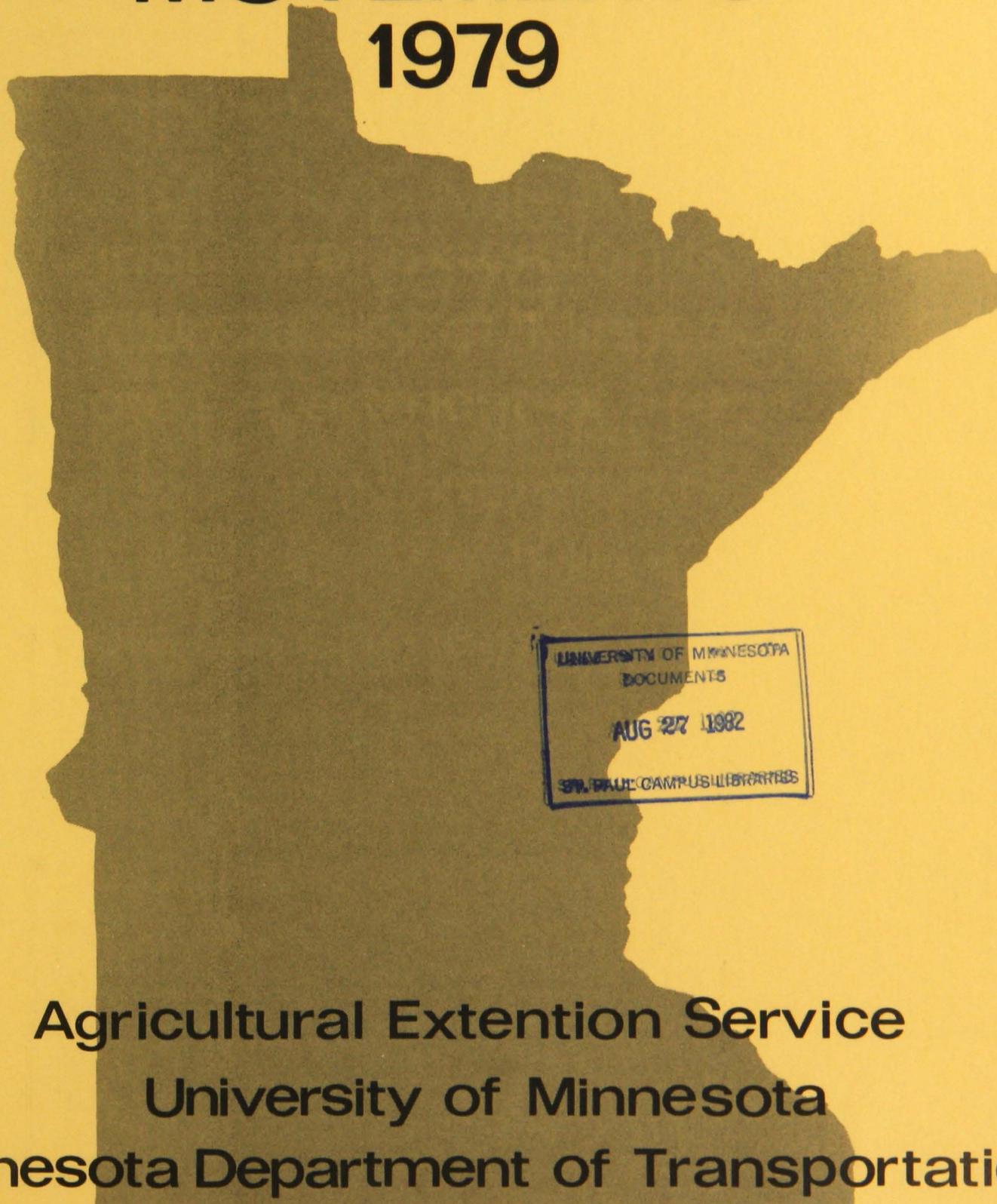


# MINNESOTA WHEAT MOVEMENTS 1979



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MINNESOTA WHEAT MOVEMENTS

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by

J. Mike Alley  
Jerry Fruin  
Chuck Eldridge

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## INTRODUCTION

Minnesota is a leading wheat producing state. In 1980, Minnesota was second behind North Dakota in spring wheat production and ninth in total wheat production in the United States. Spring wheat normally accounts for over 90 percent of Minnesota's wheat production. Most Minnesota wheat is grown in the Red River Valley area.

Minnesota's hard, red spring and durum wheats are either processed domestically for human consumption or exported. A relatively small amount is used for seed and livestock feed. The major development in wheat demand during the 70's was the dramatic increase in exports. U.S. wheat exports increased from 600 million bushels in 1971 to 1.3 billion bushels in 1980. This increase in export demand has increased the demand for transportation and marketing services. The uncertainty of the Russian and Eastern Europe markets and the growth in Pacific markets has increased the need for transportation flexibility and the ability to adjust rapidly.

At the present time, the marketing channel connecting Minnesota wheat producers to foreign and domestic markets is undergoing major changes. These changes include the construction of country subterminal elevators in the wheat belt, and the initiation of low-cost unit train movements of wheat.

The increased investment in unit-train loading facilities has been quite dramatic. In 1974, there were 19 country subterminal elevators in Minnesota which could load 25 cars or more. These were all in the corn producing areas of southern Minnesota. In 1980, there were 55 such facilities with 13 of them located in predominantly wheat producing areas.

