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BARGE TRAFFIC ON THE ILLINOIS AND MISSOURI RIVERS: 1972-1992

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INTRODUCTION

This paper reviews the traffic volumes and changes in traffic volumes, destinations, and commodity mixes on the Illinois and Missouri Rivers. The time period reviewed is 1972 to 1992. This time period starts before the large increases in grain exports in the mid-1970s and goes through 1992, the last year for which the complete data series was published. Note that 1993 was a year of major floods and barge traffic volumes were atypical in 1993.

Data were obtained from the annual publication *Waterborne Commerce of the United States*. The Illinois River data series includes the Illinois River from its mouth on the Mississippi at Grafton, Illinois to Lockport, Illinois (Figure 1). The Missouri River data series includes the Missouri River from Fort Benton, Montana to its mouth on the Mississippi River (Figure 2). Virtually all of the Missouri River traffic occurs in the lower 735 miles, i.e., below Sioux City, Iowa, with the vast majority of the traffic occurring in the lowest 375 miles, i.e., Kansas City and below.

DEFINITIONS

There are a number of definition (or conventions) in the Waterborne Commerce series. Of particular interest are:

upbound - traffic that moves in an upstream direction.

downbound - traffic that moves in a downstream direction.

inbound - traffic moving from one waterway to another where the destination is on the subject waterway. For the Missouri River "inbound traffic" is almost always from the Mississippi River. However, for the Illinois River traffic can be "inbound upbound" from the Mississippi River to the Illinois River or "inbound downbound" from Chicago and the Great Lakes.

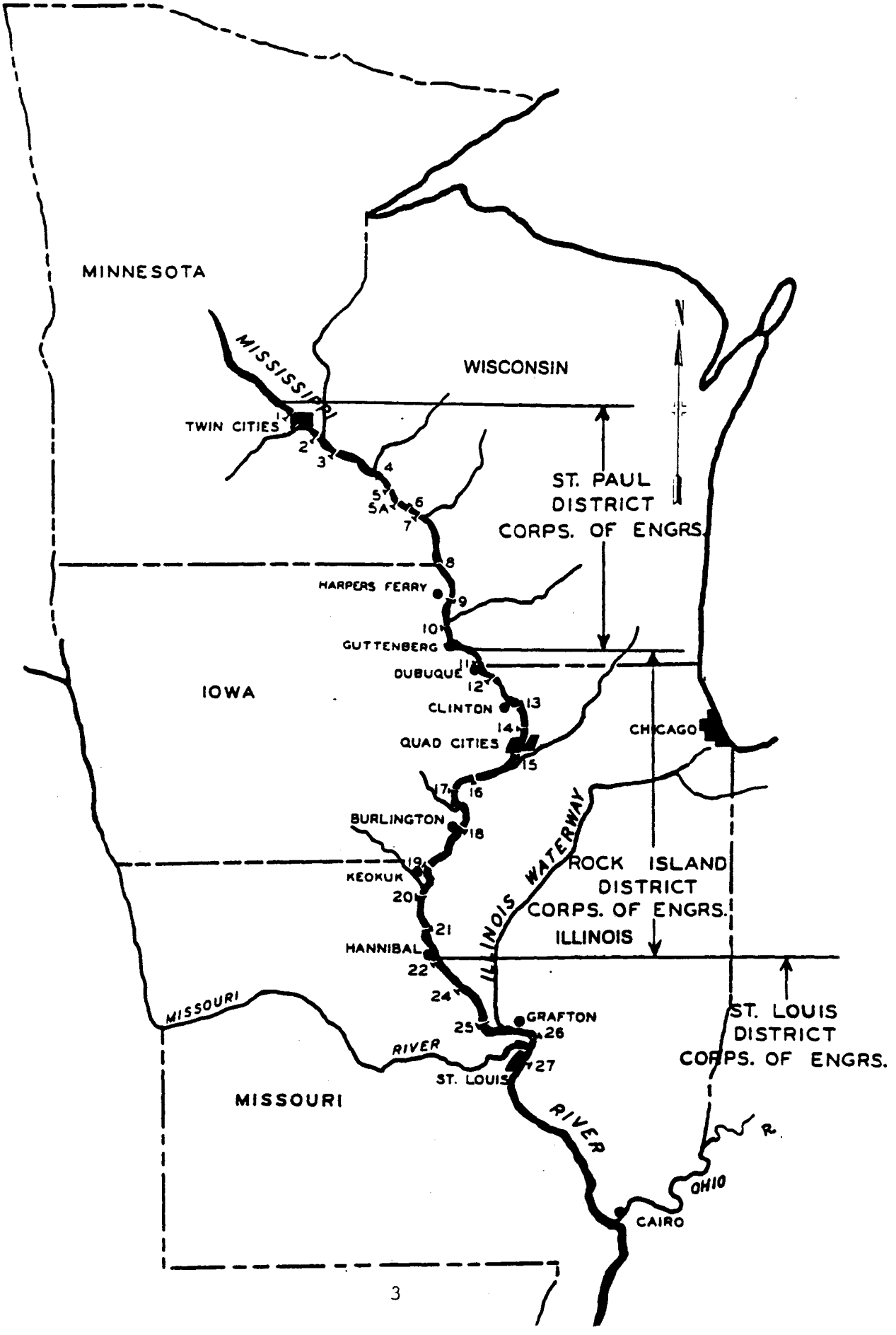
outbound - traffic moving to another waterway from a location on the subject waterway. For the Missouri River this is almost always downbound to the Mississippi River or beyond. However, for the Illinois River, outbound can be either downbound to the Mississippi River or upbound to points above Lockport.

through - traffic transiting a defined waterway but having origins and destinations outside of the defined waterway. The Illinois River has a lot of through traffic--both upbound and downbound between the Mississippi River and Chicago and the Great Lakes.

intra or intra-waterway - movements between an origin and destination on the defined waterway.

It should be noted that the commodity coding system used for *Waterborne Commerce* was changed in 1990. We have attempted to be consistent between the two system by matching commodity names. The only resulting problem area that we are aware of in our analysis is that from 1972-1989, "flour and meals of oilseeds" were included in grain mill products, NEC, WCCC 2049. After 1989 it was included in "oilseeds NEC'. This category is not included in our analysis from 1990 to 1992, so we have understated grain and ag products in that time period.

UPPER MISSISSIPPI AND ILLINOIS RIVERS



ILLINOIS RIVER TRAFFIC

Graph 1 is the total tonnage volume of all cargo barged on the Illinois River by year, except for "coastwise" tonnage. Total traffic appears to have been remarkably consistent over the 21 year time period.

Graph 2 is the downbound cargo by movement type. The lowest portion of the bar is downbound downstream traffic. The second segment is through downbound traffic that comes from above Lockport and goes through to the Mississippi River. The third segment is inbound downbound traffic that comes from above Lockport for destinations on the Illinois River. The top segment represents downbound traffic with both origin and destination on the Illinois River. Downbound traffic has increased about 5 million tons a year over the period. Most of the gain is accounted for by outbound traffic. Through downbound traffic has increased. Inbound and intra traffic have declined.

Graph 3 represents the total upbound tonnage volumes of all cargo barged on the Illinois River by year. The lowest segment of the bar represents traffic from origins on the Mississippi River to destinations on the Illinois River. The second segment represents upbound cargo passing through the Illinois River to destinations above Lockport. The third segment represents traffic from origins on the Illinois River to destinations above Lockport. The top segment is upbound traffic with both origin and destination on the Illinois River.

Upbound tonnage has decreased by about 5 million tons over the period. Inbound traffic has increased slightly but outbound and through traffic have declined.

Graph 4 represents total barge movements of corn on the Illinois River by year. Recent corn tonnage has been above that of the mid-80's and early 70's but remains below that of the peak export years of 1979-82.

Graph 5 represents total barge movements of soybeans on the Illinois River by year. Recent soybean movements are more than 50% higher than in the 1970's and were exceeded only in 1986 and 1982.

Graph 6 represents total barge movements of wheat by barge on the Illinois River.

Graph 7 represents total barge movements of animal feeds. This would include such things as corn gluten meal and corn gluten feed.

Graph 8 shows shipments of grain mill products NEC. 1990-1992 are probably underrepresented here because of a classification change.

Graph 9 shows the total of 5 ag commodities by year. Corn is the lowest bar segment. The next segment is soybean followed by animal feeds. Wheat is the segment next to the top. The top segment represents grain mill products NEC. 1990, 1991, 1992 movements of ag commodities were exceeded only in 1982 and 1983.

Graph 10 shows the annual total of downbound traffic.

Graph 11 shows the annual total of upbound traffic.

Graph 12 shows the total traffic by direction. Downbound is the lower segment of the bar. Upbound is the upper segment of the bar. (Graph 12 combines graphs 10 and 11.)

Graphs 13 through 16 break the total traffic down by type and direction.

Graph 13 shows the total outbound traffic. The lower segment is downbound traffic. originating on the Illinois River below Lockport going to destinations on the Mississippi River and beyond. The upper segment is upbound traffic originating on the Illinois River going to destinations above Lockport.

Graph 14 shows the total traffic inbound to Illinois River destinations. The lower segment is upbound traffic from the Mississippi River or beyond. The upper segment is downbound traffic from above Lockport.

Graph 15 shows the total through traffic. The lower segment is upbound traffic from the Mississippi River to above Lockport. The upper segment is downbound traffic from above Lockport to the Mississippi.

Graph 16 shows intra Illinois River movements where both the origin and destination are on the Illinois River. The lower segment shows upbound traffic. The upper segment shows downbound traffic.

THE MISSOURI RIVER

Graph 1 shows the total annual traffic on the Missouri River. The lower segment of the bars show total grain traffic (Codes 0102-0111). The next segment shows all traffic other than grains, sand, gravel and rock, and waterway improvement materials. The third segment shows waterway improvement materials (code 4118). The top segment shows sand, gravel and crushed rock (code 1442). As detailed on the following graphs, grain and soybean and other have been declining while sand, gravel and rock tonnages have increased.

Graph 2 shows the predominant types of river movements by year. The lower segment shows downbound movements between locations on the Missouri River. The next segment shows upbound movements between locations on the Missouri River. The third segment shows outbound movements from the Missouri River to the Mississippi River. The top segment shows inbound movements from the Mississippi River to locations on the Missouri River. (Small amounts of inbound downbound and outbound upbound are not included on this graph.) In recent years less than a third of the tonnage has been to or from other inland waterways.

Graph 3 shows the predominant types of movement of sand, gravel and rocks which recently accounted for 2/3 of the Missouri River tonnage. The bottom segment of the bar shows downbound movements to other locations on the Missouri River. The second segment shows

MISSOURI RIVER CHANNEL DIMENSIONS

upbound movements to other locations on the Missouri River. The third segment shows shipments of sand and gravel to points on the Mississippi River. The top segment shows shipments to Missouri River destinations from Mississippi River origins.

Graph 4 shows grain and soybean traffic on the Missouri River. The bottom segment shows outbound shipments. The top segment shows in bound shipments to Missouri River locations. Grain and soybeans now account for less than half of the volumes they had in the late 1970s.

Graph 5 shows barge movements of waterway improvement materials. The bottom segment represents downbound movements between locations on the Missouri River. The next segment indicates upbound movements between locations on the Missouri River. The third segment indicates shipments from the Missouri River to downstream destinations. The fourth segment represents inbound shipments to Missouri River destinations from other locations. This commodity declined in importance after the completion of the Missouri River project but accounted for significant tonnage in the 1970s.

CONCLUSIONS

Total annual tonnage on the Illinois River have been remarkably consistent over the 21 year period. However, the commodity mix and movement types have changed substantially. Ag commodities have increased from approximately 30 Percent of the total in the early 1970s to 45 percent during the 1990-1992 period. Soybean tonnage has increased 60 to 70% since the early 70's. Animal feed tonnage has increased from negligible amounts prior to 1979 to nearly 2 million tons a year.

