

Georgia Trawl Gear Characterization

Prepared by the Atlantic States Marine Fisheries Commission

1.1 TRAWLS

1.1.1.1 Gear Description

The Georgia trawl fishery includes food shrimp trawls, bait shrimp trawls, whelk trawls, and jellyfish trawls.

1.1.1.2 Number of Licensed and Active Vessels

One license is issued for all otter trawls. The number of trawl licenses issued and the number of active trawling vessels has declined from 2002 to 2004, but the percent active vessels has remained relatively stable (Table 1).

Table 1. The number of licensed and active otter trawl vessels from 2002 to 2004.

Year	Licensed Trawling Vessels	Active Trawling Vessels	Percent Active Trawling Vessels
2002	491	307	63%
2003	437	284	65%
2004	384	228	59%

1.1.2 Shrimp Trawls

1.1.2.1.1 Gear Description

The Georgia shrimp trawl fishery includes food and bait shrimp trawls. For a general description of shrimp trawls see the gear appendix.

1.1.2.1.2 Number of Licensed and Active Vessels

For information on all licensed and active trawling vessels, see section 4.1.1.2. The number of licensed and active shrimp trawl vessels decreased from 2002 to 2004 while the percentage of active vessels increased (Table 2). The application asks licensees to indicate the gear they plan to use, but answering these questions is voluntary (Califf 2005, pers. comm). Therefore, the number of licensed shrimp trawling vessels is approximate.

Table 2. Number of licensed and active shrimp trawl vessels from 2002 to 2004.

Year	Licensed Shrimp Trawling Vessels	Active Shrimp Trawling Vessels	Percent Active Shrimp Trawling Vessels
2002	490	287	57%
2003	430	266	62%
2004	360	222	62%

1.1.2.2 Food Shrimp Trawls

1.1.2.2.1 Gear Description

Food shrimp trawls are bottom trawls. The footrope is weighted with chain spread evenly across the net and the headrope is usually equipped with floats spread out evenly. The maximum footrope length for a single trawl or combination of trawls is 220 feet (67 meters), which does

not include a try net up to 16 feet (4.9 meters) long (O.C.G.A. 27-4-133). For a general description of shrimp trawls see the gear appendix.

1.1.2.2.2 Gear Deployment

Food shrimp trawls are deployed either manually or mechanically via a winch (Califf 2005, pers. comm).

1.1.2.2.3 Targeted Species

Food shrimp trawls target shrimp.

1.1.2.2.4 Number of Licensed and Active Vessels

Georgia issues only two license types: trawler or non-trawler. The DNR provided the number of trawler licenses issued and the number of those licensed vessels that were active (section 4.1.1.2), and also determined the number of active shrimp trawling vessels (section 4.1.2.1.2).

1.1.2.2.5 Effort

Waters seaward of Georgia sounds to the three-mile territorial limit are closed to food shrimp trawling from March 1 through May 14. During other parts of the year, the DNR Commissioner may open waters based on sound biological, environmental, economic, and social criteria set forth in state law. The sounds are currently closed to trawling for food shrimp and the DNR has no plans to open them (Califf 2005, pers. comm). Food shrimp trawling is legal only between 5:00 a.m. and 8:00 p.m. (O.C.G.A. 27-4-133). The depth fished is not known. In 2004 effort by food shrimp trawls peaked in October (Figure 1, Table 1-1). The areas with highest effort were St. Simon's Sound and Sapelo, but effort not attributed to any area was also high (Table 1-1).

