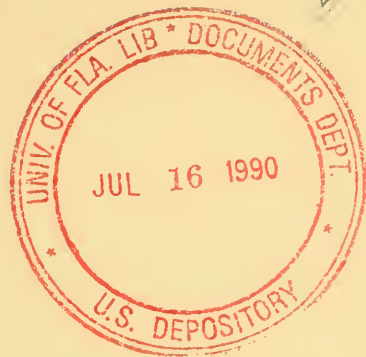


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PANAMA CANAL COMMISSION

# ANNUAL REPORT



FISCAL YEAR ENDED SEPTEMBER 30, 1989



# PANAMA CANAL COMMISSION

Balboa, Republic of Panama  
OFFICE OF THE ADMINISTRATOR

## FROM THE ADMINISTRATOR

It is a pleasure to submit the annual report of the Panama Canal Commission for fiscal year 1989.

This historic year concluded the first decade of operation of the Commission under the terms of the Panama Canal Treaty and the Canal's 75th year of service to world shipping. A number of elements in Canal traffic, as well as tolls revenue, experienced declines this year, reversing a four year growth trend. Oceangoing transits decreased modestly by 2.0 percent, with Panama Canal net tonnage and tolls revenue each reflecting declines of about 2.8 percent over the previous year. Transits by PANAMAX size vessels, the largest vessels the waterway can presently handle, also decreased by 4.5 percent. A slowing of the United States and Japanese economies and shifts in Canal traffic patterns have been responsible for the downturn in Canal traffic.


The political crisis in Panama, which has been impinging on relations between Panama and the United States for more than two years, continued to intensify. This condition had a serious adverse impact on the morale of the Canal work force, and provoked broad concern for the safe and efficient operation of the waterway. A variety of contingency measures were temporarily invoked to ensure the normal flow of Canal traffic. Nevertheless, it is imperative that the political situation be effectively resolved.

Despite the political unrest, all necessary maintenance, modernization and improvement programs were accomplished without interruption. These programs included the Pedro Miguel Locks overhaul, completion of a major project to widen Bohio Curve, continued widening of the Pacific entrance of the Canal, delivery of a new dredge tender and six new launches, and excellent progress on the installation of a modern marine-type foam fire fighting system at Miraflores Locks.

Training programs continued to receive high priority to develop and refine critical skills and accelerate Panamanian participation in the management and operation of the Canal. As of the end of the fiscal year, Panamanians comprised nearly 86 percent of the Isthmian work force, with broad responsibilities throughout the organization.

Mr. Robert W. Page was elected Chairman, Board of Directors of the Panama Canal Commission, effective June 1, 1989, succeeding Mr. William R. Gianelli who had served in that capacity for eight years. The Board of Directors also recommended a toll rate increase of 9.8 percent, which was approved by the President to take effect at the beginning of FY 1990. The increase was necessary to allow the Commission to meet its legal obligation to recover through tolls and other revenues all costs of operating, maintaining and improving the Canal.

The past year tested the capability of the Commission employees to perform under extraordinary trying circumstances, and they successfully met the challenge. Their pride, commitment and special dedication to the waterway were key elements in preserving the traditional high standards of Canal transit service. With a view to the next decade, Canal management remains committed to operating an efficient, modern Canal for the benefit of world commerce.

  
D. P. MCAULIFFE  
*Administrator*

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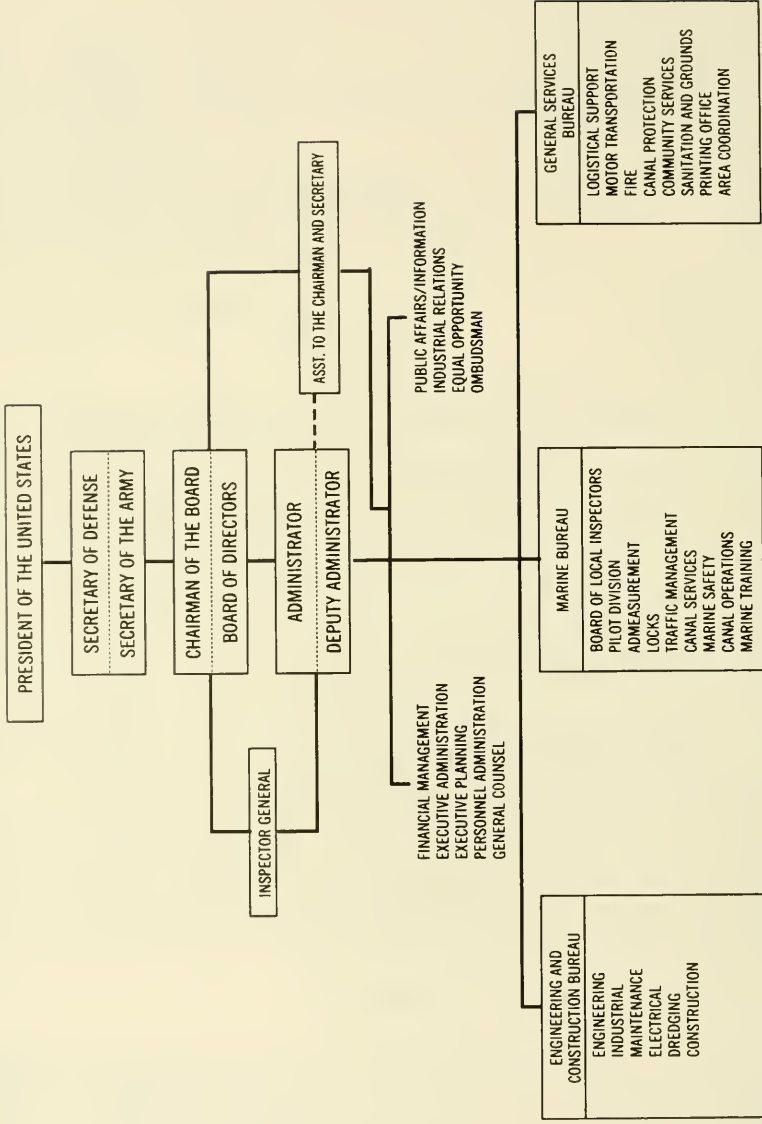
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# PANAMA CANAL COMMISSION





## **INTRODUCTION**

### **ORGANIZATION**

The Panama Canal Commission is an agency of the Executive Branch of the United States Government, provided for by the Panama Canal Treaty of 1977, and established by the Panama Canal Act of 1979 (93 Stat. 452; 22 U.S.C. 3601 et seq), enacted September 27, 1979. The authority of the President of the United States with respect to the Commission is exercised through the Secretary of Defense and the Secretary of the Army. The Commission is supervised by a nine-member Board. Five members are nationals of the United States appointed by the President with the advice and consent of the Senate. Four members are nationals of the Republic of Panama who are proposed by the Republic of Panama for appointment by the President.

The Commission was established to carry out the responsibilities of the United States with respect to the Panama Canal under the Panama Canal Treaty of 1977. In fulfilling these obligations, the Commission manages, operates, and maintains the Canal, its complementary works, installations, and equipment, and provides for the orderly transit of vessels through the Canal. The Commission will perform these functions until the treaty terminates on December 31, 1999, at which time the Republic of Panama will assume full responsibility for the Canal.

The operation of the waterway is conducted on a self-financing basis. The Commission is expected to recover through tolls and other revenues all costs of operating and maintaining the Canal, including interest, depreciation, capital for plant replacement, expansion and improvements, and payments to the Republic of Panama for public services and annuities, in accordance with paragraph 5 of Article III and paragraphs 4(a) and (b) of Article XIII, respectively, of the Panama Canal Treaty of 1977. Revenues from tolls and all other sources are deposited in the U.S. Treasury in an account known as the Panama Canal Revolving Fund. The resources in this fund are available for continuous use and serve to finance Canal operating and capital programs which are reviewed annually by the Congress.

### **THE CANAL**

The Panama Canal is a lock-type canal approximately 51 miles long from deep water to deep water. The minimum width of the navigable channel is 500 feet. Navigable channel depth can vary according to the amount of water

available in Canal storage areas; however, the normal permissible transit draft is 39 feet 6 inches tropical fresh water.

Vessels transiting the Canal are raised in three steps to the level of Gatun Lake, the principal source of Canal water, then lowered to sea level again in three steps. The three sets of Canal locks are paired so as to permit simultaneous lockage of two vessels in the same or opposite direction.

Since August 15, 1914, the official date of its opening, the Panama Canal has served world trade virtually without interruption. Through this fiscal year, a total of 704,351 vessels of all types have transited with 594,462 or 84.4 percent of the total being of the oceangoing commercial class.

### **TOLL RATES**

Toll rates during FY 1989 were: (a) on merchant vessels, Army and Navy transports, hospital ships, supply ships, and yachts, when carrying passengers or cargo, \$1.83 per net vessel ton of 100 cubic feet of actual earning capacity, as determined in accordance with the "Rules of Measurement of Vessels for the Panama Canal;" (b) on such vessels in ballast, without passengers or cargo, \$1.46 per net vessel ton; and (c) on other floating craft, \$1.02 per ton of displacement. These rates have been in effect since March 12, 1983.

