		1.50	0.00					0.05												
TUNA, LITTLE (TUNNY)		0.10	0.00	0.04																
TUNA, SKIPJACK	0.25	0.50		0.81																
TUNA, YELLOWFIN		0.10		0.06		0.03														
WAHOO	0.12	2.40	0.01	0.87																
WENCHMAN		1.90	0.16																	
WRASSES		0.01								0.07	0.04	0.22					0.66		0.06	
WRECKFISH	0.70																			

Table 5: Annual species composition, expressed as percentage of the total catch, of Net catches in the St. Croix District.

SPECIES	1986	1993	1994	1995	1996	1997	1998	2000	2001	2002
BAR JACK				0.91	0.76	1.31	0.07	0.74	0.61	1.04
BIGEYE SCAD	100.00									
BLACK JACK				0.08						
BLUE TANG			0.14	3.40	1.49	1.84	0.69	1.65	6.14	7.10
CONEY				0.27	0.18	0.32	0.39		1.09	0.19
DOCTORFISH				2.45	0.25	1.05		0.20	1.41	0.14
DURGON, BLACK							1.11			0.07
FILEFISH, ORANGESPOT										0.21
GLASSEYE SNAPPER							0.07			
GOATFISH, SPOTTED				0.02					0.03	
GOATFISH, YELLOW				0.40						
GRAYSBY				0.07						
GRUNT, COTTONWICK										0.14
GRUNT, BLUESTRIPED				0.68	0.20				0.13	0.10
GRUNT, CAESAR				1.11	0.06	0.20		0.45		
GRUNT, FRENCH				0.01						0.12
GRUNT, WHITE				1.10	0.46	0.87	0.17		1.08	0.18
HIND, RED				0.09		0.34		0.27		0.18
HOGFISH, SPANISH				0.62	0.23		1.05	0.69	1.29	1.56
HORSE-EYE JACK									0.60	
JACK, YELLOW								0.16		
LOBSTERS, SPINY TAILS					1.53					
MARGATE				0.37						
MOJARRA, YELLOWFIN										0.03
PARROTFISH, PRINCESS							2.29	3.63	1.18	1.85
PARROTFISH, QUEEN		12.05	2.48	2.67	0.15		9.30	1.34	4.39	3.93
PARROTFISH, REDBAND			0.34	0.08	0.32		2.37	4.68	0.16	13.64
PARROTFISH, REDFIN				4.38	27.36	6.20	2.68	7.14	46.99	1.95
PARROTFISH, REDTAIL		25.13	83.26	69.38	59.68	45.33	40.62	70.57	13.66	20.36
PARROTFISH, STOPLIGHT		62.82	13.78	10.26	7.00	41.93	38.97	6.15	17.98	44.09
PERMIT									0.08	0.69
PORGY, G: CALAMUS				0.18	0.08	0.61				0.13
PORGY, JOLTHEAD										0.09
PUDDINGWIFE (WRASSE)										0.68
ROCK BEAUTY							0.04	0.11		0.18
SNAPPER, MAHOGONY				0.04	0.08		0.07			
SNAPPER, SCHOOLMASTER				0.08					0.18	0.05
SNAPPER, YELLOWTAIL				0.10					0.04	0.21
SQUIRRELFISH, LONGSPIN					0.08		0.07	0.29	0.12	
SURGEON, OCEAN				0.05	0.03		0.04	0.25	1.02	0.06
TRIGGERFISH, QUEEN				0.38	0.06				0.25	0.03
TRIGGERFISHES								0.18	1.13	0.19
WRASSES				0.81				1.52	0.44	0.81

Table 6: Species composition of Spear gear by year in the St. Croix District for the period 1984-1993.

SPECIES	1987	1991	1994	1995	1996	1997	1998	1999	2000	2001	2002
ANGELFISH,FRENCH											0.52
BAR JACK					3.78						4.06
BLUE TANG					0.50		0.49				0.43
CHUB,BERMUDA											0.28
CLAM,UNC			0.28								
CONEY							0.19				
DOCTORFISH					1.30						0.40
GRUNT,BLUESTRIPED											0.11
GRUNT,FRENCH							0.07				
GRUNT,WHITE					0.35						
HIND,RED											0.58
HOGFISH,SPANISH					0.29		0.16				0.40
LOBSTERS,SPINY TAILS	100.00	100.00	99.72	100.00	19.41	100.00	48.30	100.00	100.00	100.00	74.05
PARROTFISH,PRINCESS							8.53				6.84
PARROTFISH,QUEEN							1.50				
PARROTFISH,REDBAND					0.19		11.05				0.27
PARROTFISH,REDFIN					0.63		11.75				0.38
PARROTFISH,REDTAIL					70.42						2.03
PARROTFISH,STOPLIGHT					2.52		16.16				8.90
PORGY,G:CALAMUS					0.26						
SHARK,NURSE							1.43				
SNAPPER,SCHOOLMASTER											0.73
SQUIRRELFISH,LONGSPIN							0.16				
TRIGGERFISH,QUEEN					0.35						
WRASSES							0.21				

Table 7: Species composition, expressed as percentage of the total catch, of Hook and Line gear by year in the St. Thomas/St. John district.