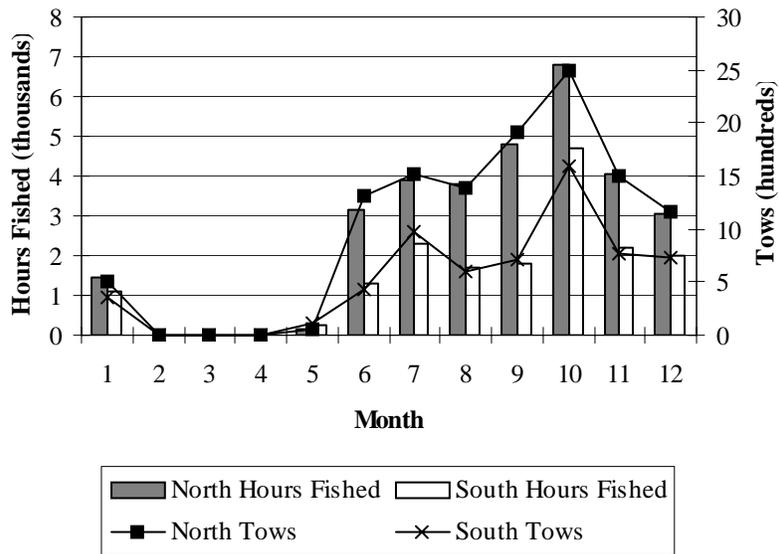


Figure 1. Food shrimp trawl effort in 2004 by month.

1.1.2.2.6 Status of the Fishery

The number of vessels participating in the food shrimp trawl fishery has been declining for the last 20 years, but has dropped sharply in the last two years. Although the fleet is shrinking through attrition, some industry stakeholders have an interest in limiting the number of food shrimp trawling licenses issued by the state (Califf 2005, pers. comm). Effort declined from 10,212 trips in 2000 to 5,539 trips in 2004, but landings did not drop as sharply (Figure 2, Table 1-2).

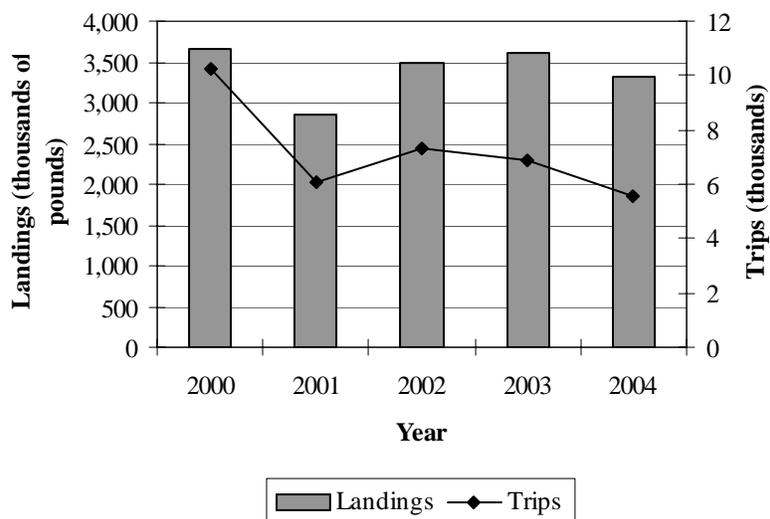


Figure 2. Food shrimp trawl landings and effort from 2000 to 2004.

1.1.2.2.7 Sea Turtle Bycatch

Commercial food shrimp trawls must have a certified TED in each net. Current regulations include measures that establish Shrimp Fishery/Sea Turtle Conservation Areas where shrimping effort and sea turtle abundance are high. TEDs are not required in try nets with a headrope length 12 feet (3.7 meters) or shorter (O.C.G.A. 27-4-133).

The Georgia DNR conducts an assessment of bycatch in the large trawl commercial food shrimp trawl fishery with both fishery-dependent and fishery-independent sampling. DNR personnel record trawl times, locations, and other pertinent data, in addition to biological data on harvested species. A copy of this data is forwarded to NMFS (Califf 2005, pers. comm). GA DNR began sampling this fishery in 2001 after a long hiatus. GA DNR personnel typically conduct observation work between March and December, though some observations may be made in January and February. Trips are conducted throughout the coastal trawl waters of Georgia with exact locations dependent on fishermen participation. The observer program covers less than one percent of the fishery. One turtle has been observed in the fishery since 2001, and the observer noted that the turtle was in the mouth of the net and appeared unharmed (Page 2006, pers. comm). The net was equipped with a TED.

1.1.2.2.8 Laws and Regulations

Recreational fishermen may not use food shrimp trawls. The maximum footrope length for a single trawl or combination of trawls is 220 feet (67 meters), which does not include a try net up to 16 feet (4.9 meters) long. Waters seaward of Georgia sounds to the three-mile territorial limit are closed to food shrimp trawling from March 1 through May 14. Food shrimp trawling is legal only between 5:00 a.m. and 8:00 p.m. Commercial food shrimp trawls must have a certified TED in each net. Current regulations include measures that establish Shrimp Fishery/Sea Turtle Conservation Areas where shrimping effort and sea turtle abundance are high. TEDs are not required in try nets with a headrope length 12 feet (3.7 meters) or shorter (O.C.G.A. 27-4-133).

