

**MISSISSIPPI MAIL SURVEY OF TRAPPER
HARVEST AND EFFORT FOR THE 1982-83
THROUGH 1988-89 SEASONS**

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INTRODUCTION

Trapper harvest mail surveys have been conducted since the 1976-77 season. These surveys provide indices for monitoring changes in harvest and trapper effort among seasons to determine trends. It should be noted that changes in such factors as harvest regulations, habitat conditions, the socio economic environment and seasonal weather conditions, as well as changes in furbearer population levels may be reflected in and monitored by changes in trapper harvest and effort indices.

Mail surveys to obtain wildlife harvest data result in parameter estimates which contain sampling, response and non-response biases. As a result, of these biases the degrees of accuracy of the estimates are unknown. Filion (1980) reviewed these biases and their effect on the estimates. Although parameter estimates obtained from mail surveys may not be totally accurate, they provide good indices for trend determinations if all biases remain constant. At the present time these mail surveys are the best, most economically practical method available. As Wright (1978) has indicated, until the wildlife profession can develop more accurate methods of estimating population numbers, measures of absolute harvest are relatively meaningless and indices to harvest should be adequate.

The objective of the trapper survey is to provide a statistically reliable set of statewide harvest indices for furbearer species in Mississippi. Until more accurate methods are available these indices will serve as harvest and effort

estimators. No effort was made to interpret the data presented here. The purpose of this publication is to compile existing information for future reference.

METHODS

The methods used for these surveys have varied over the years due to changes in laws relating to trapping and changes in personnel assigned to the duty. Hamrick et al. (1986) described the different survey methods used from the 1976-77 season through the 1982-83 season.

Beginning with the 1980-81 season the Mississippi trapper license was modified to provide an extra copy of the trappers name, address and trapper identification number. This copy was in the form of a prepaid postcard addressed to the MDWFP. After the license was issued this extra copy was filled out by the trapper and mailed to the MDWFP. This provided the furbearer biologist an annual list of virtually all licensed trappers. A copy of the questionnaire (Figure 1) was sent to each trapper on this list at the end of the trapping season. The questionnaire was designed and perforated so that the section containing the requested information could be torn off and mailed. This portion of the questionnaire was printed with the MDWFP address and prepaid postage. Only one questionnaire mailing was made. Returns were edited for legibility and directly key punched as described by Hamrick (1986).

ANALYSIS

Estimates presented for the 1982-83 season are based upon final trapping license sales figures. All other years are based upon the end of June license sales.

End of the year trapping license sale figures are not available until the end of December, 10 (ten) months after the closing date of the trapping season. Trapping license sales available at the end of June represent approximately 95% (with very minor variation) of the yearly total.

Since the main purpose of this survey is to provide reliable indices as to trends in furbearer population changes and trapper effort, it is felt that waiting for survey results from one year while the next season is well underway is an unnecessary burden. Waiting also eliminates the ability of the department to alter upcoming seasons based upon current survey data.

RESULTS

Survey returns and number of trapper licenses sold each year are shown in Table 1 and Figure 2. The expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers are shown for each year in Table 2 through 8 and are depicted graphically by species in Figure 3 through 16. Pelt prices are shown in Table 9 and seasonal trends in Figure 3 through 16. Prices shown in the table are the average prices for each Mississippi Trapper Association sale.

Prices are presented in this manner because records of the total number of pelts sold in each sale were not available for some sales. Therefore a weighted average could not be computed. Also, the variation in prices at different sales during the same year may be of future interest. Prices were graphed by averaging from each sale during a year (weighing each sale equally) and then showing the high average and low average.

The precision of all estimates is shown as standard errors in the tables and is graphed as 95 percent confidence intervals in the figures.

Adequate data were not available to provide statistically reliable harvest figures by county. However, county data are available for such purposes as verifying occurrence of species in certain counties or documenting past and future range expansion by such species as coyotes and nutria.

DISCUSSION

Since the 1980-81 survey a effort has been made to standardize survey procedures so that future data would be comparable. When interpreting trends in harvest and trapper effort there are several elements to consider. These are very similar to those listed by Steffen (1983) for interpretation of hunter survey data. Elements to consider are listed below:

1. Changes in population numbers.
2. Habitat changes.
3. Correlations between the harvest and effort parameters.

4. Seasonal weather conditions (e.g. heavy rainfall and freezing weather negatively affect trapping operations).
5. Changes in regulations and laws.
6. Changes in trapper access (e.g. a 1978 law required landowner permission to trap).
7. The shifting of trapper emphasis among species (influenced by pelt prices and demand).
8. Economic changes:
 - e.g. (a) Gasoline costs
 - (b) License costs
 - (c) Leisure time available
 - (d) Unemployment levels
 - (e) Overall fur prices
9. Immigration of new unexperienced trappers into the trapping population.
10. Emigration of experienced trappers from the trapping population.
11. Harvest and effort incidental to trapping for other species (e.g. land sets for fox may take raccoon, bobcat or coyote and otter may be taken in beaver sets).

Bobcat, red and gray fox, raccoon, opossum and coyote are also taken by hunting. Hunting harvest estimates often exceed trapping harvest estimates and should be considered when evaluating trends for these species.

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LITERATURE CITED

Cochran, W. G. 1977. Sampling techniques. 3rd edition.
John Wiley and Sons, Inc. New York. 428 pp.

Filion, F. L. 1980. Human surveys in wildlife management. Page
441-453 in S. D. Schemnitz, ed. Wildlife management techniques
manual. 4th Edition Revised The Wildlife Society, Washington,
D. C. 686 pp.

Hamrick, W. J., D. E. Steffen, G. M. Allen, and J. W. Lipe. 1986.
Mississippi Mail Survey of trapper harvest and effort for the
1976-77 through 1982-83 seasons. Mississippi Department of
Wildlife Conservation. 59 pp.

Steffen, D. E. 1983. Trends in Mississippi game harvest and
hunter effort a summary of mail survey information.
Mississippi Department of Wildlife Conservation. 29 pp.

Wright, V. L. 1978. Causes and effects of biases on waterfowl
harvest estimates. J. Wildlife Management 42(2):251-262.

TABLES AND FIGURES

Table 1: Number trapping licenses sold, trappers surveyed and usable returns for the 1982-83 through 1988-89 seasons.

Year	End of June	Total License Sales	No. Trapper Surveyed	Usable Returns
1982-83	2322	2404	2201	979
1983-84	1694	1781	1602	684
1984-85	1729	1870	1600	710
1985-86	1358	1422	1275	575
1986-87	1559	1672	1444	642
1987-88	1720	1787	1148	509
1988-89	1046	1114	981	482

Table 2: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1982-83 season.

Species	Harvest ^a	SE	Catch ^b Per Trapper			Average Catch Per Successful Trapper			n ^c	Percent Successful Trappers	SE
			SE	n	Trapper	SE	Trapper	SE			
Mink	9,911	677	4.57	0.31	8.12	0.52	497	56.9	1.3		
Raccoon	35,247	1,232	16.28	0.56	17.68	0.59	812	92.9	0.7		
Muskrat	16,752	1,216	7.73	0.56	18.85	1.23	362	41.4	1.3		
Red Fox	1,640	121	0.76	0.06	2.66	0.16	251	28.7	1.2		
Gray Fox	5,090	288	2.37	0.13	4.67	0.23	444	50.8	1.3		
Bobcat	1,270	87	0.58	0.04	2.43	0.12	213	24.4	1.1		
Opossum	24,151	1,277	11.22	0.59	17.25	0.84	570	65.2	1.2		
Otter	535	54	0.25	0.03	2.20	0.15	99	11.3	0.8		
Spotted skunk	651	127	0.30	0.06	3.63	0.64	73	8.4	0.7		
Striped skunk	1,923	163	0.89	0.08	4.96	0.32	158	18.1	1.0		
Coyote	1,073	102	0.50	0.05	2.68	0.21	163	18.6	1.0		
Weasel	10	4	<0.01	<0.01	1.00	0.00	4	0.5	0.2		
Nutria	2,581	460	1.20	0.21	10.84	1.76	97	11.1	0.8		
Beaver	8,236	688	3.79	0.32	9.56	0.73	351	40.2	1.3		

a n = 714

b n = 657

c Sample size for average catch per successful trapper

Table 3: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1983-84 season.

Species	Harvest ^a	S E	Catch ^b Per Trapper		Average Catch Per Successful Trapper		n ^c	Percent Successful Trappers S E	
			S E	Trapper	S E	Trapper		S E	Trapper
Mink	8,776	683	5.61	0.44	9.36	0.69	395	60.1	1.5
Raccoon	27,427	1,041	17.59	1.65	19.53	0.70	592	90.1	0.9
Muskrat	15,749	2,065	10.05	1.32	23.37	2.96	284	43.2	1.5
Red Fox	1,165	94	0.74	0.06	2.65	0.17	185	28.2	1.3
Gray Fox	3,383	219	2.17	0.14	4.80	0.27	297	45.2	1.5
Bobcat	1,276	90	0.82	0.06	2.83	0.15	190	28.9	1.3
Opossum	15,619	734	10.02	0.46	15.98	0.64	412	62.7	1.4
Otter	444	41	0.28	0.03	2.05	0.11	91	13.9	1.0
Spotted skunk	415	54	0.27	0.03	2.87	0.26	61	9.3	0.9
Striped skunk	1,597	154	1.02	0.10	4.95	0.38	136	20.7	1.2
Coyote	1,108	101	0.71	0.06	2.99	0.22	156	23.7	1.3
Weasel	10	4	0.01	<0.01	1.00	0.00	4	0.6	0.2
Nutria	2,081	576	1.33	0.37	10.96	2.92	80	12.2	1.0
Beaver	6,033	592	3.87	0.38	10.34	0.93	246	37.4	1.4

a n = 714

b n = 657

c Sample size for average catch per successful trapper

Table 4: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1984-85 season.

Species	Harvest ^a	SE	Trapper	SE	Catch ^b Per Trapper		Average Catch Per Successful Trapper		n ^c	Percent ^b Successful Trappers SE	
					S	E	S	E		n ^c	Percent ^b
Mink	8,682	572	5.20	0.34	8.51	0.52	419	61.2	1.4		
Raccoon	38,696	1,302	23.19	0.77	24.41	0.79	651	95.0	0.6		
Muskrat	17,266	2,269	10.34	1.36	25.05	3.17	283	41.3	1.4		
Red Fox	1,500	141	0.90	0.08	3.29	0.27	187	27.3	1.3		
Gray Fox	3,702	195	2.21	0.12	4.83	0.20	315	46.0	1.5		
Bobcat	1,371	87	0.82	0.05	2.71	0.12	208	30.4	1.3		
Opossum	15,573	870	9.34	0.52	15.41	0.78	415	60.6	1.4		
Otter	648	53	0.39	0.03	2.02	0.11	132	19.3	1.2		
Spotted skunk	244	31	0.13	0.02	2.24	0.17	41	6.0	0.7		
Striped skunk	1,383	154	0.83	0.09	4.85	0.44	117	17.1	1.1		
Coyote	1,680	150	1.01	0.09	3.65	0.28	189	27.6	1.3		
Weasel	10	4	<0.01	<0.01	1.00	0.00	4	0.6	0.2		
Nutria	2,292	459	1.37	0.28	11.76	2.17	80	11.7	0.9		
Beaver	9,734	994	5.84	0.59	12.77	1.24	313	45.7	1.5		

a n = 710

b n = 685

c Sample size for average catch per successful trapper

Table 5: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1985-86 season.

