3.7 ECONOMIC INFORMATION

This section presents available economic information on the skate fishery. This includes a brief summary of the economic frameworks (supply and demand) for both the lobster bait market and the wing market; information about dockside prices for skates; trends in revenues from skate landings; and information about skate vessels, dealers, processors, and trade.

3.7.1 Economic Framework

The dockside markets for skate wings and bait are depicted in Figure 47 and Figure 48 in stylized form. These graphs are intended only to convey a sense of the economic benefits and costs of regulating skate fisheries. That is, we do not yet have the data necessary to estimate empirical demand and supply relationships.

The dockside demand for skate wings is derived from consumer demand in overseas markets Figure 47. In the most simple case where the U.S. provides only a small quantity of the global supply of skate wings, dockside price is set by international demand and supply of raw fish. The dockside prices of other export products such as Atlantic bluefin tuna, monkfish, and sea urchin roe are probably similarly determined. A restriction on skate wing landings (if that happens) puts a kink in the U.S. landings supply at the dotted line. The short run costs of such a restriction on the fishing industry and U.S. economy is triangular area ***A*** in Figure 47, which is above the competitive supply curve (which traces costs) and below the price line. (Impacts on foreign businesses and consumers generally are not factored into a benefit-cost analysis of domestic fisheries management.) Over the long run, recovery of skate populations (if that is a problem) would increase supply (i.e., shift the supply curve to the right), so the net effect of current losses and future gains would have to be weighed.

In contrast, the demand for skate bait is an input demand from the lobster fishery Figure 48. In this case, a regulation that reduces skate bait landings in the short run could increase dockside price from "low" where demand and supply intersect to "high" where the new, lower landings hit demand. Conventional economic wisdom would then have costs increase in the lobster fishery, reducing supply. The area ***A'*** in Figure 48 is the overall short run loss of net benefits felt by the lobster fishery and, to an extent, consumers and the seafood sector (depending on the type of demand). Likewise, area ***A*** in Figure 48 measures the same loss in the dockside skate market. In the long run, the economic sense of such a regulation depends on the cumulative results over time.

Figure 47 Stylized Dockside Market for Skate Wings

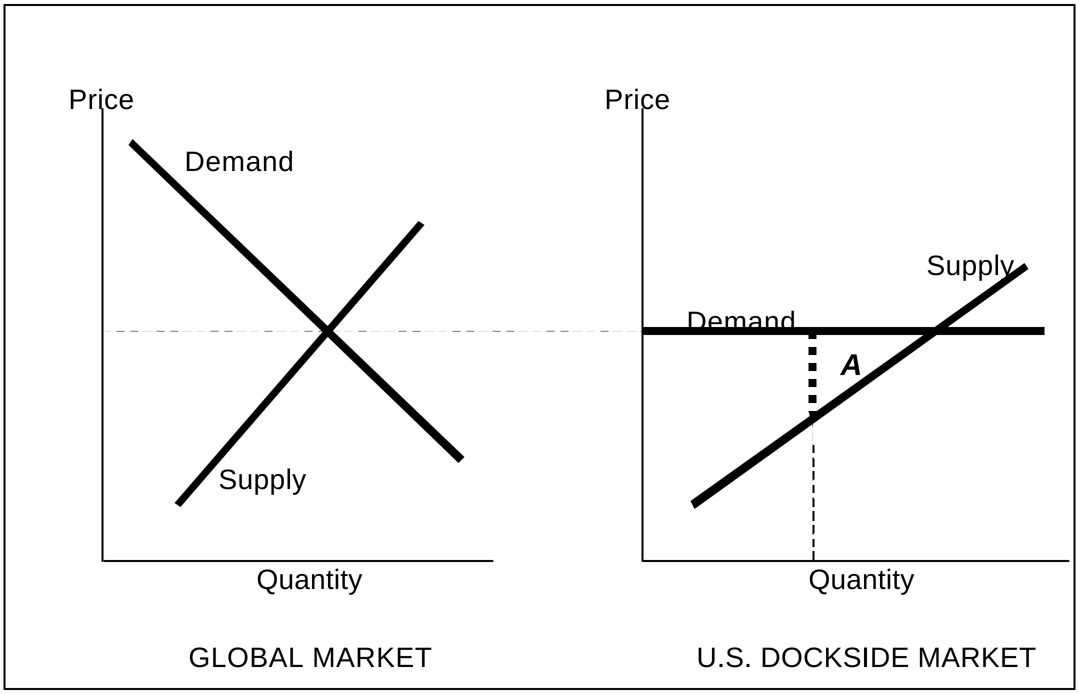


Figure 48 Stylized Dockside Market for Skates as Lobster Bait

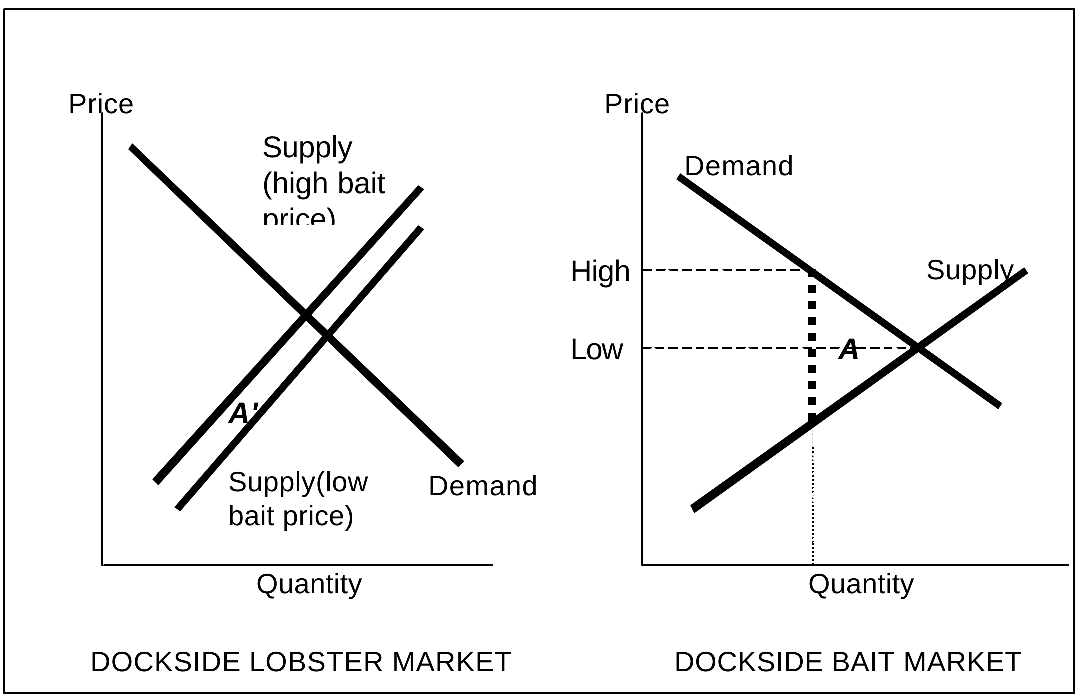


Figure 47 and Figure 48 oversimplify the skate wing and bait markets in order to illustrate essential market economics. For example, the cost of skate wing landings would be close to zero when skates are, in fact, an incidental harvest in other fisheries. In addition, these graphs leave out a number of factors that comprise dockside demand, including attributes of the landed products and the prices of substitutes. For example, "dinner plates" are the preferred size of skate bait, and herring, mackerel, and menhaden are also used for lobster bait depending on the harvesters' preferences. Finally, these few lines do not adequately distinguish between benefit-cost analysis on the one hand and regional economic and financial analyses on the other. See Edwards (1994) for a primer.

3.7.2 Dockside Prices for Skates

Prices reveal important information about the economic benefits and costs of fishery regulations. Only a general review of 1999 prices will be provided in this first Skate SAFE Report.

During 1999, virtually all skate landings reported in the dealer reports (weighout data) were classified as skate wings (n=14,027 trips) or "unclassified skates" (n=1434 trips). The low average price of $0.06 per pound for "unclassified skates" suggests that these landings were primarily intended for lobster bait. This is supported by the bait utilization code reported by most dealers. About 67 percent of the assumed bait landings were priced at $0.06, and over 99 percent of the trips were priced at $0.13 or less. In contrast, the average trip price for skate wings was $0.38 in 1999, and 99 percent of the prices were a dollar or less. The average price of barndoor skates reportedly landed on 25 trips was $0.13.

The price data were analyzed for differences across month, state, and fishing gear. The "unclassified skate" data were limited to records that dealers identified as skate bait and were priced at $0.13 or less (n=1079). Skate wing records were limited to those priced at $1 or less (n=13,550).

Average dockside prices of skate landings during 1999 are reported by month in Figure 49 and Figure 50. Bait prices varied significantly by month with $0.06 lows during February and September and a $0.08 peak in June (Figure 49). There were also significant monthly differences in dockside skate wing prices with a low of $0.28 in June and high of $0.54 in March (Figure 50).