1.1.2.3 Bait Shrimp Trawls

1.1.2.3.1 Gear Description

Bait shrimp trawls are bottom trawls (Califf 2005, pers. comm). Commercial fishermen may not use nets more than 20 feet (6.1 meters) wide, and the mesh size must be between one and 1.375 inches (2.5 and 3.5 centimeters) stretch (O.C.G.A. 27-4-171). Recreational fishermen may not use nets more than 10 feet wide, and the same mesh restrictions apply.

1.1.2.3.2 Gear Deployment

Bait shrimp trawls are deployed either manually or mechanically via a winch. The footrope is weighted with chain spread evenly across the net and the headrope is usually equipped with floats spread out evenly (Califf 2005, pers. comm).

1.1.2.3.3 Targeted Species

Bait shrimp trawls target shrimp.

1.1.2.3.4 Number of Licensed and Active Vessels

There are approximately 35 active vessels in the commercial bait shrimp trawl fishery (Califf 2005, pers. comm). A Bait Dealer's License and a commercial fishing license are required before anyone may take and sell shrimp for live or dead bait. Recreational participation is not known.

1.1.2.3.5 Effort

All bait shrimp trawling is restricted to designated bait zone areas. Maps of these areas are available from the Coastal Resources Division. These areas may be opened and closed at the DNR Commissioner's discretion based on criteria set in state law. Bait shrimping may only take place from one-half hour before sunrise to one-half hour after sunset (O.C.G.A. 27-4-171). Observer data indicates that tow times are approximately 17 minutes (Califf 2005, pers. comm). The number of trips taken by bait shrimp trawls in 2004 was highest in July when fishermen took 358 trips (Figure 3, Table 1-3). The number of sets is not collected from this fishery. Effort in 2004 was highest in St. Andrew's and St. Simon's Sounds (Table 1-3). The depth fished is not known.

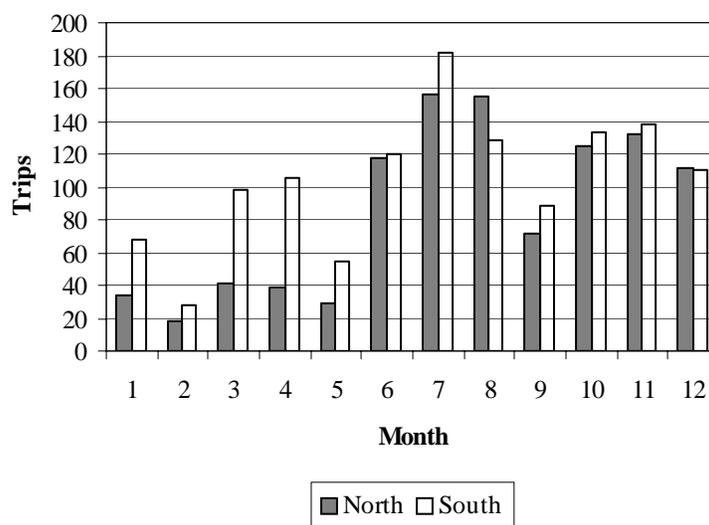


Figure 3. Bait shrimp trawl effort in 2004 by month

1.1.2.3.6 Status of the Fishery

The bait shrimp trawl fishery is relatively stable, and participation in the fishery is not expected to change appreciably in the future (Califf 2005, pers. comm). Effort declined from 3,052 trips in 2000 to 2,500 trips in 2004, while landings increased from 52,363 pounds in 2000 to 70,820 pounds in 2004 (Figure 4, Table 1-4).