A toll rate increase of 9.8 percent was recommended by the Panama Canal Commission's Board of Directors and approved by the President of the United States to be effective October 1, 1989. This increase is necessary to allow the Commission to meet its legal obligations of recovering through tolls and other revenues all costs of operating, maintaining and improving the waterway.

By treaty, the United States continues to provide to Colombia free transit through the Canal of its troops, materials of war, and ships of war.

**BOARD OF DIRECTORS**  
**Ending Fiscal Year 1989**

Honorable ROBERT W. PAGE  
*Chairman, Board of Directors*  
*Panama Canal Commission*  
*Washington, D.C.*

Honorable OYDEN ORTEGA  
*Panama, Republic of Panama*

Honorable ANDREW E. GIBSON  
*Short Hills, New Jersey*

Honorable CARLOS OZORES  
*Panama, Republic of Panama*

Honorable RICHARD N. HOLWILL  
*American Ambassador to Ecuador*  
*Quito, Ecuador*

Honorable WALTER J. SHEA  
*Annapolis, Maryland*

Honorable WILLIAM W. WATKIN, Jr.  
*Beaufort, South Carolina*

**Executive Committee**

Honorable ROBERT W. PAGE  
*Chairman*

Honorable CARLOS OZORES

Honorable WALTER J. SHEA

Honorable WILLIAM W. WATKIN, Jr.

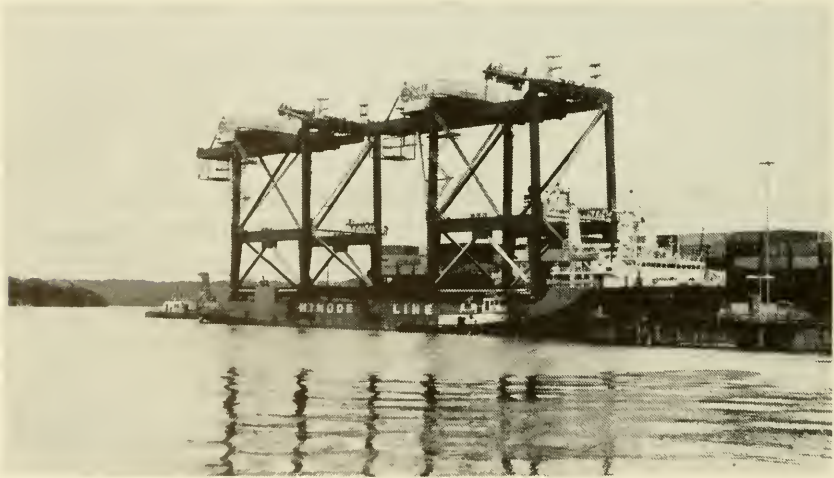
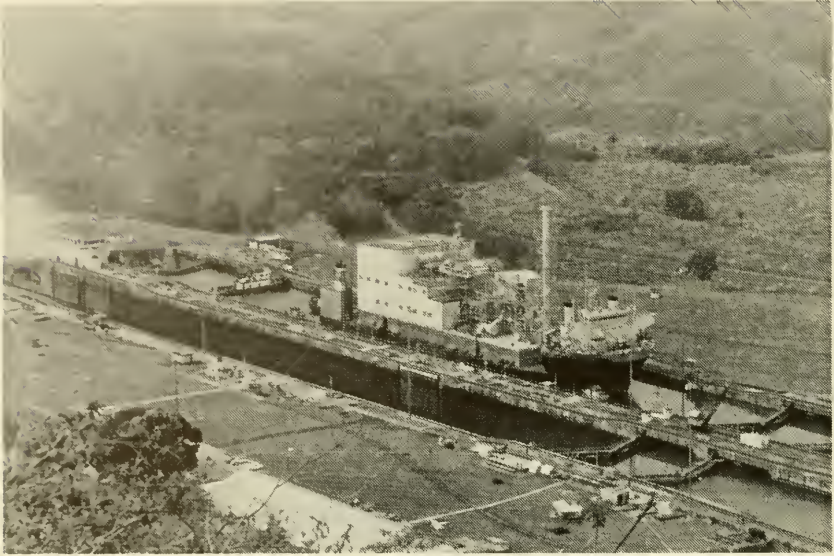
**OFFICIALS IN THE REPUBLIC OF PANAMA**

*Administrator* ..... Honorable D. P. MCAULIFFE

*Deputy Administrator* ..... Honorable FERNANDO MANFREDO, Jr.

**OFFICIAL IN WASHINGTON, D.C.**

*Assistant to the Chairman and Secretary* ..... MICHAEL RHODE, Jr.



The flexibility and versatility of the Panama Canal is demonstrated in the efficient movement of large products in a near fully assembled state. The "Super Servant 4" (upper photo) transports an entire electrical power generating station for delivery to the Dominican Republic. The "Sea Bridge" (lower photo) enters Gatun Locks on a northbound voyage to deliver two huge container cranes to the Port of Baltimore on the east coast of the U.S.A.

# *Chapter I*

## **CANAL TRAFFIC**

### **TRAFFIC**

Canal traffic and tolls revenue declined in fiscal year 1989, reversing a four-year growth trend. The slowing of the U.S. and Japanese economies and the shifts in Canal traffic patterns which drove the downturn were most evident in three key Canal trades—grain, automobiles and petroleum and products. Additionally, containerized cargo, which in recent years had been a major contributor to Canal traffic growth, increased at relatively low rates. Strong gains in phosphates, sulfur and manufactures of iron and steel were insufficient to override the poor performance of other key trades.

Oceangoing transits in fiscal year 1989 declined to 12,075 or 33.1 daily from 12,318 or 33.7 per day. Commercial vessels accounted for 11,989 oceangoing transits, declining 2.0 percent from 12,234 in fiscal year 1988. Vessels owned or operated by the U.S. Government and free Colombian and Panamanian Government vessels accounted for 86 transits, compared with 84 in the prior year.

The drop in the tonnage of certain cargoes which are normally carried on large ships resulted in a decline in average ship size. Transits by vessels having beams of 100 feet and over decreased to 2,765 from 2,894 transits in 1988, accounting for 22.9 percent of total oceangoing transits compared with 23.5 percent in the prior year. Vessels having beams of 80 feet and over reached 5,734 transits or 47.5 percent of total oceangoing transits, versus 6,027 or 48.9 percent in 1988. The average Panama Canal net tonnage of oceangoing commercial vessels declined 1.0 percent to 15,500 tons from the record 15,658 tons of the prior year. A two-year summary of the key elements of Canal traffic and tolls revenue is shown in the following table.

## COMPARATIVE HIGHLIGHTS OF OPERATIONS

	<i>Fiscal year</i>	
	<i>1989</i>	<i>1988</i>
Oceangoing transits:		
Commercial .....	11,989	12,234
U.S. Government .....	74	69
Free .....	12	15
Total .....	<u>12,075</u>	<u>12,318</u>
Daily average .....	33.1	33.7
Small transits:		
Commercial .....	997	844
U.S. Government .....	287	246
Free .....	30	33
Total .....	<u>1,314</u>	<u>1,123</u>
Total cargo:		
Commercial .....	151,644,424	156,484,063
U.S. Government .....	224,121	296,140
Free .....	3	.....
Total .....	<u>151,868,548</u>	<u>156,780,203</u>
Total Panama Canal net tons and reconstructed displacement tonnage .....	186,962,894	192,422,315
Transit revenue:		
Commercial tolls .....	\$327,946,771	\$337,946,016
U.S. Government tolls .....	1,818,855	1,373,309
Tolls revenue .....	<u>\$329,765,626</u>	<u>\$339,319,325</u>
Harbor pilotage, tug, launch, and other services .....	\$70,008,117	\$70,421,731
Total transit revenue .....	<u>\$399,773,743</u>	<u>\$409,741,056</u>

## COMMODITIES AND TRADE ROUTES

Cargo shipments through the Canal declined in fiscal year 1989. Total commercial cargo dropped 3.1 percent to 151.6 million long tons from 156.5 million tons in fiscal year 1988, primarily as a result of sharp declines in two bulk commodity groups—grain and petroleum. While a number of commodities showed increases, these only partially offset the losses in the other trades.

Displaying the characteristic volatility of the trade, grain tonnage declined 16.6 percent to 29.9 million tons from 35.9 million tons in fiscal year 1988. The severe decline was primarily the result of a reduction in U.S. corn exports to the Far East via the Canal, which dropped over 5 million tons to 9.6 million tons from 14.9 million tons in the prior year. The drop-off was driven by a series of factors, particularly a shift of export corn to Pacific

ports as a result of highly competitive rail rates to the West Coast. Additionally, U.S. corn exports to Japan were affected by increasing competition from other corn producing countries, rising U.S. corn prices and changes in the use of feedgrain by the Japanese. Corn shipments totaled 10.5 million tons, declining 35.1 percent from the 16.2 million tons shipped through the Canal in 1988. Other components of the commodity group experiencing declines were soybeans, which dropped 24.2 percent to 5.2 million tons from 6.9 million tons, and sorghum, which was down 10.2 percent to 1.9 million tons from 2.2 million tons in the prior year. Wheat, with a record 11.0 million tons, accounted for the largest tonnage in the grain commodity group, reflecting a 16.8 percent rise over the 9.4 million tons shipped through the Canal in 1988. The increase was due to record shipments from the U.S. to China, which totaled 8.2 million tons compared with 5.0 million tons in the prior year.