Price differences were also found among fishing gears. Skate bait caught by fish otter trawls averaged about $0.06 during 1999 (n=952) compared to about $0.08 received by sink gillnetters (n=112). Other gears that landed skate bait took fewer than 10 trips. The prices of skate wings landed by otter trawl vessels (n=8318) were similar but significantly greater than sink gillnet dockside prices (n=4551) (Figure 51). The other gears included in Figure 51 had fewer than 250 trips.

Finally, skate prices also varied by state during 1999. Bait prices in NJ where skates are caught primarily by gillnet vessels averaged 2 cents more than what otter trawl vessels received in RI ($0.08 versus $0.06). Dealer reports from the CT general canvas do not specify the intended use of skate landings, but the average price of $0.06 suggests bait. In contrast, skate wings are landed throughout the northeast region except in NC (Figure 52). Maine fishermen were paid an average of $0.45 for skate wing landings compared to $0.40 in MA, NY, and NJ. Average prices in other states were significantly less than $0.40.

Figure 49 Monthly Averages of Individual Trip Skate Bait Prices ($ per pound landed)

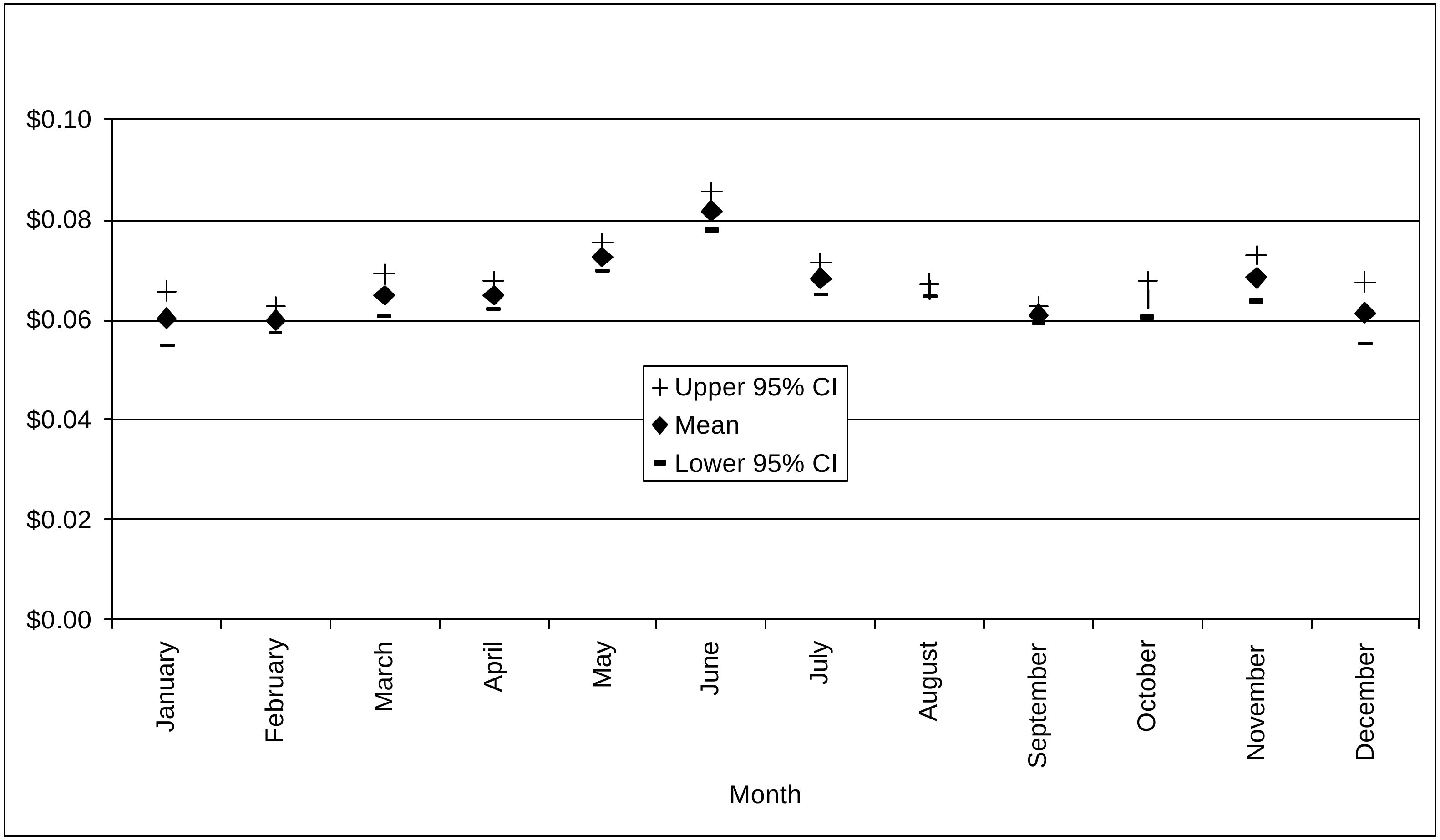


Figure 50 Monthly Averages of Individual Trip Skate Wing Prices ($ per pound landed)