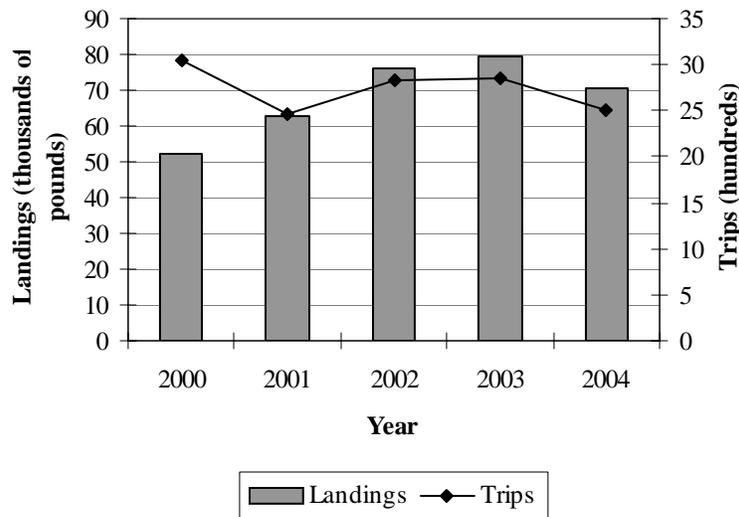


Figure 4. Bait shrimp trawl landings and effort from 2000 to 2004

1.1.2.3.7 Sea Turtle Bycatch

Georgia regulations state that a TEDs are not required for bait shrimp trawls because a bait trawler cannot trawl for food shrimp (O.C.G.A. 27-7-171). There is no state-run observer program for the bait shrimp trawl fishery and no other sea turtle bycatch information was available.

1.1.2.3.8 Laws and Regulations

Bait shrimp trawl nets may not be more than 20 feet (6.1 meters) wide, and the mesh size must be between one and 1.375 inches (2.5 and 3.5 centimeters) stretch. All bait shrimp trawling is restricted to designated bait zone areas. Maps of these areas are available from the Coastal Resources Division. These areas may be opened and closed at the DNR Commissioner's discretion based on criteria set in state law. Bait shrimping may only take place from one-half hour before sunrise to one-half hour after sunset. Georgia regulations state that a TEDs are not required for bait shrimp trawls because a bait trawler cannot trawl for food shrimp (O.C.G.A. 27-7-171).

1.1.3 Whelk Trawls

1.1.3.1.1 Gear Description

Whelk trawls are bottom trawls. The footrope is weighted with chain spread evenly across the net and the headrope is usually equipped with floats spread out evenly (Califf 2005, pers. comm). Georgia law requires whelk trawls have a minimum stretched mesh size of four inches (10 centimeters) (Code Section 27-4-133 (f)).

1.1.3.1.2 Gear Deployment

Whelk trawls are deployed either manually or mechanically via a winch (Califf 2005, pers. comm). While collecting bycatch information for the commercial trawl fishery in 1999 CRD observers found the average tow time was 90.2 minutes (Belcher et al. 2001).

1.1.3.1.3 Targeted Species

Whelk trawls target whelk and crab.

1.1.3.1.4 Number of Licensed and Active Vessels

The number of active and percent active whelk trawling vessels declined from 2002 to 2004 (Table 3). Georgia issues only two gear-based licenses, trawling and non-trawling. See Table 1 for the total number of licensed trawling vessels.

Table 3. Number of active crab/whelk trawl vessels from 2002 to 2004.

Year	Active Whelk Trawling Vessels
2002	19
2003	17
2004	5

1.1.3.1.5 Effort

The whelk trawl fishery is relatively small compared to other Georgia trawl fisheries. The DNR may open and close any waters seaward of the sounds at any time. The sounds are closed to whelk trawling. Whelk trawling may only occur between 5:00am and 8:00pm Monday through Saturday (GA DNR 2005a). Due to delinquent reporting, 2004 data is not available. Data on effort by geographic area fished is highly incomplete. The whelk trawl fishery provides an alternate fishery for shrimp vessels during the season when state waters are closed to shrimp trawling (Belcher et al. 2001). The fishery is generally open in February and March (GA DNR 2005a), and in 2003 fishermen took 35 trips in February, 41 trips in March, and 20 trips in April (Califf 2005, pers. comm.). Depth fished is not known.

1.1.3.1.6 Status of the Fishery

Landings and effort declined from 2000 to 2003 (Figure 5, Table 1-5). Participation in the whelk trawl fishery is declining due to increased operating costs and low prices for whelk. The declining trend is expected to continue (Califf 2005, pers. comm). Data from 2004 is not available due to delinquent reporting.