Because the unit train and multiple-car wheat rates to Duluth/Superior and the Twin Cities are relatively new, further investment in unit-train loading facilities can be expected in the wheat growing areas. These lower

rates will reduce transportation costs and increase transportation and marketing alternatives.

The passage of the "Staggers Rail Act of 1980" will also influence the marketing of Minnesota wheat. Major provisions of the Staggers Act concern rail abandonment and rate-making. The Act encourages railroad companies to abandon or increase rates on unprofitable lines. Northwestern Minnesota, which has many light-density lines paralleling one another, will undoubtedly lose additional lines.

The rate-making provisions of the Staggers Act include significant deregulation which allows railroad companies more freedom in raising and lowering rates. In addition, railroads can now enter into rate and service contracts with shippers. This ability to enter into contracts could place smaller shippers at a disadvantage to larger shippers who have more bargaining power with the railroads.

Water transportation costs are also changing. Several proposals for increased user fees on the Mississippi River could add as much as 20 cents per bushel to transportation costs. Exports through the port of Duluth/Superior face increased transportation costs because of increased tolls on the St. Lawrence Seaway and proposed user charges to pay for harbor maintenance and dredging. The Duluth/Superior-Seaway export route also has other long-term problems due to shallow drafts and physical constraints at locks.

More extensive discussions of agricultural transportation problems facing Minnesota are available in the following Extension folders: Upper Midwest Transportation Issues for the 1980's, Extension Folder 556-1980, Jerry Fruin; Yesterday, Today and Tomorrow: Railroads in Minnesota, Extension Folder 624-1981, Jerry Fruin and Robert Lunt; The Railroad Problem in Minnesota, Extension Folder 515-Revised 1980, Jerry Fruin and Mike Alley.

## THE SURVEY

Although reliable estimates of grain production in Minnesota exist, there has not been accurate information available about the movement of grain after it leaves the farm. Information of this type is needed by grain producers, shippers, transportation firms, and merchandizers to identify additional marketing opportunities and to make better marketing decisions. This information is also necessary to form rational grain transportation policies, given the uncertainties of regulatory reform and waterway user fees, railroad bankruptcies, mergers, and abandonments, and road, bridge, and highway financing problems.

Consequently, a survey was conducted for the Minnesota Department of Agriculture and the Minnesota Department of Transportation to obtain data on Minnesota grain movements. The survey was designed to estimate the quantity of grain shipped and received, the origin and destination of the shipments, the mode of transportation and the month of shipment for the 1979 calendar year.

One hundred ninety-eight country elevators, 39 terminal elevators, and 36 grain processors were surveyed. Country elevators include the feed mills and train-loading facilities that were not in the Twin Cities, Red Wing, Winona, and Duluth/Superior. Terminal elevators included the lake terminals in Duluth/Superior, terminal elevators on the Mississippi and Minnesota Rivers capable of loading barges, and other large terminal elevators located in the Twin Cities rail-switching district. Grain processors included all Minnesota processors of wheat, soybeans, barley, sunflowers, oats, flax, and rye.

Each year there are unforeseen developments which influence marketing patterns. Calendar year 1979 was no exception. Larger than average harvests in 1978 and 1979, a rail car shortage, and a Grain Millers strike in Duluth/Superior all influenced the flow of grain in 1979. The rail car shortage

was aggravated by the bankruptcies of the Rock Island and Milwaukee Railroads. The Grain Millers strike, which began on July 6, virtually halted all grain shipments from Duluth/Superior harbors for the next 82 days.

The folder examines the movement of wheat. Four companion folders examine corn movements, soybean movements, all other grain movements (sunflowers, barley, oats, flax and rye), and all grain movements.

## WHEAT MOVEMENTS INTO AND WITHIN MINNESOTA

Minnesota is the major gathering point for Upper Midwest wheat. Wheat moving into or within Minnesota is either processed or transshipped to domestic and foreign markets. Most of the wheat from the Dakotas, Montana, and Minnesota is channeled through the terminal markets in Duluth/Superior and the Twin Cities for export.

An estimated 363 million bushels were shipped into or within Minnesota in 1979 (Figure 1). Half of these shipments were by rail. Country elevators in surrounding states originated three-fourths of the shipments. North Dakota elevators alone shipped 225 million bushels.

Minnesota country elevators shipped an estimated 88 million bushels. Trucks accounted for 78 percent of the Minnesota shipments. A large share (91%) of these shipments were from the Northwest and West Central crop reporting districts (CRDs).

Duluth/Superior was the major destination, receiving a total of 199 million bushels (Figure 2). This represents 55 percent of total shipments into and within Minnesota. Railroads accounted for the majority (59%) of the shipments originating out-of-state, whereas trucks accounted for the majority (80%) of shipments from in-state origins. The Northwest CRD accounted for 91 percent of all shipments from Minnesota country elevators to Duluth/Superior.

Flour mills and terminal elevators in the Twin Cities, Red Wing, and Winona received 134 million bushels, representing 37 percent of total wheat shipments (Figure 3). Trucks accounted for 60 percent of the shipments to the Twin Cities. Over half of the shipments were from North Dakota. The West Central CRD accounted for over half (55%) of the shipments from Minnesota country elevators to the Twin Cities.

Minnesota flour mills located outside the Twin Cities received 30 million bushels. Two-thirds of these shipments were by rail originating in the Dakotas.