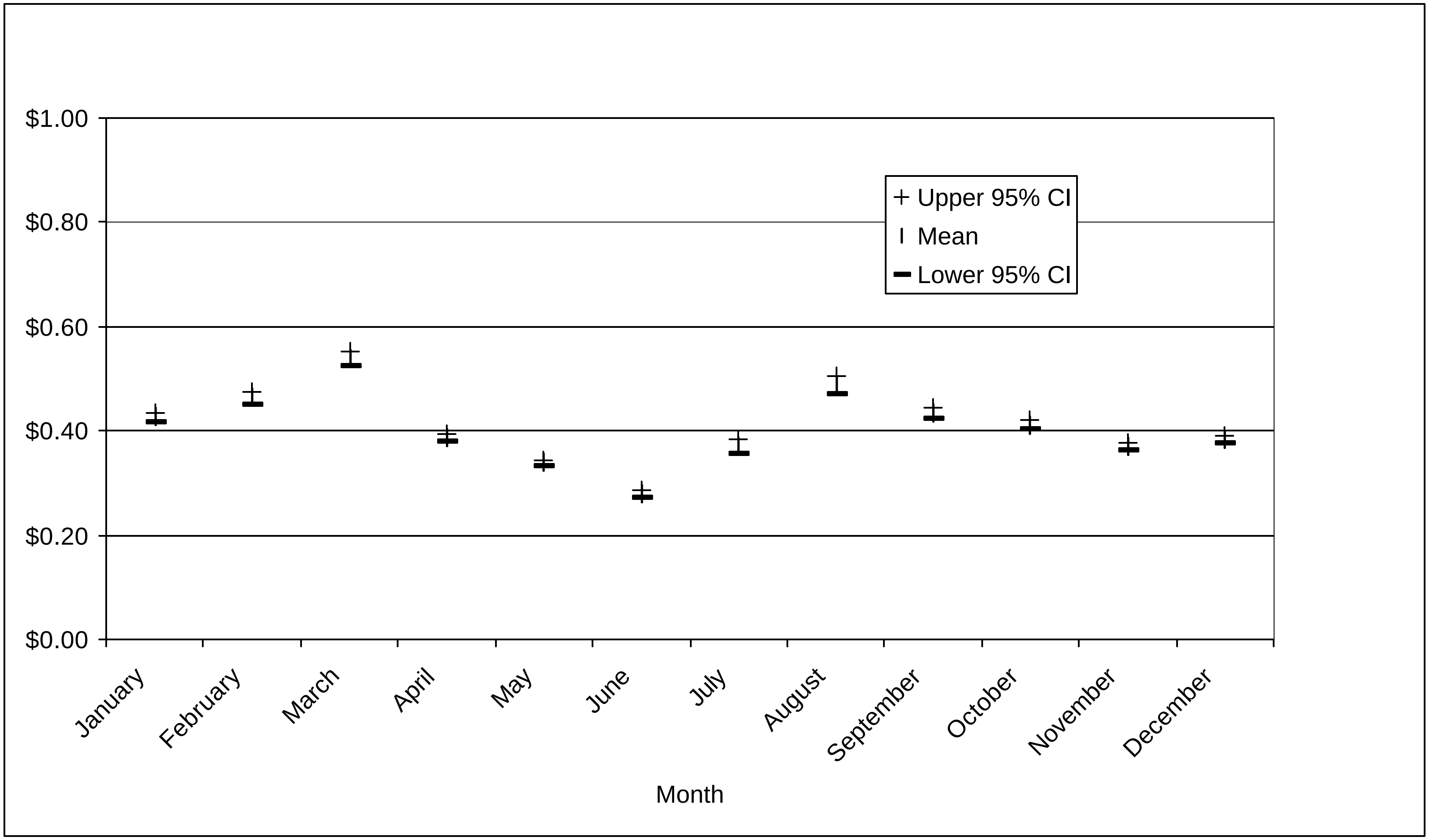


Figure 51 Comparison of Average Skate Wing Prices ($ per pound) by Gear, 1999

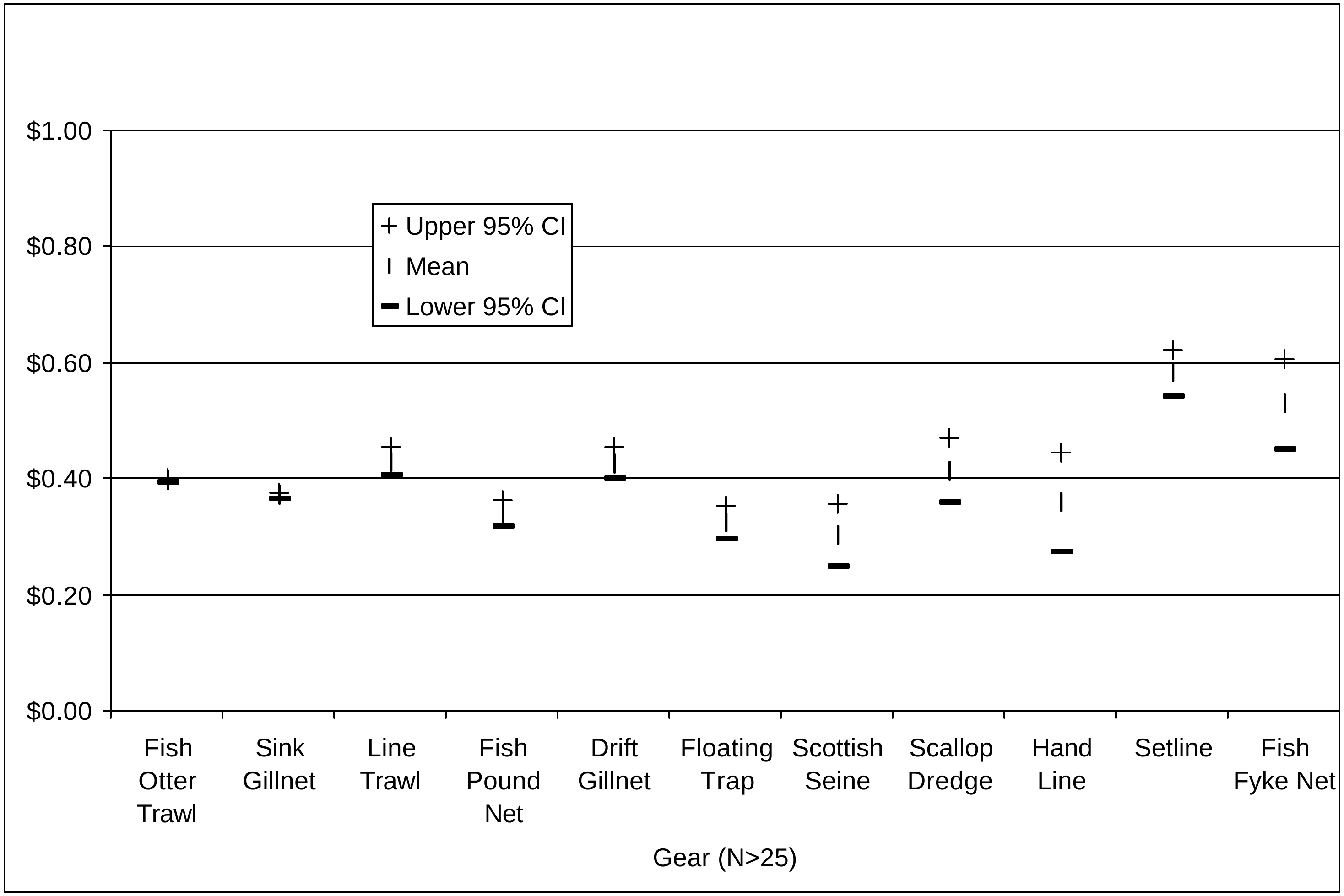
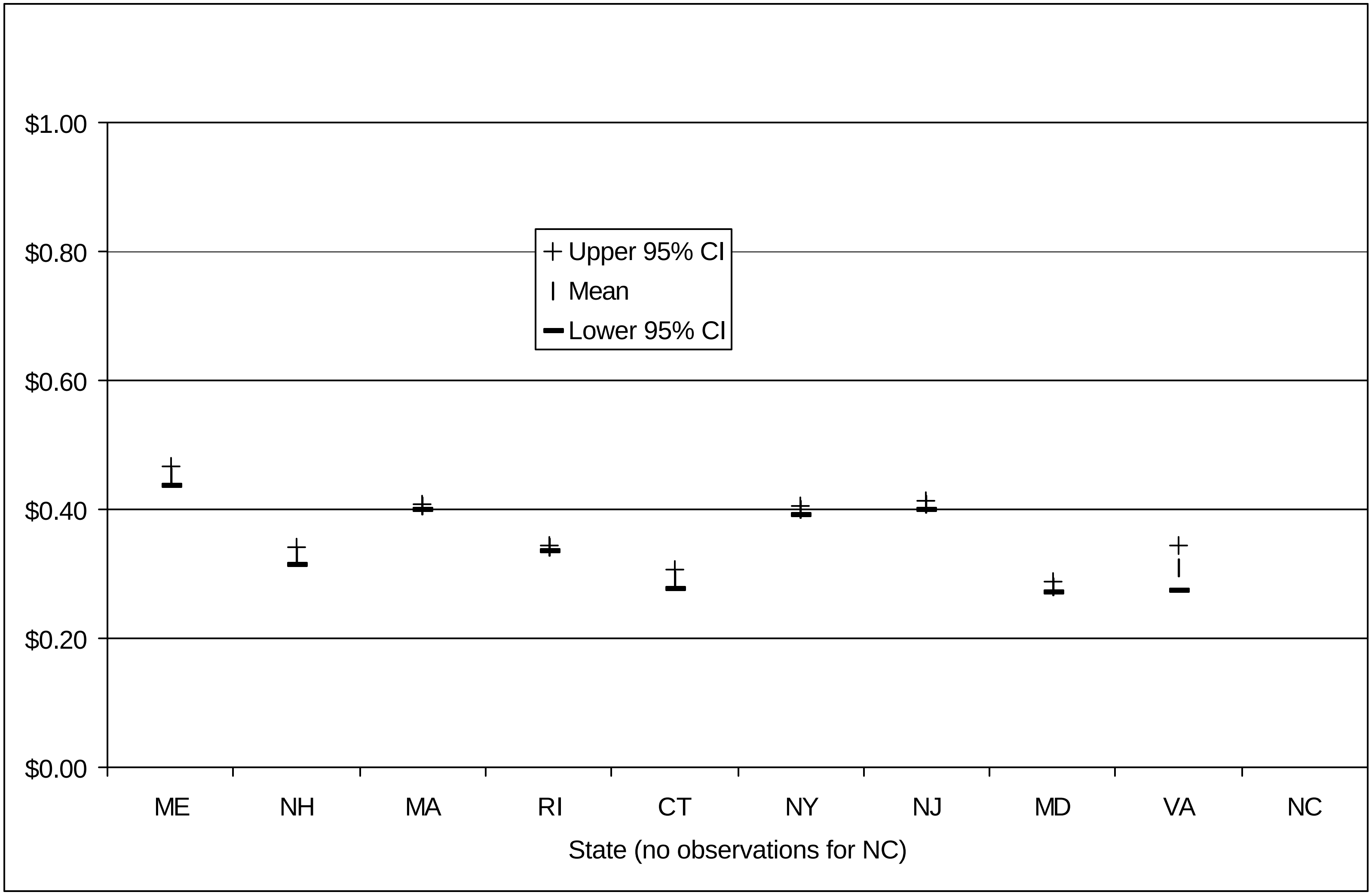


Figure 52 Comparison of Average Skate Wing Prices ($ per pound) by State



3.7.3 Price Models

The differences in skate prices by month, gear, and state should be explained by underlying economic factors. In particular, how do landings, fish size and quality, prices of mackerel or other bait substitutes, and seasonality in the lobster fishery and international seafood markets affect skate dockside prices in the northeast region? Unfortunately, most of this information needed by economists to test the influence of these factors is not available. In particular, domestic landings are not recorded by fish size or quality, and there are no data on U.S. exports of skates to other countries. Despite these drawbacks, the traditional inverse relationship between prices and supplies found in most other regional fisheries was explored.