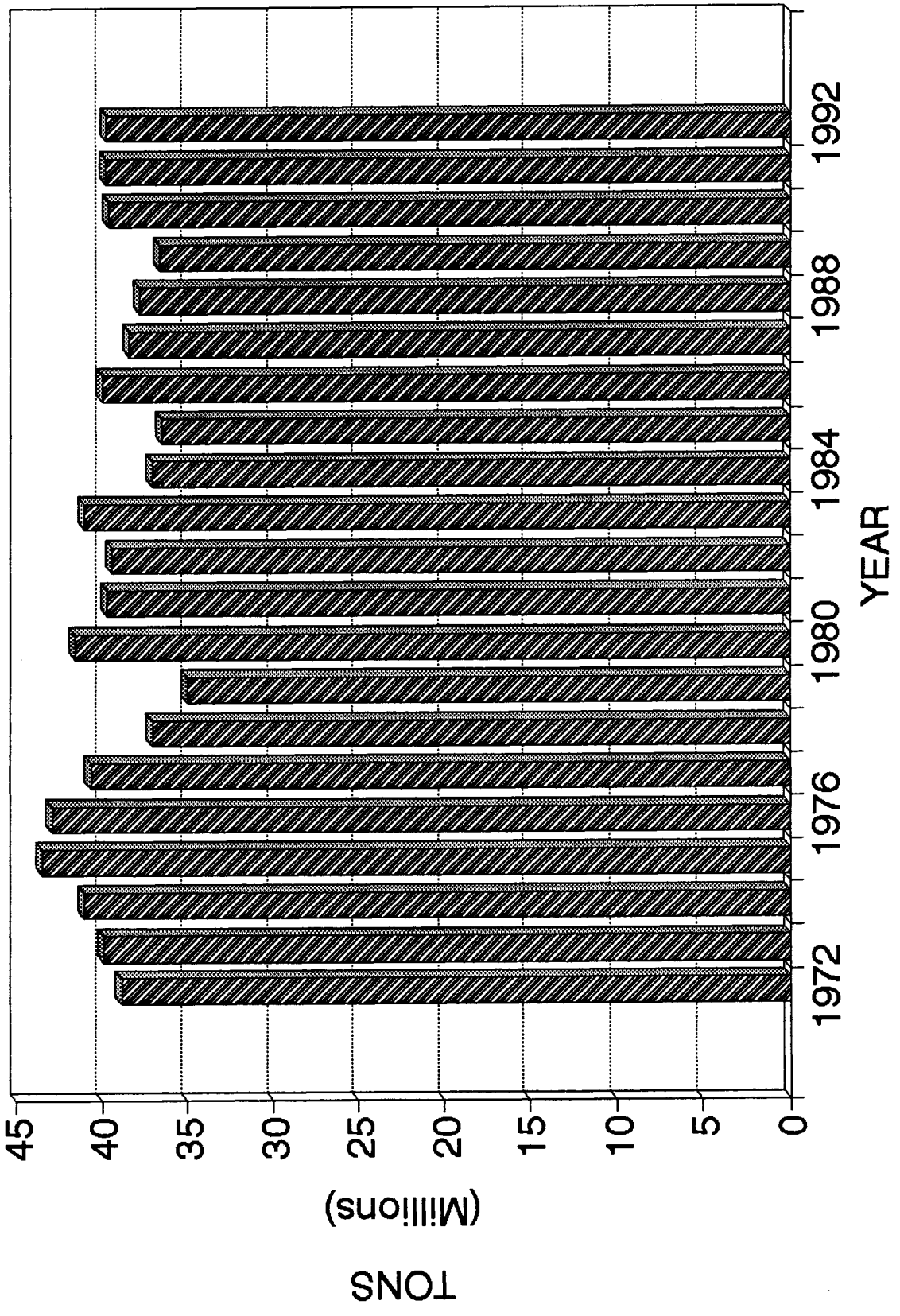
Outbound downbound tonnage increased dramatically over the 21 year period closely paralleling the growth in ag commodity volumes. Inbound downbound traffic has almost 75

percent and outbound upbound has decreased approximately 50%. This indicated a substantial decrease in Illinois River flows from and to Chicago and the Great Lakes. Intra waterway movements have decreased to a negligible level.

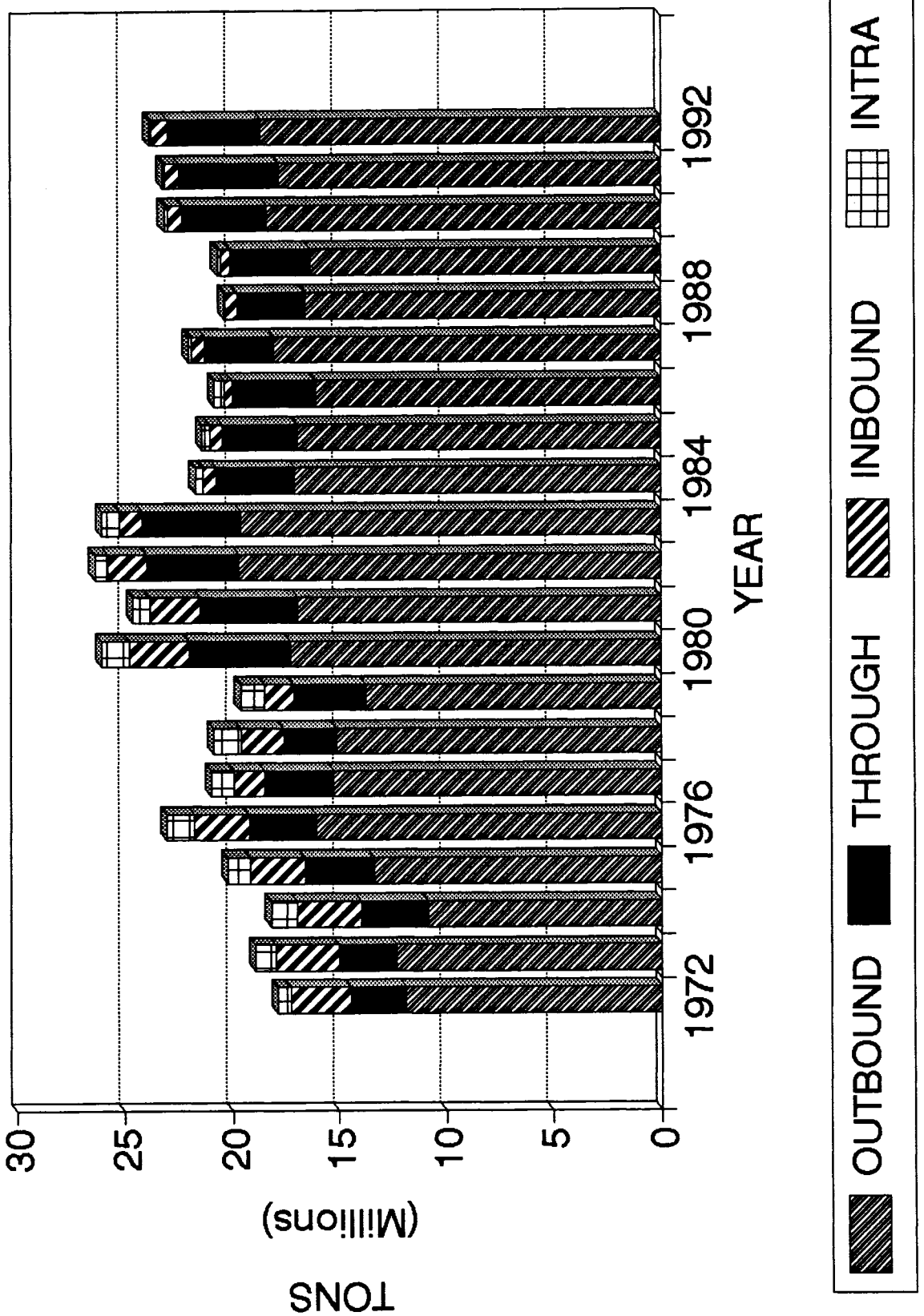
Research is needed to analyze trends and changes in other major commodities such as coal, fertilizer, chemicals and petroleum products to further define traffic flows on the Illinois River.

The Missouri River is declining in importance as an interregional waterway. The vast majority of its annual tonnage consists of intra river movements of sand, gravel and rock. Unlike the Illinois River and the Upper Mississippi, grain volumes have not recovered after the export drop in the mid-1980s. Volumes of most other commodities have also decreased in recent years.