Figure 1

1979 UPPER MIDWEST COUNTRY ELEVATOR WHEAT SHIPMENTS  
TO MINNESOTA DESTINATIONS

(1,000 bushels)

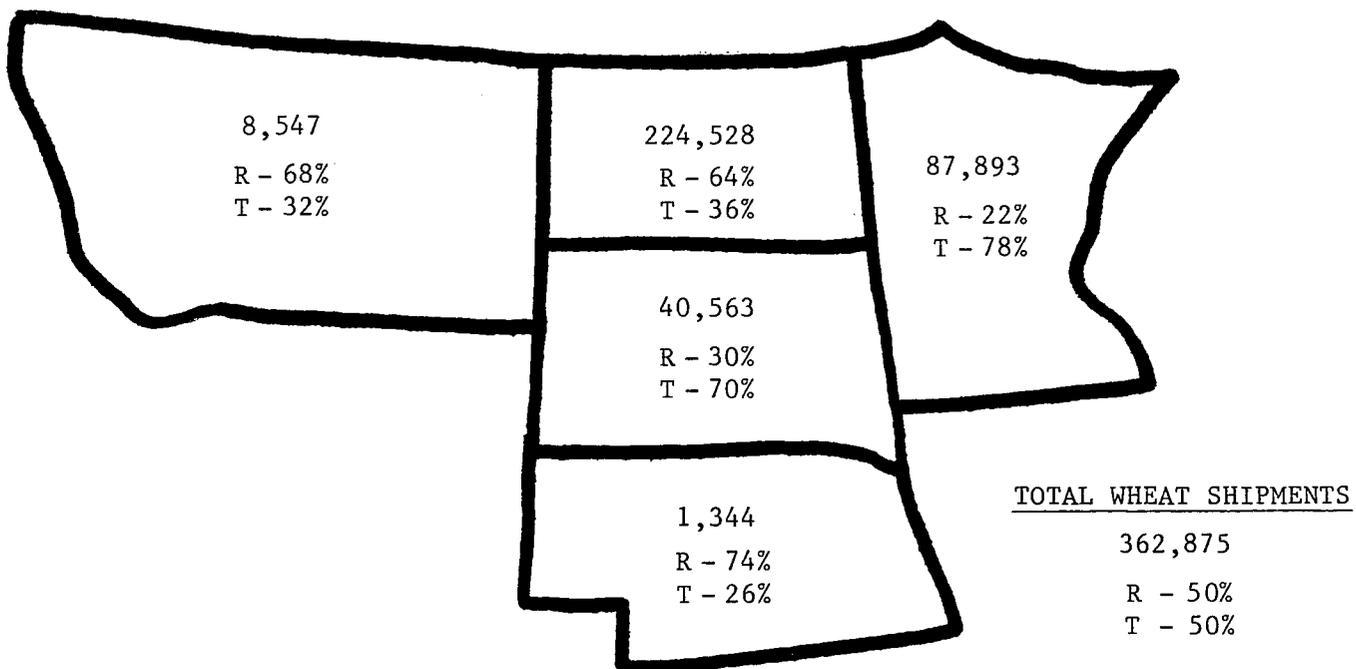


Figure 2