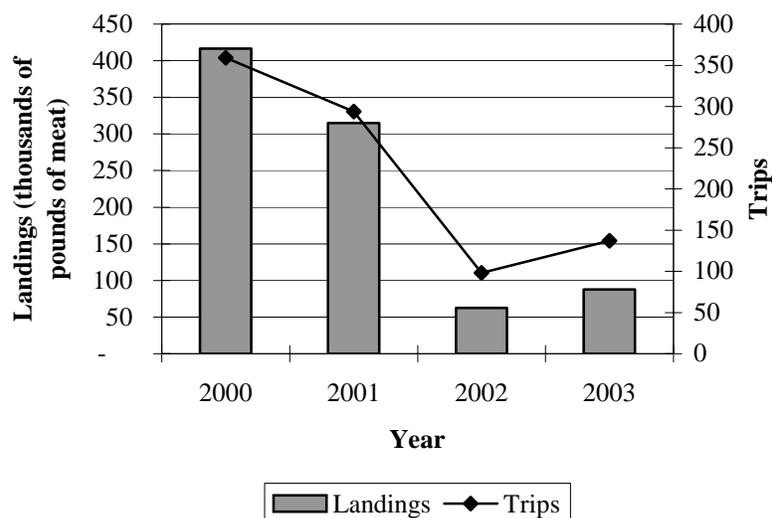


Figure 5. Whelk trawl landings and effort from 2000 to 2003.

1.1.3.1.7 Sea Turtle Bycatch

Commercial whelk trawlers must have a certified TED in each net (GA DNR 2005a). The Georgia DNR conducts an assessment of bycatch in the whelk trawl commercial fishery with both fishery-dependent and fishery-independent sampling. DNR personnel record trawl times, locations, and other pertinent data, in addition to biological data on harvested species. A copy of this data is forwarded to NMFS (Califf 2005, pers. comm). GA DNR personnel conduct observation work at the conclusion of the shrimp trawl season, typically between January and April. Trips are conducted throughout the coastal trawl waters of Georgia with exact locations dependent on fishermen participation. No sea turtle interactions have been observed aboard whelk vessels since the regulatory changes initiated by the GA DNR requiring TEDs starting in the 2000/2001 whelk season (Page 2006, pers. comm).

1.1.3.1.8 Laws and Regulations

Georgia law requires whelk trawls have a minimum stretched mesh size of four inches (10 centimeters) (Code Section 27-4-133 (f)). The DNR may open and close any waters seaward of the sounds at any time, and may close the waters of Cumberland, St. Simons, Sapelo, St. Andrew, Wassaw or Ossabaw sounds in January, February, and March, though the sounds have been closed to whelk trawling since 1989. Whelk trawling may only occur between 5:00am and 8:00pm Monday through Saturday. Commercial whelk trawlers must have a certified TED in each net (GA DNR 2005a).

1.1.4 Jellyfish Trawls

1.1.4.1.1 Gear Description

Jellyfish trawls are mid-water trawls. The headrope is equipped with floats, but there is no chain on the footrope (Califf 2005, pers. comm).

1.1.4.1.2 Gear Deployment

Jellyfish trawls are deployed mechanically and are designed to fish mid-water (Califf 2005, pers. comm).

1.1.4.1.3 Targeted Species

Jellyfish trawls target cannonball jellyfish.

1.1.4.1.4 Number of Licensed and Active Vessels

The jellyfish trawl fishery is an experimental fishery that requires a special permit. The number of permits issued has increased from three to eight from 2002 to 2004, and all permitted vessels are active (Table 4).

Table 4. The number of licensed and active jellyfish trawl vessels from 2002 to 2004.

Year	Permitted Vessels	Active Vessels	Percent Active Vessels
2002	3	3	100%
2003	4	4	100%
2004	8	8	100%

1.1.4.1.5 Effort

The jellyfish trawl fishery extends into federal waters, and much of the effort occurs in federal waters. Of the effort occurring in state waters, the specific location is unknown. In 2004 fishing occurred in February, March, and April. The hours fished was highest in March while the number of sets was highest in February (Figure 6, Table 1-6). The depth and time of day fished is not known. Landings are confidential.