SPECIES	1985	1986	1987	1992	1993	1994	1995	2002
AFRICAN POMPANO							19.64	
AMBERJACKS	0.86	3.55						
ANGELFISH,GRAY	0.17							
ANGELFISH,QUEEN	0.12							
BAR JACK	0.63				22.84			
BIGEYE SCAD		0.22						
BLUE RUNNER	0.06	6.35			9.68	38.19		30.3
BLUE TANG	0.21	0.76						4
BONITO,ATLANTIC	0.32							
CONEY	0.51	0.24				0.68	0.61	0.67
CREOLE-FISH	0.04							
CREVALLE					1.38			
DOCTORFISH	0.16							
DOLPHINFISH	1.75							
DURGON,BLACK	0.07							
GLASSEYE SNAPPER					0.23			
GOATFISH,YELLOW	0.02							
GROUPE,MISTY	16.96							
GROUPE,NASSAU	0.30							
GROUPE,YELLOWEDG E	1.51							
GROUPE,YELLOWFIN	11.27	0.56						
GRUNT,FRENCH		0.43						
GRUNT,WHITE	0.17	0.67		0.70			1.47	
HIND,RED	5.28	53.04		1.87			0.68	0.47
HIND,ROCK	0.17	0.80						
HOGFISH	0.30					1.66		
HORSE-EYE JACK	0.78				0.19			
HOUNDFISH					2.44			
MACKEREL,CERO	0.10							1.53
MACKEREL,KING	0.57		100.0					
MACKEREL,KING&CERO	0.05		0			3.56		
MARGATE	0.56							
NEEDLEFISH,FLAT								24.1
NEEDLEFISHES								5
PALOMETA								1.18
PARROTFISH,STOPLIGH T	0.03							
PORGY,G:CALAMUS	0.27							
PORGY,JOLTHEAD	0.05							
RAINBOW RUNNER	0.09				9.48	6.99		2.41
SHARK,BLACKTIP	1.31							
SNAPPER,BLACKFIN	0.08							
SNAPPER,DOG	3.75	1.46						
SNAPPER,GRAY		0.76						
SNAPPER,LANE	0.02							
SNAPPER,MUTTON	0.35							
SNAPPER,VERMILION,S MA		0.04						
SNAPPER,YELLOWTAIL	48.61	21.27		97.43	40.69	44.97	77.59	39.2
SQUIRRELFISH	0.06	0.63						5
SQUIRRELFISHES		0.34						
TILEFISH,SAND					0.10			
TRIGGERFISH,OCEAN		8.66						

TRIGGERFISH,QUEEN	0.38	0.22		1.34				
TUNA,LITTLE (TUNNY)	0.57			7.71	3.96			
WENCHMAN	1.49							

Table 8: Species composition, expressed as percentage of the total catch, of Pots and Traps gear by year in the St. Thomas/St. John district.

SPECIES	1985	1986	1987	1992	1993	1994	1995	2002
ALMACO JACK	0.20		0.72	2.34	3.05	3.29	4.21	
ANGELFISH,FRENCH	0.72	0.87	0.43	1.48	0.75	1.29	7.93	2.95
ANGELFISH,GRAY	4.39	2.58	3.18	4.46	2.41	3.10	1.84	10.34
ANGELFISH,QUEEN	0.55	0.46		2.45	0.75	0.38	1.74	1.79
BAR JACK	0.82	0.15	0.60	0.27	0.19			
BASS,REDEYE								
BIGEYE	0.06				0.01			
BIGEYE SCAD		0.20	0.04					
BLACK JACK	0.02		0.16					
BLUE RUNNER	0.34	0.67	4.58		0.35			
BLUE TANG	2.75	3.06	2.93	1.87	9.72	2.94	3.42	1.09
BONITO,ATLANTIC		0.51						
BOXFISH								0.03
CARDINALFISHES			0.53					
CHUB,BERMUDA	0.07				0.10	0.26		0.37
CONEY	2.16	1.84	1.56	1.24	1.05	1.03		1.21
COWFISH,HONEYCOMB	0.04	0.12	0.44	1.67	0.49		1.58	0.94
COWFISH,SCRAWLED	0.07	0.11	0.03	0.46	0.24	0.72	0.74	0.11
CRAB,UNC								0.05
DAMSELFISHES				0.03				
DOCTORFISH	2.75	1.37	0.04	0.70	4.03	1.42	1.36	0.89
DRUMMER,WHITEMOUTH			0.17					
DURGON,BLACK				0.10				
FILEFISH,ORANGE						0.12		0.81
FILEFISH,ORANGESPOT		0.56	0.07			0.48	1.61	0.42
FILEFISH,SCRAWLED							1.20	
FILEFISH,WHITESPOTTED	0.40	0.01			0.02	0.44		
FINFISHES,MARINE,OTHE			0.09					
FINFISHES,PELAGIC,OTH			0.07					
FINFISHES,UNC FOR FOO			0.13					
FINFISHES,UNC,BAIT,AN			0.09					
FINFISHES,UNC,GENERAL			0.08					
FINFISHES,UNC,SPAWN			0.02					
FISH,MARINE,OTHER			0.02					
FISHES,ANADROMUS,UNC,			0.04					
FISHES,FW,OTHER			0.03					
FLOUNDER,PEACOCK	0.00							
GLASSEYE SNAPPER	0.02		0.15	0.04	0.03			
GOATFISH,SPOTTED	0.04	0.29	0.48	0.03	0.03	0.09		
GOATFISH,YELLOW	0.44	0.34	1.13	0.22	0.16	0.47		
GOATFISHES	0.01							
GRAYSBY	0.05							
GROUNDFISHES,OTHER			0.04					
GROUPEL, TIGER	1.47	1.12						
GROUPEL,BLACK				0.31				
GROUPEL,MISTY		0.99						
GROUPEL,NASSAU	8.11	8.72			0.17	0.86		
GROUPEL,RED	5.95	0.84	3.81	0.54				
GROUPEL,YELLOWEDGE		0.55						
GROUPEL,YELLOWFIN	11.93	6.16	0.61	0.77	0.37	2.13		6.91
GROUPEL,YELLOWMOUTH	0.61	0.62				1.29		
GROUPEL,S,G:MYCTEROPER	0.01							