1979 UPPER MIDWEST COUNTRY ELEVATOR  
WHEAT SHIPMENTS TO DULUTH/SUPERIOR  
(1,000 bushels)

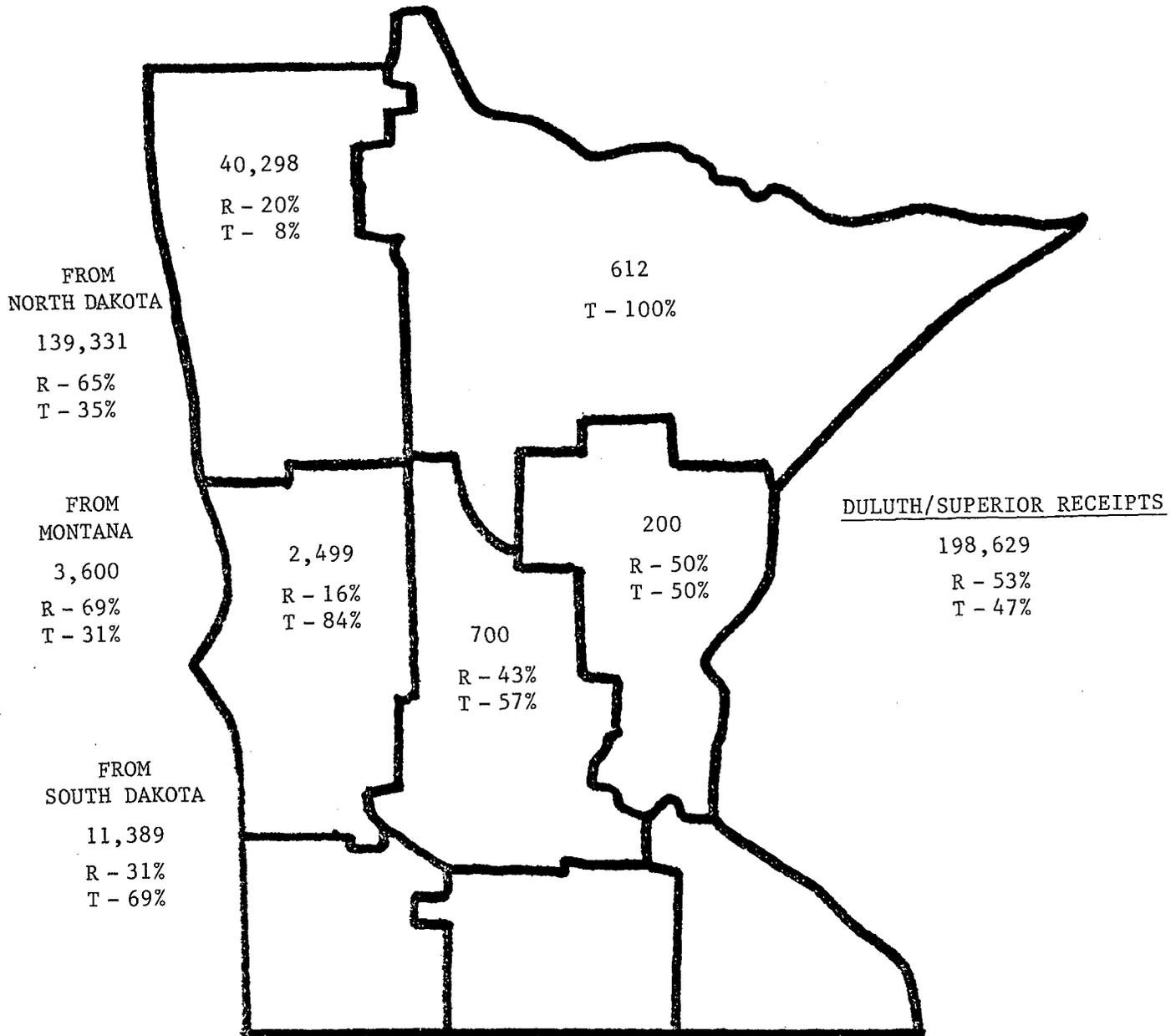
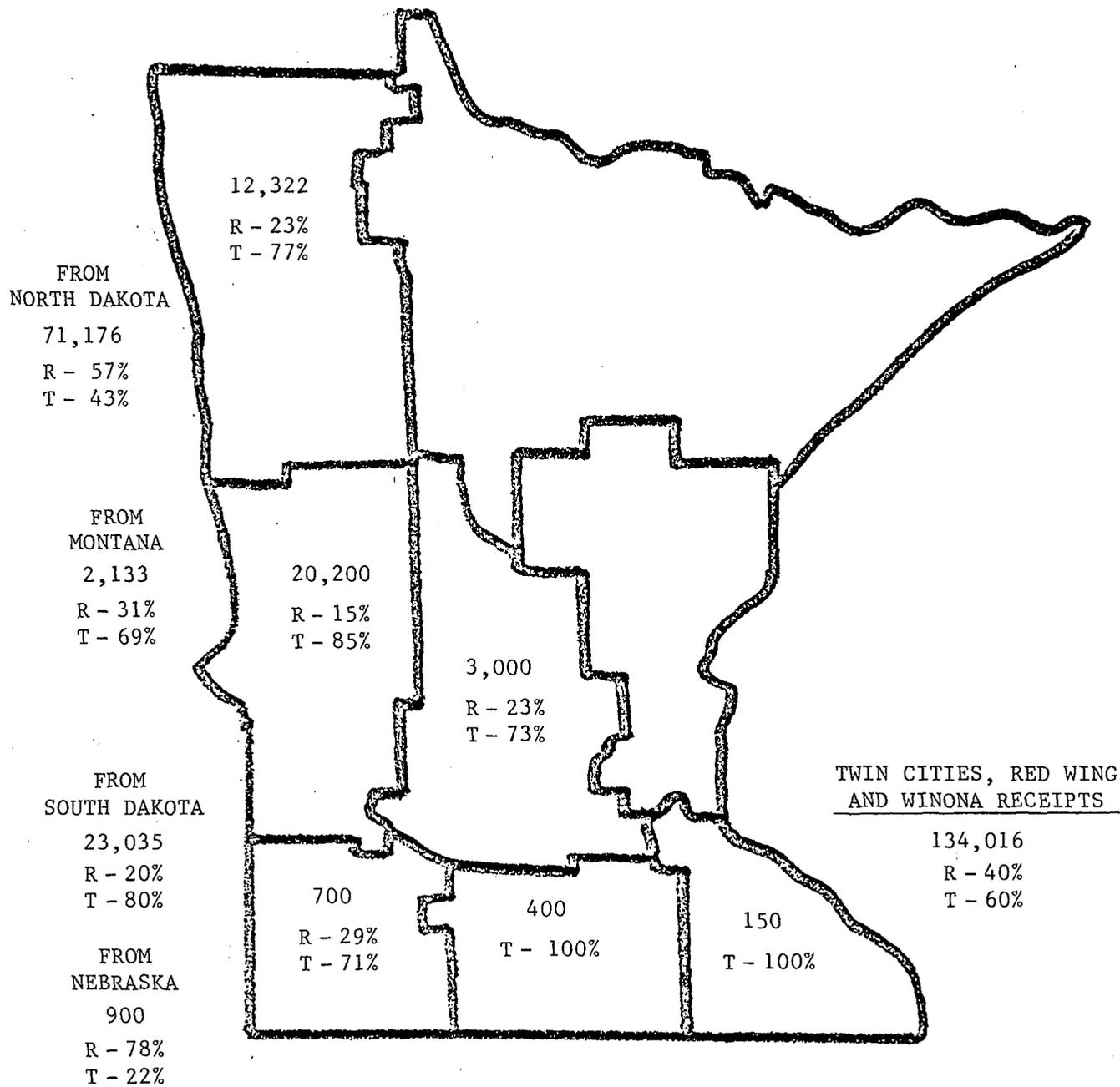