Table 44 and Table 45 report preliminary dockside demand models for skate bait and wings landings. Average daily prices during 1999 were regressed on total daily landings in the northeast region. A 3-day moving sum of landings was specified in the skate wing model to account for the effect of recent inventories on prices. In contrast, industry sources said that bait landings are not inventoried. Fisheries economists typically use monthly or annual data from longer time series to estimate dockside demand, but industry has commented that the dealer weighout data substantially underestimates actual landings at least before mandatory reporting was implemented in 1994.

The supply of landings was a statistically significant determinant of dockside skate prices in each model. For example, a 200,000-pound increase in daily bait landings is estimated to decrease price by about $0.01 (200,000 x -0.000000055; Table 44), and the same increase in aggregate wings landings over 3 days is estimated to decrease price by about $0.07 (Table 45). However, only two percent (wings) or three percent (bait) of the price variation could be explained by landings (see R^2). The explanatory power of these regressions could improve significantly by incorporating lobster effort in the bait price model (reflect input demand for bait) and export price in the wings model.

Table 44 Preliminary Regression Models of the Daily Dockside Demand for Skate Bait in the Northeast Region, 1999

The regression (F-statistic) and parameters (t-statistic) are significant at the 99 percent level of confidence.

Regressor	Parameter Estimate	t-statistic	N	F-statistic	R^2
Intercept	0.065	84.27	310	9.27	0.03
Bait landings	-0.000000055	-3.04			

Table 45 Preliminary Regression Models of the Daily Dockside Demand for Skate Wings in the Northeast Region, 1999

The regression (F-statistic) and parameters (t-statistic) are significant at the 99 percent level of confidence.

Regressor	Parameter Estimate	t-statistic	N	F-statistic	R^2
Intercept	0.402	48.92	362	7.67	0.02
Wings landings (3-day moving sum)	-0.000000362	-2.77			

3.7.4 Revenues from Skate Landings

Fishermen in the northeast region earned $3.178 million from skate landings in 1999. Skate wings returned $2.461 million, and revenues in the dealer "unclassified" market category nearly all skate bait – were $0.717 million. Dockside skate revenues contributed less than 0.3 percent to total fisheries revenues in the northeast region in 1999.

Revenues from skate landings are reported by state in Figure 53. Rhode Island was the leading skate bait state where fishermen grossed $571 thousand for skate bait, more than all other states combined. Fishermen from Connecticut and New Jersey received an order of magnitude less revenue from skate bait landings – $59 thousand and $50 thousand, respectively. Skate bait revenues were less than $8 thousand in all other states. In contrast, Massachusetts lead all states in skate wings dockside revenues with more than $1.8 million, followed distantly by RI ($196 thousand), NJ ($187 thousand), NY ($129 thousand), and ME ($105 thousand) (Figure 53). Skate wings revenues were less than $25 thousand in all other states.

Figure 53 also reports the relative contribution of skate dockside revenues to total state fishery revenues in 1999. In Rhode Island, the leading skate bait state, total skate revenues (bait and wings) was not quite one percent of total fisheries earnings. In Massachusetts, the leading skate wings state, total skate returns were 0.7 percent of total dockside revenues. Revenues from skate landings amounted to less than 0.25 percent of total fisheries revenues in all other states.

Figure 54 reports the contribution of skate landings to total dockside revenues during 1999 by gear type. Otter trawl fishermen received $2.644 million from skate wings and bait landings – 83 percent of total skate revenues in the region – which amounted to 1.5 percent of total gross returns for this gear. Sink gillnet fishermen were paid $447 thousand for skate landings – 14 percent of total skate revenues – which amounted to one percent of the gear's total earnings in the region. Skate landings contributed less than 0.25 percent to returns from other gear sectors.

The state and gear data were cross-tabulated to more closely examine dependence on skate earnings. Figure 55 shows results for combinations of states and gear types with at least 0.5 percent dependence on skates. Sink gillnet fishermen in New Jersey received 4.3 percent of their total annual revenues from skate landings, followed by line trawl fishermen with 3.9 percent. All other combinations were less than 3 percent dependent on skates landings during 1999, including otter trawl and sink gillnet fishermen in Massachusetts and Rhode Island.

Finally, skate dockside revenues were also investigated by port (Figure 56). Provincetown, Massachusetts received 6.1 percent of its total $3.5 million in dockside revenues from skate landings, followed by Tiverton, Rhode Island with 4.2 percent out of $3.8 million for the entire port. The principal skate ports – Point Judith, RI for bait and New Bedford, MA for wings – obtained 1.1 percent of total fisheries revenues from skate landings.