Continuing a downward trend which began in 1986, petroleum and products decreased 9.6 percent to 22.2 million long tons, the lowest level since 1976. Crude oil fell 10.4 percent to 7.9 million long tons from 8.8 million tons in the prior year and petroleum products dropped 9.1 percent to 14.4 million tons from 15.8 million tons. With the exception of Ecuadorian oil flows, which registered a 3.0 percent increase to 5.2 million tons, all crude oil flows dropped, reflecting lower exports or use of alternatives to the Canal. The decline in the petroleum products group was primarily due to a sharp reduction in residual fuel oil shipments which fell 15.3 percent to 4.2 million tons.

While not suffering a major drop in terms of tonnage, automobile shipments declined 7.8 percent to 2.0 million tons from 2.2 million tons in 1988, largely contributing to this year's downturn in Canal traffic. Because of their configuration, automobile carriers pay the highest toll per cargo ton in Canal traffic and, as a result, a drop in automobile tonnage translates into a disproportionately higher reduction in Panama Canal net tonnage and tolls revenue. The decline this year marked the third consecutive year the automobile trade exhibited deteriorated levels. The trade continues to be adversely affected by the establishment of Japanese car manufacturing bases in the U.S. and by a slowdown in consumer demand. Automobiles from Japan destined for the U.S. East Coast, totaled 1.4 million tons versus 1.5 million tons in 1988.

The nitrate, phosphates and potash group increased 17.0 percent to 14.2 million long tons from 12.1 million tons in 1988. Phosphates, which account for 61 percent of the group, increased 23.6 percent to 8.6 million tons from nearly 7.0 million tons in the prior year. Close to 77 percent of the phosphates tonnage shipped through the Canal originated in the U.S. East Coast and was destined primarily for the Far East. China received about 1.9 million long tons, Japan accounted for 1.4 million long tons and South Korea imported 1.2 million long tons.

The tonnage of ores and metals rose about 2 percent to 10.5 million long tons from 10.3 million long tons in 1988. Total ores, accounting for 65 percent of the group, increased 5.6 percent to 6.8 million long tons from 6.5 million tons in the prior year. Aluminum/bauxite ore, the leading commodity within the group, increased 52.9 percent to 2.4 million tons. About 76 percent of the aluminum/bauxite originated in Australia and was primarily destined for the U.S. East Coast. The movement of metals decreased 4.8 percent to 3.7 million tons from 3.9 million tons in 1988, with scrap metal, the largest component of the metals group, reflecting a 5.3 percent decline to 2.0 million long tons.

The coal and coke trade exhibited an improvement, rising to 8.9 million long tons from 8.6 million tons in 1988. The gain was due to increased coke shipments, which had been moving upward since 1987. Coke tonnage was up from 1.8 million tons in 1988 to 2.2 million tons in 1989, with 1.2 million long tons of the 1989 total shipped from Japan to the U.S. East Coast. The coal segment of this commodity group remained flat at 6.8 million long tons. Over 71 percent of the coal shipped through the Canal constituted U.S. coal exports, primarily destined for Japan and Taiwan.

The rate of growth of containerized cargo -- representing 79.9 percent of the commodities grouped under the "All Other" category -- slowed further this year to 4.5 percent, with this percentage reflecting a gain to 19.9 million tons from 19.1 million tons in 1988. Trade between the U.S. and the Far East constituted 53.2 percent of the containerized cargo moving via the Canal, with U.S. exports to the Far East totaling 5.7 million tons compared with 5.8 million tons in the prior year and U.S. imports from the Far East accounting for 4.9 million tons versus 4.8 million tons in 1988. The sluggish performance of this important container trade route reflected the slowing economies of both the U.S. and Japan and the continued competition exerted in this trade by the U.S. intermodal system. In contrast, the U.S. West Coast/Europe route, the second most important container flow with a share of 13.4 percent, increased 13.8 percent to 2.7 million tons from 2.3 million tons in 1988.

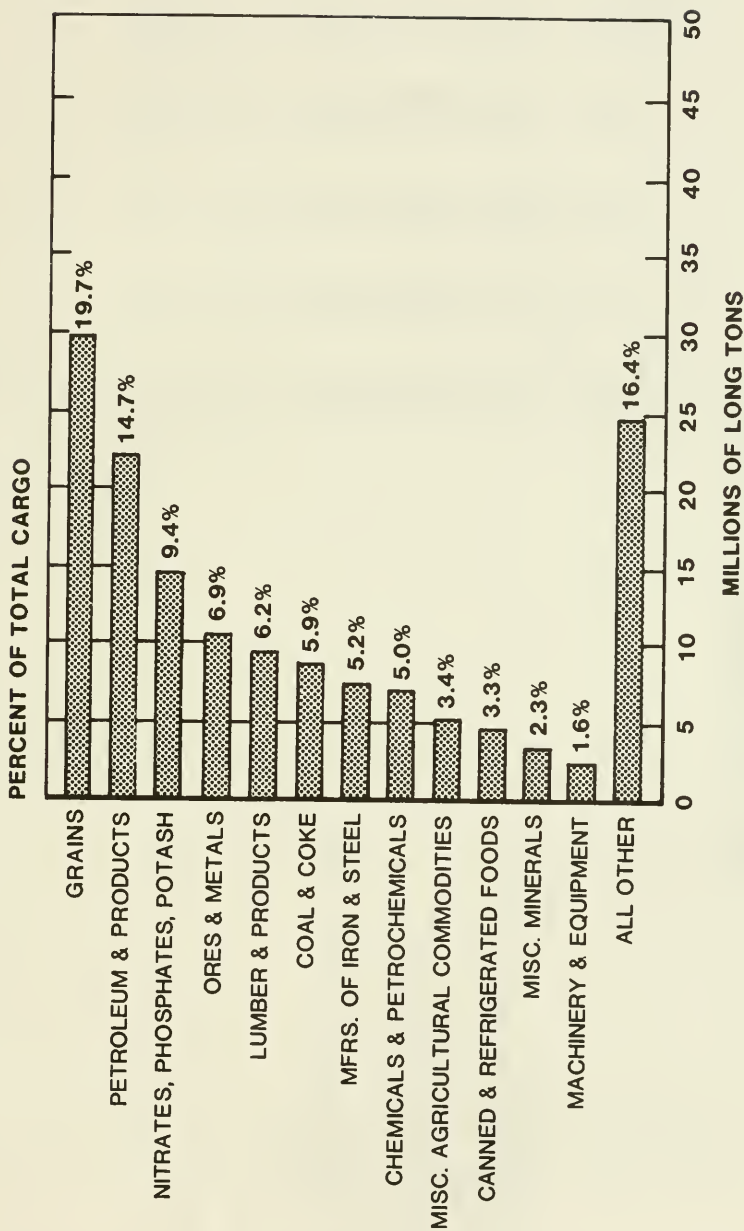
A number of commodity groups, such as manufactures of iron and steel, chemicals and petroleum chemicals, and canned and refrigerated foods, registered gains in 1989. These gains were offset by declines in other commodities including miscellaneous minerals, other agricultural commodities and lumber and products.

Trade between the East Coast United States and Asia continued to dominate Canal traffic, accounting for 39.4 percent of total commercial cargo. Cargo on this route declined, however, by 5.8 percent to 59.7 million long tons from 63.4 million long tons in the prior year.

The following tables show the principal commodity groups moving in oceangoing commercial vessels in 1989 and a comparison of the major trade routes in 1989 and 1988.