Figure 3

1979 UPPER MIDWEST COUNTRY ELEVATOR  
WHEAT SHIPMENTS TO THE TWIN CITIES, RED WING  
AND WINONA

(1,000 bushels)



## WHEAT MOVEMENTS OUT OF MINNESOTA

A total of 285 million bushels of wheat were shipped from terminal elevators in Duluth/Superior and the Twin Cities in 1979. These went directly overseas or to export ports or to out-of-state processors. Water modes of transportation accounted for 83 percent of the shipments out of the state. Only half a million bushels were shipped out-of-state directly from country elevators.

Lake terminal elevators in Duluth/Superior shipped an estimated 194 million bushels (Figure 4). Over 90 percent of these shipments were by vessel. The major destinations were foreign countries and New York, receiving 133 and 51 million bushels, respectively.

Terminal elevators in the Twin Cities, Red Wing, and Winona shipped 91 million bushels (Figure 5). Barges accounted for 64 percent of the shipments. Most of these shipments were to export ports at the Gulf of Mexico. Rail shipments accounted for 36 percent of the total and were to flour mills in the East or to the Gulf ports for export.

## WHEAT PROCESSING IN MINNESOTA

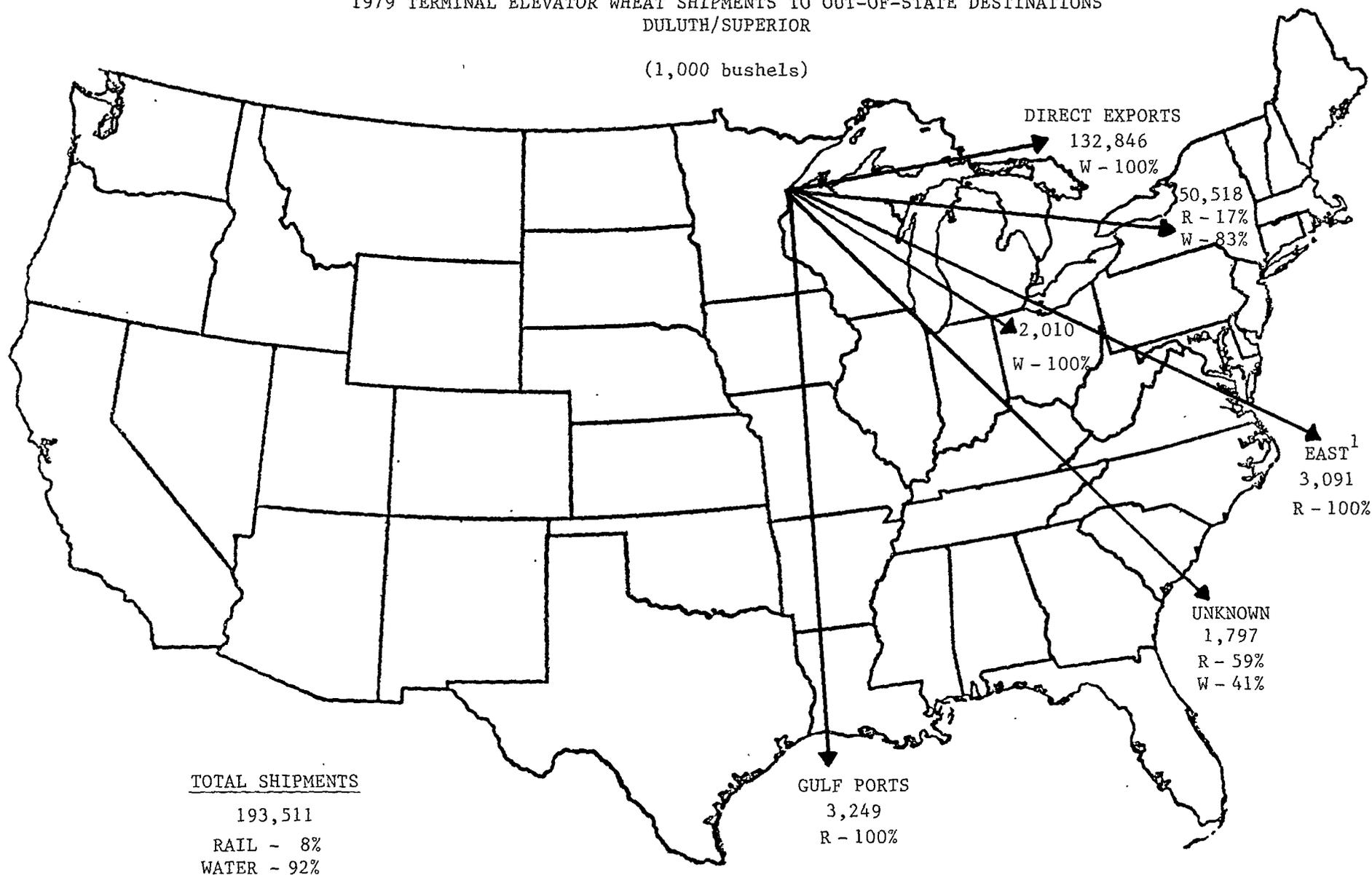
An estimated 80 million bushels of wheat were processed in Minnesota in 1979. Mills in the Twin Cities, Red Wing, and Winona accounted for half of the wheat milled. Railroads accounted for over 80 percent of the shipments to the mills.