Figure 53 Contribution of Skate Landings to Total State Fisheries Revenue, 1999

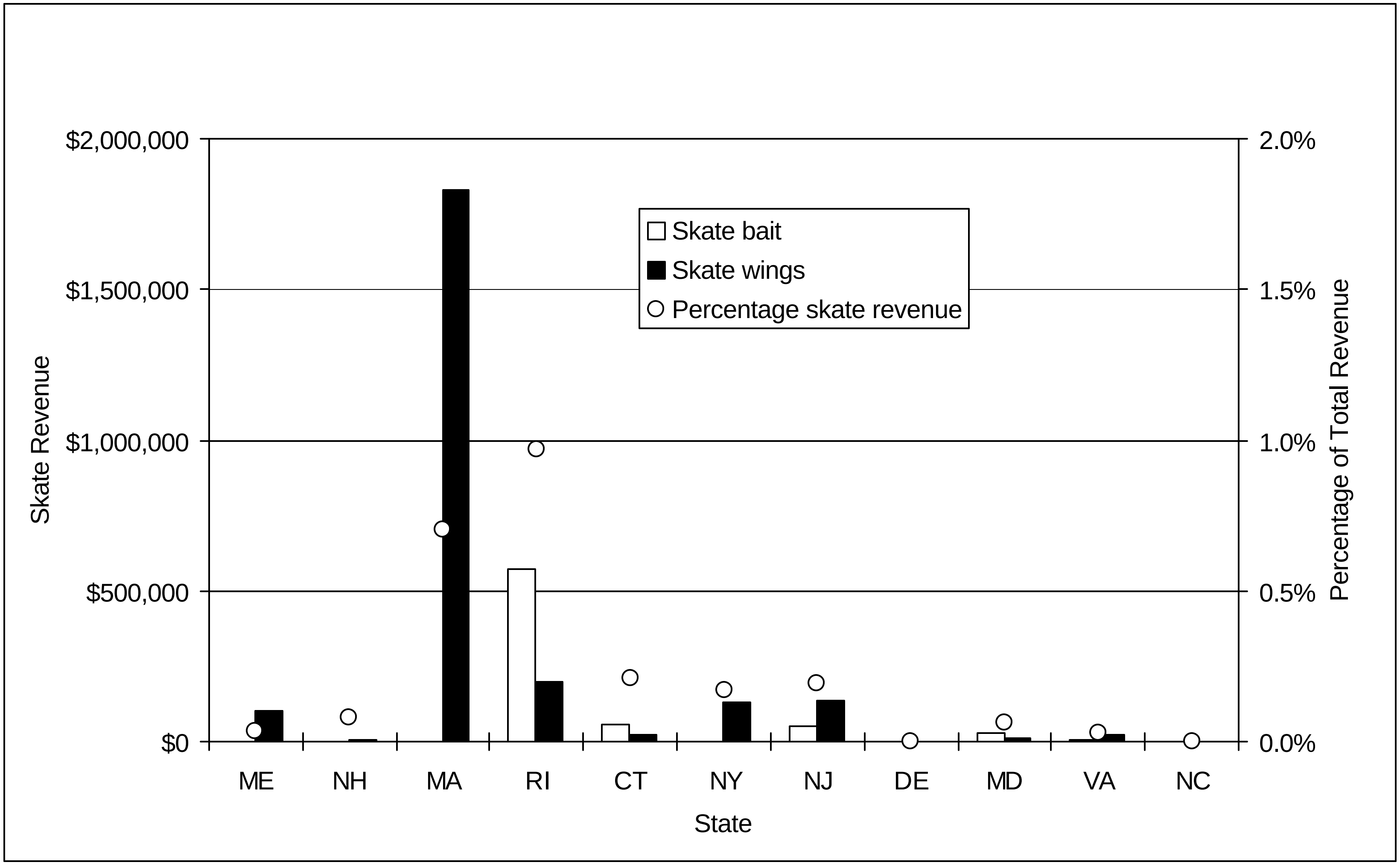


Figure 54 Contribution of Skate Landings to Total Gear Revenue, 1999

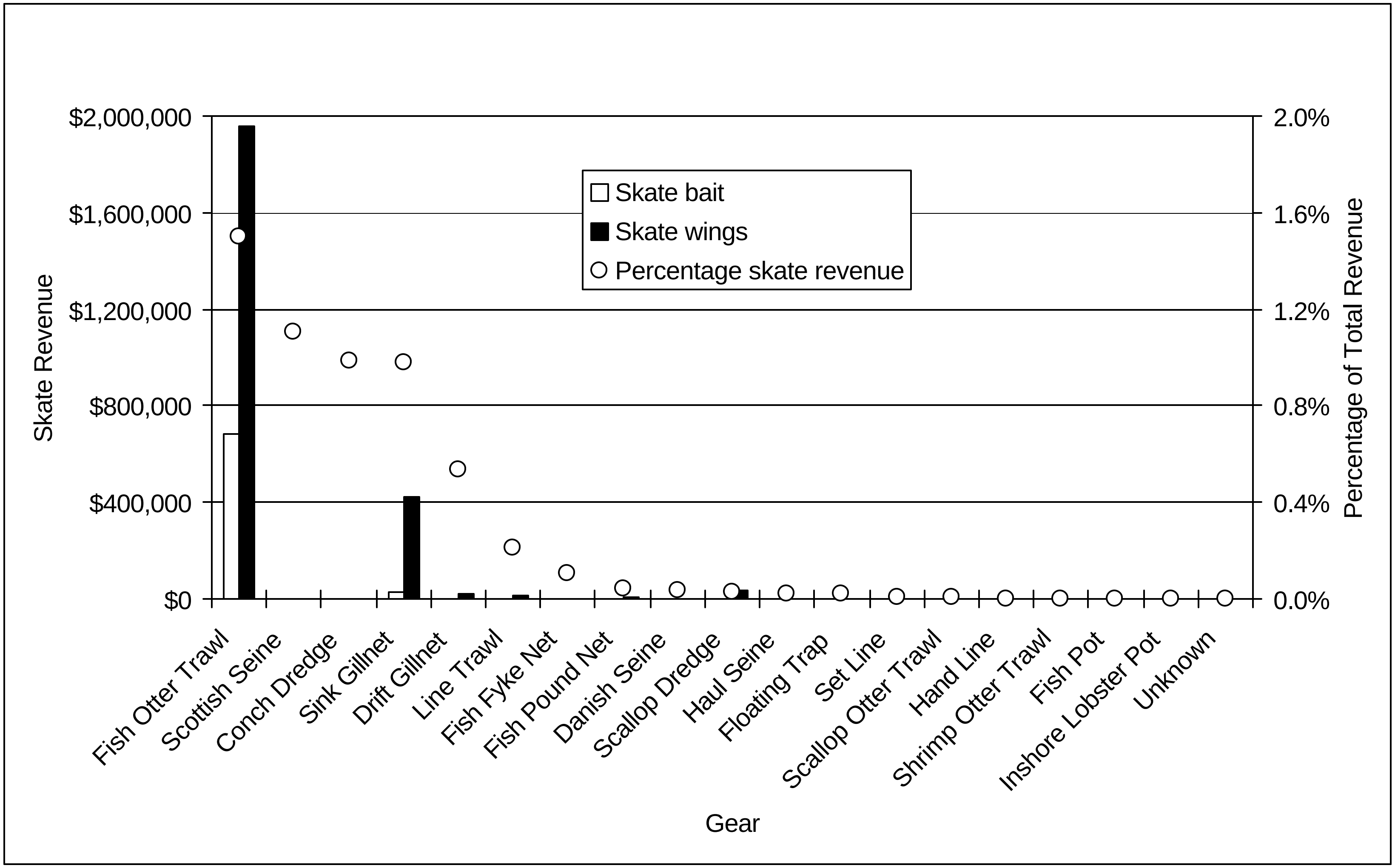


Figure 55 Contribution of Skate Revenues (0.5% or more) to Combinations of Gear and State, 1999

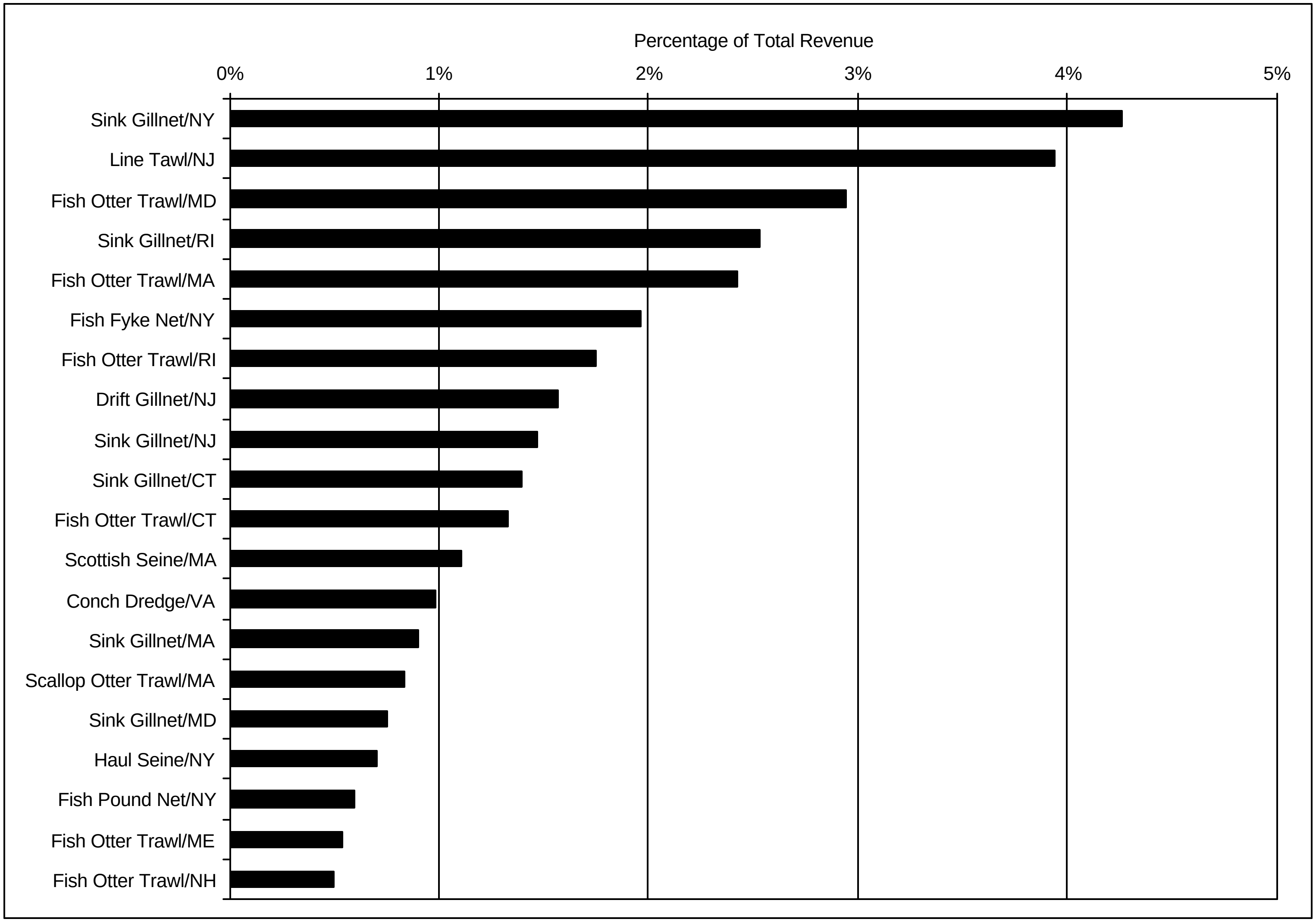
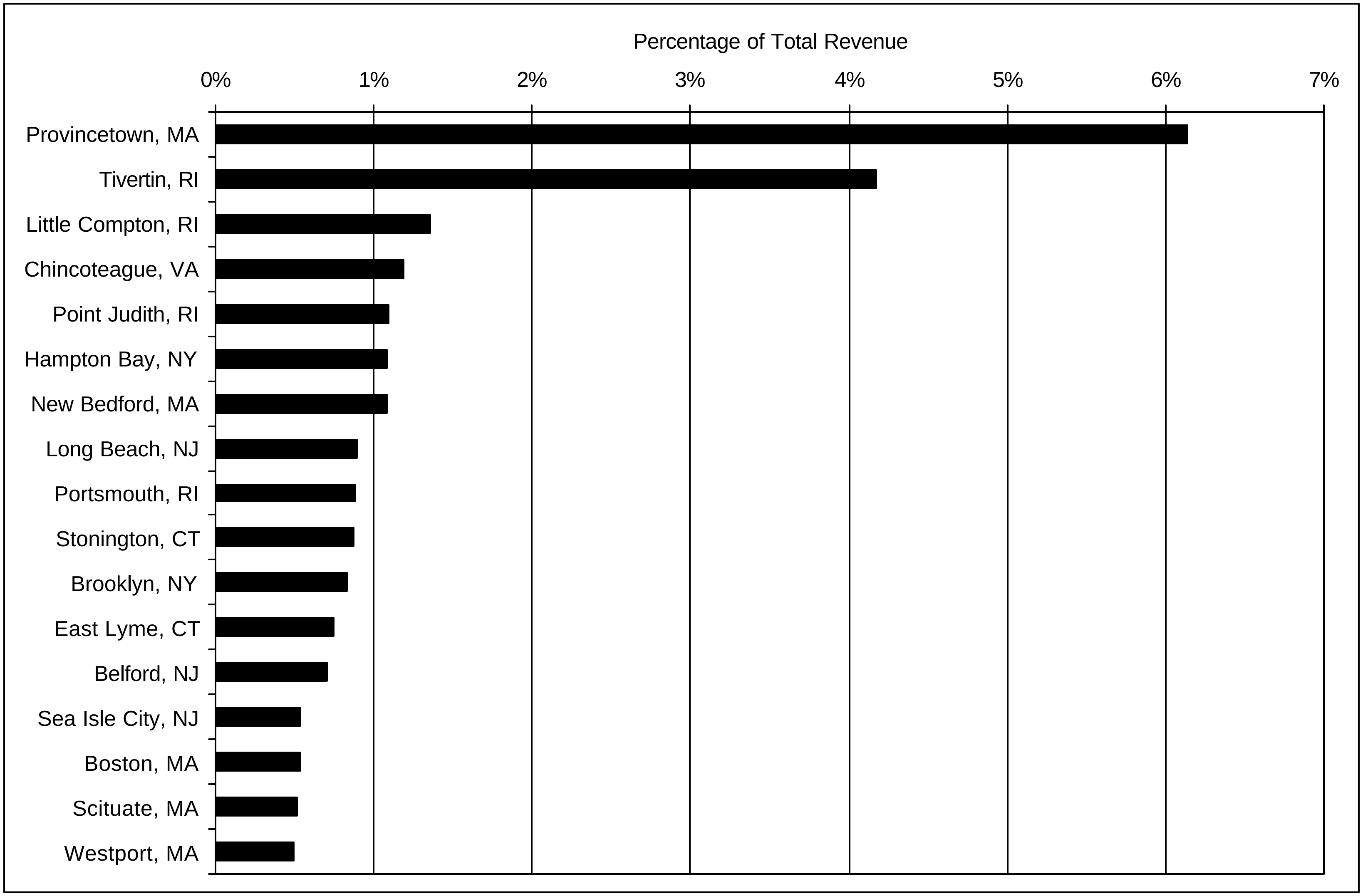