GRUNT, COTTONWICK	0.58	0.12	0.09	0.11	0.16	0.12		
GRUNT, BLUESTRIPED	0.46	0.18	1.66	1.36	0.52	2.01	2.83	1.02
GRUNT, CAESAR								0.04
GRUNT, FRENCH	0.13	0.03	0.98	0.38	0.19	0.56	1.50	
GRUNT, SAILORS CHOICE	0.01						0.18	0.10

Table 8 (continued)

SPECIES	1985	1986	1987	1992	1993	1994	1995	2002
GRUNT, SPANISH	0.09							
GRUNT, STRIPED								0.06
GRUNT, TOMTATE	0.10		0.65	0.30	0.02	0.23		0.03
GRUNT, WHITE	1.46	0.14	4.74	5.89	13.10	4.74	3.62	2.53
HAMLET, MUTTON								0.05
HIND, RED	10.43	16.22	6.29	4.74	16.93	6.60	0.48	7.43
HIND, ROCK	0.03				0.10	0.42		
HOGFISH	3.29	0.28	0.20	0.76	0.76	2.68	0.92	2.26
HOGFISH, SPANISH	0.12			0.07	0.03	0.09		
HORSE-EYE JACK	0.03							
HOUNDFISH				1.04				
JACK, YELLOW	0.09							
LOBSTERS, SPINY TAILS				27.24	8.84	12.86	18.04	22.83
MACKERELS & TUNAS								0.15
MARGATE	0.89	0.06	0.43		0.14	0.20		0.33
MARGATE, BLACK					0.21			
MORAY, VIPER			0.67					
PARROTFISH	0.01					0.61		0.05
PARROTFISH, BLUE			0.10					
PARROTFISH, MIDNIGHT	0.47							
PARROTFISH, PRINCESS	0.28		0.17	0.41	0.03	0.11		
PARROTFISH, QUEEN				0.43				
PARROTFISH, RAINBOW	0.92							0.78
PARROTFISH, REDBAND	0.24	0.16	0.07	2.13	0.07	1.74		
PARROTFISH, REDFIN	0.03							
PARROTFISH, REDTAIL	1.91	4.19	0.65	3.18	2.95	7.91	6.62	3.36
PARROTFISH, STOPLIGHT	1.85	6.97	0.23	4.02	2.66	4.51	9.24	2.96
PIGFISH	0.05							
PORGY, G: CALAMUS	3.30	3.29	8.64	0.36			2.77	2.55
PORGY, JOLTHEAD	0.07				0.15			
PORGY, PLUMA	0.02			0.78	0.04	0.15		
PORGY, SAUCEREYE	0.26				3.76	3.03		
PORGY, SHEEPSHEAD				0.08		0.45		
PORKFISH	0.09		0.14	0.48	0.11			0.11
PUDDINGWIFE (WRASSE)	0.10	0.08				0.10		
RAINBOW RUNNER				0.14	0.10			
ROCK BEAUTY	0.04	0.01		0.57	0.21	0.40		
SCUPS OR PORGIES, JUMB								0.01
SCUPS OR PORGIES, LG								0.01
SCUPS OR PORGIES, MD								0.02
SCUPS OR PORGIES, SM								0.02
SCUPS OR PORGIES, UNC								0.02
SEA BREEM	0.04							
SHARK, NURSE				0.34				
SHARK, REEF			0.56					
SNAPPER, BLACKFIN	3.22	3.89	2.74	0.30	0.35	2.91	0.66	2.24
SNAPPER, CUBERA	0.01							
SNAPPER, DOG	1.05	0.77		0.43	0.46			
SNAPPER, GRAY	0.22	0.12	0.02					
SNAPPER, LANE	1.48	0.72	7.64	0.46	0.44	2.82	0.58	0.15
SNAPPER, MAHOGONY	0.33	0.05	0.34	0.09	0.59			
SNAPPER, MUTTON	5.00	2.25	1.73	0.40	0.45	1.11		1.18
SNAPPER, SCHOOLMASTER	0.89	0.12	0.71	0.28	0.03			

SNAPPER,VERMILION,SMA	0.21	0.27	4.07					
SNAPPER,YELLOWTAIL	2.27	2.91	0.77	2.41	1.04	1.09	0.48	0.69
SPADEFISH	0.01				0.04			
SPADEFISH,ATLANTIC	0.02							
SQUIRRELFISH	0.26	0.74	0.26	1.37	2.78	2.14		0.05