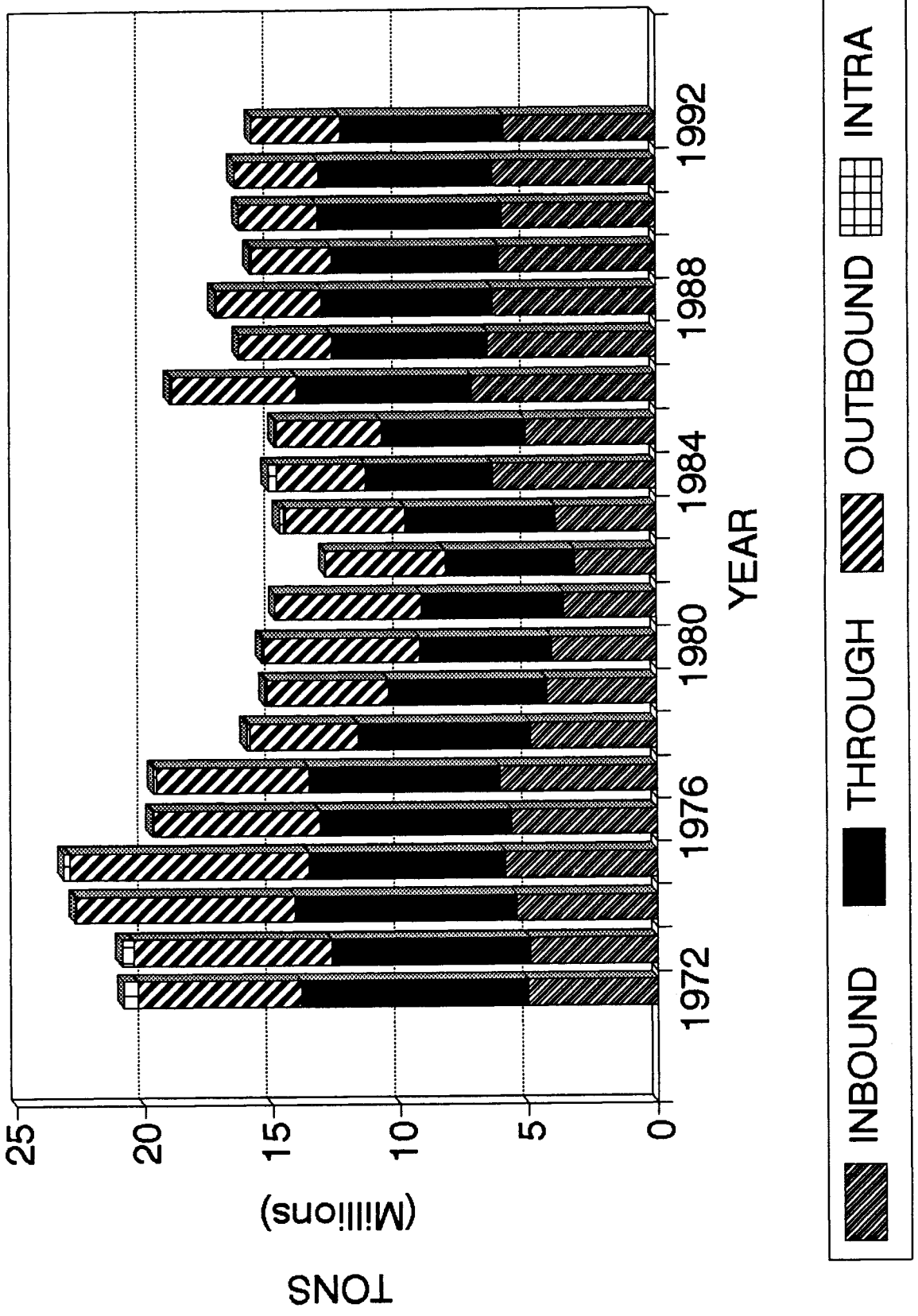
GRAPH 1
ILLINOIS RIVER TOTAL TONNAGE



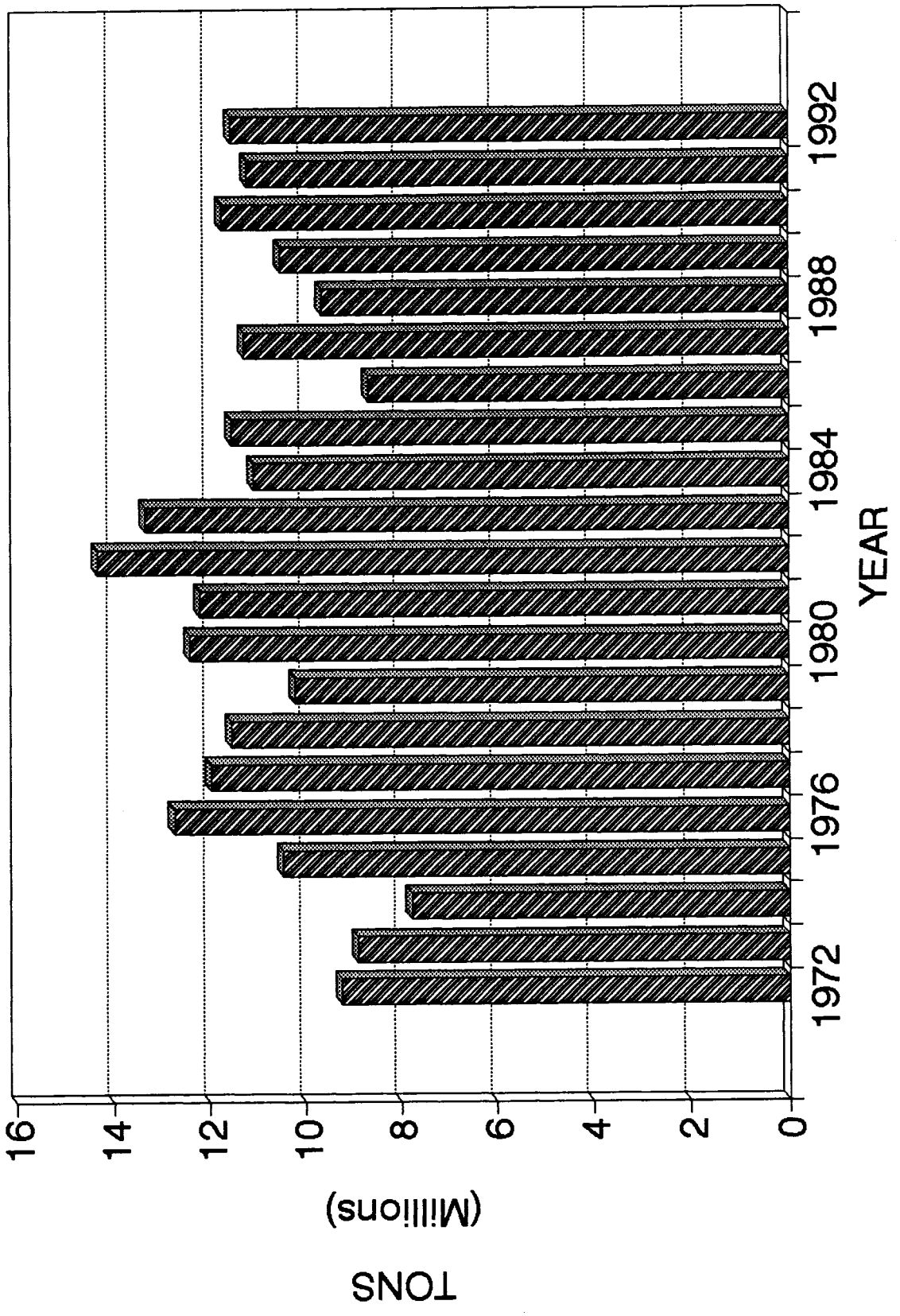
GRAPH 2
ILLINOIS DOWNBOUND TONNAGE BY TYPE



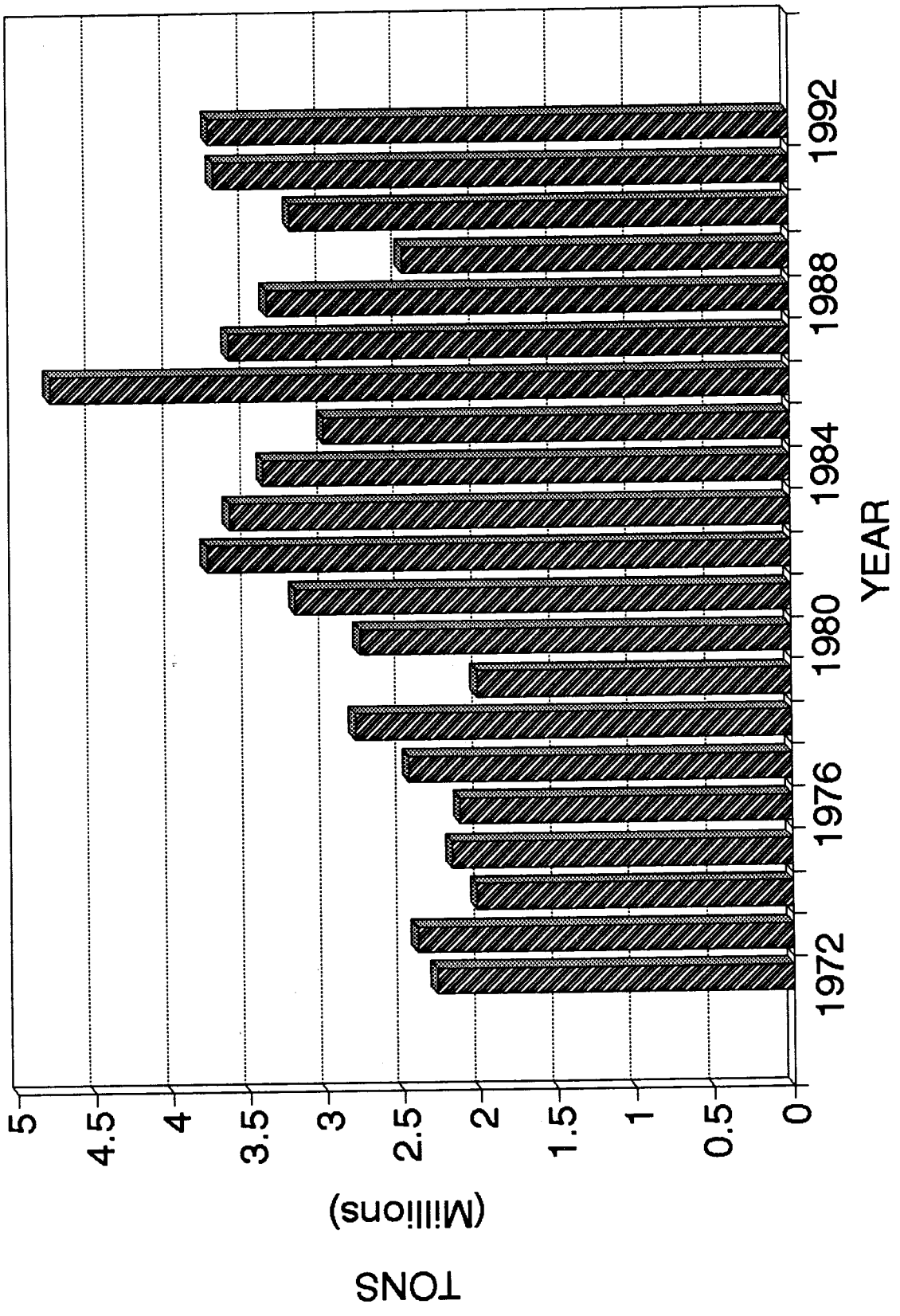
GRAPH 3
ILLINOIS RIVER UPBOUND TONNAGE BY TYPE



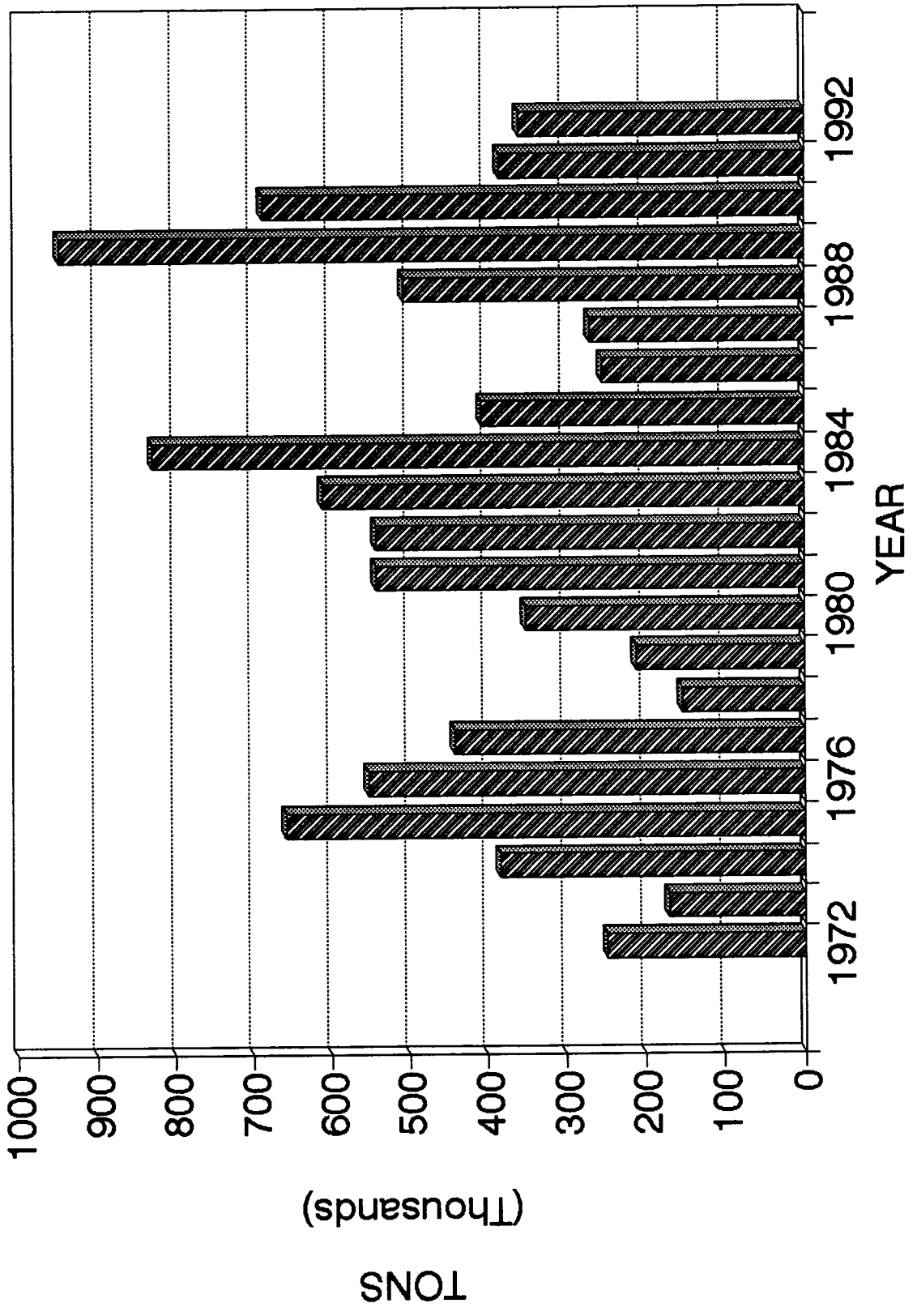