State flour production was an estimated 1.9 million tons. Over 80 percent of the flour was shipped to out-of-state destinations. Railroads accounted for 75 percent of the shipments from the flour mills.

Figure 4

1979 TERMINAL ELEVATOR WHEAT SHIPMENTS TO OUT-OF-STATE DESTINATIONS  
DULUTH/SUPERIOR

(1,000 bushels)

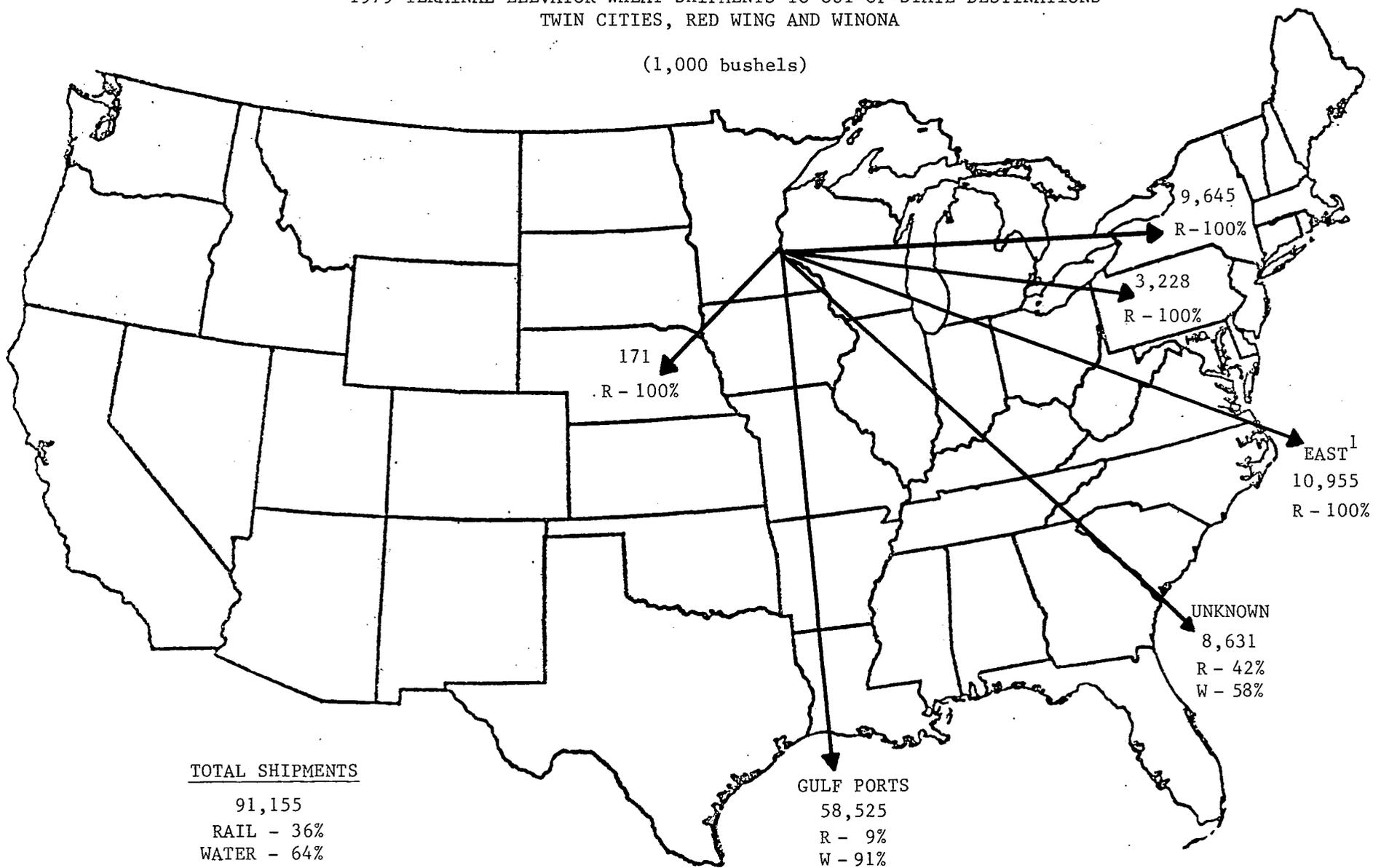


<sup>1</sup>Shipments to locations east of the Mississippi River.

Figure 5

1979 TERMINAL ELEVATOR WHEAT SHIPMENTS TO OUT-OF-STATE DESTINATIONS  
TWIN CITIES, RED WING AND WINONA

(1,000 bushels)



<sup>1</sup>Shipments to locations east of the Mississippi River.