Table 8 (continued)

SPECIES	1985	1986	1987	1992	1993	1994	1995	2002
SQUIRRELFISH, LONGSPIN						0.38		
SQUIRRELFISHES	0.15	0.14	6.17	0.79	0.19		1.47	0.62
SURGEON, OCEAN	0.29	0.12	2.54	0.97	8.22	2.32		4.66
SURGEONFISHES	0.02		0.08					
TRIGGERFISH, GRAY			0.12					
TRIGGERFISH, OCEAN	0.07		0.05					
TRIGGERFISH, QUEEN	13.04	23.94	23.33	17.79	9.50	17.05	24.99	15.47
TRUNKFISH	0.03		0.53	0.12	0.05			0.11
TRUNKFISH, SMOOTH	0.03			0.27	0.08			
TRUNKFISH, SPOTTED	0.02	0.09	0.38	0.53	0.38	0.32		0.22
TUNA, LITTLE (TUNNY)					0.40			
WENCHMAN		0.00						
WRASSE, YELLOWHEAD	0.01							

Table 9: Species composition, expressed as percentage of the total catch, of Nets gear by year in the St. Thomas/St. John district.

SPECIES	1984	1985	1986	1987	1988	1989	1990	1991
BAR JACK		12.0						
SNAPPER, YELLOWTAIL		88.0						

Figure 1: Percentages of the ten species with the highest percentages by year and gear. Refer to text for an explanation of estimation procedures.

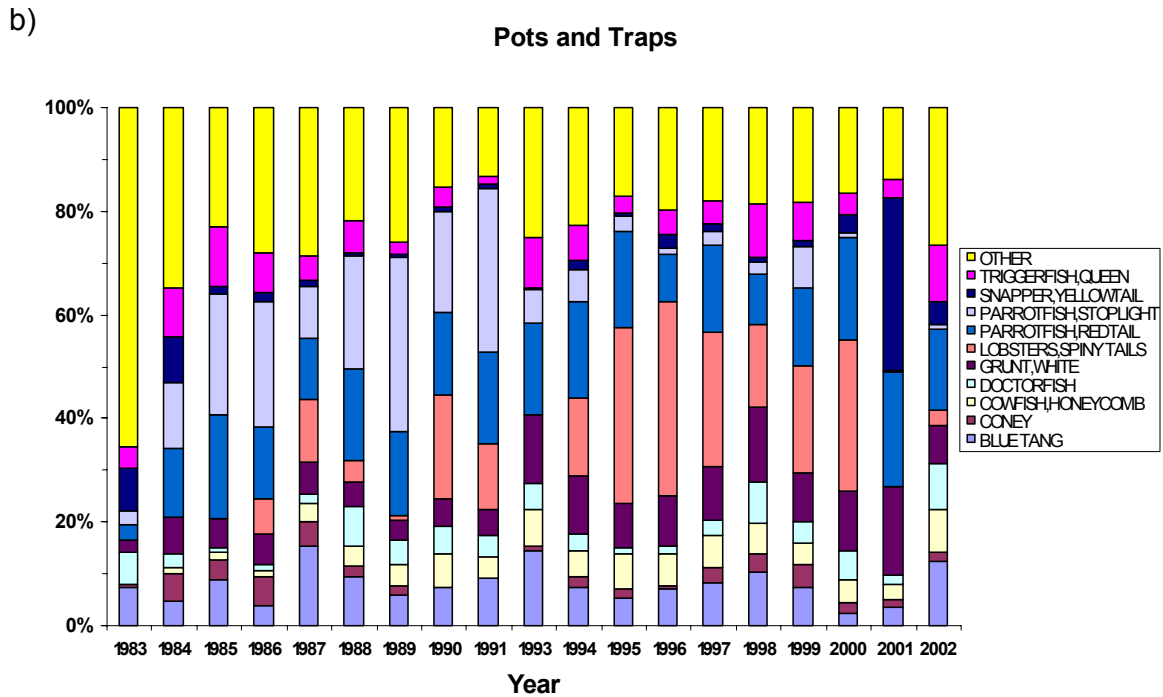
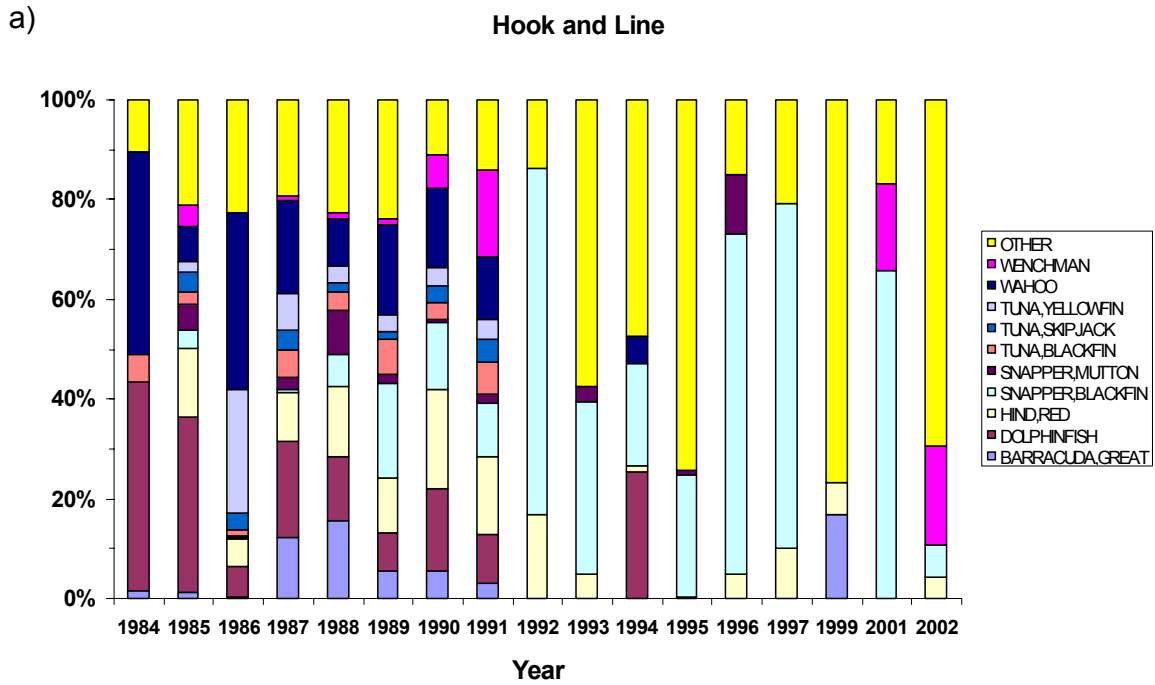