**PRINCIPAL COMMODITY GROUPS  
TRANSITING THE CANAL  
OCEANGOING COMMERCIAL CARGO FY 1989**



## Major Voyage Trade Routes in Canal Traffic

Trade Route	Fiscal year						Percent of Increase or (Decrease)
	1989			1988			
	Panama Canal Net Tons	Long Tons Cargo	Panama Canal Net Tons	Long Tons Cargo	Panama Canal Net Tons	Long Tons Cargo	
	(In thousands of long tons)						
East Coast United States-Asia .....	71,582	59,746	76,667	63,442	(6.6)	(5.8)	
East Coast United States-West Coast South America .....	19,314	14,121	16,370	12,335	18.0	14.5	
Europe-West Coast United States/Canada .....	11,807	14,178	12,731	14,956	(7.3)	(5.2)	
Round the World .....	11,724	5,976	10,597	5,515	10.6	8.4	
Europe-West Coast South America .....	10,898	7,512	10,599	7,287	2.8	3.1	
East Coast United States/Canada-Oceania .....	5,424	6,968	4,680	5,499	15.9	26.7	
U.S. Intercoastal (including Alaska and Hawaii) .....	5,209	2,589	5,101	2,320	2.1	11.6	
Europe-Asia .....	4,895	3,728	4,684	2,867	4.5	30.0	
West Indies-Asia .....	4,468	2,840	3,959	3,079	12.9	(7.8)	
East Coast United States-West Coast Central America .....	3,703	3,521	3,847	3,186	(3.7)	10.5	
Europe-West Coast Central America .....	3,256	1,938	3,388	2,262	(3.9)	(14.3)	
East Coast Canada-Asia .....	3,171	3,449	3,006	2,834	5.5	21.7	
Subtotal .....	155,451	126,566	155,629	125,582	(0.1)	0.8	
All other routes .....	30,327	25,070	35,877	30,901	(15.5)	(18.9)	
Total .....	185,778	151,636	191,506	156,483	(3.0)	(3.1)	





Workmen prepare the foundation for a new towing locomotive turntable at the north end of the Gatun Locks center wall. This is part of an ongoing project to replace towing locomotive turntables at all locks to allow earlier attachment of locomotive wires to transiting vessels for improved control during lockages.

# Chapter II

## CANAL OPERATIONS

Canal operations are comprised of Transit Operations and Maintenance and Related Canal Projects. The various functions are divided among a number of operating bureaus within the Canal agency.

### TRANSIT OPERATIONS

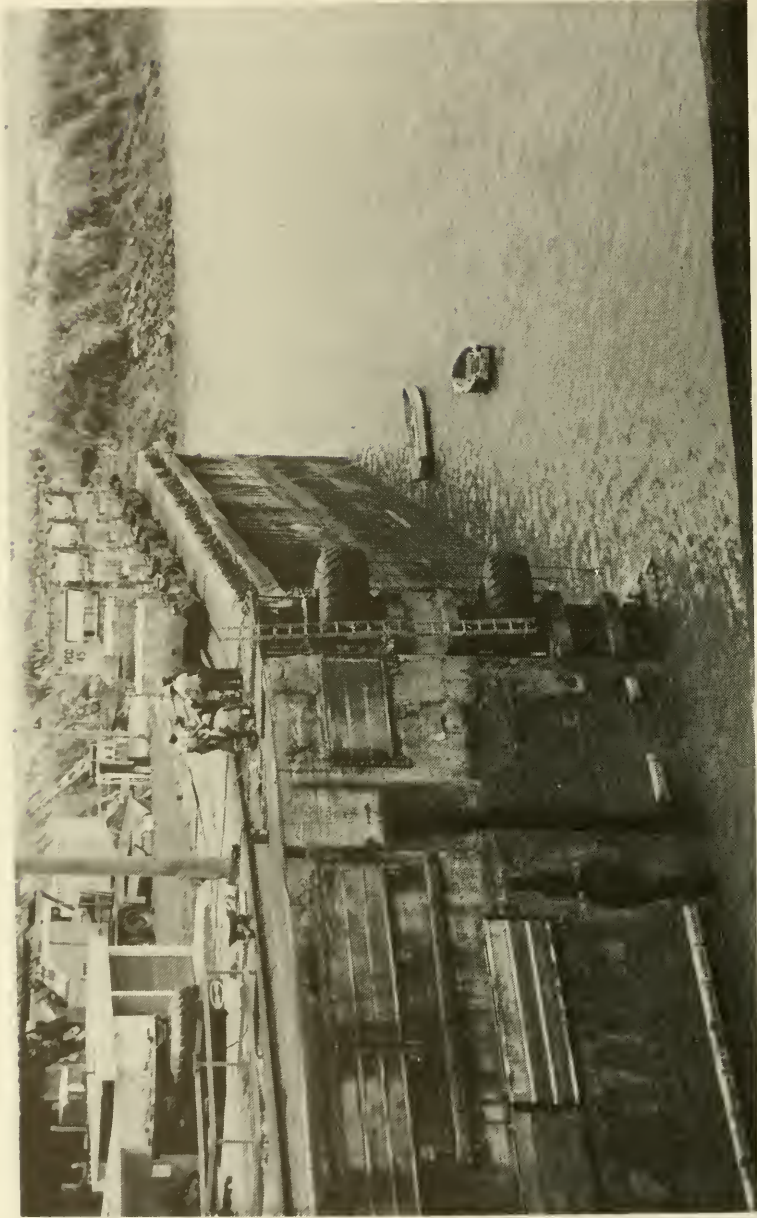
Daily average transits by oceangoing vessels averaged 33.1 per day during fiscal year 1989. Average time in Canal waters decreased from 21.9 hours in fiscal year 1988 to 17.4 hours in fiscal year 1989.

<i>Fiscal year</i>	<i>Vessels of 600-foot length and over</i>	<i>Percent of total oceangoing transits</i>	<i>Vessels of 80-foot beam and over</i>	<i>Percent of total oceangoing transits</i>
1989 .....	3,913	32.4	5,734	47.5
1988 .....	4,047	32.9	6,027	48.9
1987 .....	4,005	32.5	5,902	48.0
1986 .....	4,131	34.4	5,898	49.1
1985 .....	3,862	33.1	5,514	47.3
1984 .....	3,865	33.9	5,496	48.3
1983 .....	4,157	35.1	5,869	49.5
1982 .....	5,534	39.1	7,226	51.1
1981 .....	4,855	34.7	6,364	45.5
1980 .....	4,598	33.8	6,089	44.7

The number of vessels transiting at more than 36-foot draft decreased 3.9 percent: 1,698 vessels during FY 1989 compared to 1,766 during fiscal year 1988. The maximum allowable draft remained at 39 feet 6 inches during the entire fiscal year.

Total jobs performed by Commission tugs decreased from 38,736 in fiscal year 1988 to 38,579 in fiscal year 1989.

	<i>Fiscal year</i>	
	<i>1988</i>	<i>1989</i>
Oceangoing transits .....	12,318	12,075
Tug jobs:		
Balboa .....	26,854	25,759
Cristobal .....	11,882	12,820
Tug operating hours .....	60,289	61,601



Maintenance crews work to replace the pneumatic fender units on the knuckle of the lock's wing wall. These fenders effectively protect against vessel contact with the lock wall. New, durable high strength flat fender units (visible on the left) have proven to be more resistant to abrasion and deterioration than the rubber strip fenders.

## MAINTENANCE AND CANAL IMPROVEMENT PROJECTS

Maintenance and improvements to the Canal continued to progress smoothly throughout the year. The various divisions and units of the Engineering and Construction Bureau are generally responsible for the overall physical maintenance and improvement of the waterway. The Marine Bureau operates and maintains the locks and related facilities. The use of alternative procurement sources in support of these programs continued to be necessary because of procurement inconveniences stemming from the ongoing political crisis in Panama.

**Channel Improvements:** Routine maintenance dredging, as well as channel widening at the Pacific entrance, proceeded as scheduled. A major project to widen Bohio Curve was completed, culminating a series of projects to widen critical points in the Gatun Lake ship channel, resulting in improved visibility and greater navigational safety. Statistics on the volume of material dredged appears in Table 14 of this report.

**Locks:** Miter gates 68 and 69 were rehabilitated in conjunction with the overhaul at Pedro Miguel Locks. Work was performed on exposed underwater machinery, topside machinery and rehabilitation of 500 feet of conductor slot. Repair work on miter gate 64 is underway at the Mount Hope repair facility.

Installation of an improved locks fire protection system is on schedule and should be completed in FY 1990. The system provides for fire monitors capable of dispensing water and foam at strategic locks locations.

A new locomotive turntable was installed at the north end of Gatun Locks. A similar project is underway at the north end of Miraflores Locks and should be completed by mid-FY 1990.

A long term program to rehabilitate approximately 50,000 feet of the locomotive tow track's waterside rail was accomplished, as well as critical sections of landside rail, rack sections and conductor slot. Remaining tow track work should be completed by the end of FY 1990.

A new locks wall fendering system, utilizing state-of-the-art high strength, wider load distribution fendering is being installed at all locks. The new fenders are more durable and resistant to abrasion and deterioration.

High voltage striker ballasts were installed in the high mast lighting system at all locks to virtually eliminate a lapse in restarting lights following power outages. Also, 98 percent of all power cables under 600 volts and 95 percent of all control cables at Gatun Locks were replaced, and 75 percent of the PCB transformers at Miraflores Locks were replaced with cast coil transformers.

New digital telephone switches were installed at Pedro Miguel and Miraflores Locks, permitting touch-tone capability. Similar switches will be installed at Gatun Locks in FY 1990.

**Dams and Spillways:** Generator No. 1 at Gatun Hydroelectric Station was overhauled. Maintenance and repair of Madden Dam sluice gates were also performed. Four new replacement power transformers were installed at the Madden Dam substation.