Species	Harvest ^a	SE	Catch ^b Per Trapper		Average Catch Per Successful Trapper		n ^c	Percent ^b Successful Trappers		
			SE	Trapper	SE	Trapper		SE	Trappers	SE
Mink	7,642	602	6.00	0.47	9.05	0.68	357	66.5	1.5	
Raccoon	34,572	1,452	27.11	1.12	28.71	1.16	509	94.8	0.7	
Muskrat	10,530	998	80.23	0.78	20.42	1.75	218	40.6	1.6	
Red Fox	887	78	0.69	0.06	2.68	0.18	140	26.1	1.4	
Gray Fox	2,468	165	1.92	0.13	4.46	0.24	234	43.6	1.6	
Bobcat	1,254	92	0.98	0.07	2.85	0.16	186	34.6	1.6	
Opossum	11,775	625	9.23	0.49	14.90	0.68	334	62.2	1.6	
Otter	733	68	0.58	0.05	2.42	0.17	128	23.8	1.4	
Spotted skunk	263	47	0.20	0.04	3.83	0.44	29	5.4	0.7	
Striped skunk	1,261	144	0.99	0.11	5.03	0.47	106	19.7	1.3	
Coyote	1,306	151	1.03	0.12	3.63	0.38	152	28.3	1.5	
Weasel	7	3	0.01	<0.01	1.00	0.00	3	0.6	0.2	
Nutria	9,355	5,426	7.35	4.27	54.16	31.28	73	13.6	1.1	
Beaver	10,247	924	8.04	0.72	16.28	1.36	266	49.5	1.6	

a n = 574

b n = 537

c Sample size for average catch per successful trapper

Table 6: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1986-87 season.

Species	Harvest ^a	S E	Catch ^b Per Trapper		Average Catch Per Successful Trapper		n ^c	Percent ^b Successful Trappers S E	
			S E	Trapper	S E	Trapper		S E	Trappers
Mink	8,881	684	5.89	0.46	9.32	0.68	393	64.0	1.5
Raccoon	41,400	1,439	27.50	0.95	28.60	0.96	597	97.2	0.5
Muskrat	12,142	1,207	8.10	0.81	21.31	1.94	235	38.3	1.5
Red Fox	921	67	0.59	0.04	2.33	0.12	163	26.5	1.4
Gray Fox	4,192	247	2.70	0.15	5.29	0.27	327	53.3	1.5
Bobcat	1,945	138	1.29	0.09	3.41	0.20	235	38.3	1.5
Opossum	20,078	1,017	13.42	0.68	20.15	0.91	411	66.9	1.5
Otter	955	76	0.64	0.05	2.64	0.15	149	24.3	1.3
Spotted skunk	347	63	0.23	0.04	3.76	1.51	38	6.2	0.7
Striped skunk	1,523	150	1.02	0.10	5.06	0.39	124	20.2	1.2
Coyote	1,804	169	1.21	0.11	4.18	0.34	178	29.0	1.4
Weasel	15	6	0.01	<0.01	1.50	0.38	4	0.7	0.2
Nutria	4,199	810	2.80	0.54	15.46	2.81	112	18.2	1.2
Beaver	15,214	2,711	10.16	1.82	20.18	3.54	311	50.7	1.5

a n = 643

b n = 614

c Sample size for average catch per successful trapper

Table 7: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1987-88 season.

Species	Harvest ^a	S E	Catch ^b Per Trapper			Average Catch Per Successful Trapper			n ^c	Percent ^b Successful Trappers	S E
			S E	S E	S E	S E	S E	S E			
Mink	6,201	689	3.90	0.43	7.46	0.78	246	52.2	1,9		
Raccoon	41,898	2,058	26.32	1.26	27.68	1.31	448	95.1	0.8		
Muskrat	9,097	1,445	5.72	0.91	19.51	2.87	138	29.3	1.8		
Red Fox	1,115	107	0.70	0.07	2.68	0.19	123	26.1	1.7		
Gray Fox	5,670	408	3.56	0.25	7.02	0.42	239	50.7	1.9		
Bobcat	2,521	225	1.58	0.14	4.60	0.33	162	34.4	1.8		
Opossum	16,632	1,164	10.43	0.72	17.15	1.06	287	60.9	1.9		
Otter	1,064	106	0.67	0.07	3.09	0.20	102	21.7	1.6		
Spotted skunk	301	73	0.19	0.05	3.56	0.64	25	5.3	0.9		
Striped skunk	1,531	206	0.96	0.13	4.92	0.54	92	19.5	1.5		
Coyote	2,707	354	1.68	0.22	5.52	0.65	145	30.8	1.8		
Weasel	17	7	0.01	<0.00	1.25	0.21	4	0.8	0.4		
Nutria	1,602	269	1.01	0.17	6.77	0.95	70	14.9	1.4		
Beaver	12,952	1,623	8.01	1.01	17.50	2.06	219	46.5	1.9		

a n = 509

b n = 471

c Sample size for average catch per successful trapper

Table 8: Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1988-89 season.

Species	Harvest ^a	S E	Trapper	Catch ^b Per Successful Trapper			S E	n ^c	Average Catch Per Successful Trapper			S E	Percent Successful Trappers	S E
				S E	n ^c	n ^c	S E	n ^c	S E	n ^c	S E			
Mink	5,291	511	5.77	0.55	11.50	1.02	212	50.2	212	50.2	1.02	1.7		
Raccoon	17,901	816	19.55	0.86	20.67	0.89	399	94.5	399	94.5	0.89	0.8		
Muskrat	6,853	964	7.48	1.05	25.47	3.29	124	29.3	124	29.3	1.6	1.6		
Red Fox	853	69	0.93	0.07	3.25	0.19	121	28.6	121	28.6	1.6	1.6		
Gray Fox	3,980	272	4.35	0.29	7.77	0.46	236	55.9	236	55.9	1.8	1.8		
Bobcat	1,686	122	1.84	0.13	4.32	0.25	180	42.4	180	42.4	1.8	1.8		
Opossum	7,209	414	7.87	0.44	13.56	0.64	245	58.1	245	58.1	1.8	1.8		
Otter	532	51	0.58	0.06	2.66	0.18	92	21.8	92	21.8	1.5	1.5		
Spotted skunk	243	52	0.19	0.05	4.48	0.73	25	5.9	25	5.9	0.8	0.8		
Striped skunk	788	87	0.86	0.09	4.37	0.36	83	19.6	83	19.6	1.4	1.4		
Coyote	2,941	369	3.21	0.40	7.92	0.93	171	40.5	171	40.5	1.8	1.8		
Weasel	9	3	0.01	<0.00	1.00	0.00	4	0.9	4	0.9	0.3	0.3		
Nutria	1,515	272	1.65	0.30	11.44	1.81	61	14.5	61	14.5	1.81	1.3		
Beaver	9,753	996	10.65	1.08	19.89	1.91	226	53.6	226	53.6	1.91	1.8		

a n = 482

b n = 422

c Sample size for average catch per successful trapper

Table 9: Average price per pelt by species for each Mississippi Trapper Association sale from the 1982-83 through 1988-89 seasons.

Species	1982-83			1983-84			1984-85		
	December	January	February	December	January	February	December	January	February
Mink	12.01	15.70	11.87	12.52	20.43	9.79	17.07	15.00	14.61
Raccoon	10.13	15.13	10.65	10.30	12.29	9.00	13.37	12.37	12.18
Muskrat	2.68	2.98	2.16	2.25	6.13	2.88	3.13	3.14	2.91
Red Fox	35.25	34.00	30.34	27.61	36.98	28.33	25.60	23.01	25.47
Gray Fox	23.62	30.07	30.96	29.43	38.36	26.66	22.38	25.56	22.45
Bobcat	36.07	36.57	40.51	30.38	41.51	32.71	37.21	45.42	44.48
Opossum	0.49	1.42	1.06	1.18	1.30	0.93	1.64	2.77	1.46
Otter	12.41	12.90	12.59	15.50	15.07	11.53	13.20	14.71	12.88
Spotted skunk	-	-	-	-	-	-	-	-	-
Striped skunk	-	-	3.50	-	-	-	-	4.50	4.50
Coyote	15.08	10.77	10.26	2.60	6.18	4.35	6.57	2.88	5.02
Weasel	-	-	-	-	-	-	-	-	-
Nutria	1.98	1.32	1.50	0.75	0.63	1.12	1.40	1.83	1.37
Beaver	3.91	4.80	5.14	2.43	3.92	5.35	4.38	4.37	9.00

Table 9: Average price per pelt by species for each Mississippi Trapper Association sale from the 1982-83 through 1988-89 seasons. (continued)

Species	December	January	February	1985-86			1986-87			1987-88			1988-89		
				January	February										
Mink	10.20	11.99	12.57	20.65	17.02	25.70	18.75	28.15	21.03						
Raccoon	11.04	12.04	10.34	15.08	10.89	8.11	6.21	5.69	4.88						
Muskrat	2.09	2.54	2.24	3.80	3.43	3.84	2.19	1.45	1.36						
Red Fox	15.15	17.03	15.77	16.90	16.43	16.04	13.62	9.31	6.48						
Gray Fox	15.06	18.53	19.19	31.68	29.30	31.26	26.67	14.66	10.01						
Bobcat	31.47	43.60	37.80	53.16	69.90	53.44	58.79	36.81	28.31						
Opossum	1.19	1.62	1.25	1.57	1.50	1.08	0.80	0.52	0.17						
Otter	13.02	10.47	10.03	15.95	10.15	14.70	9.62	18.28	14.40						
Spotted skunk	-	-	-	3.00	-	-	-	-	-						
Striped skunk	-	-	-	0.67	1.00	-	1.00	2.00	-						
Coyote	1.12	4.73	2.16	8.53	7.47	5.77	11.19	2.53	1.72						
Weasel	-	-	-	-	-	-	-	-	-						
Nutria	1.33	1.00	1.41	1.64	0.54	1.25	0.73	0.25	0.25						
Beaver	6.37	5.99	6.57	8.59	6.41	6.41	4.46	4.28	1.55						

Figure 1: Questionnaire used for the 1985-86 survey of licensed trappers in Mississippi.

TRAPPER HARVEST SURVEY (1985-86)					
A. Please answer the following questions:					
1. Did you trap for furbeaters in Mississippi during the 1985-86 season?					
Yes (1) <input checked="" type="checkbox"/>			No (2) <input type="checkbox"/>		
2. In what county did you do most of your trapping?					

3. How many days (or nights) did you have traps set?					

4. How many traps did you use? (ephods)					
Conibear (killer type) _____ Snares _____					
5. How long was your trapping trip? miles					
6. What kind of trapper do you consider yourself?					
<input type="checkbox"/> 1. Strictly land trapper		<input type="checkbox"/> 4. Mostly water trapper			
<input type="checkbox"/> 2. Mostly land trapper		<input type="checkbox"/> 5. Strictly water trapper			
<input type="checkbox"/> 3. 50% land - 50% water trapper					
7. Your age: _____ yrs					
8. How many years have you been trapping?					
B. What was your catch for the past season (1985-86)? If you trapped with a partner, include only your portion of the partnership catch.					
(1) Mink	Total No. Trapped	Total No. Taken by Hunting	Others Taken e.g. Road-Kill		Total No. Sold
			Total No. Taken	Total No. Sold	
(2) Raccoon					
(3) Muskrat					
(4) Red Fox					
(5) Gray Fox					
(6) Bobcat					
(7) Opossum					
(8) Otter					
(9) Spotted Skunk (Civet)					
(10) Striped Skunk					
(11) Coyote					
(12) Weasel					
(13) Numbat					
(14) Beaver					
No. (check one required)					
Please return by April 1, 1986					