Figure 1 (continued)

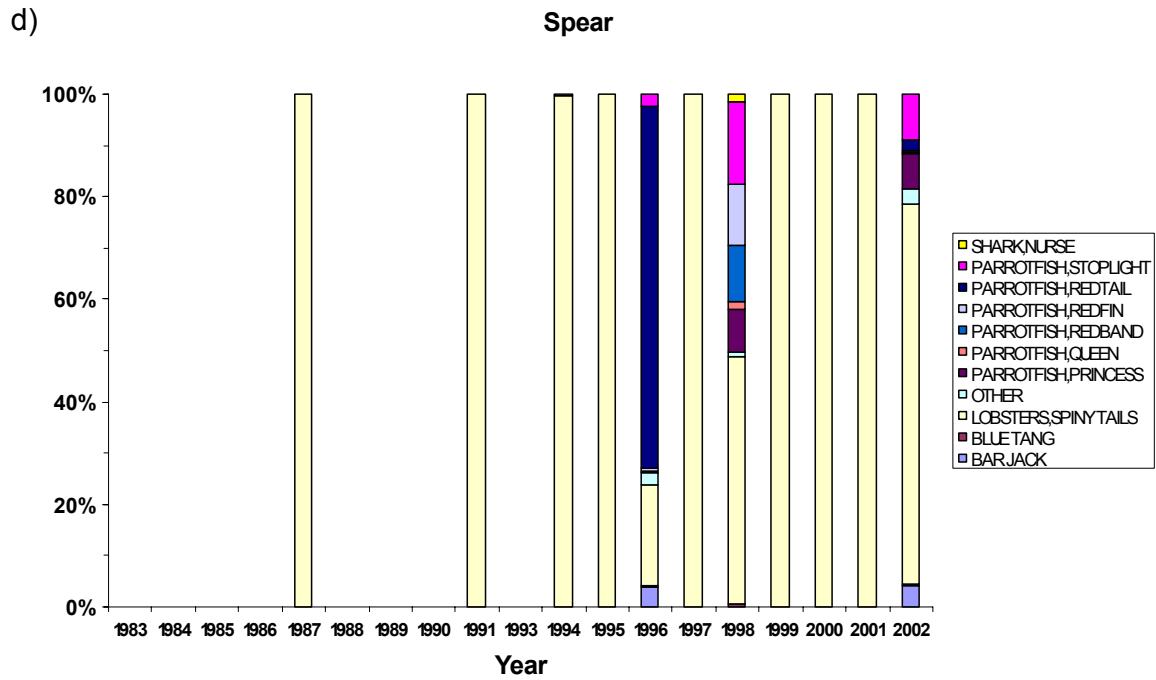
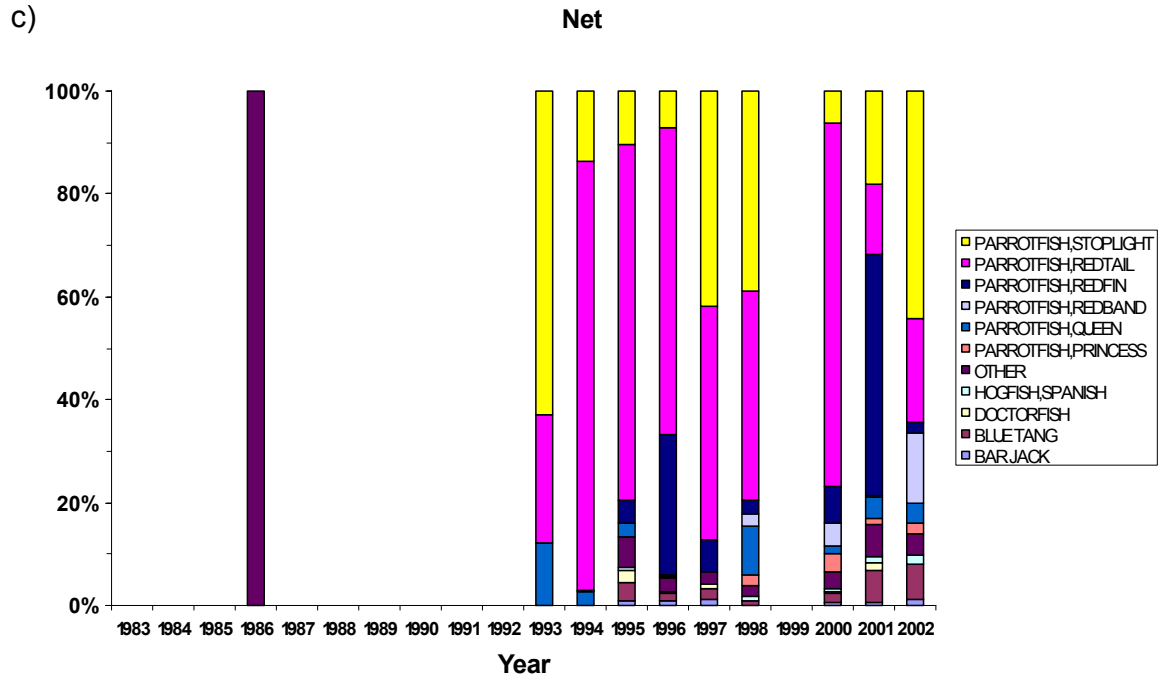