**Floating Equipment Maintenance:** Significant marine-related maintenance work included scheduled major overhauls of the tugs *Burgess*, *Chame*, *Mehaffey*, and *Morrow* and Barge No. 831; interim overhauls of the tugs *Chagres*, *Esperanza*, and *Paz*; repair work on the tugs *Amistad*, *Alianza* and *Guía*, and main engine work on the tugs *Rousseau* and *Rodman*. Overhaul of the tug *Parfit* and repairs to the tug *Mehaffey* were underway at year end.

**Acquisitions/Contracts:** Major acquisitions in support of Canal operations consisted of the delivery of the new dredge tender GAMBOA; four aluminum twin-screw pilot/linehandler launches; two high speed, 40-passenger launches; and a radial arm drill press for the Industrial Division. Two new tractor tugs are under construction in the United States and should be delivered in the second quarter of FY 1990.

Contracts were awarded for the partial replacement of the 44 KV transmission lines, relocation of the Pacific side launch linehandler facilities, improvement to the Rodman Fire Station, replacement of the craneboat and tug landings at Gamboa, construction of a radar surveillance facility at the Atlantic entrance, construction of fire stations at the west side of Miraflores and Pedro Miguel Locks, and improvements to the Paraiso landing.







The "Nutria," one of two new 40-passenger launches acquired by the Panama Canal Commission for a new trans-Isthmian 'water jitney' service, awaits southbound passengers at the recently constructed Gatun landing. These launches provide safe, dependable transportation for employees on official business.

# *Chapter III*

## **SUPPORTING OPERATIONS**

Supporting operations of the Panama Canal Commission provided essential support services to the operation and maintenance of the waterway and the Agency's facilities, as well as to other U.S. agencies on the Isthmus and to employees and their dependents. These operations included logistical services, community services, sanitation and grounds management, transportation services, public utilities, fire protection, Canal protection, health and safety and other employee services.

### **LOGISTICAL SERVICES**

The Logistical Support Division provided centralized procurement, inventory management, warehousing, distribution, contract administration, and supply and property disposal support to Canal operations. A total of \$69.0 million in goods and services were procured in fiscal year 1989, including \$23.4 million from sources in Panama. This reflects \$9.5 million for Bunker "C" fuel oil for thermoelectric power generation purchased from Refineria Panama, S.A. and \$2.1 million for light diesel fuel purchased from Esso Standard Oil. Major contracting obligations included \$4.2 million for an optional tractor tugboat, \$1.6 million for pilot/linehandler launches, \$1.0 million for high-speed passenger boats, \$781,470 for crew boats, \$108,190 for a survey boat, \$564,800 for a submerged line barge, \$348,800 for a fuel barge, \$114,800 for buoys, \$471,500 for spillway stony gates, \$790,960 for towing locomotive windlass parts, \$328,100 for circuit breaker conversion, \$113,000 for electronic positioning system, \$2.9 million for catastrophic insurance, and \$2.7 million for vehicles.

Approximately \$16.8 million in Commission inventory items were issued for Commission use, and \$18.8 million was obligated for new inventory purchases during the year. A total inventory of 39,510 line items with an average cost value of \$31.8 million was on hand at year end.

Activities of the Excess Disposal Unit included no-cost transfers to other U.S. Government agencies of excess equipment having an original acquisition value of approximately \$1.1 million, while surplus property sold to the Government of Panama at current fair market value amounted to approximately \$9,215.

The New Orleans Branch in Louisiana expedited urgent purchases and coordinated all Commission cargo shipments from the United States to Panama. Under the coverage of the Military Sealift Command's contract, 16,993 measurement tons of containerized and breakbulk cargo were shipped to Las Minas. An additional 4,629 measurement tons of general cargo and vehicles were shipped under commercial contract with an ocean freight shipper from New Orleans to the Republic of Panama.

### COMMUNITY SERVICES

During Fiscal Year 1989, the Community Services Division managed employee housing, Commission-owned buildings, a technical resource center and the employee fitness program for the agency.

The housing portion of the operation dedicated its resources to managing, maintaining, repairing, performing preventive maintenance and bringing up to standards the safety and security aspects of the quarters inventory, and assisting residents with physical security inspections and supporting neighborhood crime watch programs. As part of the implementation of the multiyear housing management plan, the division identified Diablo and Margarita as housing areas for future transfer to the Government of Panama. As a result of the Presidential mandate to move U.S. citizens off the economy, the division entered into an interservice agreement with the U.S. Department of Defense (DOD), whereby 70 Department of Defense Dependents' Schools (DODDS) employees occupied Commission housing units. At the end of the fiscal year, the agency retained the use of 1,545 housing units for its United States citizen and other eligible employees. This represents only 35% of the inventory of approximately 4,300 units owned by the Panama Canal Company immediately prior to entry into force of the Panama Canal Treaty in 1979, indicating that a total of 65% of those units have been transferred in use to Panama in 10 years since Treaty implementation. No houses were transferred in FY 1989.

The buildings management activity is responsible for the maintenance and operation of Commission buildings and structures (not specifically assigned to other Commission units) and for a centralized custodial service. As an ongoing project, this unit continued to modify facilities to comply with OSHA standards for handicapped personnel and increased physical security to all buildings. No buildings were transferred to the Government of Panama during the year.

The technical resources center provided mission-support information and research to all units of the Commission and other U.S. agencies and maintained a collection of library and three-dimensional materials relating to the history and operation of the Panama Canal. This unit supported the professional development of the pilot understudies, apprentices, clerical trainees and other employees through workshops and publications. It participated in the preparation of materials, events and other activities related to the celebration of the 75th Anniversary of the Panama Canal. Online access to computer data banks in the United States expanded its reference and acquisition services during the year.

The division also administered a variety of duty-related as well as off-duty fitness programs and facilities for Commission employees and their dependents. It continued training other Commission units in rescue, water safety, advanced lifesaving, drown-proofing, survival floating and water safety and it was responsible for certifying swimming proficiency of job applicants and employees. It also organized a number of special events commemorating the 75th Anniversary of the Panama Canal. The Employee Fitness Program, in combination with the agency's occupational health program, was one of seven runners-up selected out of 80 nominations submitted for the 1989 U.S. Office of Personnel Management Director's Awards for Outstanding Health/Fitness Programs in the Federal Government.

### SANITATION AND GROUNDS

Approximately 2,900 acres of improved grounds and turf within residential areas, and around Commission buildings, the locks and other industrial facilities were maintained. Field crews cleared vegetation along utility line rights-of-way, saddle dams, drainage systems, and around aids-to-navigation towers and targets. A grass cutting contract awarded during FY 1989 to maintain a 50-acre segment of the grounds within Diablo Heights was overseen by this division in addition to the regular monitoring of garbage and refuse collection. This latter function became a significant task for this activity in FY 1989 as the Government of Panama continued its unsatisfactory once a week garbage collection service in Canal operating and housing areas. Nine years ago, DIMA, an agency of the Government of Panama, assumed the responsibility for refuse collection in the Canal area. In September 1988, they reduced the frequency of refuse collection from three times per week to once per week due to lack of funds following the U.S. Government's withholding of public service payments to Panama. However, the effects of this reduced schedule of refuse collection at Commission facilities and employee residences were alleviated to some extent by issuing additional refuse containers, spraying insecticides for fly control, and through the routine distribution to residents of free large plastic bags for garbage. Notwithstanding Commission efforts to minimize litter, objectionable odors and house flies, refuse collection slipped below reasonable standards for tropical areas with a notable effect on the environment and community morale.

Surveillance and control of mosquito vectors, public health pests, and vermin were carried out with special emphasis on clearing existing drainage networks and the elimination of old tires and other artificial containers which might provide breeding sites for *Aedes aegypti*. This vector of dengue and yellow fever which reinfested Panama City in 1985, continued to spread to many of the towns and cities in the interior provinces. Increased surveillance revealed several breeding foci in transferred housing areas, but we have been successful so far in keeping this infestation from invading any Panama Canal housing and operating areas. In addition to the above activities, some 1,600 service calls were handled by Sanitation Branch environmental health technicians, which included complaints about pest

mosquitoes, cockroaches, flies, ticks and fleas, bats, rodents, venomous snakes and other public health pests. These technicians also monitored food service establishments, drinking water quality, and the general sanitation of swimming pools, employee rest rooms, and barber and beauty shops. Over 150 cockroach control applications were made aboard Commission launches, towboats, and dredges. Sixty Locks Division towing locomotives were similarly treated.

Two Atlantic and Pacific sanitary landfills handled some 67,400 tons of solid wastes in FY 1989, an increase of 6 per cent compared to last year. However, the safety, security, and efficiency of refuse disposal operations were compromised by large numbers (over 100 in one instance) of aggressive human scavengers, especially at our Pacific site. Their trespassing and uncontrolled salvaging of outdated food and other materials greatly interfered with the orderly operation of the landfill and represented a hazard to Commission employees working the sites.