Figure 56 Contribution of Skate Revenues (0.5% or more) to Ports



3.7.5 Skate Vessels

Fishery landings data were investigated for skate landings at the vessel level during 1999. According to the fishermen's logbook source, 817 vessels reported skate landings on 15,500 fishing trips in 1999. The dealer report (so-called "weighout") figures were similar 802 vessels landing skates on 14,508 trips. The difference between these two sources - 15 vessels and 992 trips - is due to information missing from state General Canvas data at the vessel and trip levels, especially from CT, NY, and NJ.

Vessel and trip counts from dealer data were also made by market category. "Unclassified skates" (primarily skate bait) was landed by 120 vessels on 1,304 trips, and 775 vessels landed skate wings on 13,614 trips. A comparison of these market category results with the combined results reported above indicate that 93 vessels landed both skate bait and wings on 410 trips. As above, vessels aggregated in the state General Canvas reports could not be included.

The vessel and trip counts from 1999 dealer data are separated by ton class in Table 46. About 56 percent of the vessels that landed skate bait or skate wings during 1999 were of ton class 2 size, and these vessels made the most trips. Ton class 3 vessels were also common, especially among vessels that landed skate bait where they comprised 40 percent of both the vessel population and trips. The 72 ton class 4 vessels that landed skate wings comprised over nine percent of the vessel population and less than five percent of trips. Ton class 2 and 3 vessels which landed skate bait averaged 11 trips. In contrast, ton class 2 and 3 vessels which landed skate wings averaged 20 trips and 16 trips, respectively.

Table 46 also contains information related to vessel gross performance (landings and gross revenues before costs). Although ton class 2 vessels were most numerous and took most trips, ton class 3 vessels landed two (wings) to three (bait) times more skates in 1999. Total dockside revenues were likewise greater. In addition, ton class 2 vessels were less productive than ton class 3 vessels. For example, ton class 3 vessels averaged 14.3 thousand pounds of skate bait per trip and $875 per trip compared to 3.3 thousand pounds and $210 by ton class 2 vessels. Similarly, ton class 4 vessels averaged $650 per trip from skate wing landings compared to $350 and $65 by ton class 3 and 2 vessels, respectively. Average revenues per trip were at least 2.5 times greater for skate bait landings than for skate wing landings.

Information in Table 46 also highlights the contribution of skate revenues to total trip and annual revenues. Skate bait landings comprised about 21 percent and 30 percent of total trip revenues for the ton class 2 and 3 vessels, respectively. When total annual fishing activity is considered (all fisheries), the contribution of skate bait drops to about three percent or less for these vessels. From a different standpoint, revenues earned from all trips that landed skate bait (all species on these trips) contributed about ten percent of annual gross returns from all fisheries for both ton classes.

Overall, vessels that land skate wings are less dependent on skate resources for annual revenues (Table 46). Ton class 3 vessels derived 5.5 percent of trip revenues from skate wings compared to about three percent by the ton class 2 and 4 vessels. Once all species are included for the year, the dependence on skate wings drops to less than two percent for each tonnage class. Total revenues from trips that landed skate wings amounted to 28 percent or more of total annual revenues for each ton class.

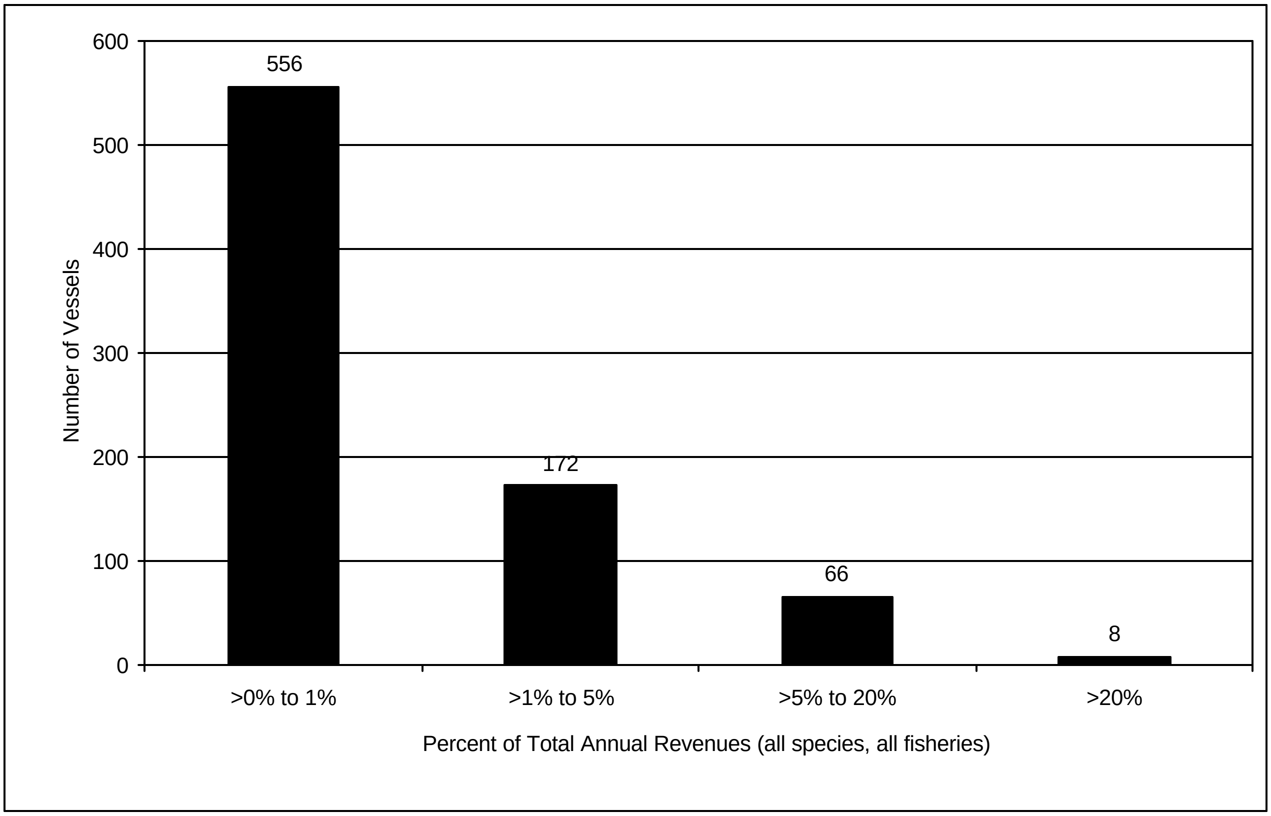
Figure 57 groups the 802 vessels from the 1999 dealer reports into categories depending on the relative importance of skate revenues to total annual revenues from all species. Nearly 70 percent of these vessels earned one percent or less of total annual revenues from skate bait and wings landings during 1999. In contrast, eight vessels – one percent of total vessels landing skates in 1999 – derived at least 20 percent of gross revenues from skates.