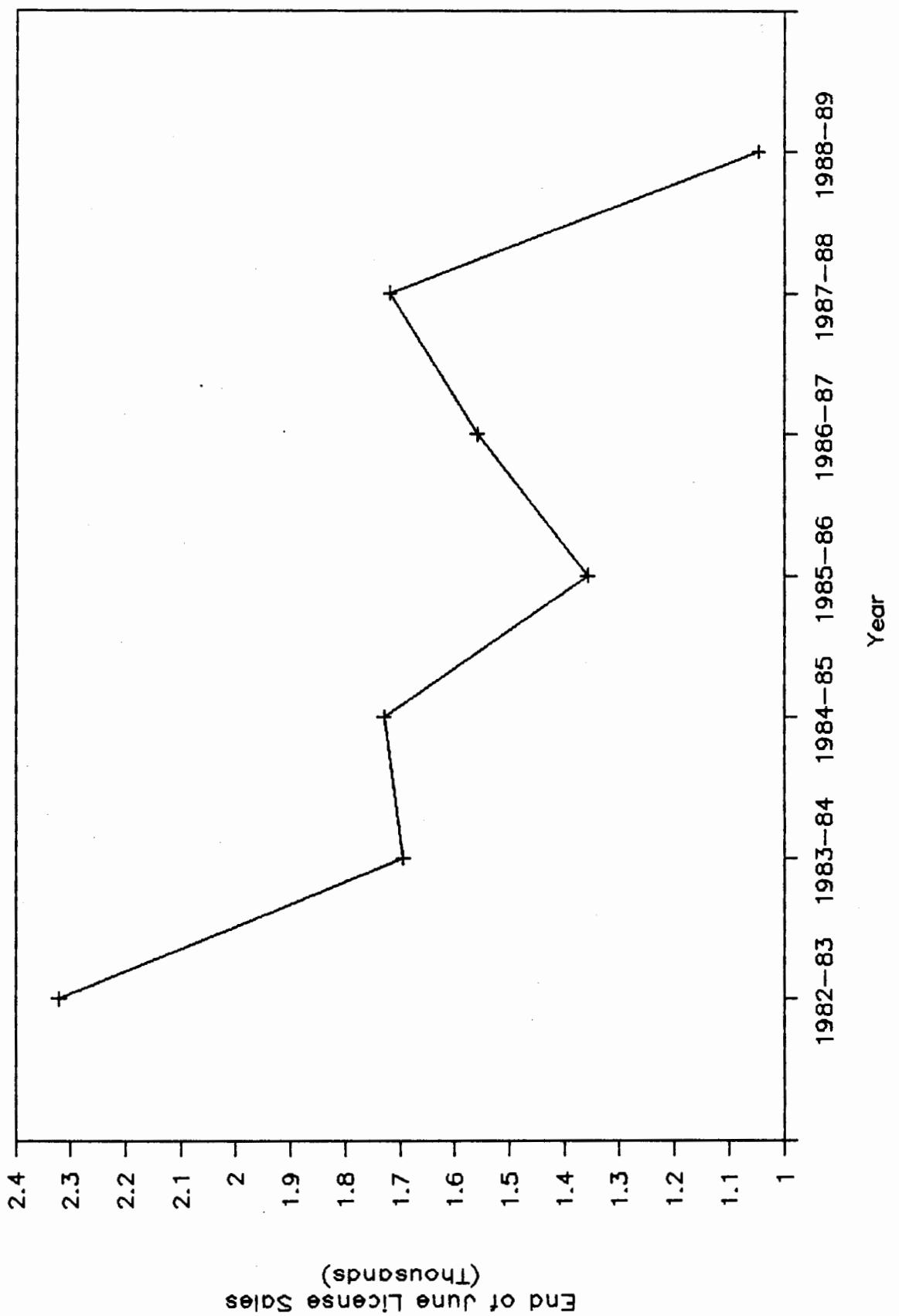


Figure 2: Trapping license sales trends for 1982-83 through 1988-89 season.

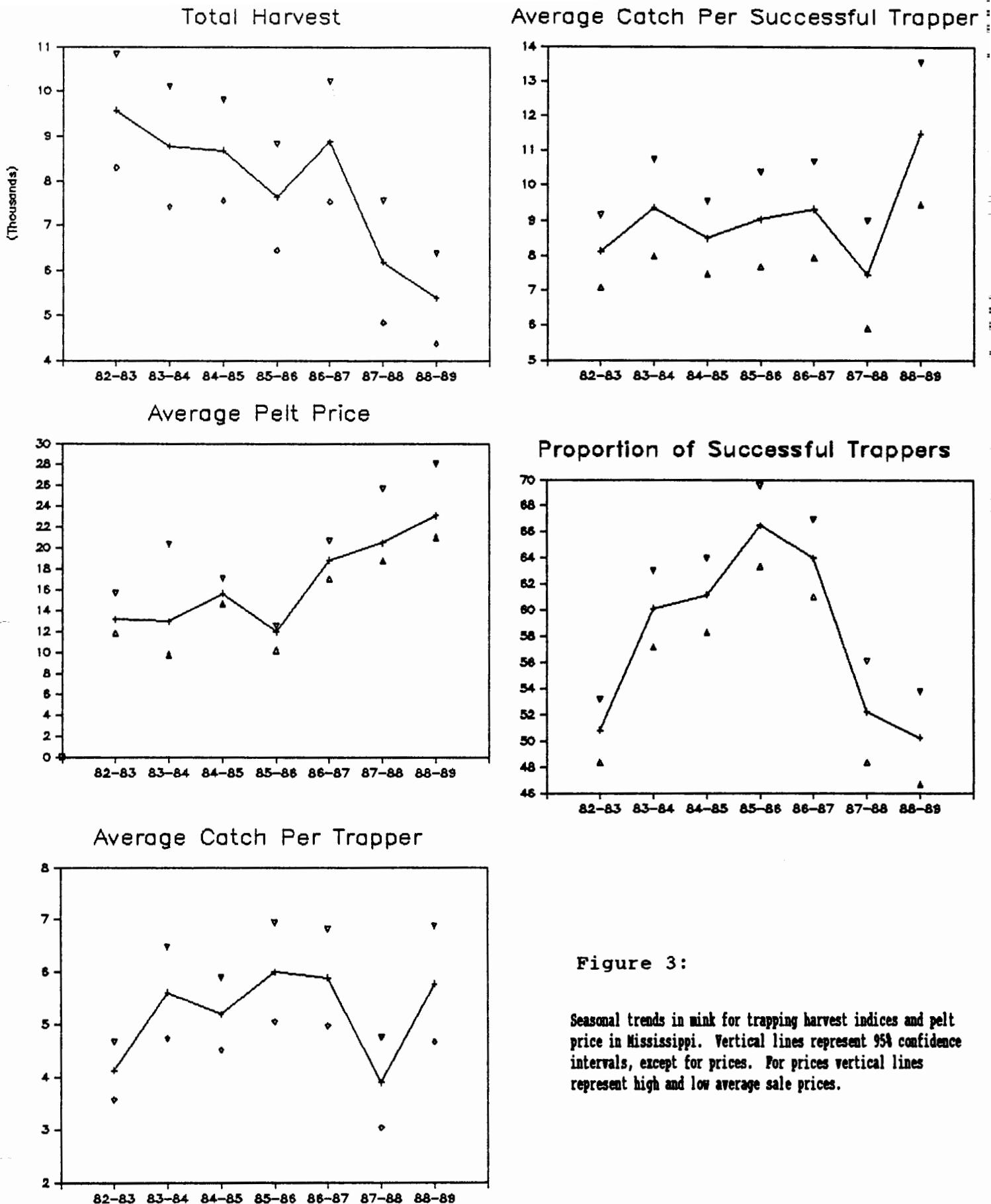
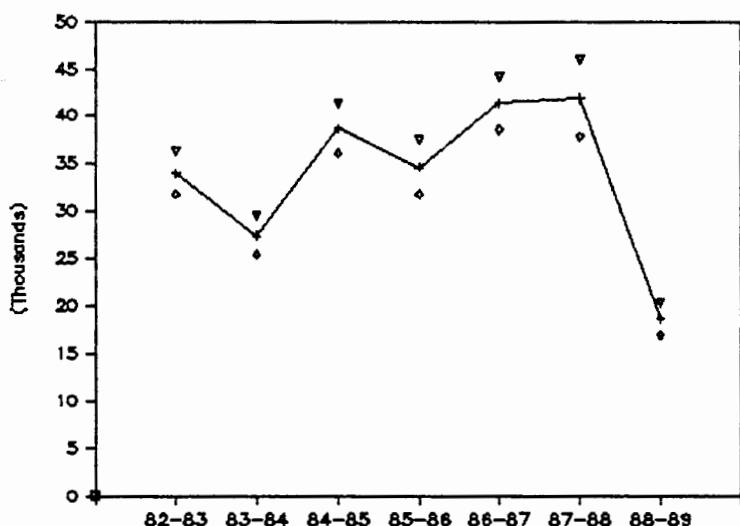


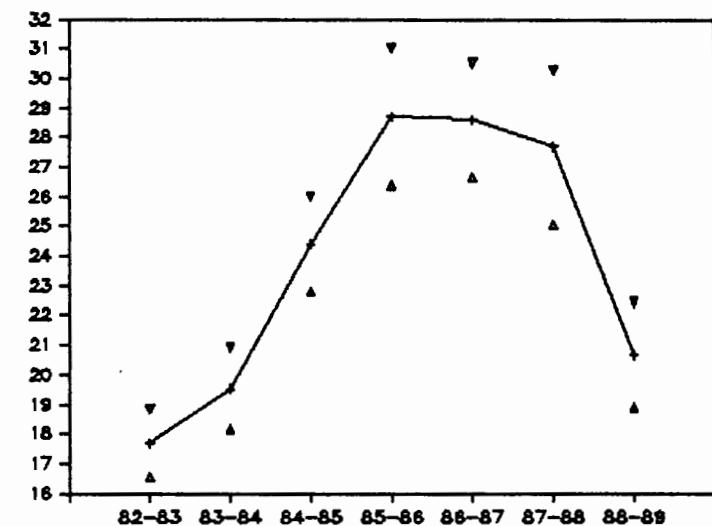
Figure 3:

Seasonal trends in mink for trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