Figure 2: Species composition by gear and species complex of TIP samples and reported landings.

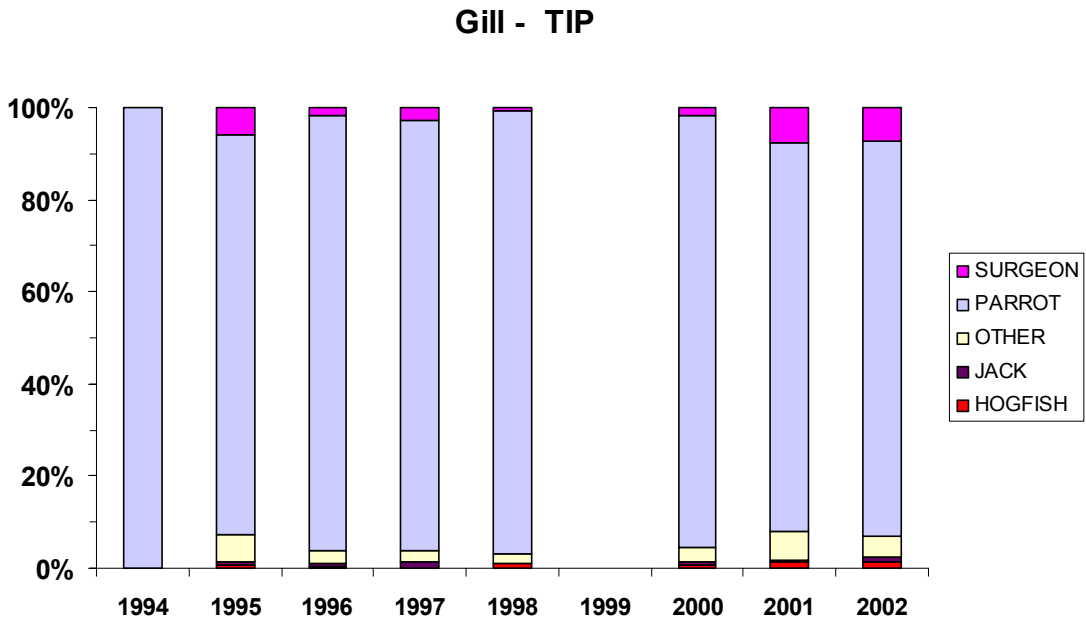
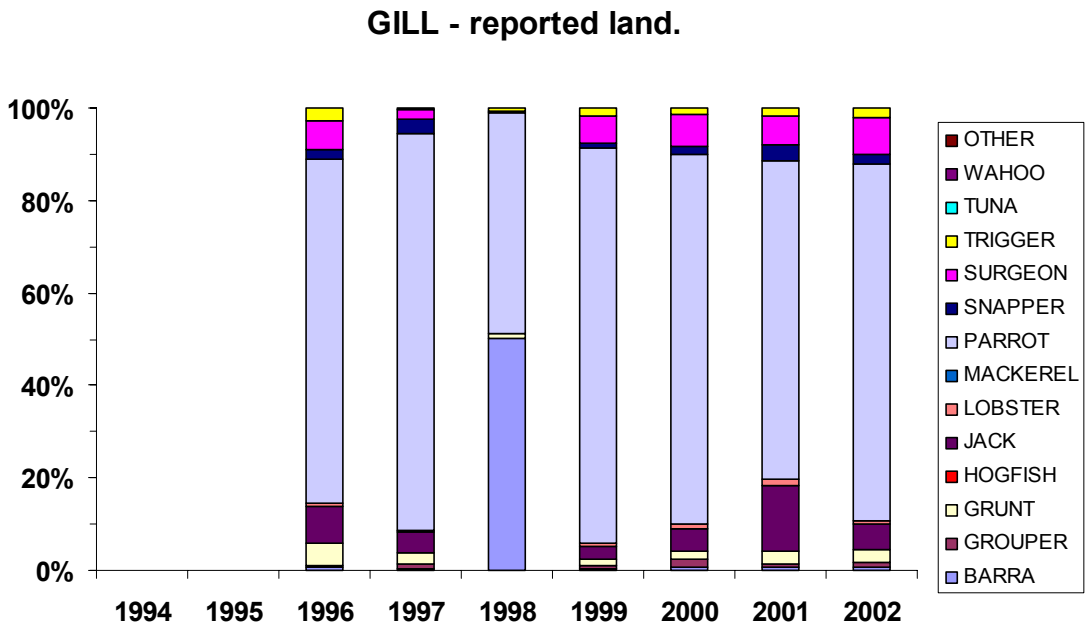
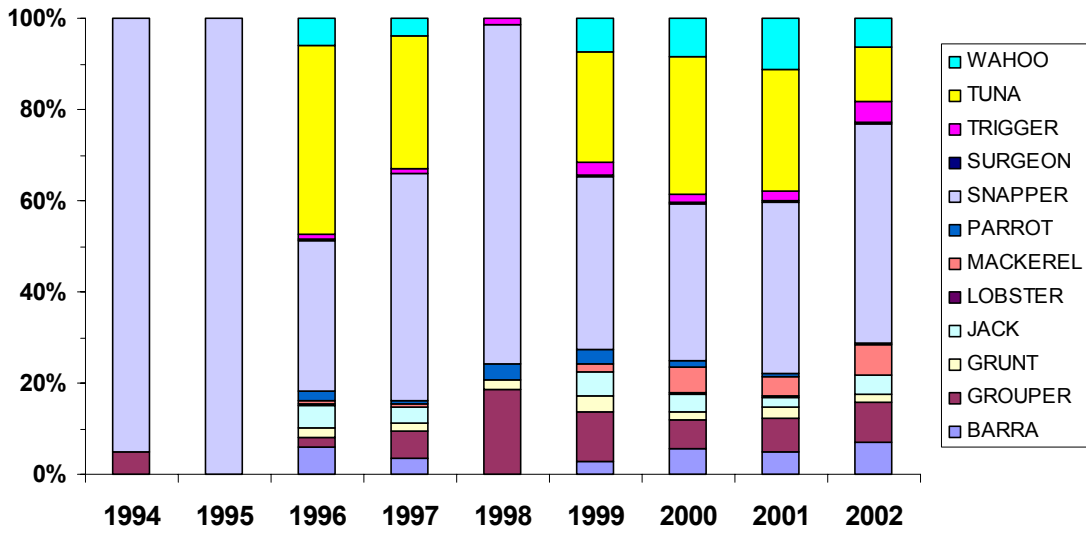