Table 46 Vessel Counts, Trip Counts, and Measures of Economic Importance

**Trips Were Limited To Vessels Identified In The Weighout Data*

Categories	Measure	Tonnage Class			
		1	2	3	4
Trips Landing Bait	Number of vessels	1	68	48	3
	Number of trips	1	766	524	13
	Trips per vessel	-	11	11	4
	Landed weight (M lbs)	-	2.496	7.477	0.021
	Landings per trip (lbs)	-	3260	14,270	1600
	Dockside revenue ($K)	-	$162	$459	$2.5
	Revenue per trip ($)	-	$210	$875	$190
	Revenue per vessel ($)	-	$2380	$9560	$830
	Total trip revenue (all species caught) ($K)	-	$786	$1539	$36
	Skate revenue (% of trip revenues)	-	20.6%	29.8%	6.9%
	Vessels' total annual revenue ($K)	-	$8041	$14,727	$1,568
	Skate revenue (% of annual revenue)	-	2.0%	3.1%	0.2%
	Trip revenues (% of annual revenue)	-	9.8%	10.4%	2.3%
Trips Landing Wings	Number of vessels	1	437	265	72
	Number of trips	1	8838	4137	638
	Trips per vessel	-	20	16	9
	Landed weight (M lbs)	-	1.693	3.636	1.018
	Landings per trip (lbs)	-	190	880	1600
	Dockside revenue ($K)	-	$570	$1437	$414
	Revenue per trip ($)	-	$65	$350	$650
	Revenue per vessel ($)	-	$1300	$5420	$5750
	Total trip revenue (all species caught) ($K)	-	$18,329	$25,968	$14,325
	Skate revenue (% of trip revenues)	-	3.1%	5.5%	2.9%
	Vessels' total annual revenue ($K)	-	$51,443	$87,363	$51,515
	Skate revenue (% of annual revenue)	-	1.1%	1.6%	0.8%
	Skate trip revenue (% of annual revenue)	-	35.6%	29.7%	27.8%
Trips Landing Bait and/or Wings	Number of vessels	1	455	272	74
	Number of trips	1	9446	4410	650
	Landed weight (M lbs)	-	4.189	11.113	1.039
	Dockside revenue ($K)	-	$732	$1896	$416
	Total trip revenue (all species caught) ($K)	-	$18,834	$26,473	$14,357
	Skate revenue (% of trip revenues)	-	3.8%	7.2%	2.9%
	Skate trip revenue (% of annual revenue)	-	1.4%	2.1%	0.8%

Figure 57 Dependence of Individual Vessels (N=802) on Skate Revenues in 1999: Percent of Total Annual Revenues



The results in Table 46 suggest that there is a skate bait fishery but that skate wings are caught primarily in mixed-species fisheries. These possibilities were explored by looking at only a subset of vessels that met the following two arbitrary criteria: (1) landed skate bait (wings) on at least four trips; and (2) skate revenues amounted to at least 25 percent of total trip revenues. These criteria resulted in 21 vessels (mostly ton class 2) that landed skate bait on 699 trips, and 37 different vessels (mostly ton class 3) that landed skate wings on 598 trips. Nineteen of the skate bait vessels used otter trawl gear, and the other two vessels used sink gillnets. Regarding skate wings, 31 vessels used otter trawls, five vessels used gillnets, and one vessel used a sea scallop dredge.

The 21 vessels that presumably targeted skates for bait landed 7.8 million pounds of skates in 1999, or 80 percent of the total skate bait landings by vessels identified in the dealer weighout data. These vessels averaged 33 trips in 1999 (three times more than the total population average). Skate landings (11.1 thousand pounds) and revenues ($680) per trip averaged more than three times more than the population average for ton class 3. (These results are influenced somewhat by the inclusion of six ton class 4 vessels). Skate revenues averaged nearly 50 percent of total trip revenues and 15 percent of total annual revenues for these vessels.

The 37 vessels that presumably targeted skates for wings landed 2.0 million pounds of skate wings, or nearly a third of the total skate bait landings by vessels identified in the dealer weighout data. The average of 16 trips a year did not differ from the population of ton class 2 and 3 vessels, but average skate landings (3.3 thousand pounds) and revenues ($1300) per trip were considerably greater. Skate revenues averaged 44 percent of total trip revenues and six percent of total annual revenues for these vessels.

Other species harvested while on presumed skate trips are summarized in Table 47. In this case, a targeted trip (vis-à-vis vessels that target skates during the year as addressed above) was arbitrarily defined as follows: (1) skate bait landings >=10,000 pounds; and (2) skate wing landings >=4,000 pounds (9,000 pounds live weight). This selection resulted in 317 skate bait trips by 15 vessels, and 304 skate wing trips by 80 vessels.

Skates amounted to 93 percent of total landings, by weight, on the skate bait trips but only 47 percent of trip revenues. Groundfish, monkfish, and summer flounder comprised 49 percent of total revenues one these trips. Skates amounted to 58 percent of total landings on skate wing trips (live-weight basis), but only 17 percent of total trip revenues. Groundfish was the most important source of revenues (69 percent), but monkfish (7 percent) and lobster (6 percent) were also important to the profit margin.

Table 47 Other Species Landed While Targeting Skates

Trips were selected if the following criteria were met: (1) skate bait landings >=10,000 pounds; and (2) skate wing landings >=4,000 pounds (9,000 pounds live weight). This selection resulted in 317 skate bait trips by 15 vessels, and 304 skate wing trips by 80 vessels. Landings are on a live weight basis in thousands of pounds. Revenues are in thousand of dollars.

Species/FMP	Skate Bait Trips		Skate Wings Trips	
	Landings	Revenues	Landings	Revenues
Skates	7773	$479	6266	$1074
Groundfish (10 large mesh species)	191	$215	3890	$4445
Groundfish (3 small mesh species)	35	$8.3	0.1	$0.07
Monkfish	251	$186	535	$466
Summer flounder	41	$97	22	$46
Squid/Mackerel/Butterfish	19	$14	1.7	$1.6
Scup/Black sea bass	6.8	$8.6	0	0
Sea scallop (General Category)	0.8	$0.5	20	15
Lobster	0.4	$1.6	85	$391
Spiny dogfish	0	0	0.01	$0.004
Other	23	$9.7	65	$15

Table 48 provides additional preliminary information on the economic performance of skate bait vessels in Rhode Island. This information was taken from the 1999 vessel logbook data instead of dealer reports because logbooks are the only source of data on crew size and trip length. In order to single out directed trips, the analysis was restricted to trips that landed at least 10,000 pounds of skates (captain's hail weight on logbooks) and were no more than four days long. Revenues were calculated using a $0.06 price per pound.

The (non-random) sample of directed bait trips was partitioned by tonnage class and trip length (Table 48). Day-trips by tonnage class 2 and 3 vessels each averaged 0.5 days, but the larger vessels used one more crew and had greater horsepower. As a consequence, skate landings and revenues were greater on overnight trips which averaged at least two days. However, catch and revenues per unit effort were at least twice as large on day-trips. Trip expenses such as fuel need to be factored in before the profitability of trip lengths can be assessed.

The data summarized in Table 48 were also used to estimate a preliminary trip production function for vessels targeting skate bait. The Cobb-Douglas algebraic form – i.e., $Q = aL^bK^c$, where L is labor, K is capital, and lower case letters are parameters that need to be estimated – was selected because of its familiarity. This form is linear in the parameters when transformed by natural logarithms. Trip landings were regressed on fishing effort, crew, and horsepower. Know that crew size was increased by one for all records because the natural logarithm of crew size when crew is equal to one is undefined. These data were from only 1999, but a longer time series would also require specification of skate stock size (i.e., natural capital).

Table 48 Vessel Characteristics and Gross Performance of RI Vessels that Targeted Skate Bait During 1999

Data are from vessel logbooks. Values other than number of vessels and trips are averages. CPUE is skate landings per unit effort (i.e., day-at-sea), and RPUE is skate revenue per unit effort.