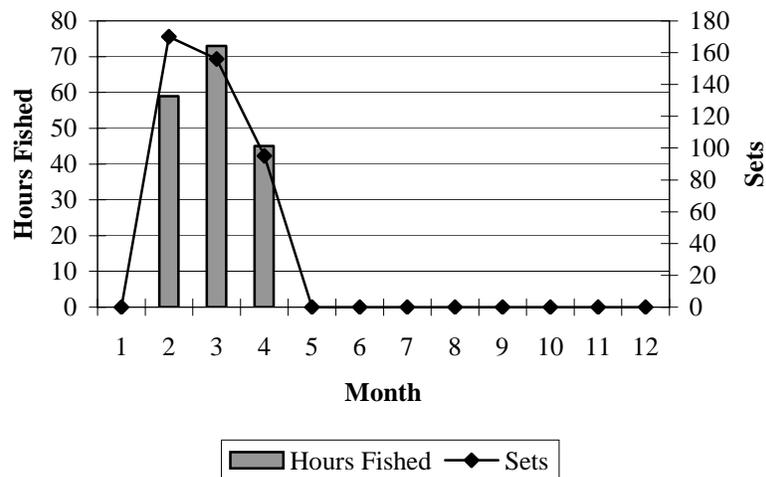


Figure 6. Jellyfish trawl effort in 2004 by month

1.1.4.1.6 Status of the Fishery

Landings in the jellyfish trawl fishery are confidential. Information on hours fished was not collected in 2000 and 2001. Effort by trips was lowest in 2000 when only three trips were taken. Hours fished increased from 283 in 2002 to 797 in 2004 (Figure 7, Table 1-7).

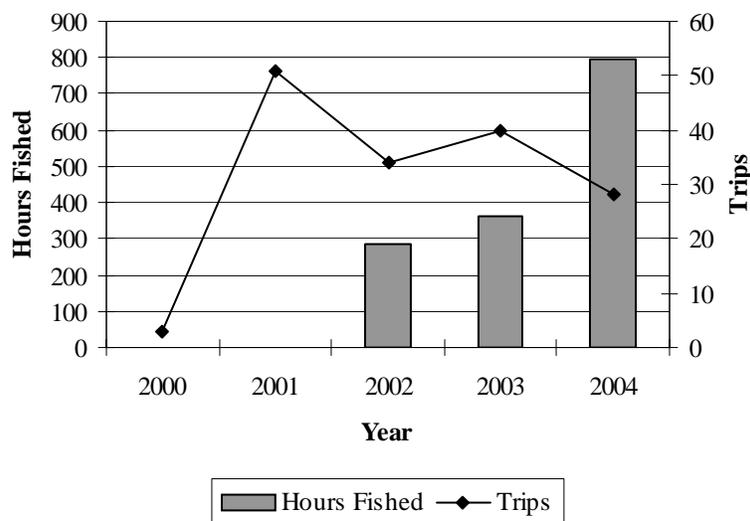


Figure 7. Jellyfish trawl effort from 2000 to 2004.

1.1.4.1.7 Sea Turtle Bycatch

The Georgia DNR conducts an assessment of bycatch in experimental fisheries permitted by the state, including the jellyfish trawl fishery (Page 2006, pers. comm). DNR personnel record trawl times, locations, and other pertinent data, in addition to biological data on harvested species. A copy of this data is forwarded to NMFS (Califf 2005, pers. comm). GA DNR personnel conduct observation work in the winter/early spring. Trips are conducted throughout waters of the state in which the fishery is permitted to occur, with exact locations dependent on fishermen participation. Percent observer coverage in experimental fisheries such as the jellyfish trawl fishery constantly changes as the desire to participate in these small fisheries rises and falls. GA DNR personnel estimates that less than five percent of the fishery has been covered for the last several years combined. Data on the exact percentage of the fishery covered is available, but was not provided for this report. One loggerhead turtle was caught and released unharmed prior to the GA DNR implementing TEDs in this fishery. TEDs were implemented in 2002 (Page 2006, pers. comm).

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take reduction plan and reduce sea turtle/fishery interaction in state waters of North Carolina and Virginia.

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APPENDIX 1. DATA TABLES

Table 1-1. Effort by food shrimp trawls in 2004 by month.