Figure 2 (continued)

Hook and Line - reported land.



Hook and Line - TIP

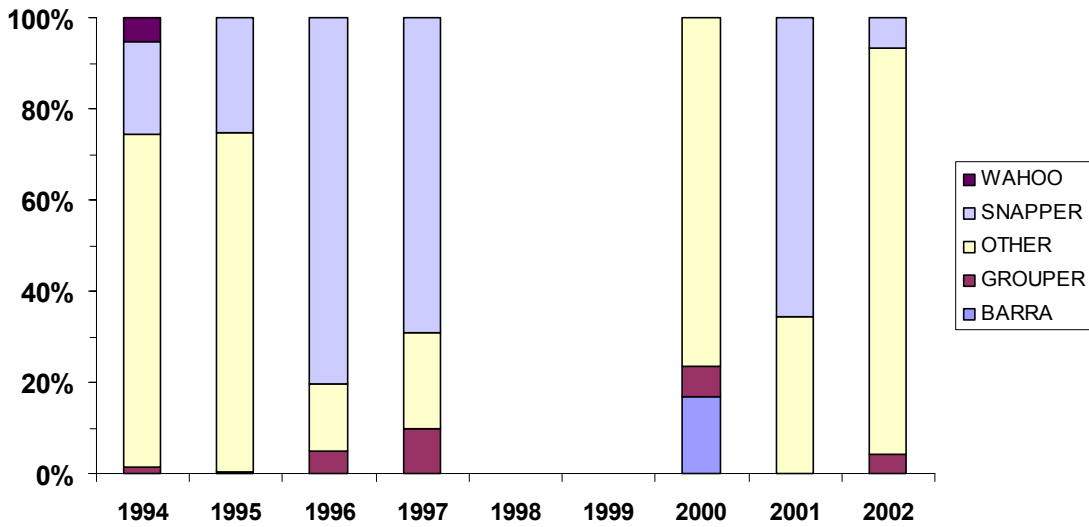
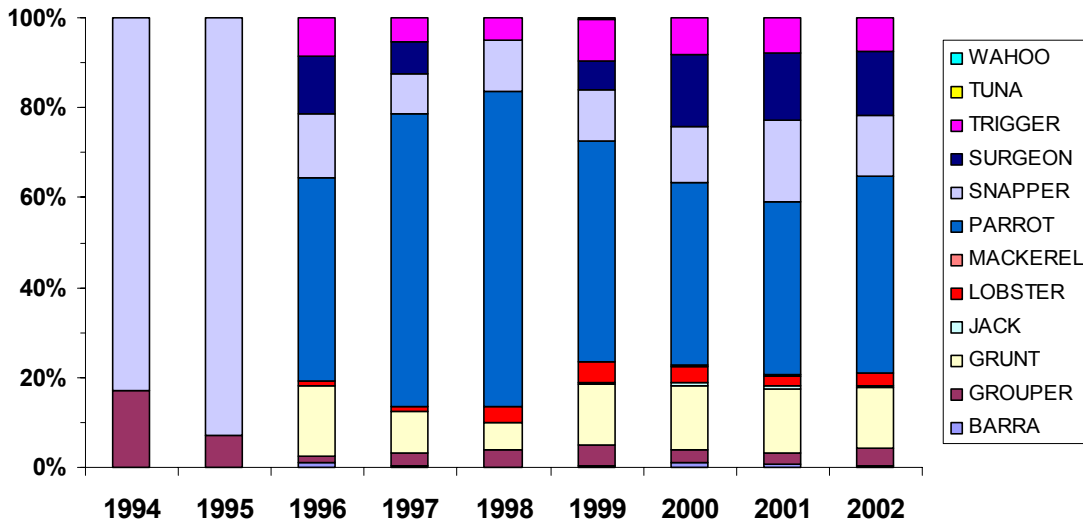