GRAPH 4
ILLINOIS RIVER CORN TONNAGE



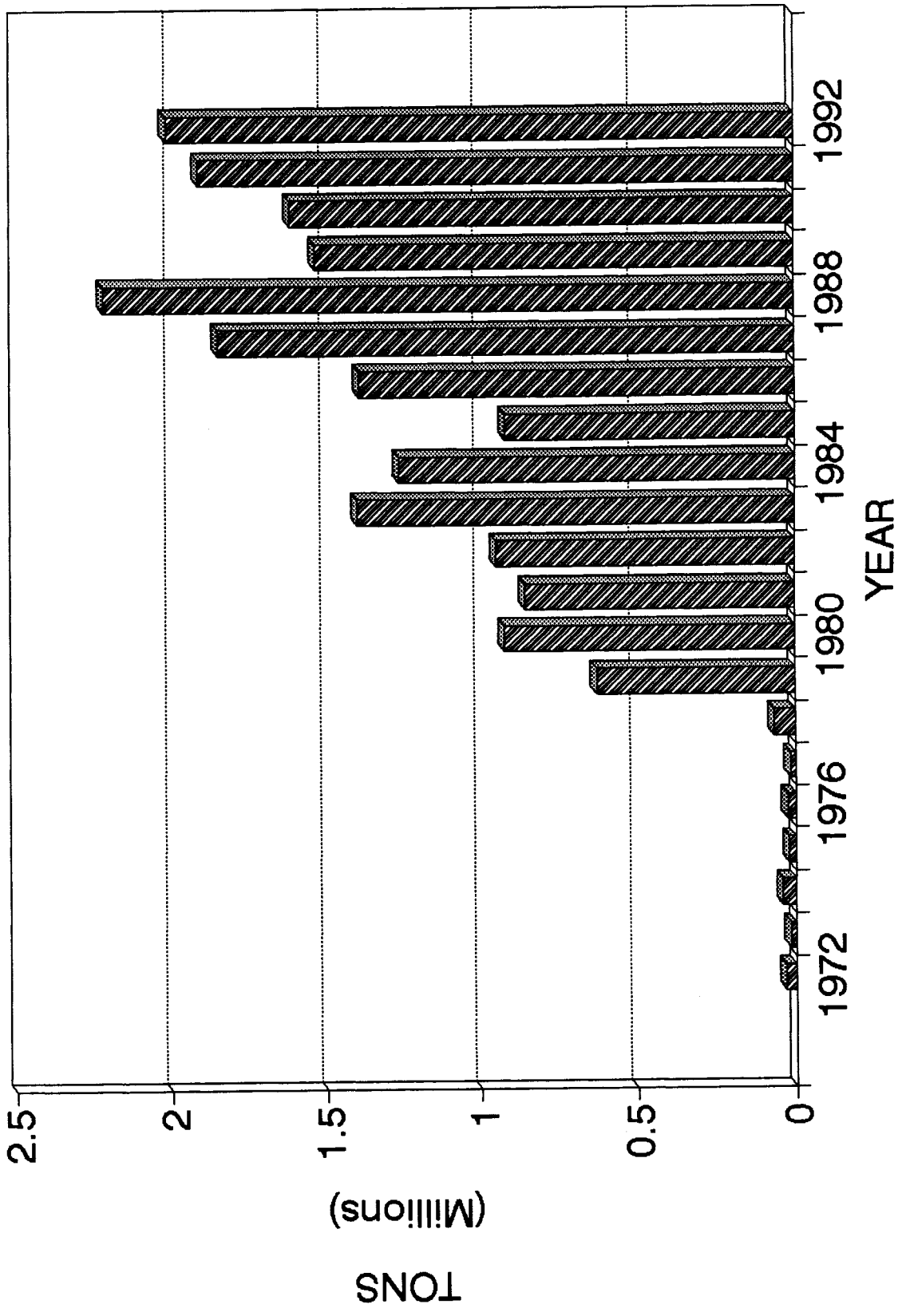
GRAPH 5
ILLINOIS RIVER SOYBEAN TONNAGE



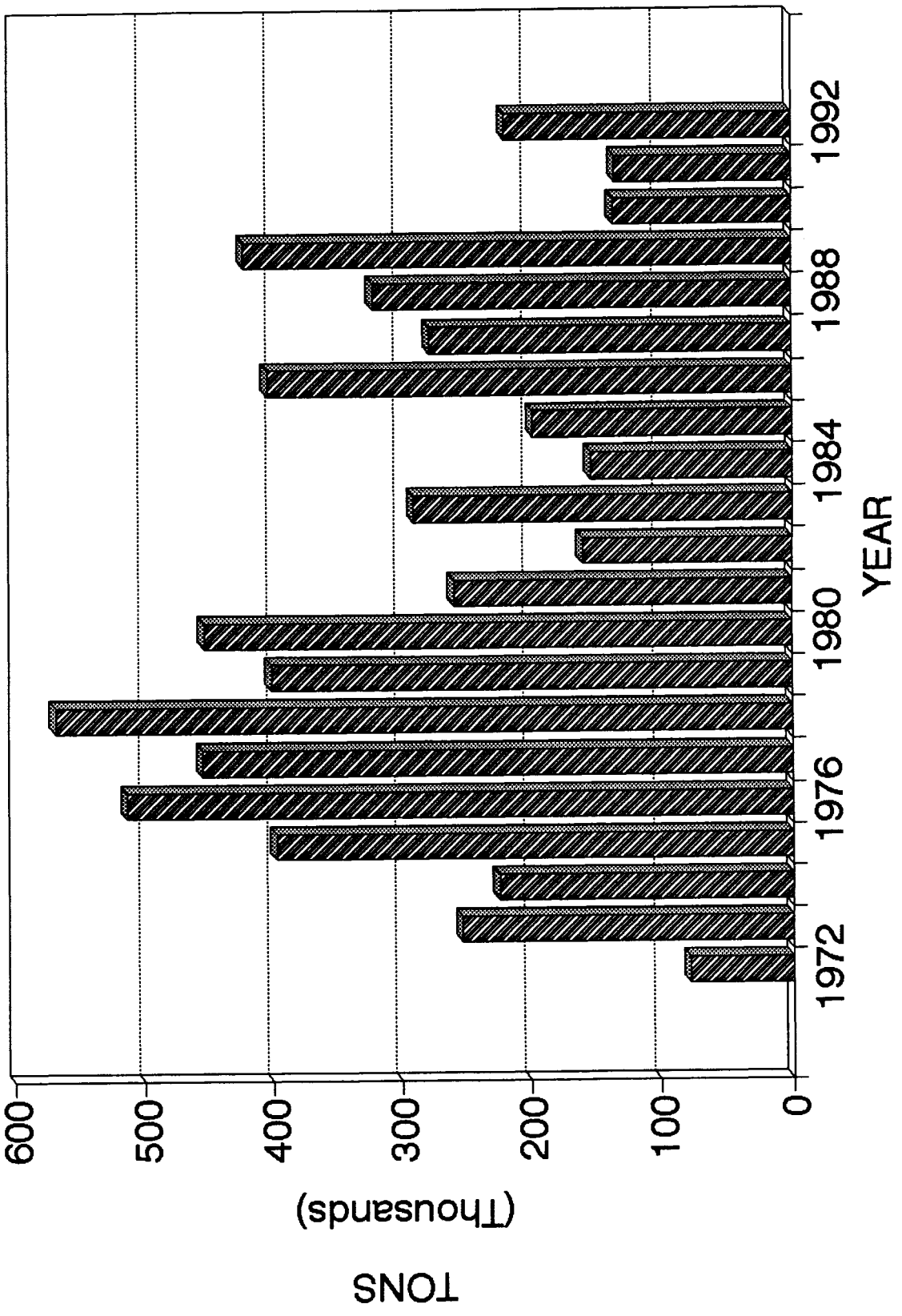
GRAPH 6
ILLINOIS RIVER WHEAT TONNAGE



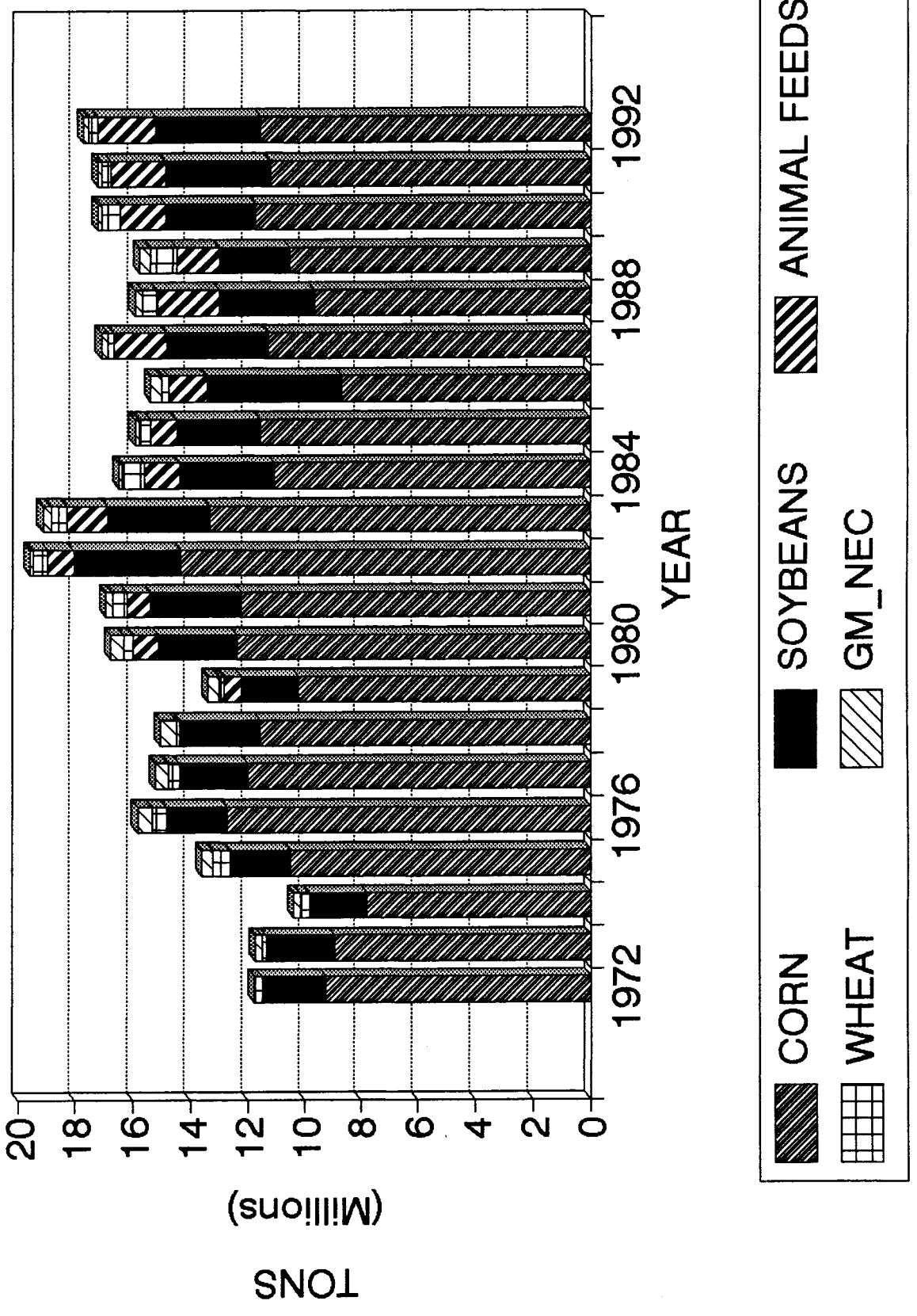
GRAPH 7
ILLINOIS RIVER ANIMAL FEED TONNAGE