Area		1	2	3	4	5	6	7	8	9	10	11	12
Unknown	Hours Fished	110	0	0	0	180	1,764	512	945	956	1,223	1,826	1,893
	Number of Tows	31	0	0	0	56	546	166	267	255	384	482	518
Altamaha Sound	Hours Fished	0	0	0	0	28	174	33	0	287	246	125	52
	Number of Tows	0	0	0	0	10	60	11	0	98	88	50	13
Doboy	Hours Fished	299	0	0	0	0	267	332	767	677	1,426	555	678
	Number of Tows	104	0	0	0	0	94	256	284	261	545	178	240
St. Andrews Sound	Hours Fished	57	0	0	0	0	0	40	94	0	0	0	0
	Number of Tows	15	0	0	0	0	0	13	21	0	0	0	0
St. Mary's Entrance	Hours Fished	28	0	0	0	0	282	471	113	123	242	192	263
	Number of Tows	10	0	0	0	0	86	176	38	42	93	71	114
St. Simons Sound	Hours Fished	712	0	0	0	204	573	1,443	705	737	2,776	1,326	1,026
	Number of Tows	219	0	0	0	102	200	524	256	312	866	463	357
Calibougue Sound	Hours Fished	258	0	0	0	0	707	616	1,024	617	742	513	293
	Number of Tows	92	0	0	0	0	269	269	288	245	317	199	123
Sapelo	Hours Fished	499	0	0	0	60	1,276	1,085	1,624	1,661	2,399	1,223	1,465
	Number of Tows	212	0	0	0	24	647	529	702	785	1,118	564	618
Savannah River	Hours Fished	279	0	0	0	0	273	1,287	626	0	343	235	400
	Number of Tows	72	0	0	0	0	125	403	190	0	88	59	109
St. Catherine's	Hours Fished	14	0	0	0	20	179	359	138	524	737	489	190
	Number of Tows	3	0	0	0	10	68	152	67	189	201	164	94
Wassaw and Ossabaw	Hours Fished	411	0	0	0	48	710	543	385	2,004	2,581	1,566	702
	Number of Tows	129	0	0	0	16	212	173	141	687	766	516	225

Table 1-2. Landings and effort by food shrimp trawls from 2000 to 2004

Year	Landings	Trips
2000	3,649,087	10,212
2001	2,858,616	6,104
2002	3,489,036	7,311
2003	3,600,964	6,845
2004	3,313,843	5,539

Table 1-3. Bait shrimp trawl effort (in trips) in 2004 by month

Area	1	2	3	4	5	6	7	8	9	10	11	12
Unknown	11	6	19	29	10	36	20	25	12	48	21	1
Altamaha Sound	10	0	0	1	13	24	40	17	8	18	20	10
Doboy	0	0	0	11	0	0	0	0	0	0	0	0
St. Andrews Sound	33	17	49	47	9	44	85	70	49	77	87	56
St. Mary's Entrance	0	0	0	0	0	0	10	4	0	0	0	14
St. Simon's Sound	25	11	49	46	33	52	47	37	32	38	31	30
Ossabaw	3	0	15	6	2	20	46	38	27	30	58	61
Sapelo	1	0	3	6	1	7	30	25	5	22	16	14
St. Catherine's	30	18	23	27	26	46	43	42	10	41	33	28
Wassaw	0	0	0	0	0	44	37	50	30	32	25	9

Table 1-4. Bait shrimp trawl landings and effort from 2000 to 2004

Year	Landings (pounds of tails)	Trips
2000	52,363	3,052
2001	62,759	2,458
2002	76,016	2,837
2003	79,219	2,854
2004	70,820	2,500

Table 1-5. Whelk trawl landings and effort from 2000 to 2003.

Year	Landings (pounds of meat)	Trips
2000	416,745	359
2001	315,020	294
2002	62,441	98
2003	87,540	137

Table 1-6. Jellyfish trawl effort in 2004 by month

Month	Hours Fished	Number of Sets
1	0	0
2	59	170
3	73	156
4	45	95
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0

Table 1-7. Jellyfish trawl effort from 2000 to 2004.

Year	Trips	Hours Fished
2000	3	-
2001	51	-
2002	34	283
2003	40	362
2004	28	797