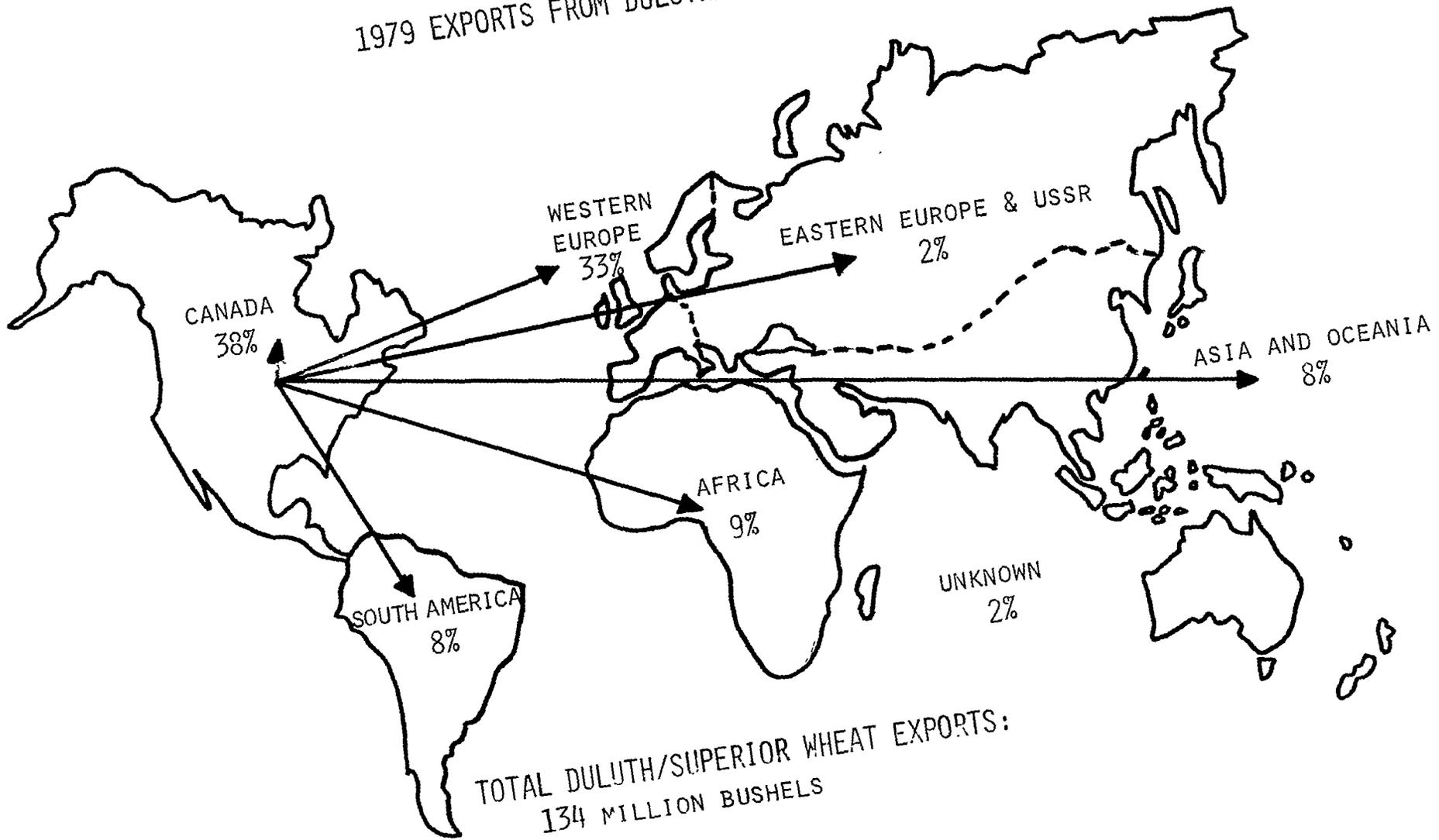
## EXPORT DESTINATIONS

The United States exported about 1.2 billion bushels of wheat in 1979. Roughly 16 percent of these shipments originated in or passed through Minnesota. Wheat shipped to deepwater ports is commingled in storage; thus, it is not possible to trace the exact movement of Minnesota wheat to destination countries. However, grain inspection data published by the USDA can be used to determine the general destination of Upper Midwest wheat exports.

Figures 6 and 7 show the destination regions for wheat exports from ports in Duluth/Superior and the Gulf of Mexico during 1979. The major buyers of the 134 million bushels of wheat shipped from Duluth/Superior were Canada and western Europe (Figure 6). Exports to Canada were used or were transshipped overseas. Major buyers of the 639 million bushels of wheat exported from the Gulf of Mexico include the USSR, Brazil, Egypt, and Mainland China (Figure 7). Roughly 62 million bushels of wheat exports from the Gulf ports originated in or passed through Minnesota.