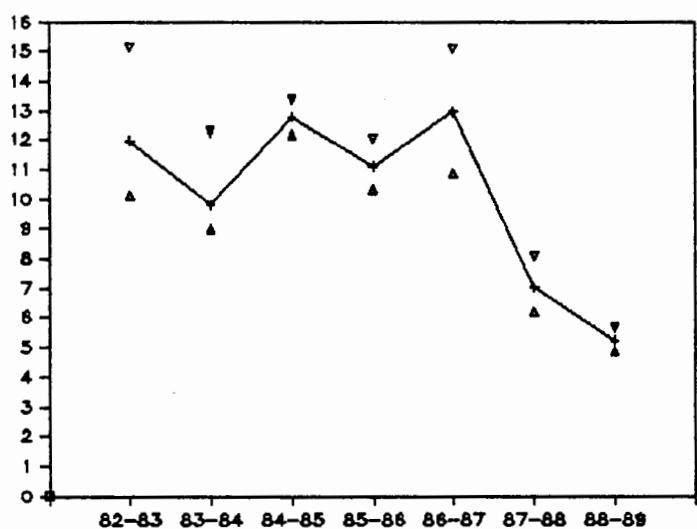
Total Harvest



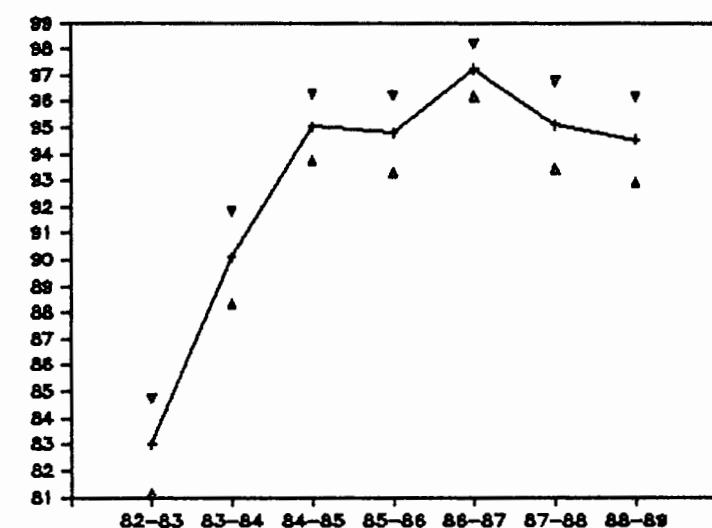
Average Catch Per Successful Trapper



Average Pelt Price



Proportion of Successful Trappers



Average Catch Per Trapper

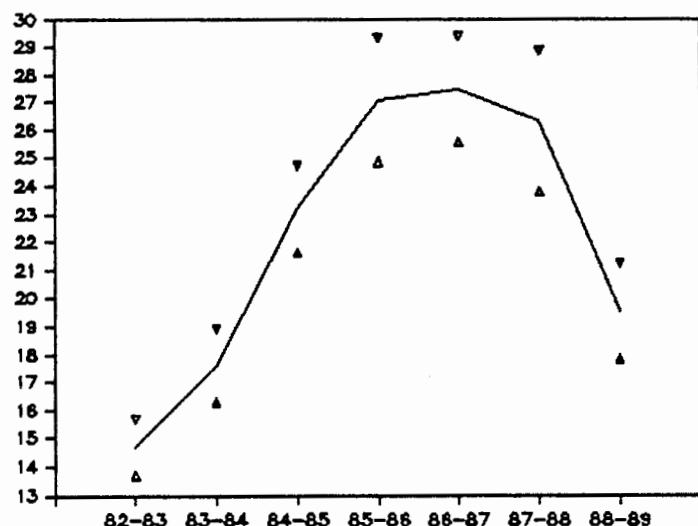
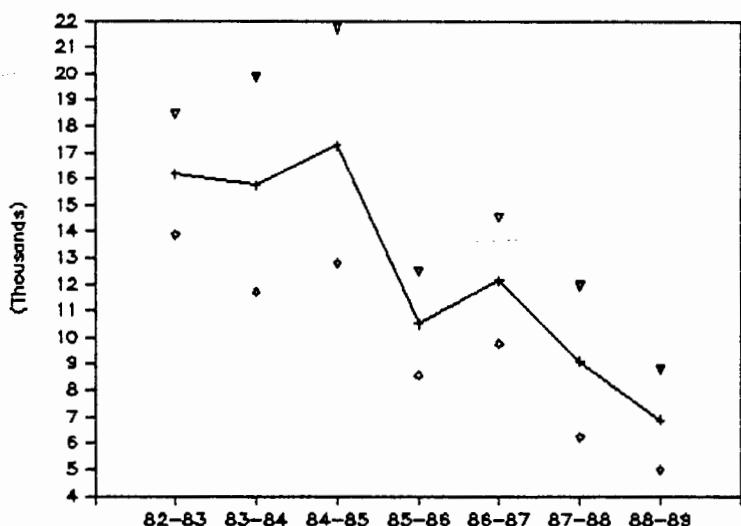


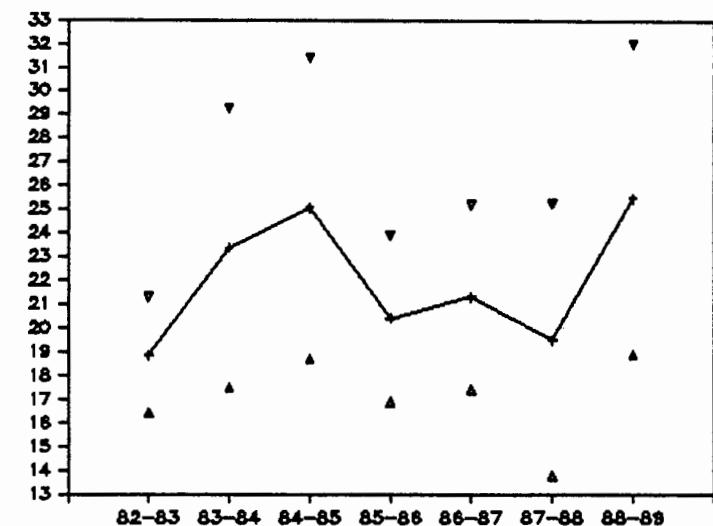
Figure 4:

Seasonal trends in raccoon trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

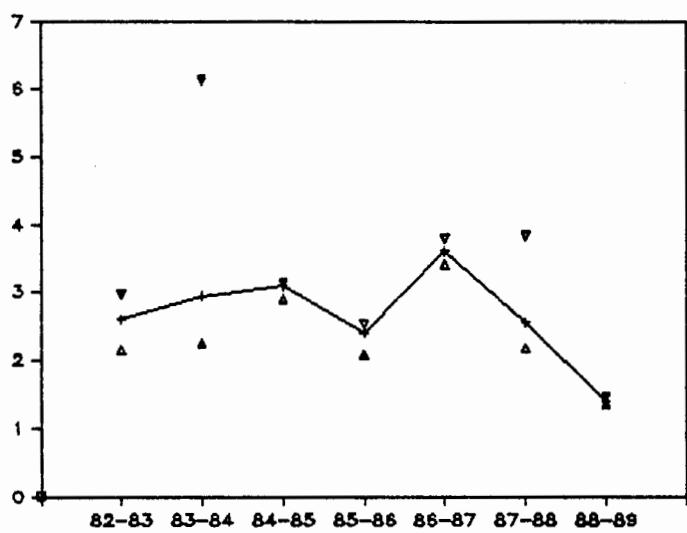
Total Harvest



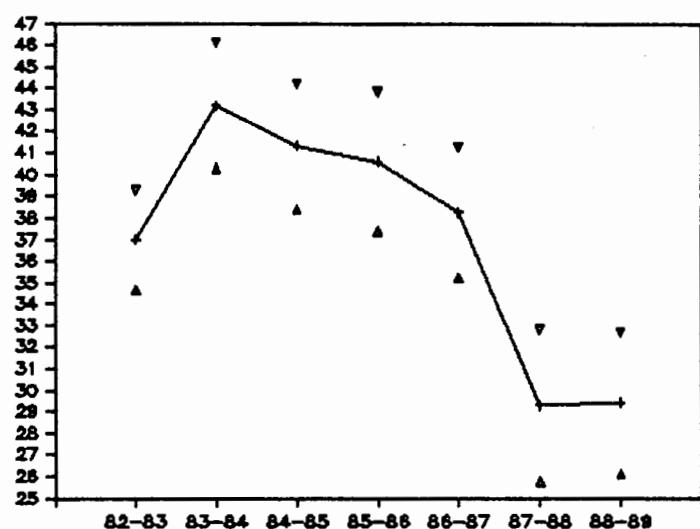
Average Catch Per Successful Trapper



Average Pelt Price



Proportion of Successful Trappers



Average Catch Per Trapper

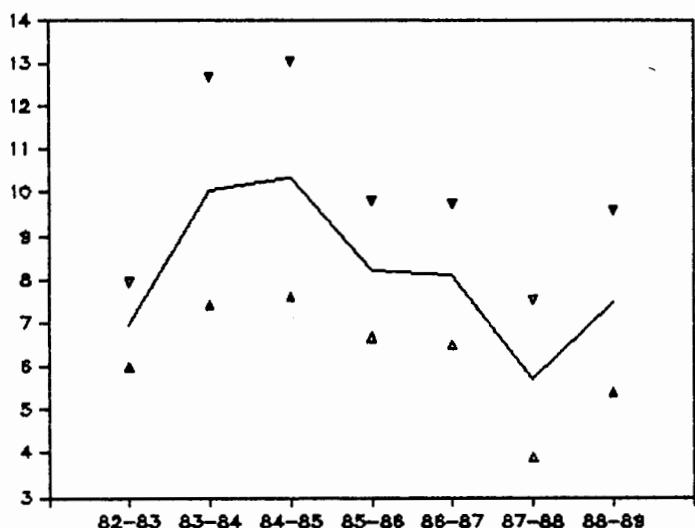
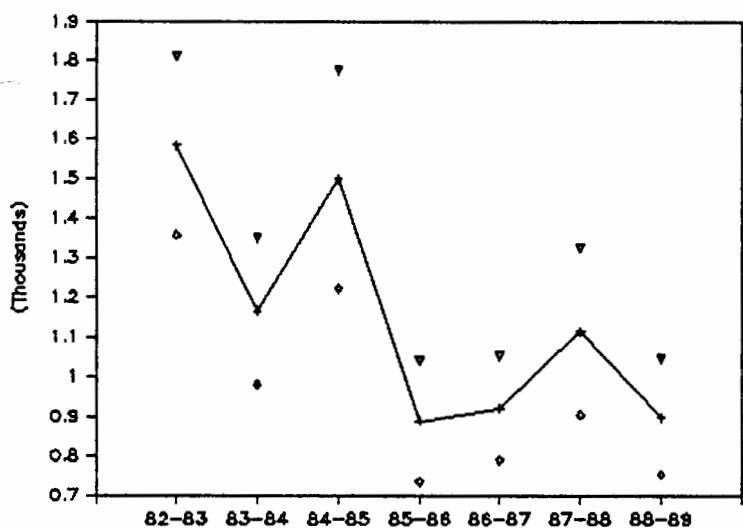


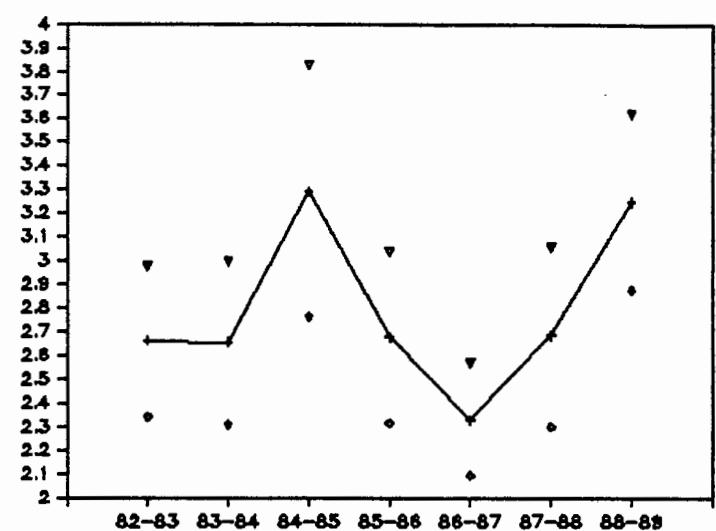
Figure 5:

Seasonal trends in muskrat trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

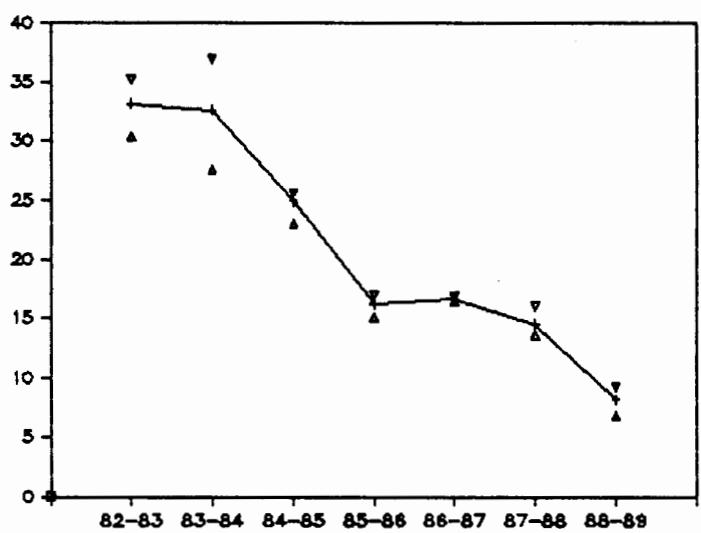
Total Harvest



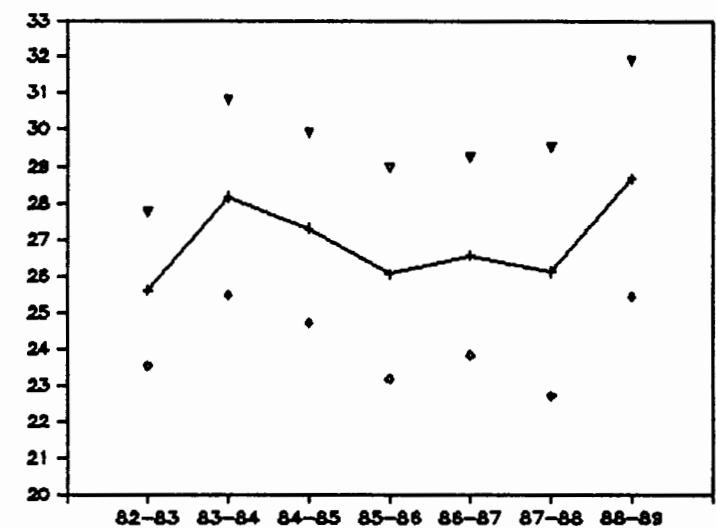
Average Catch Per Successful Trapper



Average Pelt Price



Proportion of Successful Trappers



Average Catch Per Trapper

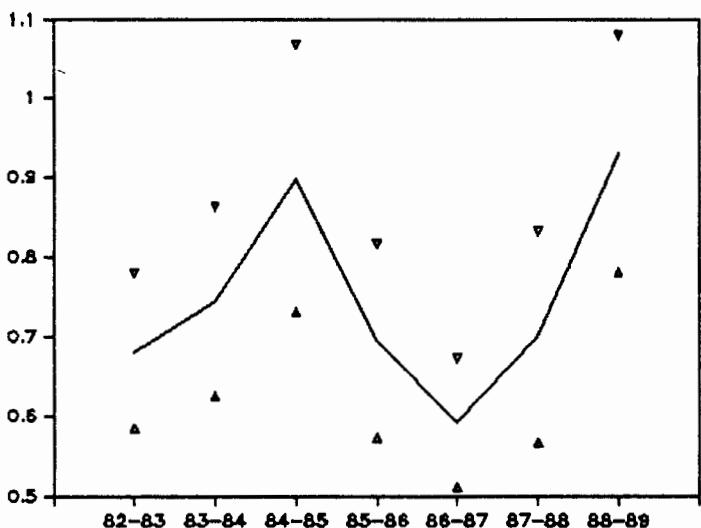


Figure 6:

Seasonal trends in red fox trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

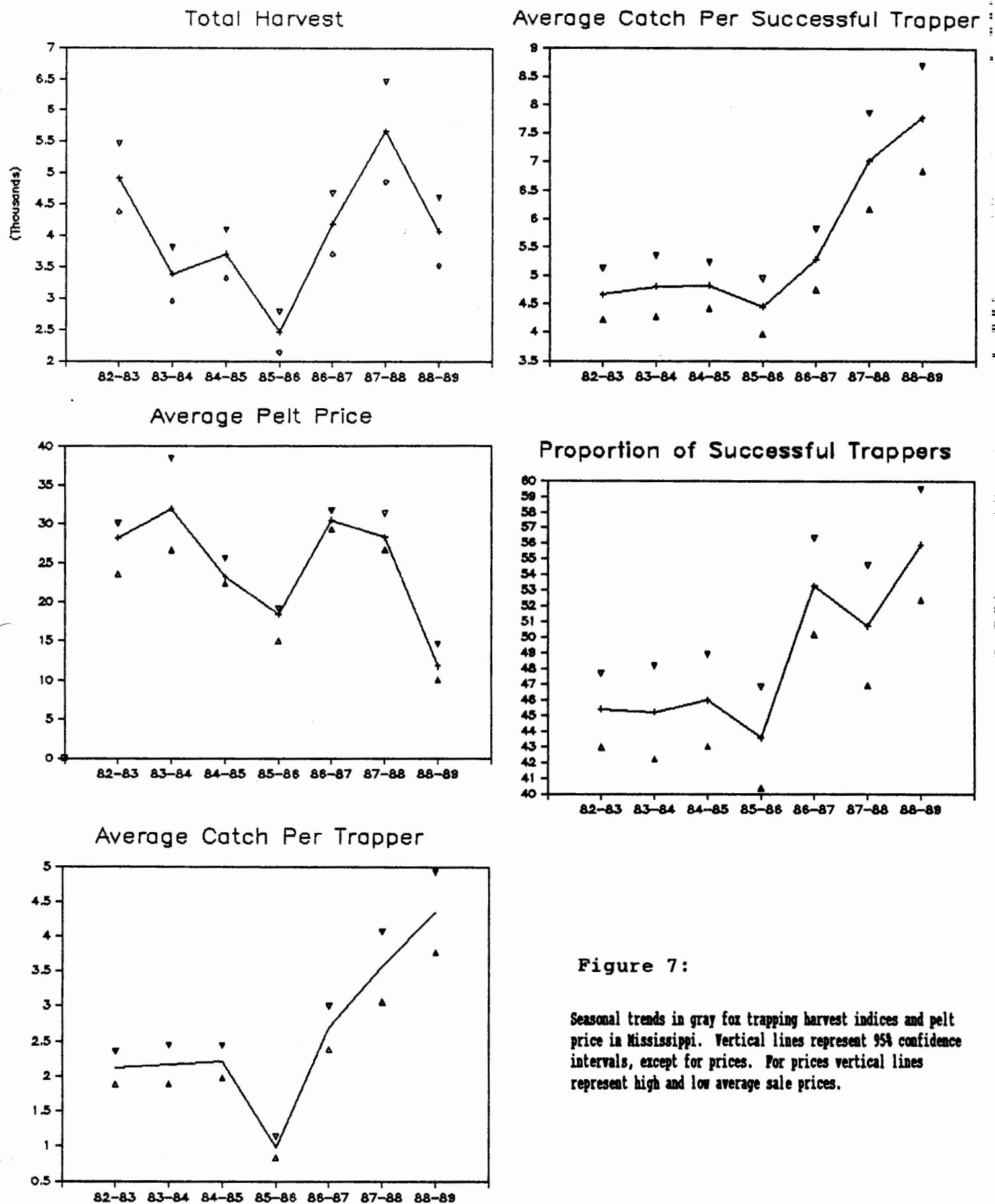


Figure 7:

Seasonal trends in gray fox trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

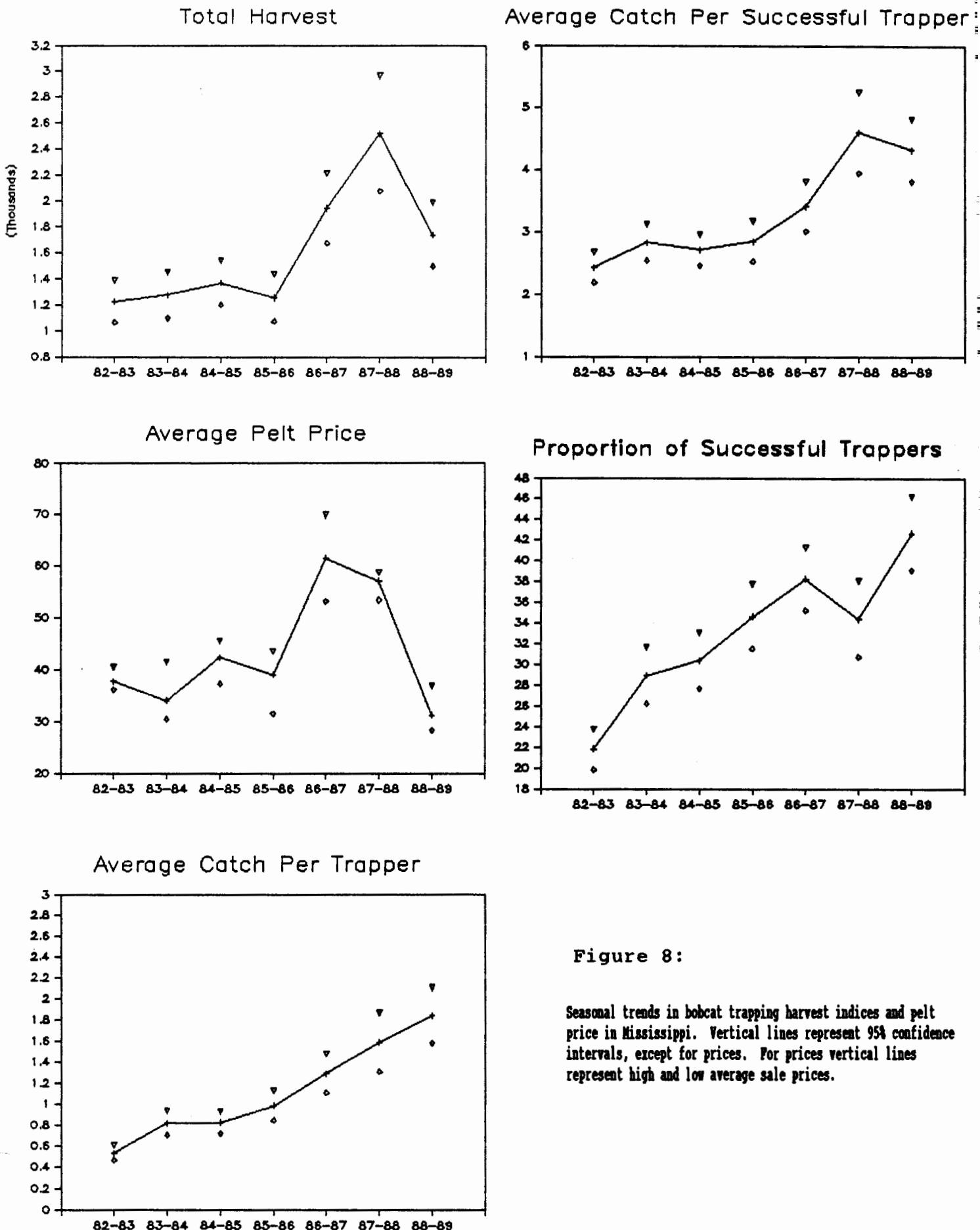


Figure 8:

Seasonal trends in bobcat trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

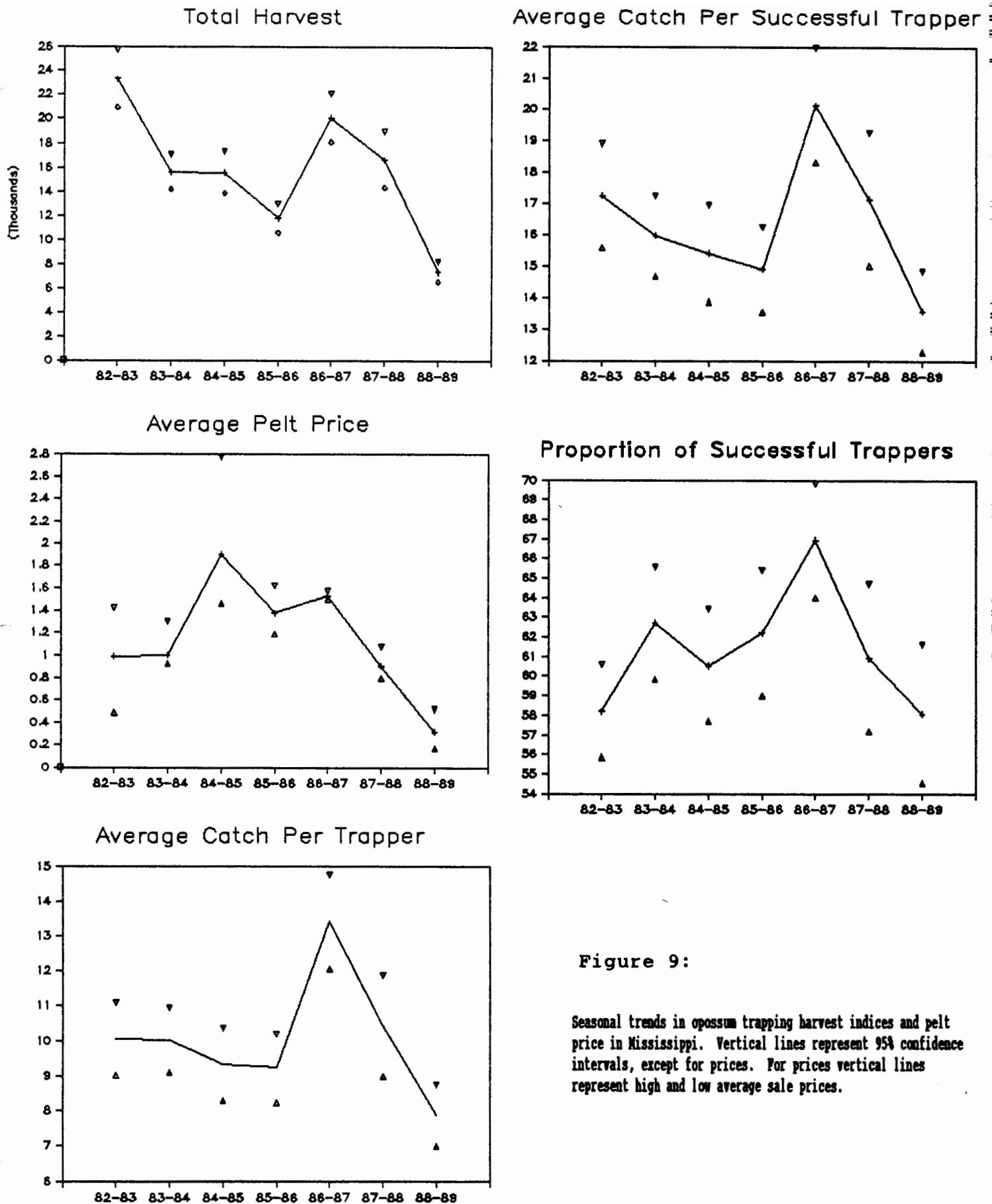


Figure 9:

Seasonal trends in opossum trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

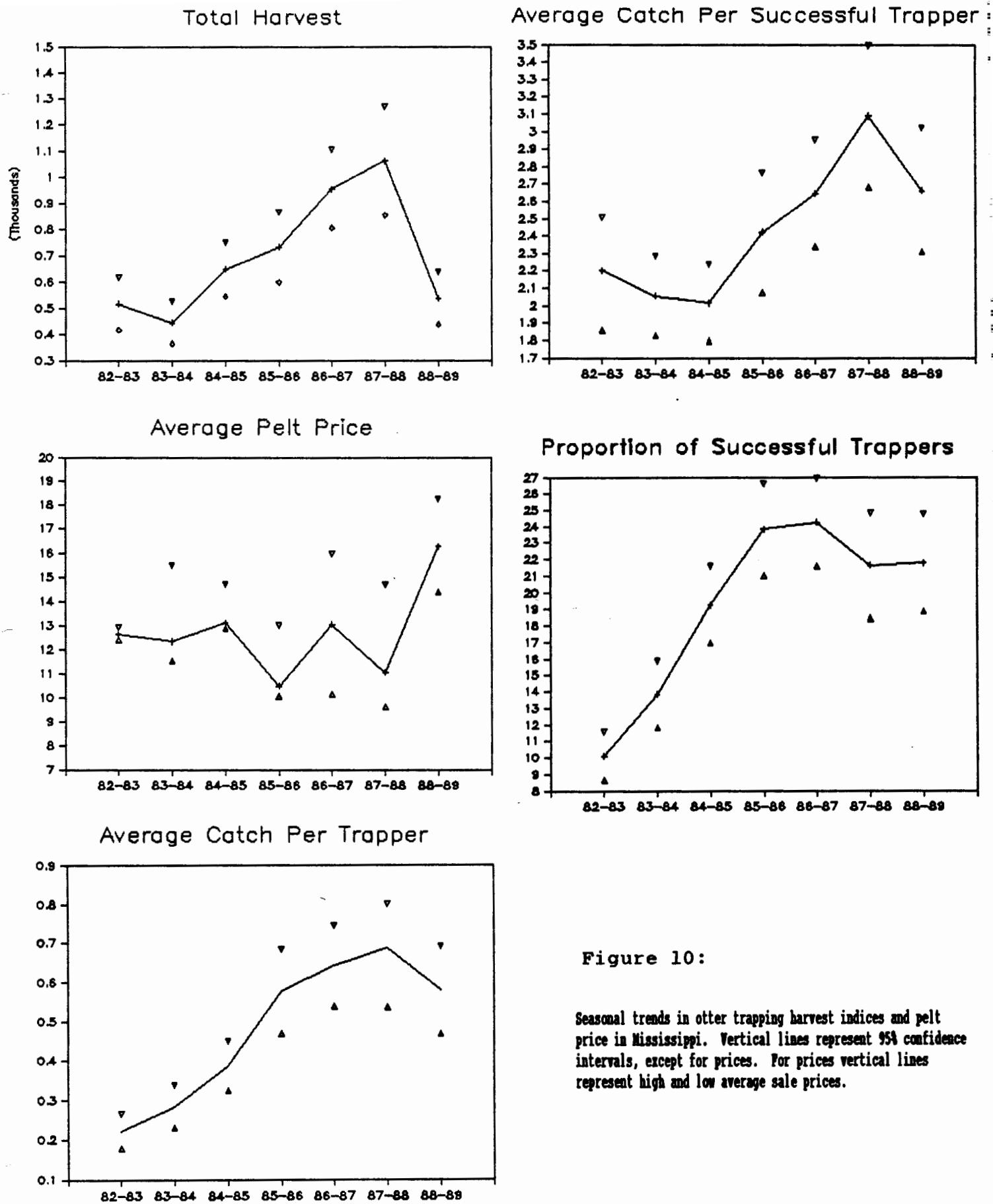
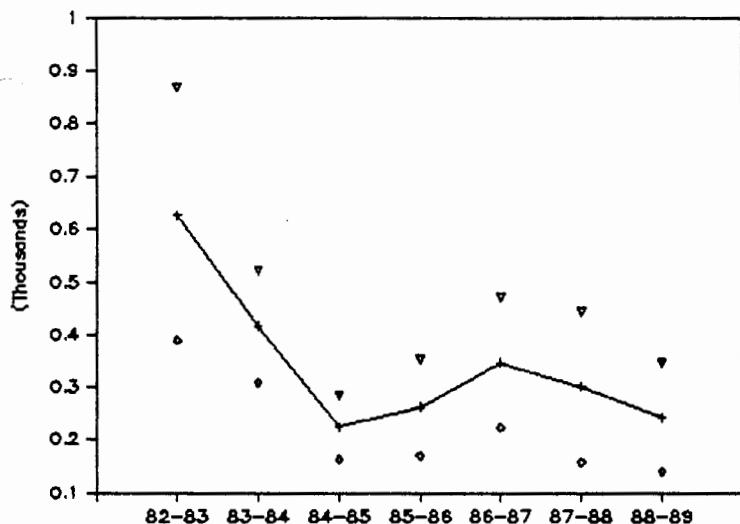


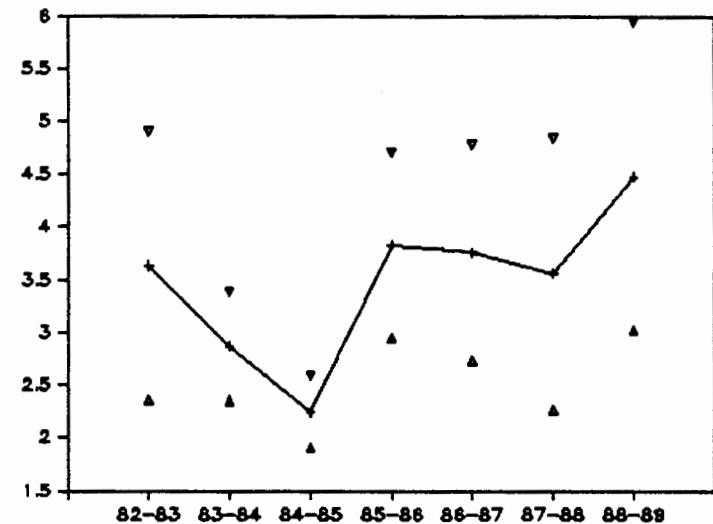
Figure 10:

Seasonal trends in otter trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

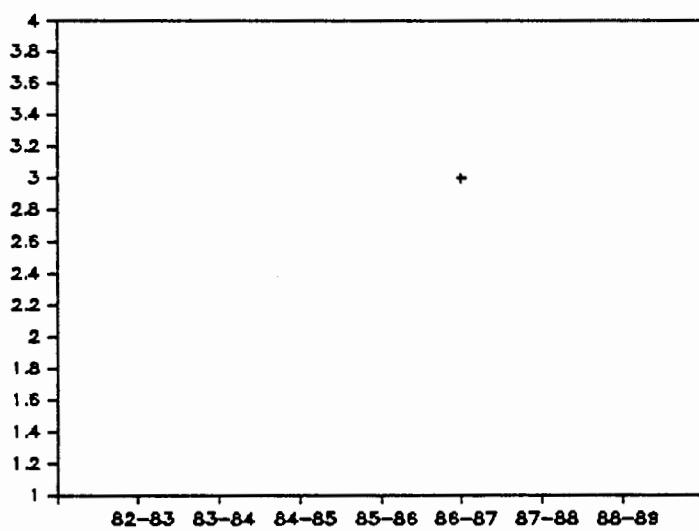
Total Harvest



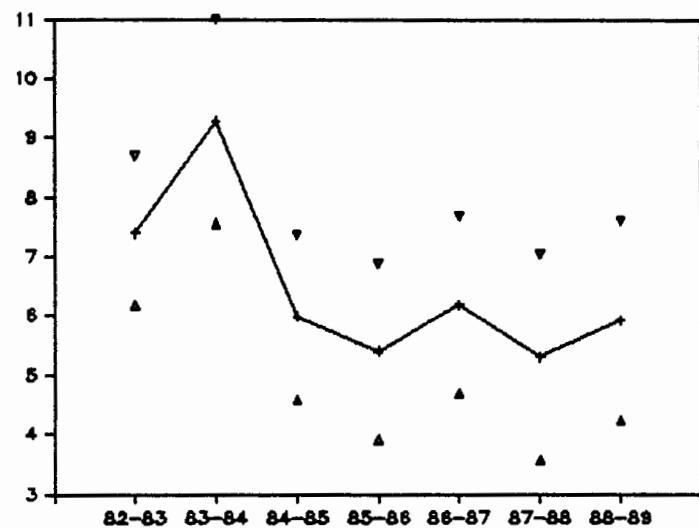
Average Catch Per Successful Trapper



Average Pelt Price



Proportion of Successful Trappers



Average Catch Per Trapper

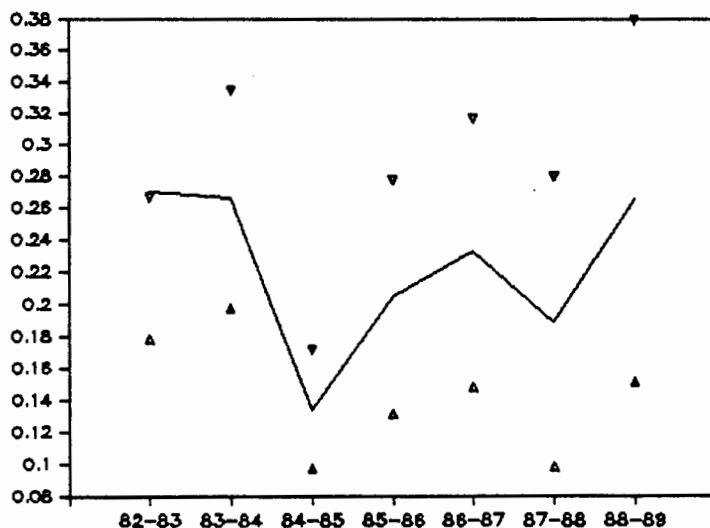


Figure 11:

Seasonal trends in spotted skunk trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