Variable	Tonnage Class 2 (5-50 GRT)		Tonnage Class 3 (51-150 GRT)	
	Trip <=1 Day	Trip >1 to 4 Days	Trip <=1 Day	Trip >1 to 4 Days
Number of vessels	6	5	6	7
Number of trips	185	33	239	115
Effort (days-at-sea)	0.5	2.4	0.5	2.0
Landings (hail weight in pounds)	8166	13,492	16,091	33,110
CPUE	15,457	6055	34,892	16,919
Revenues	$491	$810	$965	$1987
RPUE	$927	$363	$2094	$1015
Skate as percentage of total trip landings	97%	93%	96%	93%
Crew size	1.9	1.7	2.7	2.9
Horsepower	271	293	545	425
Gross registered tons	26	21	93	93

The estimated skate bait trip production model is reported in Table 49. More than 50 percent of the variation in trip landings is explained by this model (R^2=0.53). Much of the remaining variation probably could be explained by captain skill and within year changes in stock size and fish size. Each input is a significant determinant of landings. There appear to be diminishing returns to effort. That is, a one percent change in effort results in less than a one percent change in landings. In contrast, the crew size and horsepower parameters are about equal to one, which suggests that landings change in equal proportions. The potential effects of multicollinearity on parameter estimates should be investigated before this model is used to predict the effects of these inputs on landings, however.

Similar production functions were not estimated for mixed species trips that landed skate bait or wings because this requires specifying more complex models with joint outputs. That is, substantial quantities of species other than skates are landed on other trips.

Table 49 Preliminary Regression Model of Skate Bait Landings on Targeted Trips by RI Trawl Vessels, 1999

The regression (F-statistic) and parameters (t-statistic) are significant at the 99 percent level of confidence. The dependent (landings) and independent (production inputs) are natural log transformed. Some trips had only one crew which has an undefined logarithm; there, 1 was added to all values of crew. The regression (F-statistic) and parameters (t-statistic) are significant at the 99 percent level of confidence.

Regressor	Parameter Estimate	t-statistic	N	F-statistic	R^2
Intercept	3.012	7.067	572	214.22	0.53
Effort (days-at-sea)	0.574	15.58			
Crew (value plus 1)	1.157	7.26			
Horsepower	0.868	9.93			

3.7.6 Skate Dealers

Nearly three-quarters of the 522 dealers who bought raw fish from fishermen in the northeast region in 1999 did not purchase skate landings. Skates amounted to one percent or less of total expenditures for raw fish by 104 dealers (Figure 58). In contrast, payments for skate landings amounted to at least five percent of total dockside purchases for 11 dealers from MA (8), RI (2) and NY (1). Three of these dealers were at least 20% dependent on skates for their total dockside purchases in 1999. Dealers that are not specifically identified in the General Canvas reports from some states (e.g., CT) are not included in these totals.

3.7.7 Processors

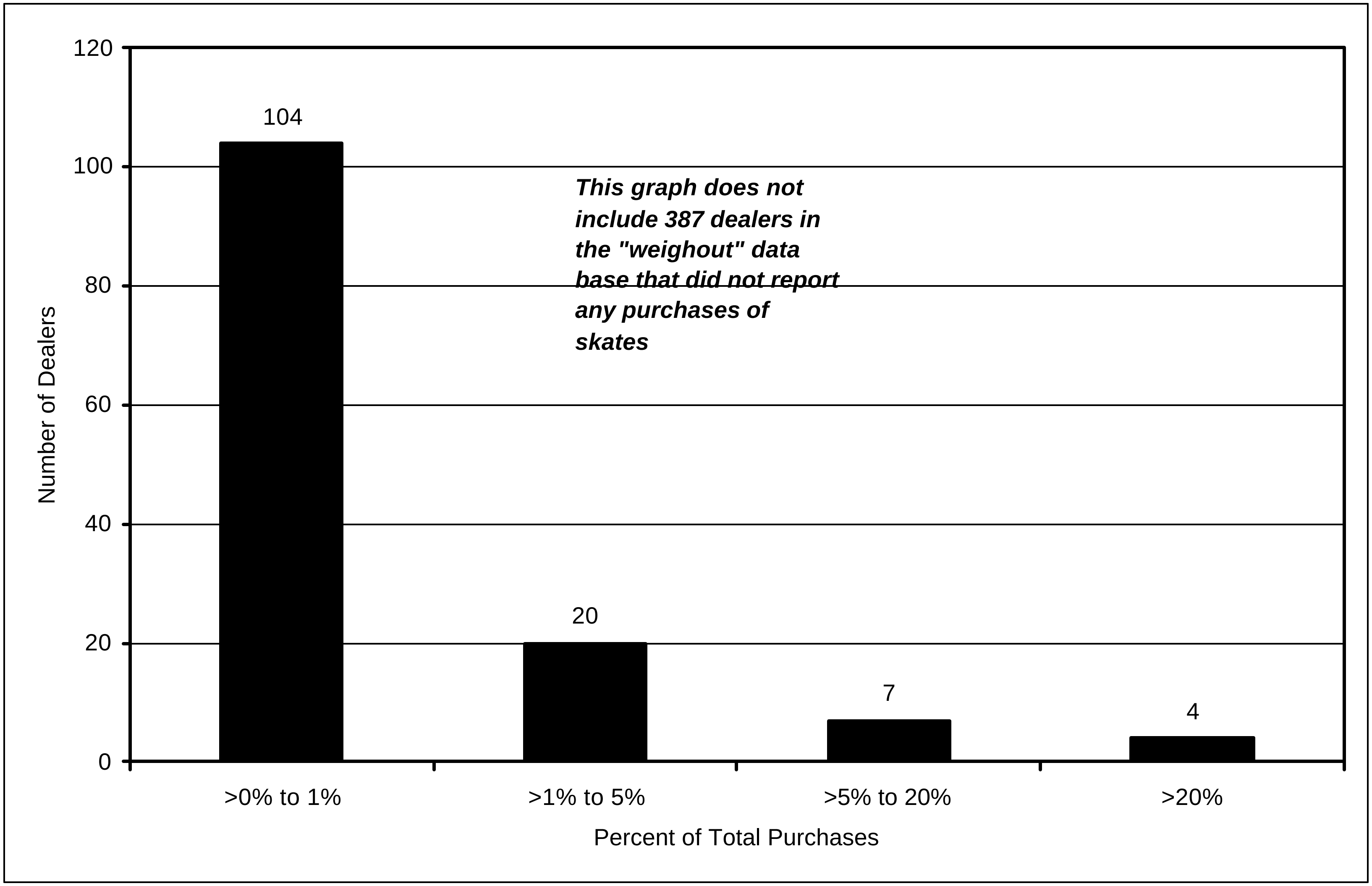
Current information about skate processors is presented in Section 3.5 of this document.

Nine processors from MA, RI, NY, and NH reported processing 3.9 million pounds of unspecified skate wings in 1999. No further description of product form is available (e.g., whether frozen or fresh). Sales amounted to $3.2 million, for an average price of $0.81. These firms employ approximately 514 workers.

3.7.8 International Trade

The U.S. Customs Bureau and U.S. Census do not report separate trade statistics for skate products.

Figure 58 Dependence of Individual Dealers on Skate Landings: Percent of Total Purchases of Raw Fish



3.8 SOCIAL AND COMMUNITY INFORMATION

Important commercial skate ports were identified through landings presented in Section 3.2.6 and through revenues in Section 3.7.4 of this document. The two primary ports for skate fishing activity are New Bedford, MA and Point Judith, RI. New Bedford dominates the skate wing fishery, and Point Judith dominates the skate bait fishery. However, only about 1.1% of the total fisheries revenues in these two ports are generated from skate landings. In terms of revenues, Provincetown, MA was the most dependent on the skate (wing) fishery in 1999, generating 6.1% of its total fishery revenues from skate landings. Based on a preliminary assessment of both landings and revenues, the following list of ports/communities are the most dependent on the skate fishery. Dependence on the skate fishery is variable, however, and the true dependence on skate fishing (number of vessels, seasonal issues, economic dependence, social issues, etc.) will be more clearly characterized in the DSEIS for the Skate FMP.

- New Bedford, MA
- Point Judith, RI
- Provincetown, MA
- Portland, ME
- Gloucester and Chatham, MA
- Stonington, CT
- Tiverton and Little Compton, RI
- Hampton Bay, NY
- Point Pleasant, Cape May, and Belford, NJ

Because of the nature of the skate fishery (where the fish are located, gear used, DAS requirements), there is significant overlap between the vessels and communities involved with the skate fishery and those involved with the multispecies (groundfish) fishery. Many of the same boats that target skates full-time or seasonally also target groundfish. The Council is currently in the process of developing Amendment 13 to the Multispecies FMP. Among other things, this amendment will include a comprehensive Environmental Impact Statement (EIS) that will update the "Affected Human Environment" through 1999. The "Affected Human Environment" section of the EIS includes fishery and community profiles for each community engaged in the multispecies fishery or significantly affected by multispecies regulations.

The fishery, social, and community information being developed for Amendment 13 is likely to capture and characterize almost all vessels and communities involved in the skate fishery. Preparation of this information is underway and will be available once the Amendment 13 DSEIS is available, probably around April 2001 and in time for Skate Committee consideration and incorporation into the DSEIS for the Skate FMP.