Figure 2 (continued)

Pots and Traps - reported landings



Pots and Traps - TIP

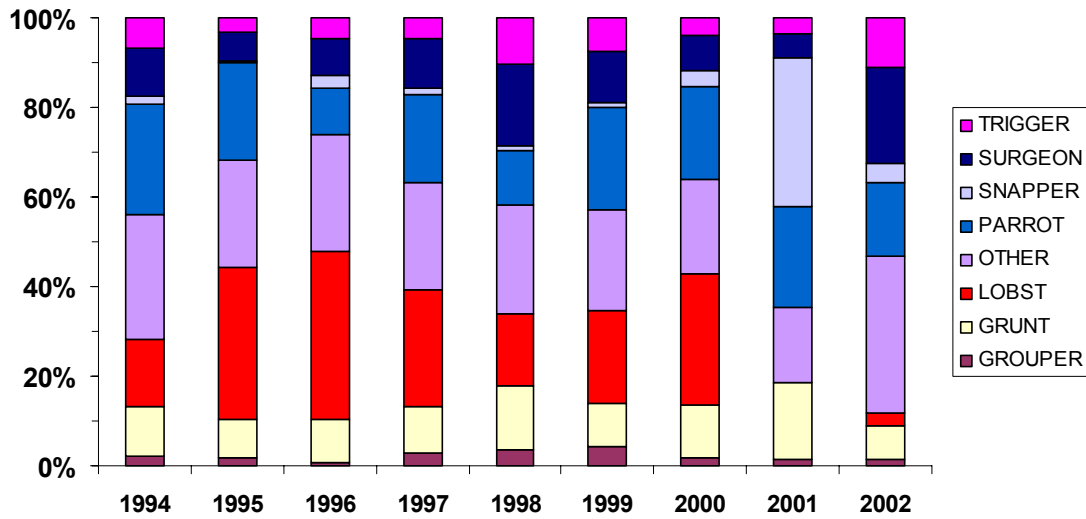
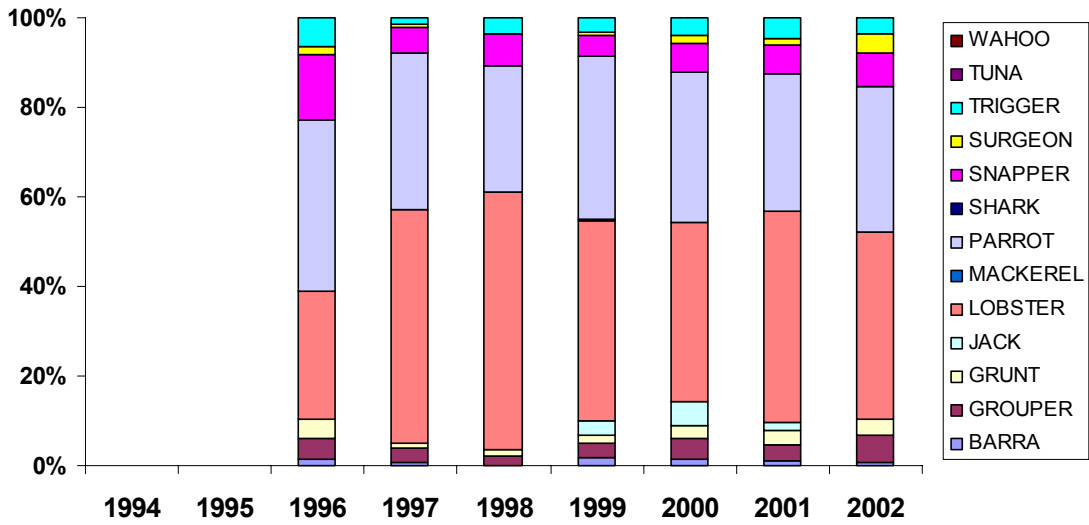


Figure 2 (continued)

Spear - reported landings



Spear - TIP