The first human death within the Canal operating area due to stinging by Africanized honeybees occurred in February when a DODDS teacher drowned while attempting to swim to shore following an Africanized bee attack on his small boat in Gatun Lake. Although badly stung, two survivors were able to make it to shore and later received emergency treatment. Over the past eight years, our entomologists have continuously monitored and gathered data on all Africanized bee swarms and nests controlled by Commission bee teams. Analysis of this data shows that Africanized honeybee populations have declined about 50% from levels seen during 1983 through 1985 and have now reached a level of stability. Numbers of control operations were slightly lower in FY 1989, with 127 bee colonies destroyed by Commission bee control teams as compared to 150 controlled in FY 1988. Three Africanized bee swarms were removed from transiting ships in FY 1989, the same number of shipboard swarms controlled in FY 1988.

# *Chapter IV*

## **ADMINISTRATION AND STAFF**

### **PERSONNEL FORCE EMPLOYED AND PAYROLL**

At the end of fiscal year 1989, the total Isthmian force of the Commission was 8,577 compared to 8,522 employees in fiscal year 1988. Of the total Isthmian force, 7,584 were permanent and 993 temporary. Of the permanent Isthmian work force, 6,513 (85.9%) were Panamanians, 975 (12.8%) were U.S. citizens and 96 (1.3%) were third country nationals. Eighteen persons, all U.S. citizens, were employed by the Commission in New Orleans and Washington, D.C.

The total Commission payroll was \$200.5 million in fiscal year 1989 compared to \$202 million in fiscal year 1988. Of the total Commission fiscal year 1989 payroll, \$143.6 million was paid to non-U.S. citizen employees and \$56.9 million to U.S. citizen employees.

### **EQUAL OPPORTUNITY PROGRAM**

The Panama Canal Commission's Multi-Year Affirmative Employment Plan for Minorities and Women for FY 1988-1992, the Agency's FY 1988 Report of Accomplishment, and the FY 1989 Affirmative Action Program Plan for the hiring, placement, and advancement of people with disabilities were approved by the Equal Employment Opportunity Commission.

Formal EEO complaints reflected a decrease from the previous fiscal year by 50 percent. Three workshops on the prevention of sexual harassment were conducted this year. National Disability Employment Awareness Month, Black History Month, National Hispanic Heritage Month, and Women's Week were commemorated. Educational activities included blocks of EEO training which were provided to approximately 60 employees and supervisors. Panamanian Preference Program monitoring reflected increasing participation of Panamanian nationals at all levels. The composition of the work force by sex, minority group and citizenship for FY 1989 is reflected below:

Sex	
Male .....	87.7%
Female .....	12.3%

Minority Group				
<i>Hispanics</i>	<i>Blacks</i>	<i>Whites</i>	<i>Oriental</i>	<i>Indians</i>
64.3%	23.2%	10.6%	1.5%	0.4%

### PUBLIC AFFAIRS

The Office of Public Affairs is responsible for handling all public affairs, guide services and informational activities of the Panama Canal Commission, both locally and internationally. In this connection, through the Commission publication *The Panama Canal Spillway*, local press releases, video tapes, films and exhibits, matters of related interest were disseminated to the work force and the public at large. The Graphic Branch assisted in the accomplishment of this task by providing a broad range of photographic and audio-visual support services.

The workload of the Office of Public Affairs remained heavy throughout the year due to multiple media requirements associated with the escalating political events in Panama; a variety of preparations for the celebration of the 75th anniversary of the Panama Canal and the 10th anniversary of the Panama Canal Commission; and, interest in the scheduled change of administrators on January 1, 1990. These events generated frequent visits to the Canal by international media representatives who were interested in developing their assessment of the impact of such events on the Panama Canal and future operations.

The guide service handled a total of 284,142 visitors at the Canal and conducted 663 VIP tours. Visitors included representatives of major news services, accompanied by photographers and film crews; officials from various sectors of the shipping industry and shipping related publications; and government and business officials from around the world.

### OMBUDSMAN

The Office of the Ombudsman was established pursuant to implementing legislation of the Panama Canal Treaty of 1977. The office responds to employees and dependents' complaints, grievances, and requests for information; and channels many issues to the proper authorities for processing under existing statutes or administrative regulations. Generally, the Office of the Ombudsman investigates administrative problems, inefficiencies, omissions and policy conflicts existing within the Panama Canal Commission and other U.S. Government agencies on the Isthmus of Panama resulting from the treaty. The office provides the widest latitude possible for handling problems affecting employee morale and the quality of life.

The Office of the Ombudsman experienced a heavy workload during fiscal year 1989 as a result of the continued political unrest in Panama. A hotline continues to be operated by the office on a daily basis as a means to receive complaints from employees and dependents and to provide up-to-date information on current conditions. Many of the calls received by the office



continue to accentuate the serious deterioration in the quality of life and services, concerns for personal and community safety, and the escalating incidents of harassment by local law enforcement personnel from the regime of General Manuel Antonio Noriega. The office maintains close contact with officers of the three Residents' Advisory Committees as a means to assure close communication between the Commission and these community groups on matters of concern to residents in Commission housing areas.

### INDUSTRIAL RELATIONS

The continued deleterious effects of the intensified political turbulence virtually dominated union concerns throughout the period. Although overshadowed to a great extent by these issues, labor-management relations included some of the more traditional activities characteristic of the federal sector. A new agreement with the marine engineers became effective on April 17 for the term of five years. Also, a one-year extension of the fire fighter agreement and a three-year renewal of the non-professional bargaining unit agreement became effective on April 7 and September 16, respectively.

### GENERAL COUNSEL

On December 23, 1985, the President signed into law the Panama Canal Amendments Act, Public Law 99-209, which authorized the Commission to settle all vessel-accident claims, regardless of the amount and irrespective of the situs of the accident. Prior to the enactment of this act, the Commission was precluded from considering claims of more than \$120,000 for out-of-locks accidents. At the time of the passage of the Panama Canal Amendments Act, 30 out-of-locks vessel-accident claims had been filed and were pending with either the United States Congress or the Commission. Since the enactment of the Amendments Act, the Commission has steadily reduced this backlog of vessel-accident claims. By the end of fiscal year 1989, 29 of these claims had been settled, and \$16,349,572 (out of a total of \$24,002,715 claimed) had been paid to the aggrieved shipowners.

The Amendments Act also permitted dissatisfied claimants to sue the Commission for out-of-locks vessel-accident damage. Two such lawsuits were filed before the passage of the Amendments Act and an additional eight have been filed since its enactment. By September 30, 1989, one case had been dismissed by the court, and 9 suits had been settled for payments totaling \$3,182,803. There are no lawsuits currently pending resolution.

The principal area of settlement in the Office of General Counsel was in the area of marine accidents where 35 claims for vessel damage, totaling \$3,405,287, were settled in the amount of \$2,041,524.

On a matter of significant importance to the Canal agency, the United States Court of Appeals for the Fifth Circuit, located in New Orleans, Louisiana, ruled that the Commission, as a non-commercial enterprise, was not liable to pay prejudgment and postjudgment interest on a vessel claim in which it had been found liable.

The previous ruling in a lower court was against the Commission, awarding interest on damages, but was reversed by the Court of Appeals.

The precedent-setting case will save the Commission millions of dollars over the next ten years.

### **MOTOR TRANSPORTATION SERVICES**

The Motor Transportation Division operated and maintained a consolidated motor pool of 944 vehicles designed to meet the vehicular transportation requirements of the Commission. The vehicle fleet in fiscal year 1989 included 655 trucks of various types, 205 passenger-carrying vehicles, 42 special-purpose vehicles and 42 special equipment. Vehicle mileage increased slightly from 7,317,387 in FY 1988 to 7,433,137 in FY 1989. Fully equipped shops, including a tire retreading facility and heavy duty repair shops, provided facilities for overhauls, maintenance and repairs to the Motor Transportation Division fleet and equipment of other Commission units. The vehicle inspection facilities located within the Motor Transportation Division, also were used by U.S. Army personnel, under agreement with the Government of Panama to conduct inspections of privately-owned vehicles and by the Motor Transportation Division to perform Commission vehicle inspections.

### **PUBLIC UTILITIES AND ENERGY**

Panama Canal Commission facilities include electric power generation and distribution systems, communication systems, water purification and distribution systems, and a central chilled water air conditioning system for certain public buildings.

Total Canal area energy demand during fiscal year 1989 was 524 gigawatt hours, a 0.2 percent decrease from the 525 gigawatts used last year. The peak hourly demand of 83.6 megawatts reached on March 6, 1989, shows a slight decrease from the 84 megawatt peak reached in fiscal year 1988. Electrical power consumption for Commission operations only was 78.7 gigawatt hours, 1.6 percent below the previous year. Gasoline and petroleum distillate fuels consumed by the Commission during FY 1989 (excluding fuel for power generation), totaled 5.1 million gallons, 11.1 percent higher than in FY 1988. Combined fuel and electrical energy consumption by the Commission, calculated in Btu's, also showed an overall increase, 3.6 percent, in comparison with FY 1988.