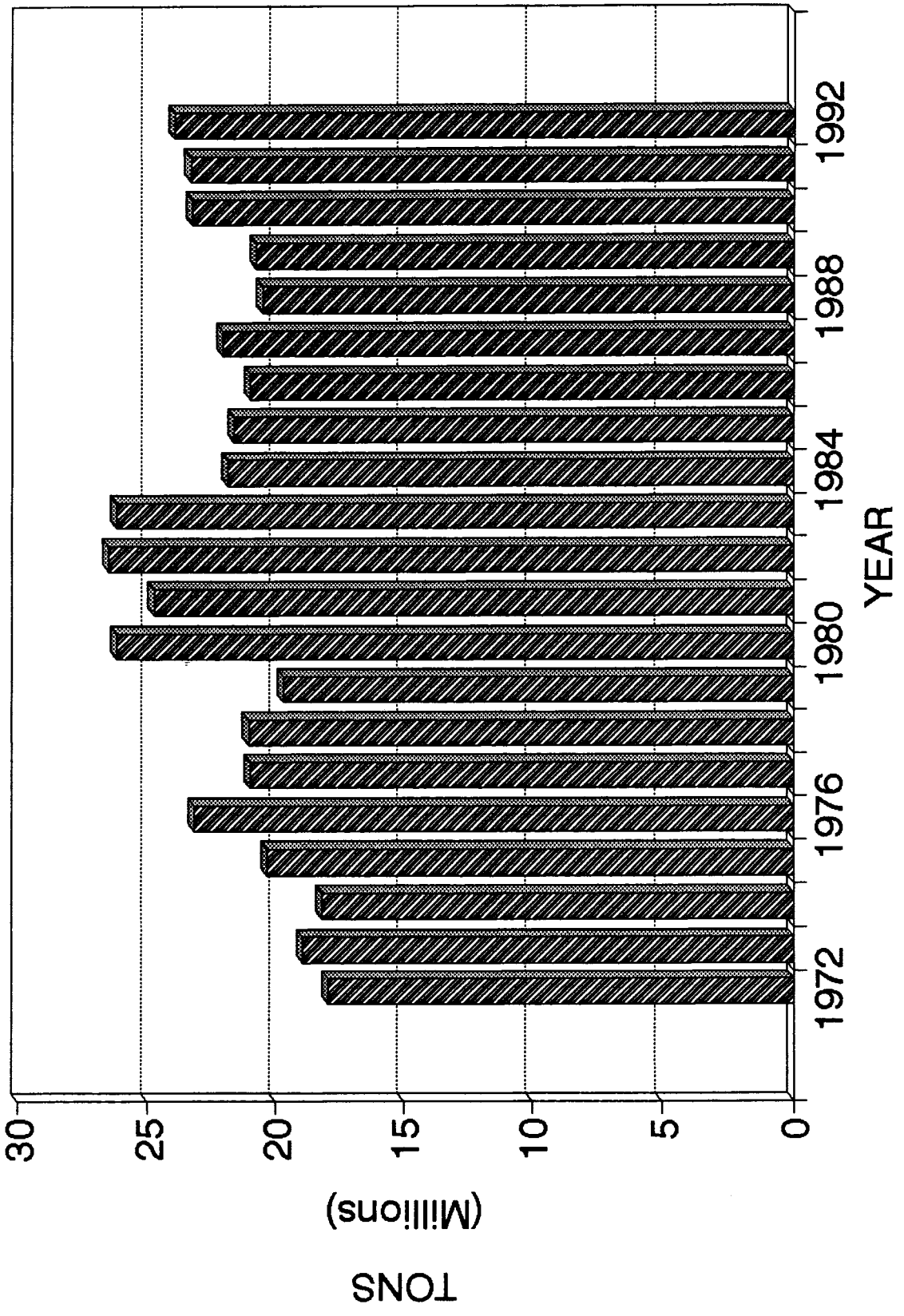
GRAPH 8
ILLINOIS RIVER GRAIN MILL TONNAGE NEC



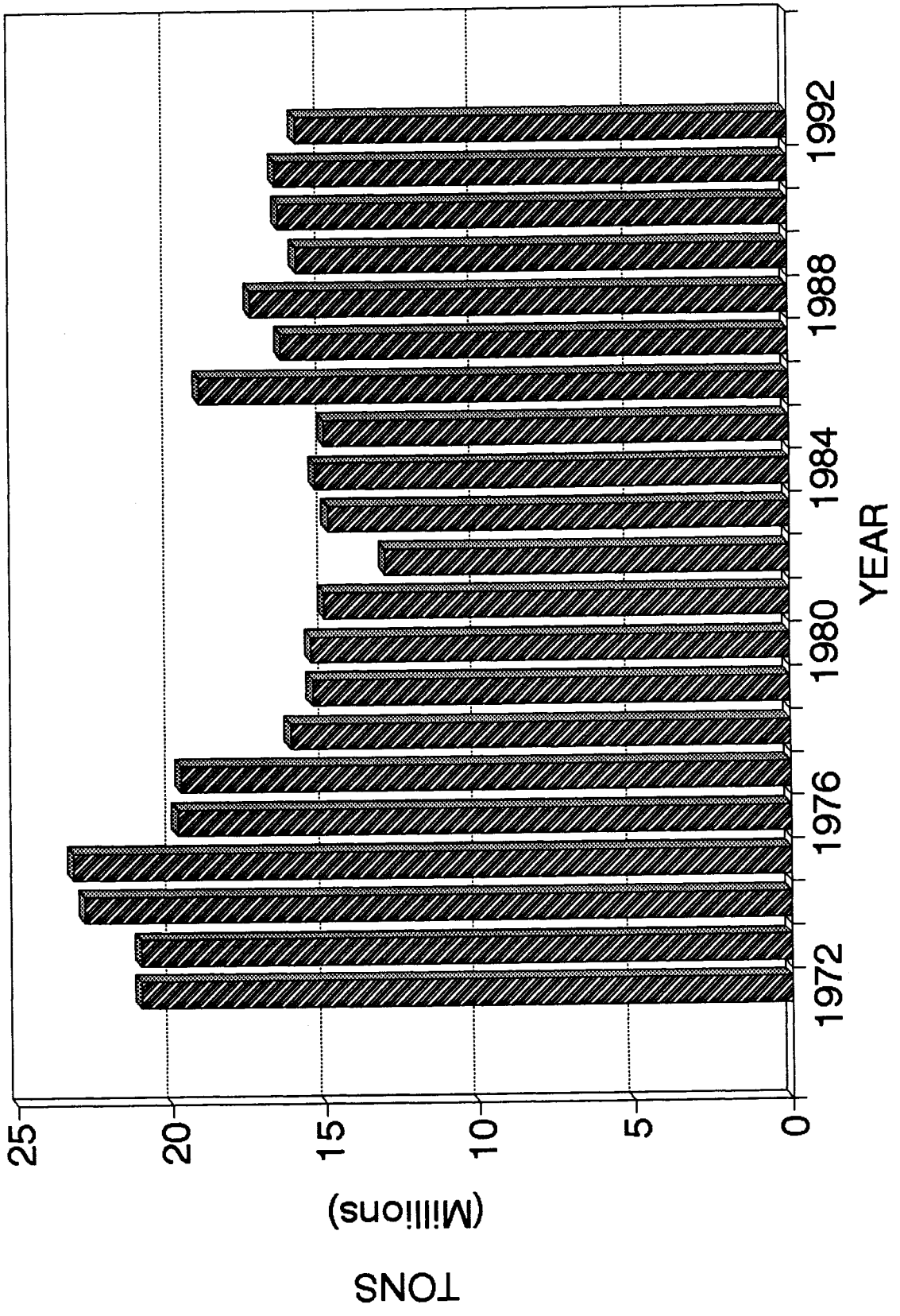
GRAPH 9
ILLINOIS RIVER 5 AG COMMODITY TONNAGES



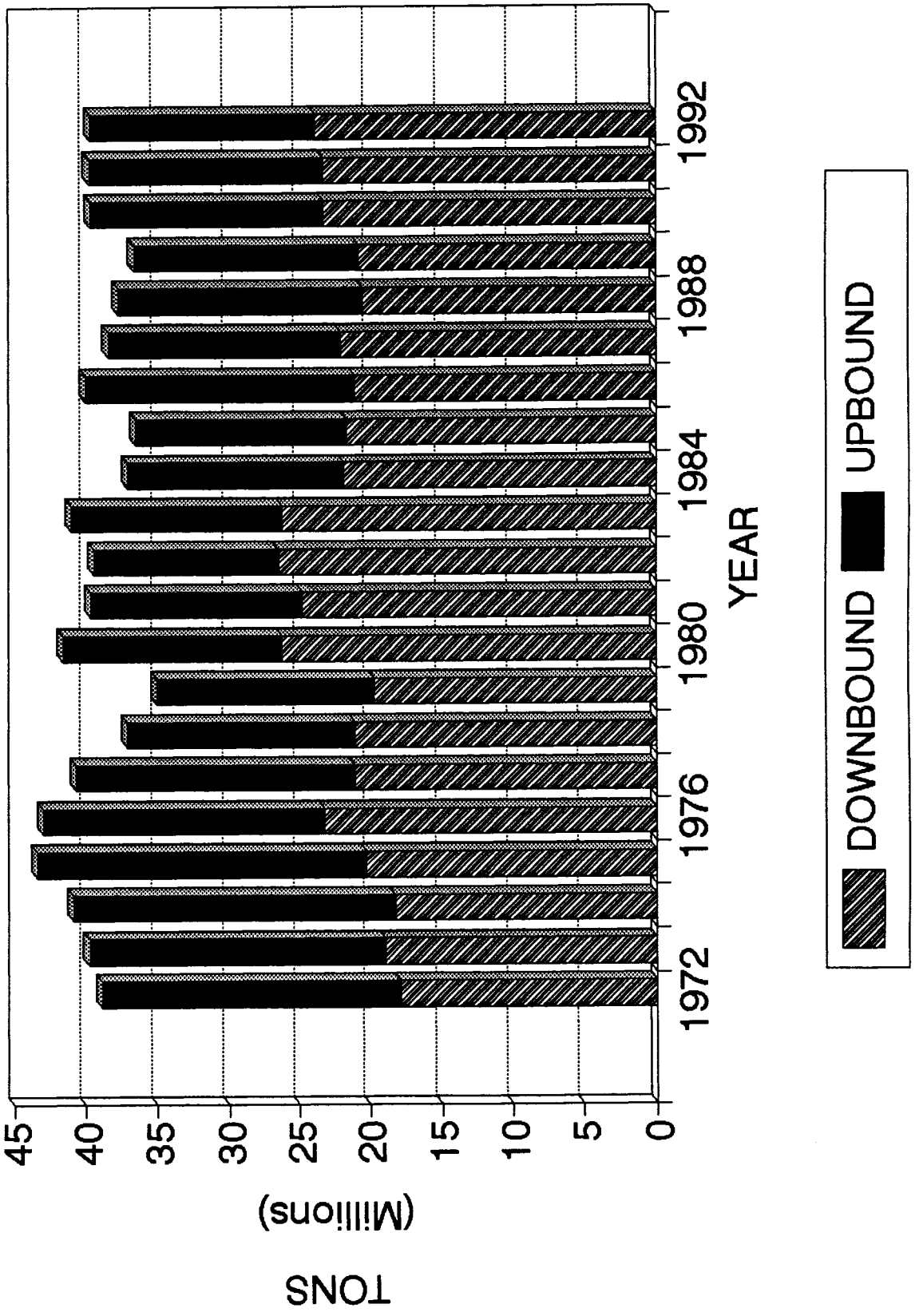
GRAPH 10
ILLINOIS RIVER DOWNBOUND TONNAGE



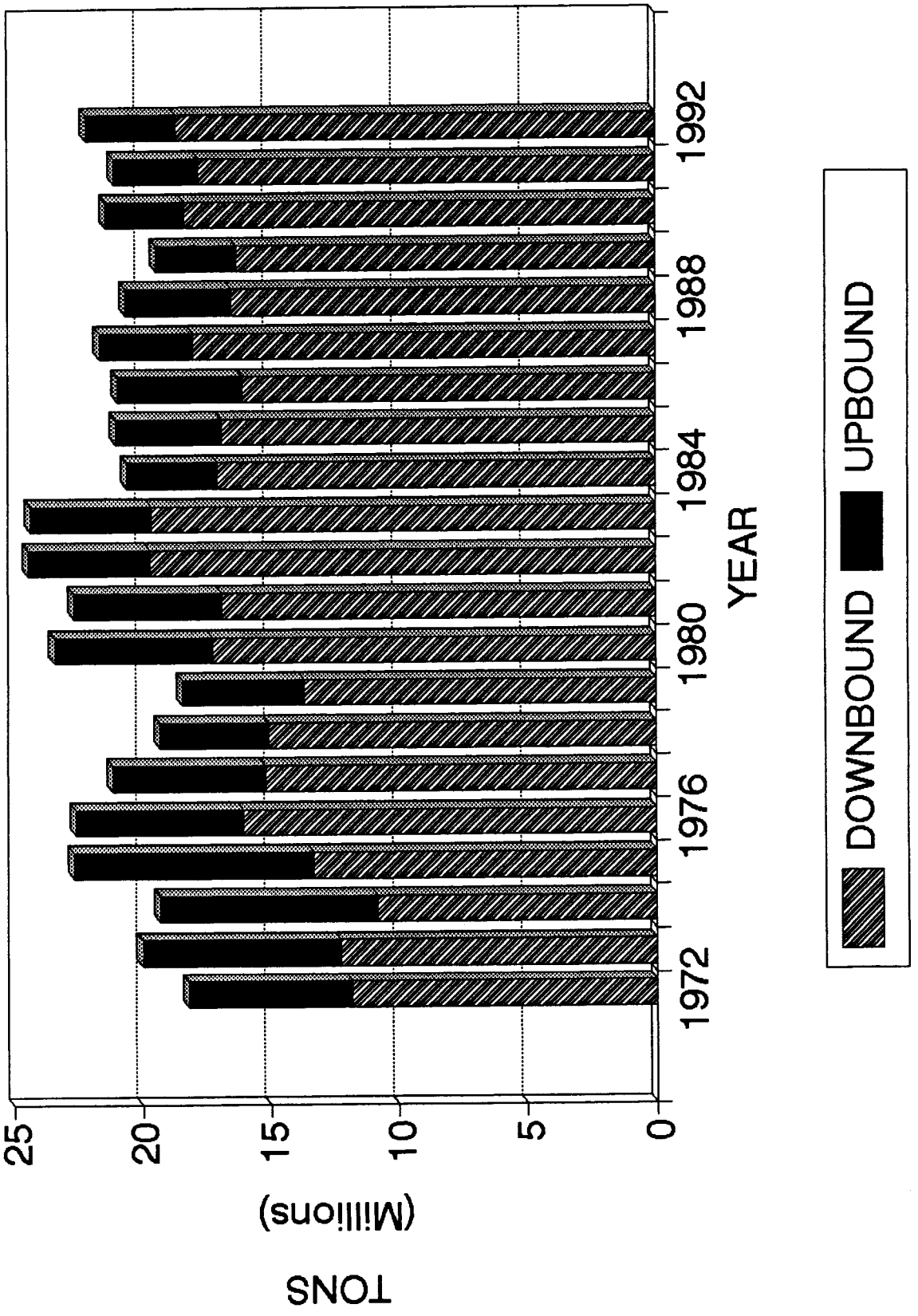
GRAPH 11
ILLINOIS RIVER UPBOUND TONNAGE



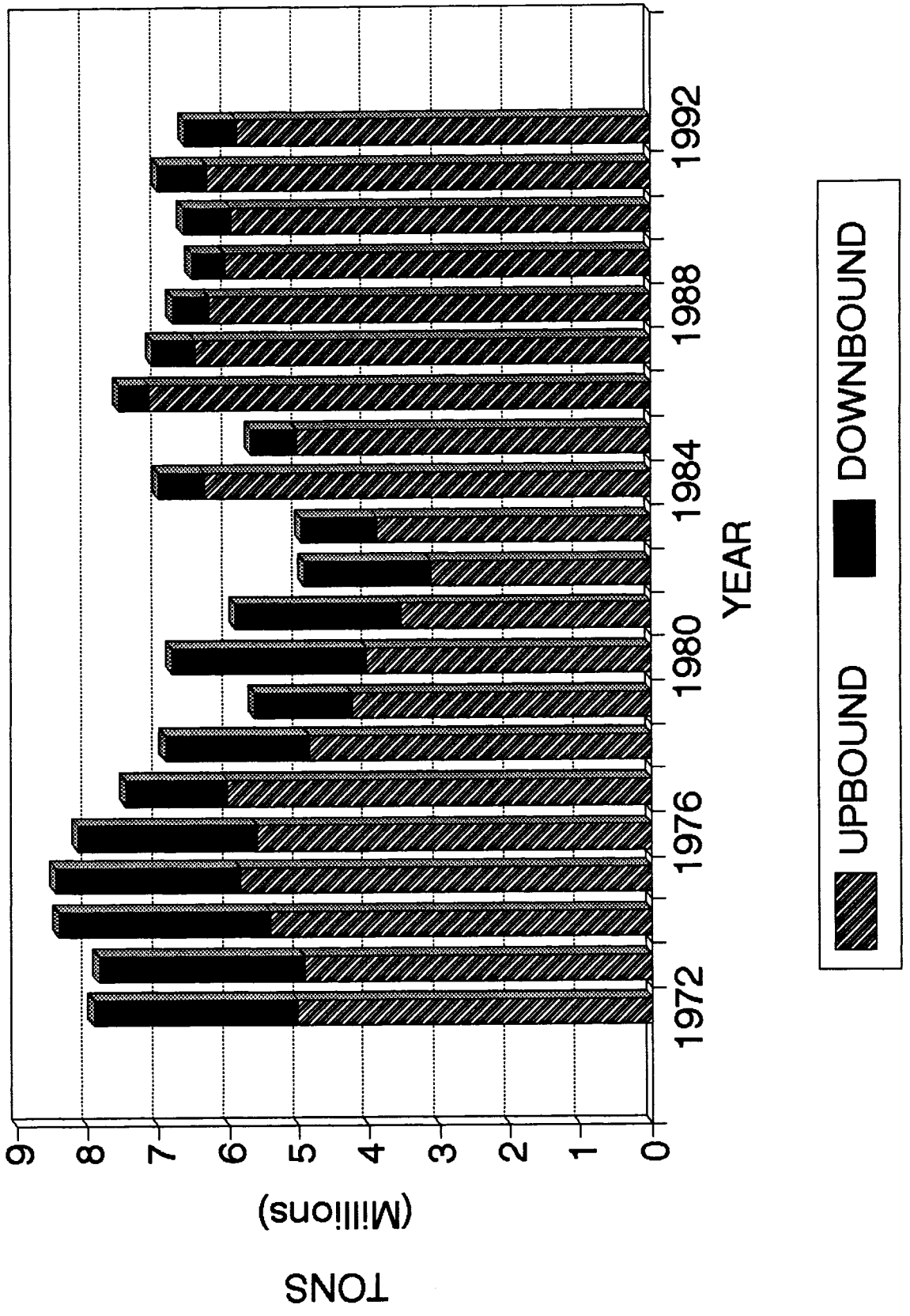
GRAPH 12
ILLINOIS RIVER TONNAGE BY DIRECTION



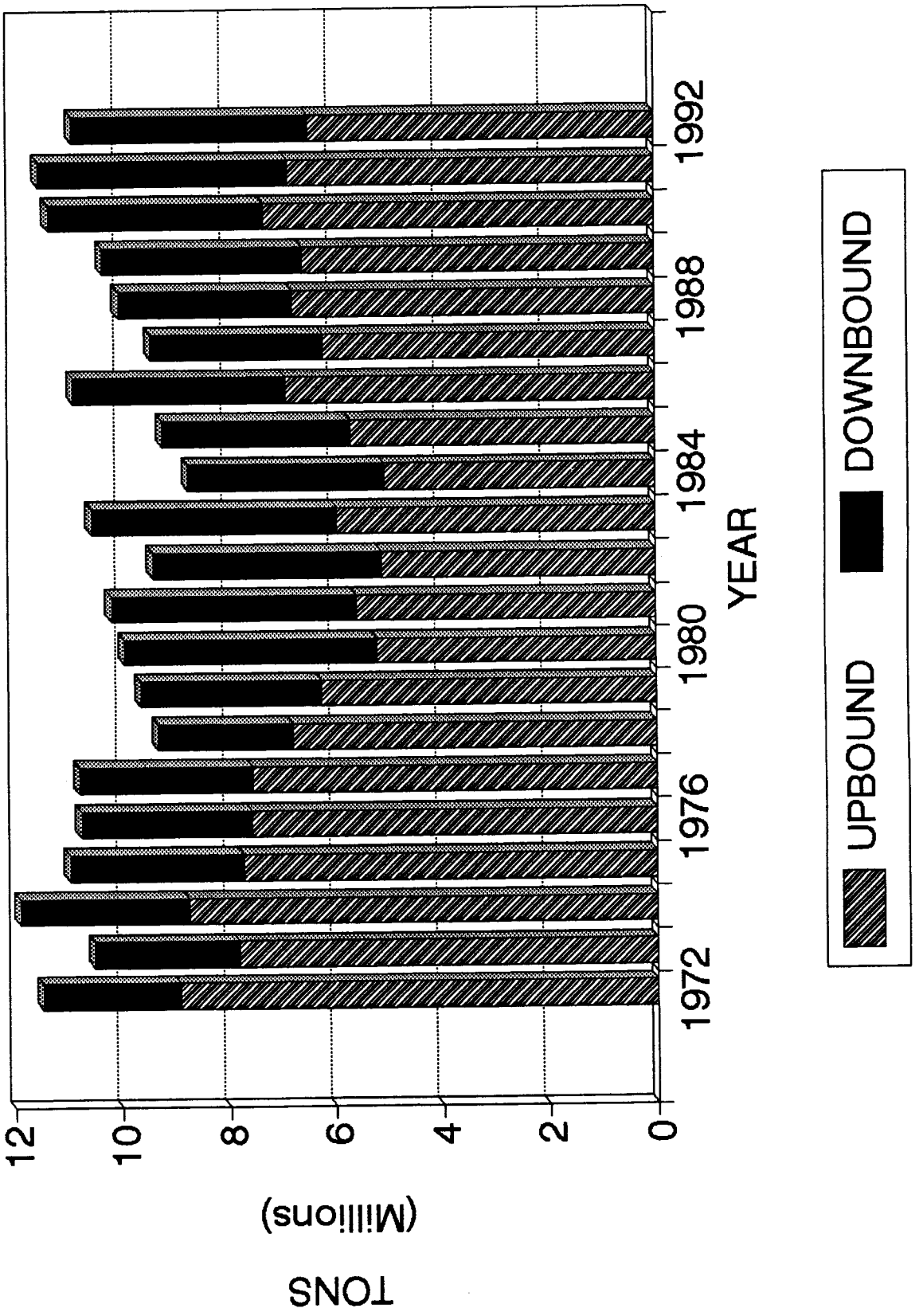
GRAPH 13
ILLINOIS RIVER OUTBOUND BY DIRECTION



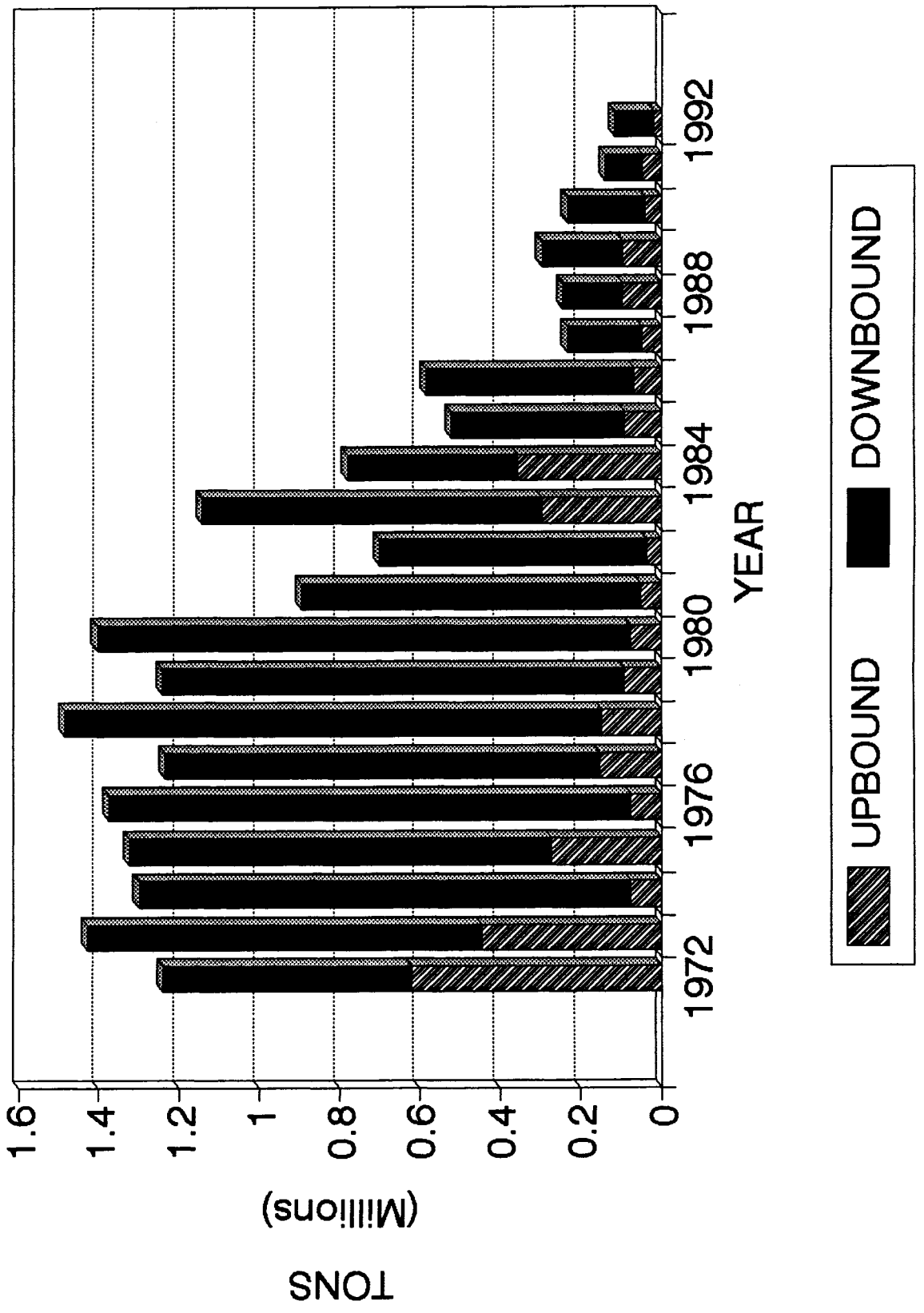
GRAPH 14
ILLINOIS RIVER INBOUND BY DIRECTION



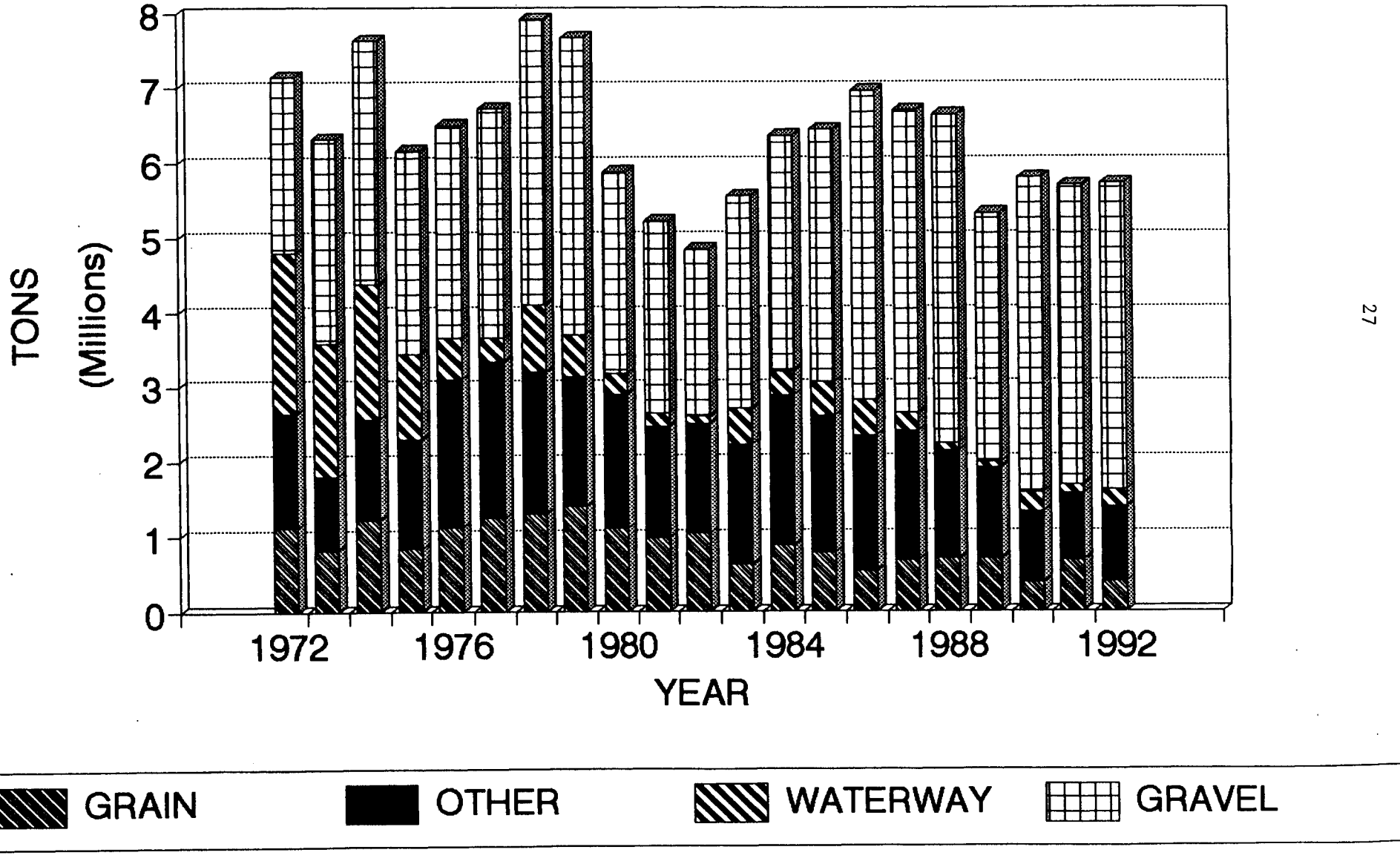
GRAPH 15
ILLINOIS RIVER THROUGH BY DIRECTION