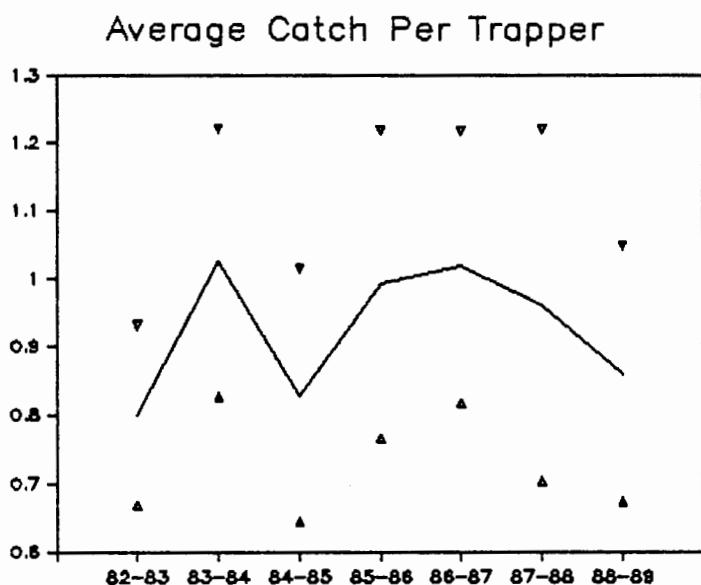
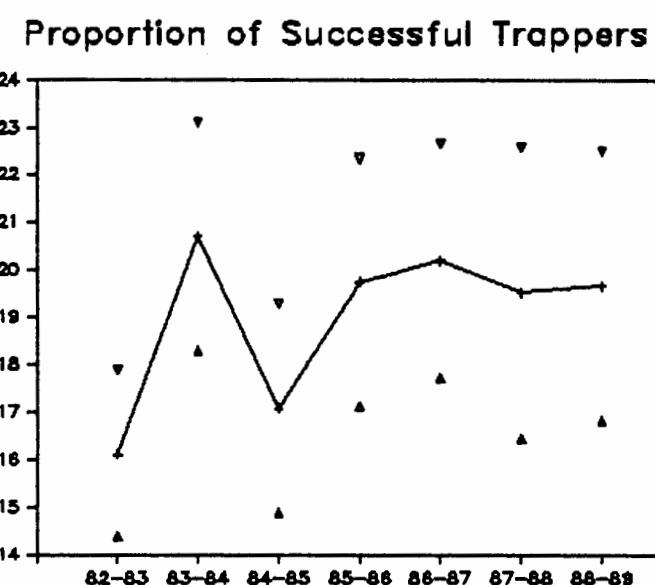
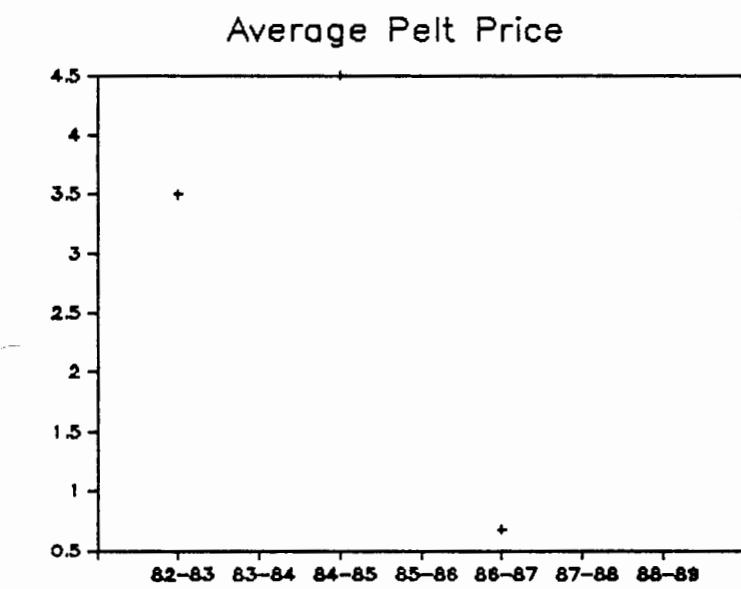
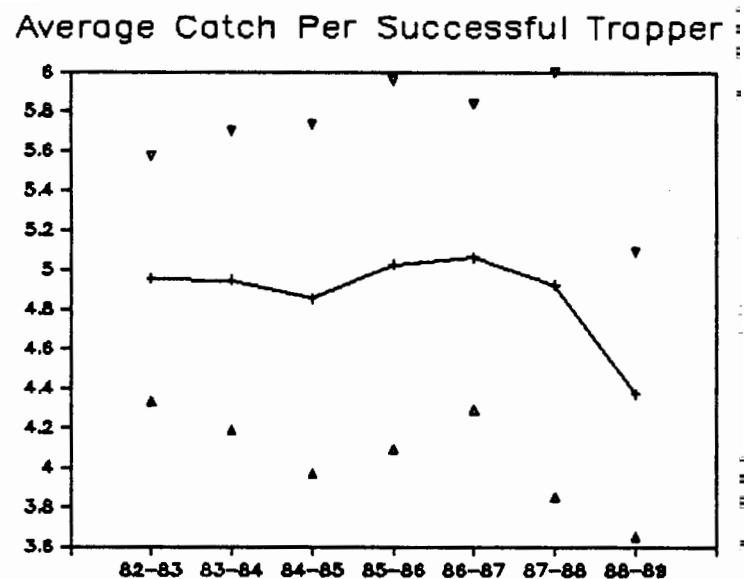
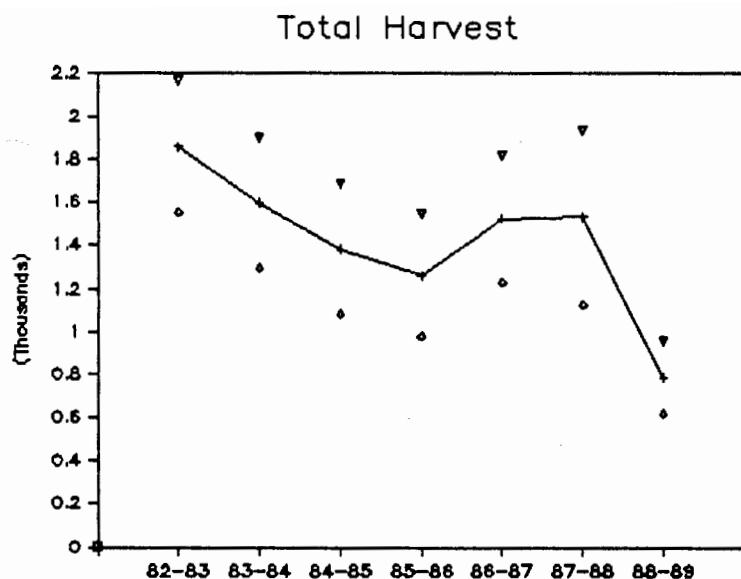


Figure 12:

Seasonal trends in striped skunk trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

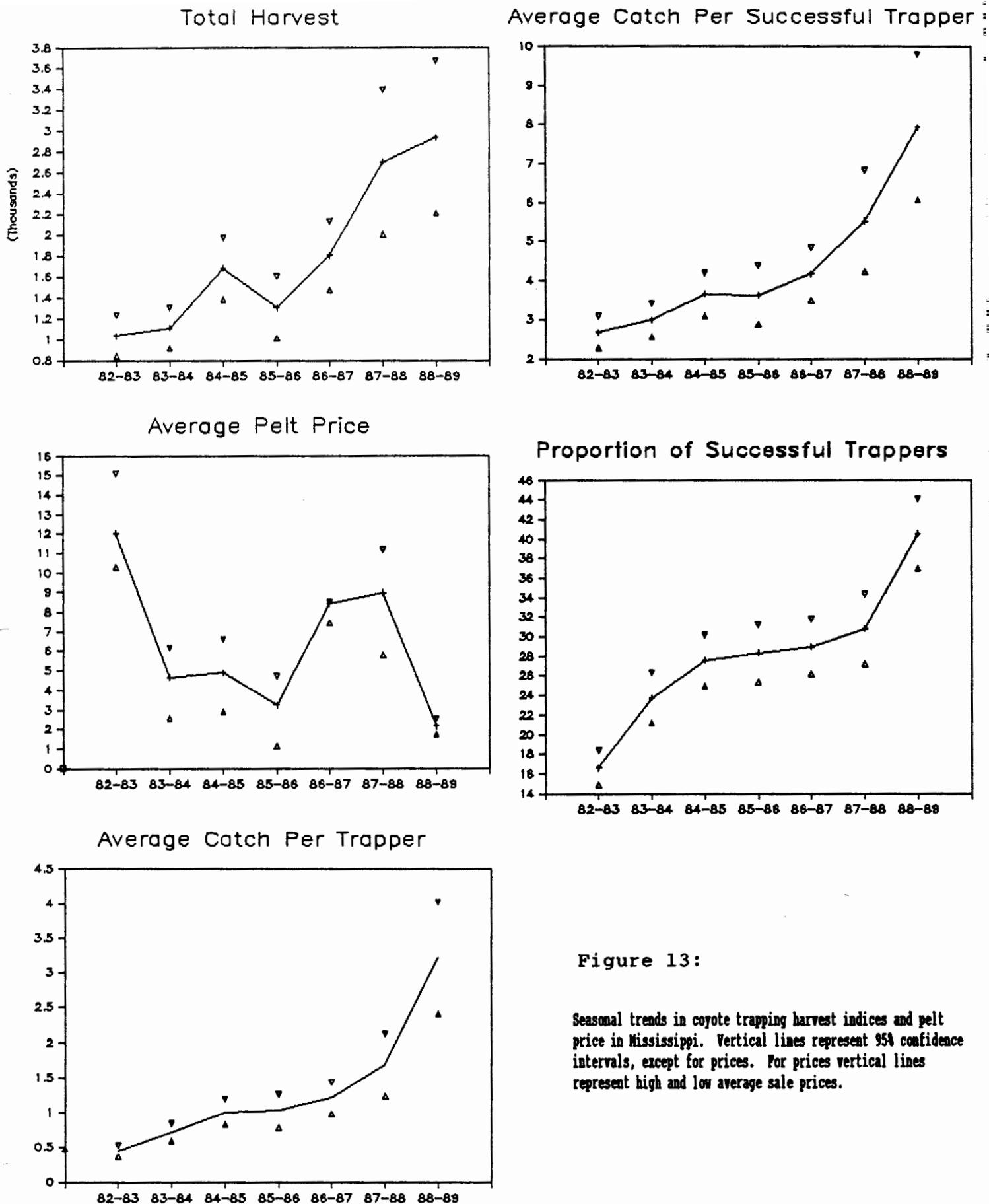


Figure 13:

Seasonal trends in coyote trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

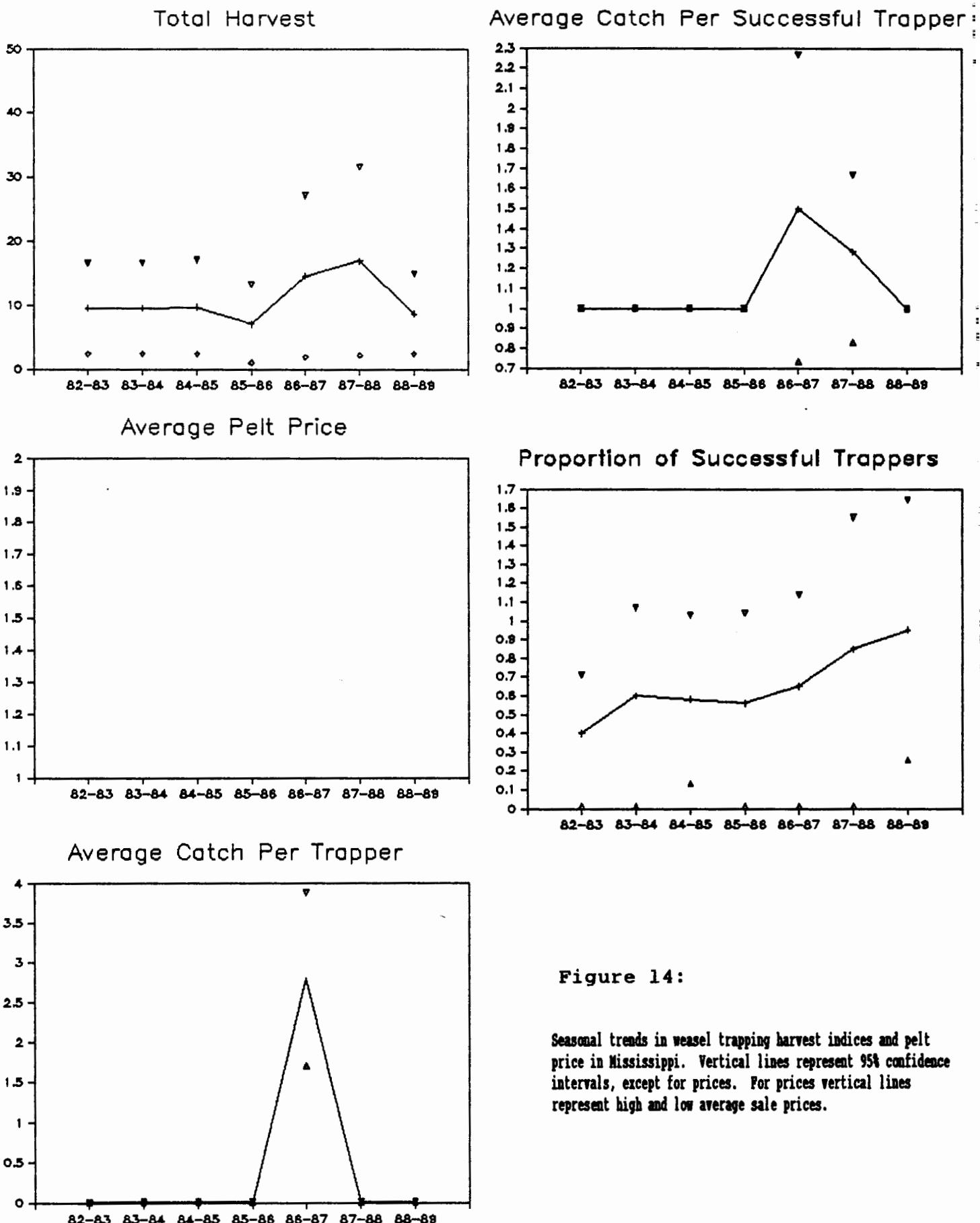


Figure 14:

Seasonal trends in weasel trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

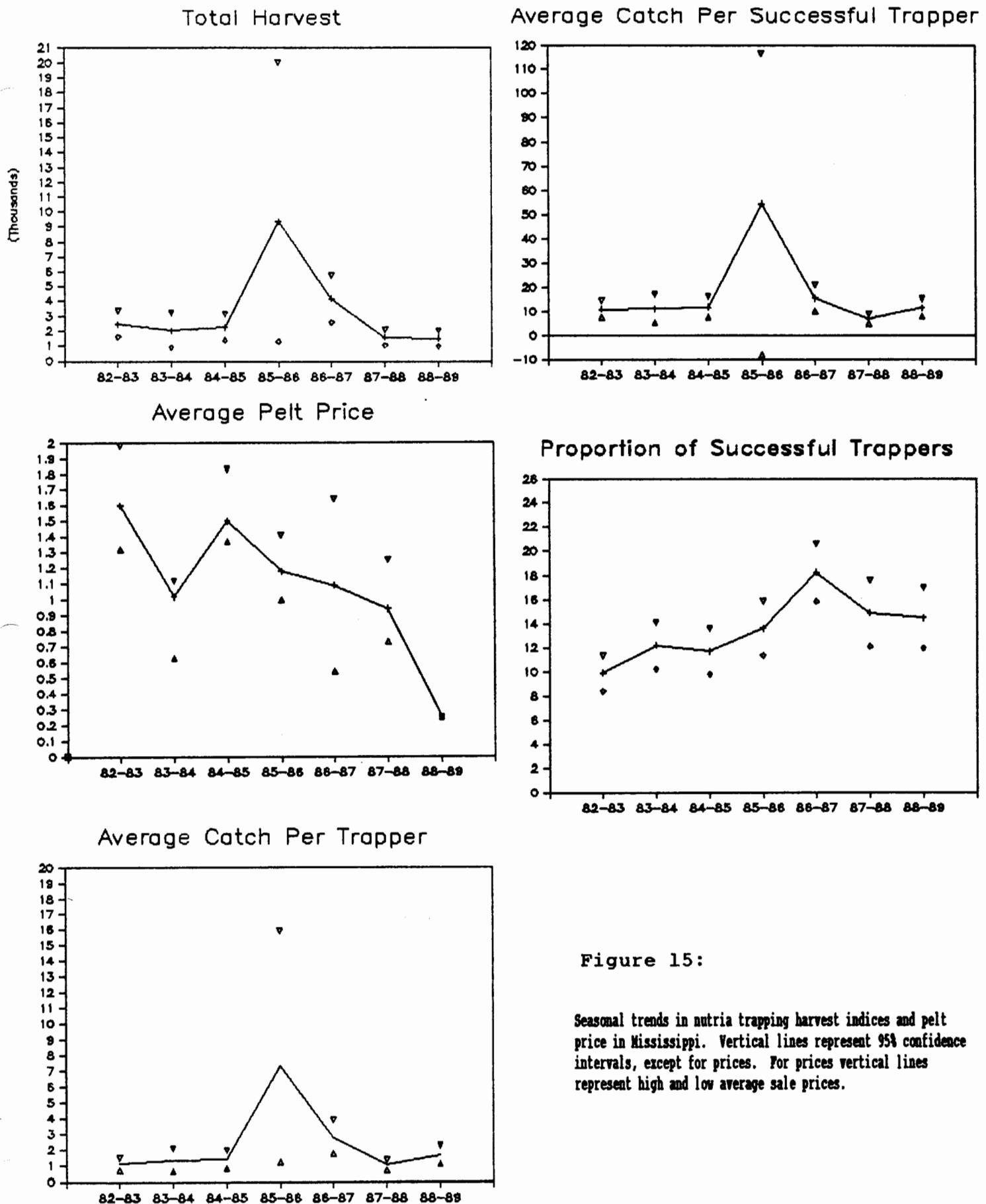
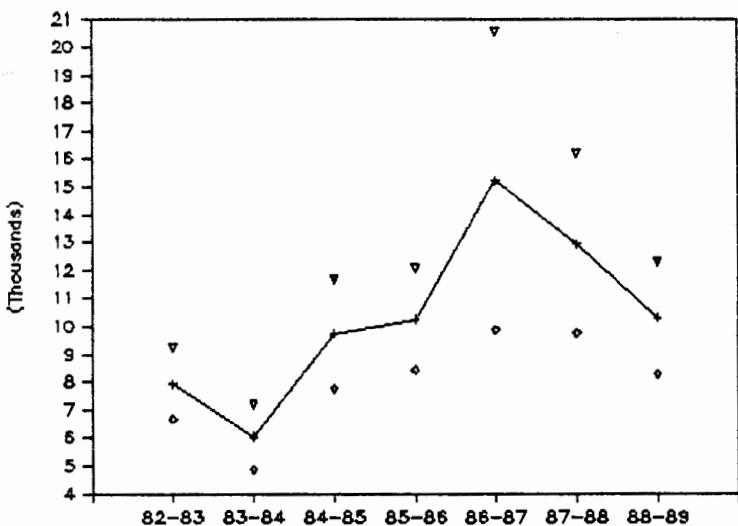


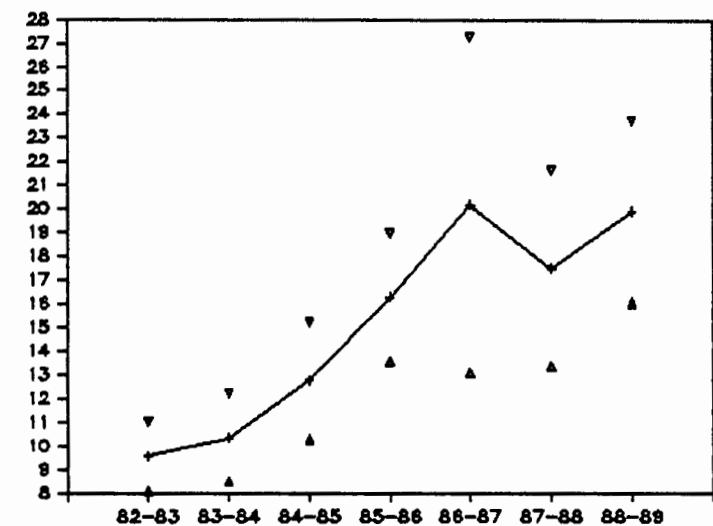
Figure 15:

Seasonal trends in nutria trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.

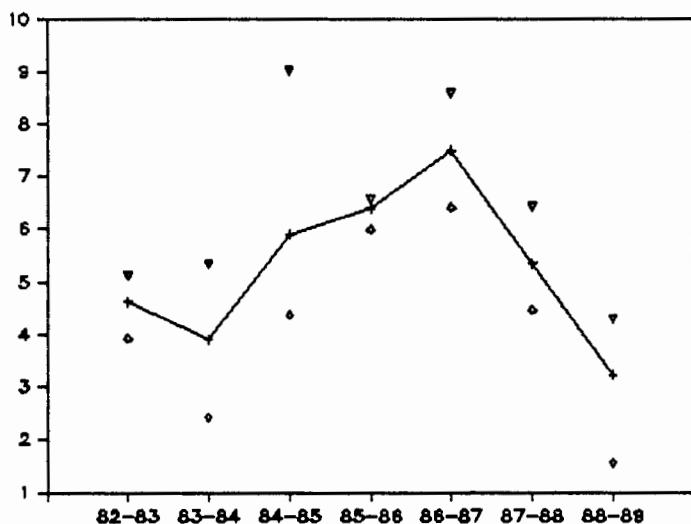
Total Harvest



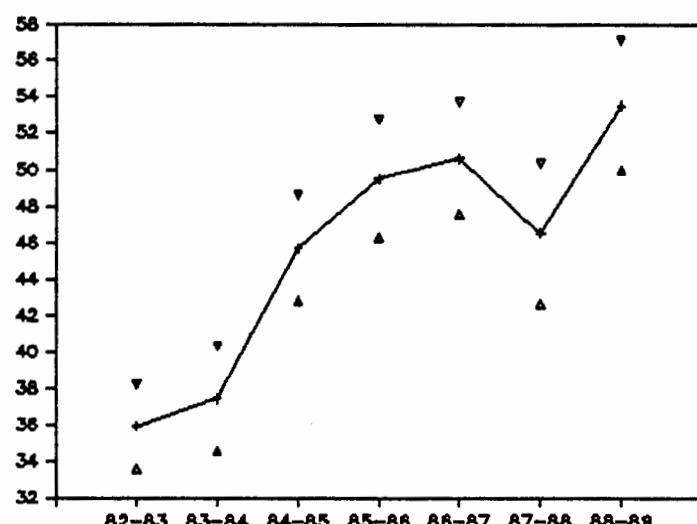
Average Catch Per Successful Trapper



Average Pelt Price



Proportion of Successful Trappers



Average Catch Per Trapper

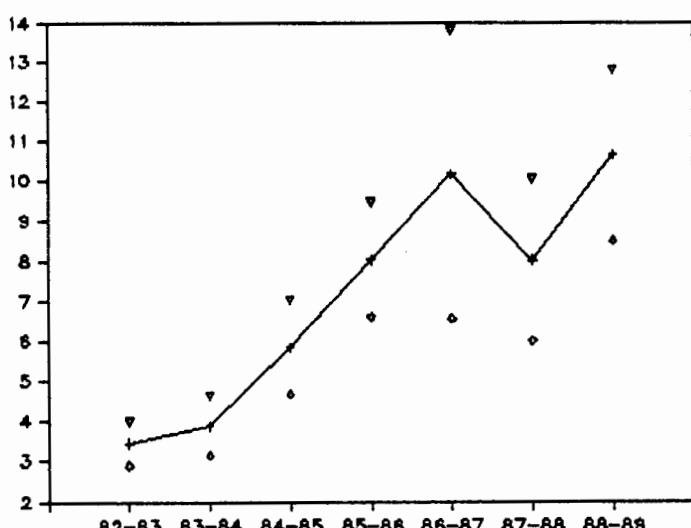


Figure 16:

Seasonal trends in beaver trapping harvest indices and pelt price in Mississippi. Vertical lines represent 95% confidence intervals, except for prices. For prices vertical lines represent high and low average sale prices.