The water treatment and distribution systems operated by the Commission provide potable water for the Canal area and areas of the Republic of Panama. The Pacific side system serves the Canal area, portions of Panama City, and suburban areas. During fiscal year 1989, the two systems supplied 3.38 billion cubic feet of potable water to consumers, a slight increase of about 0.60 percent from the previous year. Water supplied by the Panama Canal Commission to Panama City and Colon metropolitan areas amounted to approximately 57.0 million gallons per day.

### **FIRE PROTECTION**

The Panama Canal Commission Fire Division and the Bomberos of the Republic of Panama, in accordance with the Panama Canal Treaty of 1977, are responsible for providing fire protection, firefighting, and rescue

operation in canal operating areas, defense sites, civilian and military areas of coordination and shipboard firefighting on all vessels in Canal area waters.

Commission responses for FY 1989 totaled 7,911 compared to 6,497 for FY 1988. The marine stand-by program for hazardous ships at the locks accounted for slightly more than 26 percent of the responses this year. This service is provided by Fire Division personnel with foam apparatuses on stand-by at the locks as a marine safety measure for certain vessels designated by the Marine Bureau because of dangers of certain cargos. The critical period is considered to be when a vessel is entering the locks.

There were 1,784 responses for ambulance service compared to 1,745 in FY 1988. This division also responded to a total of 101 bomb threats during FY 1989 as compared to 42 in FY 1988. Excluding ship fires, there were 526 fires this year, nearly a 19 percent reduction over FY 1988. Most incidents were grass and brush fires, which frequently occurred during the vulnerable dry season. Additional fire statistics appear in Table 16 of this report.

In accordance with the Panama Canal Treaty of 1977, formal joint training was conducted on 10 occasions with the Bomberos of the Republic of Panama as compared to 5 for last year. This figure is in addition to regularly occurring joint responses to fires and other emergencies.

### **CANAL PROTECTION**

The Canal Protection Division has the mission of providing security for installations and facilities devoted to the management, operation and maintenance of the Panama Canal. During the year, security hardware improvements continued at the most critical installations and support facilities. Due to the ongoing political crisis, special emphasis was placed on personal protection and agency security awareness programs. Close coordination was provided with U.S. Military Forces in support of training exercises and contingency operations at Commission installations. Following a security consultant study, implementation is underway of pertinent study recommendations. Foremost is the installation of a Security Control Center to centralize monitoring of all Commission security systems. This center will also vastly improve communications, command and control functions for Canal Protection.

### **HEALTH AND SAFETY**

The Occupational Health and Safety Divisions are components of the Office of Personnel Administration. The Personnel Director is the Designated Agency Safety and Health Official. The Panama Canal Commission is committed to ensuring a safe and healthful workplace for its employees, an objective which enjoys support from top management down.

During fiscal year 1989, the Commission experienced 486 performance-of-duty accidents/illnesses for which employees required medical attention beyond first aid, as compared to 497 such accidents/illnesses in fiscal year 1988. The incident rate declined slightly, from 5.8 per 100 employees in fiscal

year 1988 to 5.7 in fiscal year 1989. There were two fatalities in fiscal year 1989 due to a vehicle accident.

The health and safety of the Commission workplace were advanced during fiscal year 1989 through continued training; alcohol and drug testing; counseling services; formal workplace inspections and evaluations; a health fair; upgraded in-service health evaluations for employees in safety-sensitive positions; and program publicity. A Hazard Communication Policy was implemented, a Dive Safety Policy and a Safe Diving Practices Manual were issued, and an AIDS policy was developed. Clinics were held on handling stress and smoking cessation. The certified Safety and Health Committee continued its active role in the safety and health program.

# *Chapter V*

## **FINANCIAL REPORT**

### **FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 1989**

The financial statements of the Panama Canal Commission, appearing as Tables 1 through 6, with accompanying notes, present the financial position of the Commission at September 30, 1989, and the results of its operations for the fiscal year then ended.

Effective January 1, 1988, the Omnibus Budget Reconciliation Act of 1987, Public Law 100-203, converted the Panama Canal Commission from an appropriated fund agency to a revolving fund agency. In accordance with this legislation, the Panama Canal Commission fund was terminated and its unappropriated balance plus all unexpended balances of appropriations still available to the Commission were transferred to a newly established fund entitled the Panama Canal Revolving Fund.

The accounts and statements of the Panama Canal Commission have been examined by the Office of Inspector General of the Commission and are subject to examination by the United States General Accounting Office. Detailed audit reports of the United States General Accounting Office are directed to the Congress and are presented as Congressional documents.

Summary information concerning the operating results and capital expenditures follows:

#### **RESULTS OF OPERATIONS**

Fiscal year 1989 operations resulted in a net loss of \$7.3 million. This amount plus the \$2.4 million loss from fiscal years 1988 and 1987 operations will be recovered from subsequent revenues as required by section 1341(b)(2) of the Panama Canal Act of 1979 (Public Law 96-70).

#### **CAPITAL EXPENDITURES**

Accrued capital expenditures for fiscal year 1989 amounted to \$39.6 million. The principal expenditures were \$6.4 million for the purchase of two tugboats, \$3.4 million for the installation of a fire protection system at Miraflores Locks, \$2.7 million for the purchase of a dredge tender, \$2.5

million for the replacement of locomotive turntables, \$1.9 million for the replacement of motor vehicles, \$1.3 million for the purchase of two water bus type launches, \$1.1 million for the purchase of two pilot/linehandler launches, \$0.9 million for continued replacement of the Commission's telephone system, and \$0.8 million for cast coil transformers.



Table 1.—Statement of Financial Position

Assets	1989	1988
<b>PROPERTY, PLANT AND EQUIPMENT:</b>		
At cost (Note 1c) .....	\$969,630,333	\$936,111,054
Less accumulated depreciation and valuation allowances (Notes 1e and 2) .....	<u>484,884,187</u>	<u>464,872,854</u>
	<u>484,746,146</u>	<u>471,238,200</u>
<b>CURRENT ASSETS:</b>		
Cash:		
U.S. Treasury account .....	93,226,977	138,872,443
Cash in commercial banks and on hand .....	6,077,070	5,800,906
Postal, other trust funds and cash in transit .....	<u>2,537,751</u>	<u>2,442,789</u>
	<u>101,841,798</u>	<u>147,116,138</u>
 Accounts receivable .....	 <u>11,371,717</u>	 <u>14,894,155</u>
 Inventories, less allowance for obsolete and excess inventory of \$400,000 each year (Note 1g) .....	 <u>37,723,209</u>	 <u>36,928,949</u>
 Other current assets .....	 <u>379,561</u>	 <u>382,019</u>
	<u>151,316,285</u>	<u>199,321,261</u>
<b>OTHER ASSETS:</b>		
Deferred charges:		
Cost of early retirement benefits (Note 1h) .....	151,440,000	166,584,000
Cost of work injuries compensation benefits (Notes 1m and 5) .....	78,871,578	79,126,504
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	6,186,000	6,746,000
Other .....	<u>492,149</u>	<u>.....</u>
	<u>236,989,727</u>	<u>252,456,504</u>
 Unrecovered costs due from subsequent revenues (Notes 1b and 4) .....	 <u>9,728,161</u>	 <u>2,408,665</u>
	<u>246,717,888</u>	<u>254,865,169</u>
 <b>TOTAL ASSETS</b> .....	 <u><u>\$882,780,319</u></u>	 <u><u>\$925,424,630</u></u>

The accompanying notes are an integral part of this statement.



## September 30, 1989 and 1988

Capital and Liabilities	1989	1988
CAPITAL:		
Investment of the United States Government:		
Interest-bearing (10.219% and 10.379%, respectively) (Note 6) .....	\$147,893,234	\$102,773,553
Non-interest-bearing .....	<u>325,398,450</u>	<u>371,024,286</u>
	473,291,684	473,797,839
CURRENT LIABILITIES:		
Accounts payable:		
U.S. Government agencies .....	4,146,044	4,245,938
Government of Panama .....	8,062,973	8,475,439
Other .....	<u>12,420,588</u>	<u>34,802,392</u>
	24,629,605	47,523,769
Accrued liabilities:		
Employees' leave .....	46,058,824	44,033,669
Salaries and wages .....	8,086,607	7,139,405
Cost of early retirement benefits (Note 1h) .....	15,144,000	15,144,000
Cost of work injuries compensation benefits (Notes 1m and 5) .....	6,536,705	7,033,467
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	790,000	844,000
Employees' repatriation .....	857,000	687,000
Marine accident claims .....	15,387,115	13,822,471
Other .....	<u>1,766,127</u>	<u>1,923,101</u>
	94,626,378	90,627,113
Other current liabilities:		
Advances for capital-unexpended (Note 1d) .....	10,336,538	14,332,082
Other .....	<u>1,697,007</u>	<u>1,889,140</u>
	12,033,545	16,221,222
	<u>131,289,528</u>	<u>154,372,104</u>
DEFERRED CREDIT:		
Advances for capital being amortized (Notes 1d) .....	<u>46,898,321</u>	<u>40,941,046</u>
LONG-TERM LIABILITIES AND RESERVES:		
Cost of early retirement benefits (Note 1h) .....	136,296,000	151,440,000
Cost of work injuries compensation benefits (Notes 1m and 5) .....	72,334,873	72,093,037
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	5,396,000	5,902,000
Employees' repatriation .....	6,875,000	6,053,000
Lock overhauls (Note 1i) .....	371,865	211,633
Marine accidents (Notes 1j and 7) .....	7,000,000	17,683,380
Casualty losses (Note 1j) .....	993,865	941,882
Floating equipment overhaul (Note 1k) .....	<u>2,033,183</u>	<u>1,988,709</u>
	231,300,786	256,313,641
TOTAL CAPITAL AND LIABILITIES .....	<u>\$882,780,319</u>	<u>\$925,424,630</u>

The accompanying notes are an integral part of this statement.