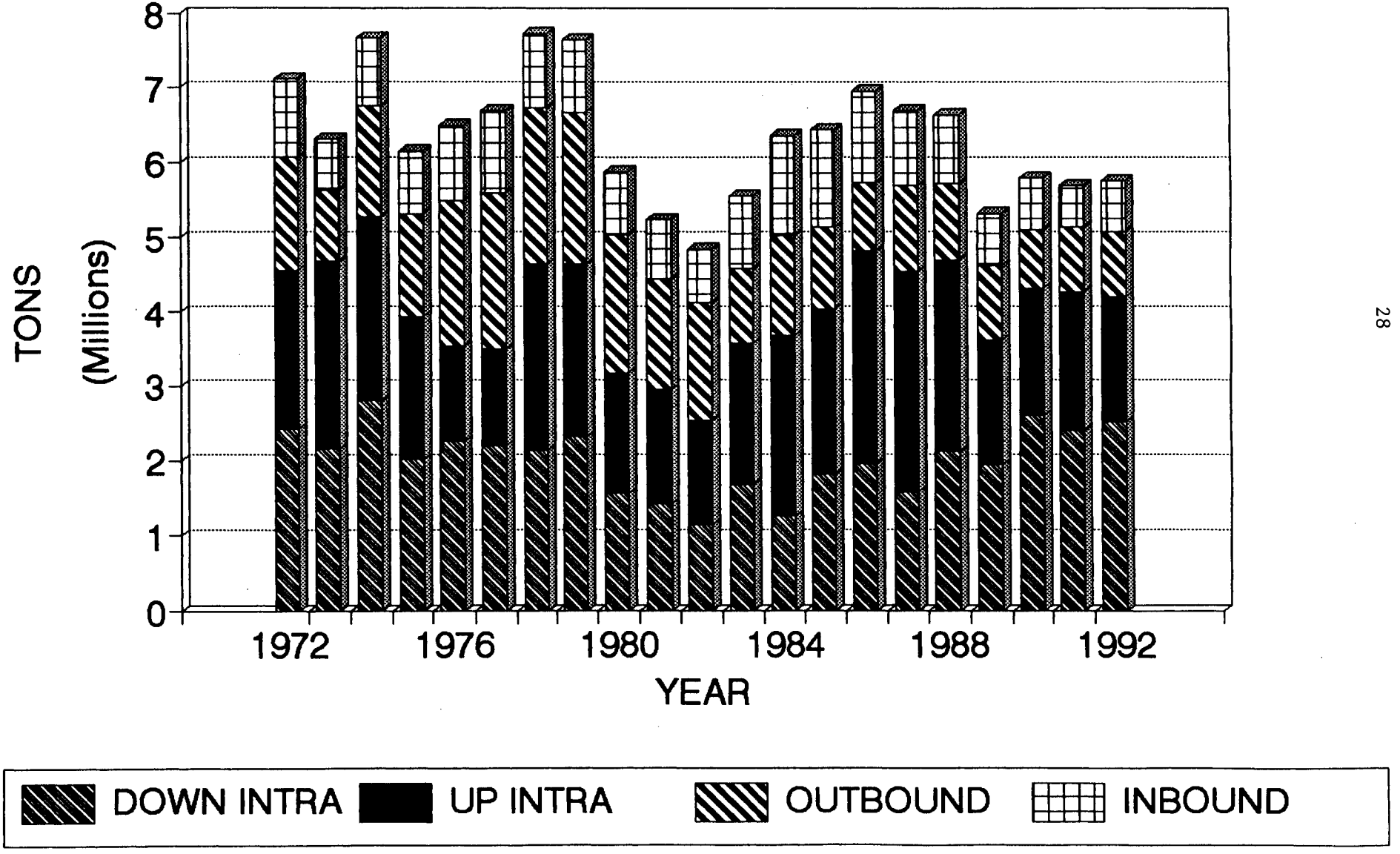
GRAPH 16
ILLINOIS RIVER INTRA BY DIRECTION



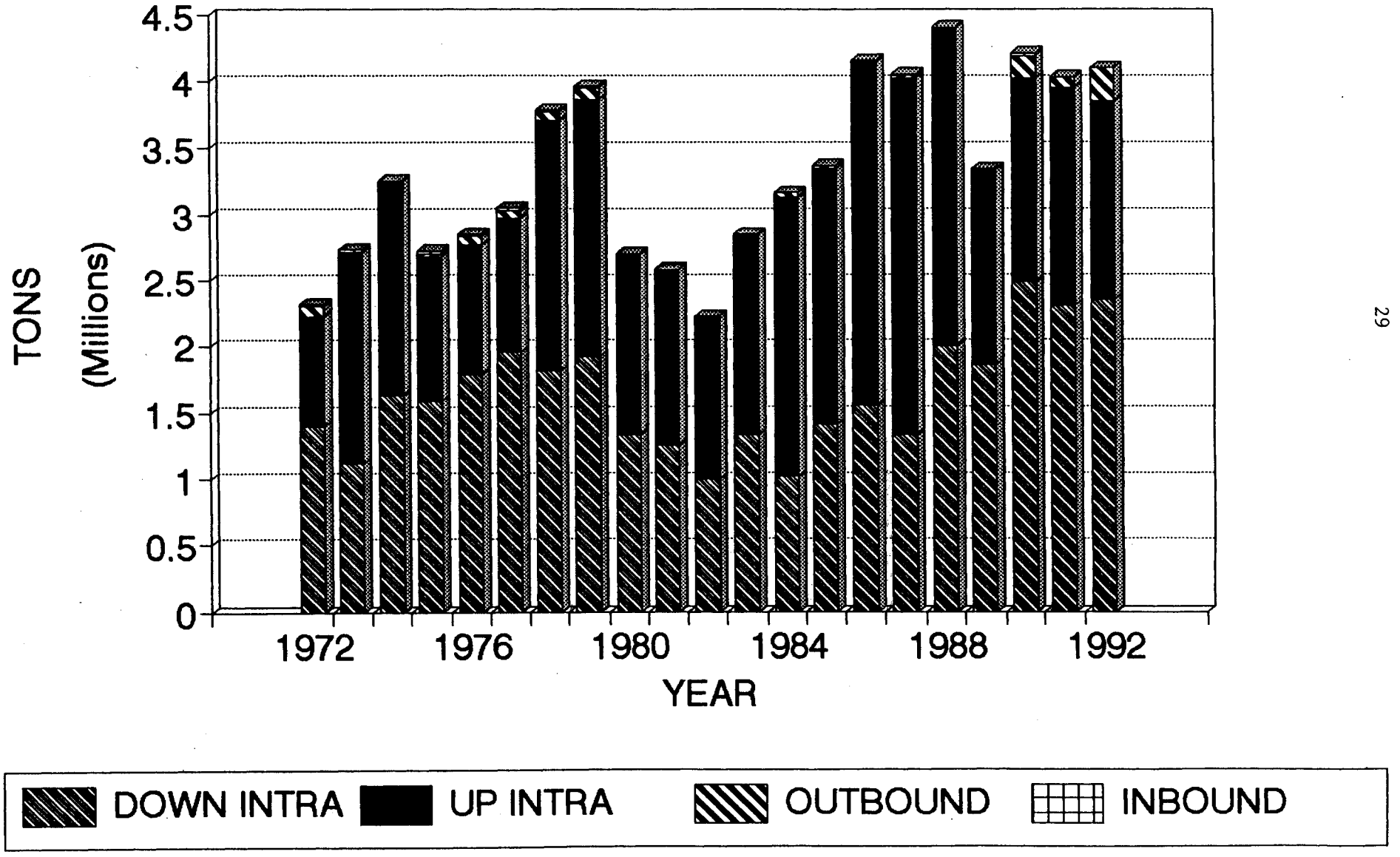
GRAPH 1
MISSOURI RIVER TONNAGE BY COMMODITY



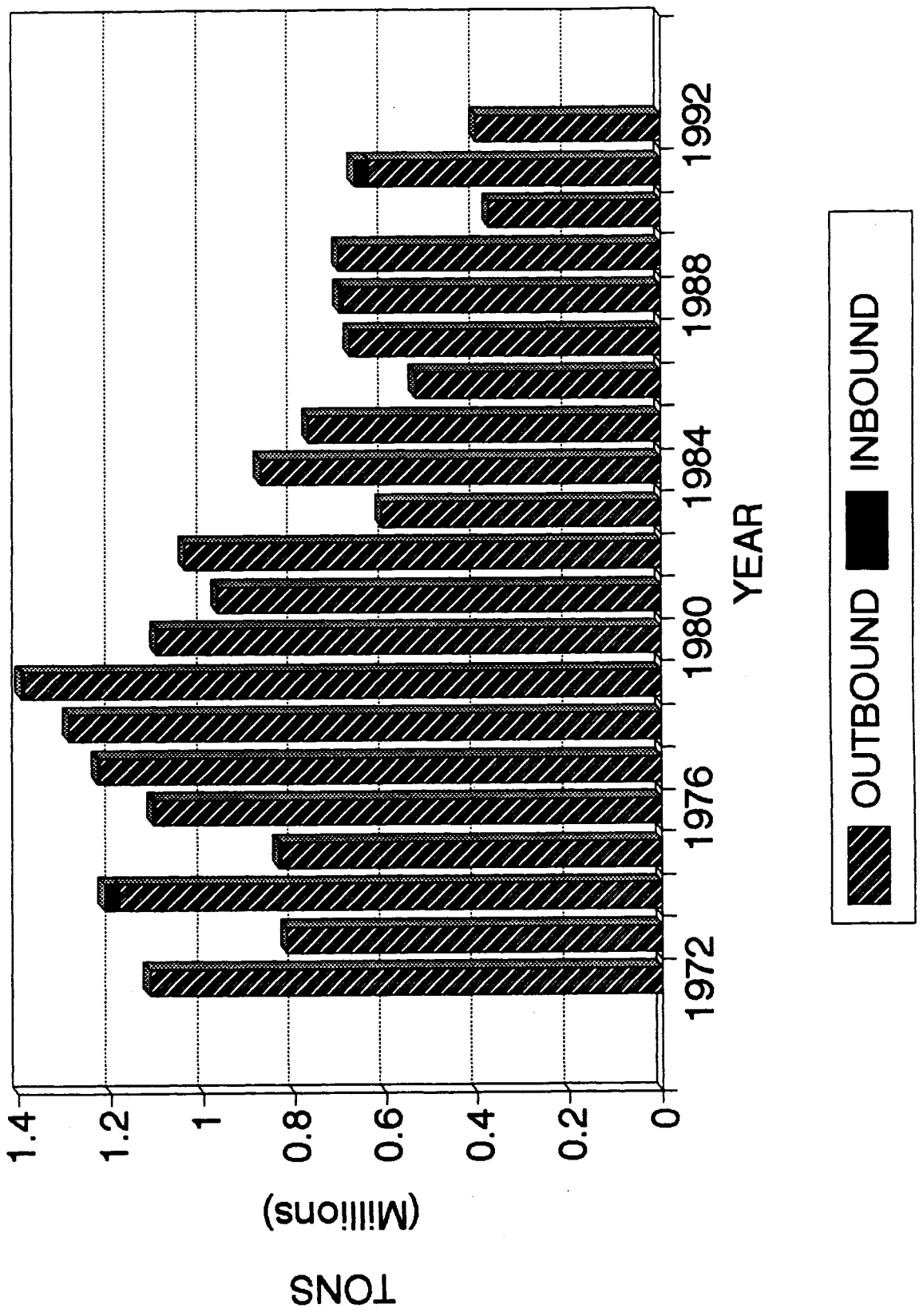
GRAPH 2
MISSOURI RIVER TONNAGE BY TYPE



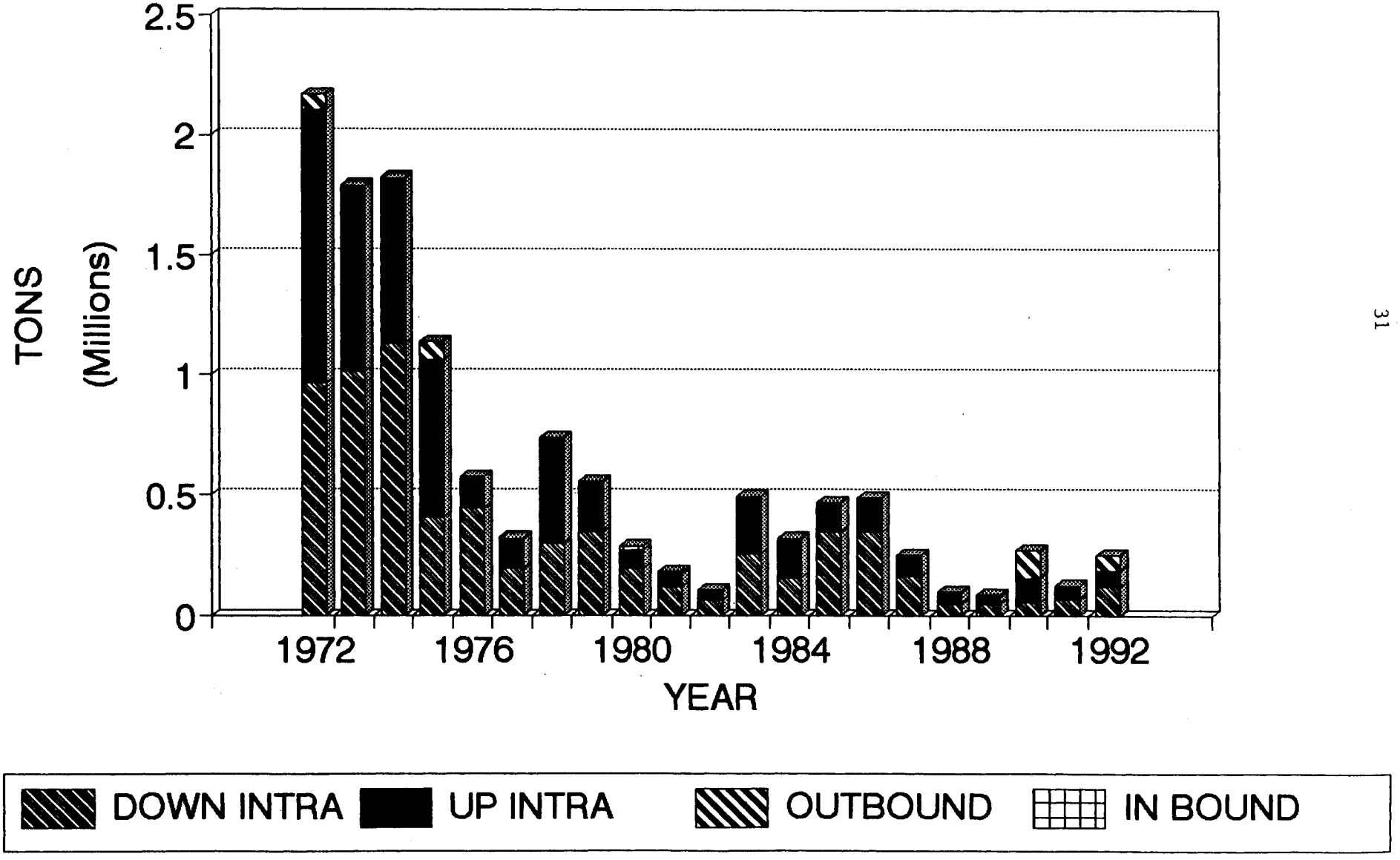
GRAPH 3
MISSOURI RIVER SAND GRAVEL ROCK TONNAGE



GRAPH 4
MISSOURI RIVER GRAIN & SOYBEAN TONNAGE



GRAPH 5
MISSOURI RIVER WATERWAY MATERIAL TONS



APPENDIX A

DATA TABLES

All data were obtained or compiled from the representative years of *Part 2: Waterborne Commerce of the United States*. Table 1 contains the summary statistics for the Illinois River. Table 2 contains the data series compiled for the five major agriculture commodities shipped on the Illinois River. These are the total tonnages for each year. We did not analyze these movements by type or direction.

Missouri River statistics were broken down by movement type and direction but not by ag commodity type.

Table 3 contains the summary statistics for the Missouri River. Table 4 contains the statistics for sand, gravel and rock (code 1442) on the Missouri River. Table 5 contains the totals for grains and oilseeds (codes 0102-0111--corn, oats, barley, wheat and soybeans). Animal feeds and milling products were not included in the Missouri River analysis. Table 6 includes the statistics for waterway improvement materials (code 4418) movements on the Missouri River.