FIGURE 6  
WHEAT

1979 EXPORTS FROM DULUTH/SUPERIOR PORTS

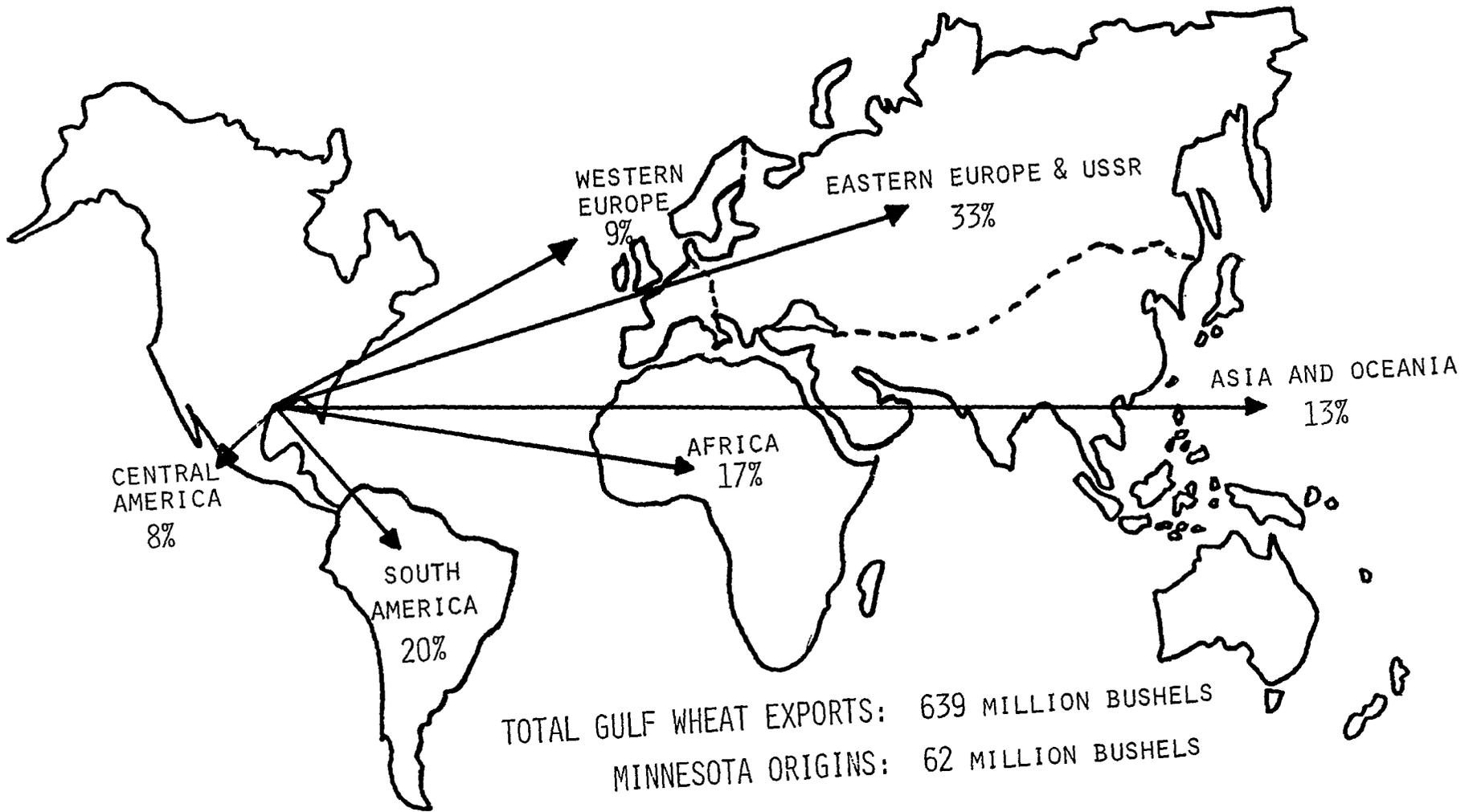


SOURCE: USDA, INSPECTION FOR EXPORTS BY COASTAL AREAS AND COUNTRY OF DESTINATION.

FIGURE 7

WHEAT

1979 EXPORTS FROM GULF PORTS



SOURCE: USDA, INSPECTION FOR EXPORTS BY COASTAL AREAS AND COUNTRY OF DESTINATION.

## IMPLICATIONS

The wheat movement patterns in 1979 reveal the importance of Minnesota as a market and handling point for Upper Midwest wheat. Country elevators in neighboring states shipped an estimated 275 million bushels into the state to flour mills or terminal elevators. Minnesota country elevators shipped an additional 88 million bushels. Truck transportation played a major role in these movements, accounting for 78 percent of the shipments from Minnesota country elevators and 41 percent of the shipments from out-of-state country elevators.

Although truck transportation will continue to play a major role in moving Minnesota and Upper Midwest wheat, the 80's will see an increasing quantity of wheat shipped from country elevators by rail in unit trains. This trend, already well developed in the corn producing areas of Minnesota, will continue as country elevators benefit from lower unit train rates and additional marketing opportunities. Also, the lower unit-train rates will result in more wheat being shipped directly from country elevators to deepwater ports at the Gulf of Mexico and the Pacific Northwest, and to domestic processors, bypassing terminal elevators in Duluth/Superior and the Twin Cities.

All the transportation modes, truck, rail, and water, are important in marketing Minnesota and Upper Midwest wheat. The marketing system has many problems in the transportation arena. These include serious problems in financing state and local roads, continued railroad abandonments, bankruptcies and mergers, transportation deregulation, increased waterway user charges, Seaway tolls, and port user fees.

It is important that these problems and trends be recognized and addressed by both the state and the private sector. Coordination and planning will be

necessary to maintain the infrastructure required to market, transport, and export Minnesota wheat throughout the decade. Minnesota's agricultural prosperity will depend upon an adequate and flexible commodity transportation system.

J. Michael Alley and Chuck Eldridge are Research Specialists and Extension Transportation Economists. Jerry Fruin is an Associate Professor and Extension Transportation Economist, Department of Agricultural and Applied Economics, University of Minnesota.