TABLE 1

ILLINOIS RIVER
COMMODITY = ALL

	IN UP	IN DOWN	OUT UP	OUT DOWN	THRU UP	THRU DOW	INTRA UP	INTRA DOW	TOTAL	AVERAGE TON MILE	TOTAL TON MILES	TOTAL UP BOUND	TOTAL DOWNBOUND
1972	5,007,664	2,888,665	6,451,896	11,838,693	8,902,871	2,574,600	619,430	624,244	38,908,063	198.0	7,703,197,211	20,981,861	17,926,202
1973	4,895,388	2,942,834	7,814,071	12,256,831	7,814,470	2,735,495	442,109	988,793	39,889,991	195.5	7,799,632,874	20,966,038	18,923,953
1974	5,405,856	3,014,027	8,557,814	10,780,621	8,741,598	3,174,769	74,617	1,229,685	40,978,987	198.2	8,123,628,463	22,779,885	18,199,102
1975	5,828,020	2,620,645	9,352,797	13,341,361	7,707,750	3,273,073	269,178	1,057,796	43,450,620	192.2	8,349,817,912	23,157,745	20,292,875
1976	5,577,488	2,560,744	6,556,134	16,088,898	7,570,657	3,198,770	74,468	1,307,029	42,934,188	196.6	8,440,678,340	19,778,747	23,155,441
1977	6,015,689	1,455,262	5,953,766	15,193,002	7,541,003	3,260,574	150,001	1,090,279	40,659,576	196.7	7,998,965,458	19,660,459	20,999,117
1978	4,835,813	2,071,137	4,313,177	15,055,764	6,793,338	2,554,843	148,196	1,341,027	37,113,295	205.1	7,611,066,551	16,090,524	21,022,771
1979	4,223,261	1,411,279	4,809,763	13,712,112	6,226,459	3,410,674	89,969	1,158,130	35,041,647	198.9	6,970,702,162	15,349,452	19,692,195
1980	4,025,046	2,791,785	6,154,224	17,278,223	5,182,392	4,777,063	72,901	1,335,131	41,616,765	198.7	8,269,296,899	15,434,563	26,182,202
1981	3,535,771	2,387,980	5,800,798	16,895,116	5,592,600	4,628,435	48,921	847,927	39,737,548	202.6	8,049,236,928	14,978,090	24,759,458
1982	3,094,430	1,824,176	4,752,817	19,675,009	5,104,559	4,317,079	32,488	666,003	39,466,561	197.9	7,808,858,723	12,984,294	26,482,267
1983	3,876,803	1,094,094	4,727,222	19,616,511	5,944,523	4,617,069	294,749	853,985	41,024,956	203.2	8,337,021,105	14,843,297	26,181,659
1984	6,326,649	663,838	3,524,469	17,052,940	5,034,179	3,700,715	356,355	425,481	37,084,626	203.1	7,531,354,526	15,241,652	21,842,974
1985	5,014,558	661,031	4,190,270	16,917,111	5,654,827	3,573,939	90,800	432,234	36,534,770	202.6	7,402,130,244	14,950,455	21,584,315
1986	7,110,419	443,160	4,910,991	16,055,314	6,910,279	3,973,816	66,852	520,293	39,991,124	202.2	8,087,787,036	18,998,541	20,992,583
1987	6,461,977	617,338	3,666,206	17,989,048	6,187,057	3,267,716	45,596	187,693	38,422,631	198.1	7,610,582,875	16,360,836	22,061,795
1988	6,270,667	526,869	4,191,733	16,539,931	6,756,090	3,287,343	93,864	149,114	37,815,611	203.7	7,703,817,603	17,312,354	20,503,257
1989	6,027,303	477,206	3,145,635	16,293,144	6,582,775	3,788,021	95,511	202,668	36,612,263	204.8	7,498,662,722	15,851,224	20,761,039
1990	5,941,000	687,000	3,129,000	18,323,000	7,284,000	4,040,000	38,000	196,000	39,638,000			16,392,000	23,246,000
1991	6,282,000	718,000	3,358,000	17,784,000	6,840,000	4,679,000	46,000	94,000	39,801,000			16,526,000	23,275,000
1992	5,848,000	759,000	3,521,000	18,618,000	6,449,000	4,431,000	17,000	97,000	39,740,000			15,835,000	23,905,000

Source: Waterborne Commerce Of The United States. Part 2, Various Years

TABLE 2

ILLINOIS RIVER
Tons

	CORN	SOYBEANS	WHEAT	ANIMAL FEEDS	GRAIN MILL PRODUCTS NEC	TOTAL TOP 5 AG	ALL OTHER
1972	9,231,633	2,278,031	248,300	27,569	77,574	11,863,107	27,044,956
1973	8,884,585	2,409,402	168,631	10,450	252,687	11,725,755	28,164,236
1974	7,778,524	2,025,125	384,296	39,505	223,956	10,451,406	30,527,581
1975	10,476,080	2,174,627	657,426	19,961	397,102	13,725,196	29,725,424
1976	12,718,134	2,124,633	552,182	22,821	512,777	15,930,547	27,003,641
1977	11,968,319	2,457,308	441,383	12,193	454,813	15,334,016	25,325,560
1978	11,512,071	2,799,919	153,138	67,201	568,240	15,100,569	22,012,726
1979	10,194,997	2,011,506	210,016	627,165	400,668	13,444,352	21,597,295
1980	12,391,861	2,768,698	350,869	924,929	453,331	16,889,688	24,727,077
1981	12,205,033	3,191,010	541,025	855,401	258,809	17,051,278	22,686,270
1982	14,317,655	3,753,678	542,322	949,556	159,259	19,722,470	19,744,091
1983	13,332,852	3,613,600	609,169	1,397,390	289,535	19,242,546	21,782,410
1984	11,047,972	3,397,966	828,275	1,258,820	152,411	16,685,444	20,399,182
1985	11,517,625	2,999,749	405,928	917,371	197,861	16,038,534	20,496,236
1986	8,678,712	4,770,406	252,240	1,390,335	404,000	15,495,693	24,495,431
1987	11,254,158	3,612,255	269,506	1,847,193	277,743	17,260,855	21,161,776
1988	9,639,915	3,358,672	506,179	2,214,873	321,816	16,041,455	21,774,156
1989	10,504,864	2,484,236	947,687	1,532,605	422,727	15,892,119	20,720,144
1990	11,720,000	3,205,000	687,000	1,615,000	135,000	17,362,000	22,276,000
1991	11,199,000	3,701,000	384,000	1,910,000	134,000	17,328,000	22,473,000
1992	11,514,000	3,735,000	358,000	2,012,000	219,000	17,838,000	21,902,000

Source: Waterborne Commerce Of The United States. Part 2, Various Years

TABLE 3

MISSOURI RIVER
COMMODITY = ALL

	Coastwise	IN UP	IN DOWN	OUT UP	OUT DOWN	INTRA UP	INTRA DOWN	THRU UP	TOTAL	AVERAGE TON MILE	TOTAL TON MILES
1972		1,060,155	16,090		1,533,915	2,157,674	2,415,007		7,182,841	178.3	1,280,384,981
1973		682,308	3,400		980,205	2,545,175	2,159,750		6,370,838	138.8	884,405,933
1974		906,069			1,484,098	2,490,067	2,792,850		7,673,084	160.0	1,227,524,876
1975		859,257			1,400,811	1,934,929	2,013,429		6,208,426	178.1	1,105,811,014
1976		1,019,721			1,980,584	1,292,228	2,260,416		6,552,949	234.4	1,535,911,975
1977	1,216	1,121,434			2,112,458	1,313,287	2,186,455		6,734,850	237.0	1,596,283,935
1978	1,096	986,150		172,700	2,112,035	2,514,979	2,142,224		7,929,184	192.8	1,528,614,096
1979	1,660	979,004			2,052,681	2,332,790	2,318,603		7,684,738	197.6	1,518,549,496
1980		853,038	4,408		1,882,669	1,627,185	1,547,475		5,914,775	225.8	1,335,308,949
1981		803,622	4,100		1,484,754	1,544,581	1,414,895		5,251,952	215.3	1,130,787,035
1982		736,690	4,380		1,585,308	1,418,746	1,135,403		4,880,527	231.8	1,131,248,985
1983		986,930	6,600		1,017,748	1,922,579	1,668,442		5,602,299	187.4	1,050,149,460
1984		1,345,458			1,358,002	2,438,189	1,244,556		6,386,205	209.7	1,338,939,405
1985		1,315,440	3,100		1,120,389	2,227,749	1,804,740		6,471,418	185.7	1,201,854,449
1986		1,227,730			933,612	2,868,872	1,955,916	4,648	6,990,778	149.4	1,044,298,572
1987	900	1,008,230	1,825		1,166,280	2,976,495	1,582,238		6,735,968	157.0	1,057,526,332
1988	2,300	923,804	2,250		1,031,064	2,594,145	2,122,539	4,776	6,680,878	142.1	949,356,053
1989	460	703,083	1,600		1,014,042	1,692,150	1,940,947		5,352,282	148.9	796,799,462
1990		716,000	2,000		785,000	1,742,000	2,596,000		5,841,000		
1991	1,000	572,000	2,000		900,000	1,867,000	2,388,000		5,730,000		
1992		692,000	3,000		886,000	1,690,000	2,513,000		5,784,000		

Source: Waterborne Commerce Of The United States. Part 2, Various Years.

TABLE 4

MISSOURI RIVER
SAND ROCK GRAVEL
WCCC 1442

Coastwise	IN UP	IN DOWN	OUT UP	OUT DOWN	INTRA UP	INTRA DOWN	THRU UP	TOTAL
1972	20,121	16,090		82,500	838,542	1,391,760		2,349,013
1973	26,228	3,400			1,610,169	1,111,600		2,751,397
1974	8,101				1,629,029	1,628,782		3,265,912
1975	23,205			29,794	1,104,680	1,586,450		2,744,129
1976	15,502			74,770	987,109	1,786,976		2,864,357
1977	24,703			63,900	1,025,076	1,959,890		3,073,569
1978	17,412			77,800	1,903,520	1,813,007		3,811,739
1979	11,765			95,000	1,943,751	1,925,536		3,976,052
1980		4,408		12,200	1,375,785	1,322,838		2,715,231
1981	2,362	4,100			1,343,200	1,249,875		2,599,537
1982	5,219	4,380		11,200	1,250,394	986,033		2,257,226
1983	9,000	6,600		4,200	1,528,784	1,328,713		2,877,297
1984		2,650		39,000	2,131,319	1,012,053		3,185,022
1985	11,226	3,100		24,300	1,947,952	1,405,994		3,392,572
1986	1,292			14,400	2,598,744	1,547,470		4,161,906
1987	16,992	1,825		27,375	2,703,785	1,330,365		4,080,342
1988	9,415	2,250		1,834	2,410,033	1,997,484		4,421,016
1989	1,227	1,600		17,550	1,484,713	1,852,555		3,357,645
1990	30,000	2,000		171,000	1,545,000	2,492,000		4,240,000
1991		2,000		89,000	1,650,000	2,306,000		4,047,000
1992		3,000		255,000	1,510,000	2,356,000		4,124,000

Source: Waterborne Commerce Of The United States. Part 2, Various Years.

TABLE 5

MISSOURI RIVER
GRAINS
WCCC 0102-0111

Coastwise	IN UP	IN DOWN	OUT UP	OUT DOWN	INTRA UP	INTRA DOWN	THRU UP	TOTAL
1972	1,451			1,113,728				1,115,179
1973				816,502				816,502
1974	34,675			1,179,522	1,160			1,215,357
1975	9,725			827,729				837,454
1976	7,015			1,104,006		2,117		1,113,138
1977	6,314			1,221,858				1,228,172
1978				1,288,199				1,288,199
1979	10,410			1,384,286				1,394,696
1980	1,388			1,098,431				1,099,819
1981	2,497			966,780				969,277
1982				1,037,545				1,037,545
1983				605,157				605,157
1984				873,297				873,297
1985				768,418	713	714		769,845
1986				533,038				533,038
1987				674,771				674,771
1988	9,121			687,908				697,029
1989				699,247				699,247
1990				370,000				370,000
1991	33,000			635,000				668,000
1992	1,000			398,000				399,000

Source: Waterborne Commerce Of The United States. Part 2, Various Years.

TABLE 6

MISSOURI RIVER
Waterway Impovement Material
WCCC 4418

Coastwise	IN UP	IN DOWN	OUT UP	OUT DOWN	INTRA UP	INTRA DOWN	THRU UP	TOTAL
1972				64,489	1,150,571	963,189		2,178,249
1973	750				786,284	1,014,936		1,801,970
1974				10,750	690,279	1,130,125		1,831,154
1975	2,500			81,250	661,393	401,833		1,146,976
1976					132,507	444,711		577,218
1977					132,832	192,669		325,501
1978			172,700	4,500	440,306	297,117		914,623
1979				650	218,441	343,693		562,784
1980	24,598				77,383	188,284		290,265
1981	11,250				61,249	113,297		185,796
1982					48,049	62,086		110,135
1983					242,323	256,461		498,784
1984					168,598	153,865		322,463
1985	1,250				131,420	339,715		472,385
1986					144,943	340,030		484,973
1987				1,650	91,734	157,030		250,414
1988				2,200	52,620	48,655		103,475
1989	7,496			9,572	27,179	43,882		88,129
1990				117,000	104,000	52,000		273,000
1991					60,000	63,000		123,000
1992				68,000	73,000	118,000		259,000

Source: Waterborne Commerce Of The United States. Part 2, Various Years.