**Table 2.—Statement of Operations**  
**Fiscal Years Ended September 30, 1989 and 1988**

	<i>1989</i>	<i>1988</i>
<b>OPERATING REVENUES:</b>		
Tolls revenue .....	\$329,765,627	\$339,319,326
Other revenues .....	<u>106,034,363</u>	<u>110,089,660</u>
 Total operating revenues .....	 <u>435,799,990</u>	 <u>449,408,986</u>
<b>OPERATING EXPENSES:</b>		
Payments to the Government of Panama:		
Public services .....	10,000,000	10,000,000
Fixed annuity .....	10,000,000	10,000,000
Tonnage .....	<u>59,819,225</u>	<u>59,635,398</u>
	79,819,225	79,635,398
Maintenance of channels and harbors .....	36,506,857	42,258,524
Navigation service and control .....	79,796,645	77,384,665
Locks operation .....	48,988,652	47,709,751
General repair, engineering and maintenance services .....	22,004,849	25,071,192
Supply and logistics .....	20,488,618	21,030,820
Utilities .....	30,016,519	31,895,242
Housing operations .....	5,418,893	5,553,796
General and administrative .....	76,587,612	73,107,100
Interest on interest-bearing investment (Note 6) .....	13,878,234	11,250,757
Other .....	<u>29,613,382</u>	<u>36,329,982</u>
 Total operating expenses .....	 <u>443,119,486</u>	 <u>451,227,227</u>
 <b>NET OPERATING REVENUE (LOSS) (Notes 1b and 4)</b>	 <u><b>\$(7,319,496)</b></u>	 <u><b>\$(1,818,241)</b></u>

The accompanying notes are an integral part of this statement.



Table 3.—Statement of Changes in the Investment of the United States Government  
Fiscal Year Ended September 30, 1989

	Invested Capital				Total
	Interest-Bearing	Non-Interest-Bearing	Emergency Fund	Operating Funds	
INVESTMENT AT OCTOBER 1, 1988	\$102,773,553	\$371,024,286	\$.....	\$.....	\$473,797,839
Appropriation by the Congress for fiscal year 1988	102,773,553	371,024,286	.....	.....	473,797,839
Funds transferred by Public Law 100-203, effective January 1, 1988:	.....	.....	.....	.....	.....
Transferred from emergency fund	.....	.....	.....	.....	.....
Transferred from operating funds	.....	.....	.....	.....	.....
Transferred from capital funds	.....	.....	.....	.....	.....
Adjustment for interest accrued 10/1/79-12/31/85	.....	.....	.....	.....	.....
INCREASES IN INVESTMENT:	.....	.....	.....	.....	.....
Plant reactivations	.....	.....	.....	.....	.....
Prior year receipts deposited into the U.S. Treasury	.....	420,341	.....	.....	420,341
Expenditures from capital appropriations	.....	.....	.....	.....	.....
Expenditures from operating appropriations	.....	.....	.....	.....	.....
Expenditures from Panama Canal Revolving Fund	.....	.....	.....	.....	.....
Repayment to the General Fund of the U.S. Treasury for fiscal year 1980 appropriation	.....	(486,757,576)	.....	.....	.....
Payment of interest accrued 10/1/79-12/31/85	.....	.....	.....	.....	.....
Funds covered into the U.S. Treasury	.....	.....	.....	.....	.....
Property transferred from other U.S. Government agencies	.....	.....	.....	.....	.....
Uncovered costs due from subsequent revenues (Notes 1b and 4)	.....	7,319,496	.....	.....	7,319,496
	486,757,576	(479,017,739)	.....	.....	7,739,837
DECREASES IN INVESTMENT:	.....	.....	.....	.....	.....
Tolls and other receipts deposited into PCC Fund	.....	.....	.....	.....	.....
Tolls and other receipts deposited into Revolving Fund	.....	(441,388,274)	.....	.....	.....
Due U.S. Treasury for undeposited receipts	.....	676,875	.....	.....	676,875
Property transferred to the Government of Panama	.....	.....	.....	.....	.....
Property transferred to other U.S. Government agencies	.....	249,621	.....	.....	249,621
Unwarranted appropriated funds	.....	.....	.....	.....	.....
Net loss (Notes 1b and 4)	.....	7,319,496	.....	.....	7,319,496
	441,637,895	(433,391,903)	.....	.....	8,245,992
INVESTMENT AT SEPTEMBER 30, 1989	\$147,893,234	\$325,398,450	\$.....	\$.....	\$473,291,684

(Note 6)

The accompanying notes are an integral part of this statement.

**Table 3B.—Statement of Changes in the Investment of the United States Government  
Fiscal Year Ended September 30, 1988**

	Invested Capital				Emergency Fund	Operating Funds	Capital Funds	Total
	Interest-Bearing	Non-Interest-Bearing						
INVESTMENT AT OCTOBER 1, 1987	\$64,711,276	\$287,336,291	\$10,000,000	\$55,658,038	\$26,086,026	\$443,791,631		
Appropriation by the Congress for fiscal year 1988	64,711,276	287,336,291	10,000,000	420,588,000	33,715,000	454,303,000		
Funds transferred by Public Law 100-203, effective January 1, 1988:								
Transferred from emergency fund		10,000,000	(10,000,000)					
Transferred from operating funds		202,316,621		(202,211,390)			105,231	
Transferred from capital funds		54,060,961			(54,060,961)			
Adjustment for interest accrued 10/1/79-12/31/85	61,653,129	(61,653,129)						
	61,653,129	204,724,453	(10,000,000)	(202,211,390)	(54,060,961)	105,231		
	126,364,405	492,060,744		274,034,648	5,740,065	898,199,862		
INCREASES IN INVESTMENT:								
Plant reactivations								
Prior year receipts deposited into the U.S. Treasury		1,088,117					1,088,117	
Expenditures from capital appropriations	5,740,065				(5,740,065)			
Expenditures from operating appropriations	109,394,668			(109,394,668)				
Expenditures from Panama Canal Revolving Fund	317,977,051	(317,977,051)						
Repayment to the General Fund of the U.S. Treasury for fiscal year 1980 appropriation	85,582,579	(85,582,579)						
Payment of interest accrued 10/1/79-12/31/85	(85,582,579)	(61,653,129)				(61,653,129)		
Funds covered into the U.S. Treasury	(85,582,579)					(85,582,579)		
Property transferred from other U.S. Government agencies		1,818,241				1,818,241		
Uncovered costs due from subsequent revenues (Notes 1b and 4)	433,111,784	(462,306,401)		(109,394,668)	(5,740,065)	(144,329,350)		
DECREASES IN INVESTMENT:								
Tolls and other receipts deposited into PCC Fund	112,765,084					112,765,084		
Tolls and other receipts deposited into Revolving Fund	343,508,525	(343,508,525)						
Due U.S. Treasury for undeposited receipts		420,341				420,341		
Property transferred to the Government of Panama	51,992					51,992		
Property transferred to other U.S. Government agencies	377,035					377,035		
Unwarranted appropriated funds				164,639,980		164,639,980		
Net loss (Notes 1b and 4)		1,818,241				1,818,241		
	456,702,636	(341,269,943)		164,639,980		280,072,673		
INVESTMENT AT SEPTEMBER 30, 1988	\$102,773,553	\$371,024,286	\$	\$	\$	\$473,797,839		

(Note 6)

The accompanying notes are an integral part of this statement.

Table 4.—Statement of Cash Flows

INCREASE (DECREASE) IN CASH		
	1989	1988
Cash Flows from Operating Activities:		
Cash received:		
Tolls.....	\$329,765,627	\$339,319,326
Other collections.....	109,934,767	120,011,727
Decrease (increase) in receivables.....	1,687,880	(3,057,444)
Total cash received.....	<u>\$441,388,274</u>	<u>\$456,273,609</u>
Cash disbursed:		
Operating expenditures.....	(429,739,182)	(463,389,231)
(Increase) decrease in inventories.....	(794,260)	(1,789,780)
(Decrease) increase in liabilities.....	(20,964,032)	59,367,762
Total cash disbursed.....	<u>(451,497,474)</u>	<u>(405,811,249)</u>
Net cash from operations.....	<u>(10,109,200)</u>	<u>50,462,360</u>
Other adjustments:		
Cash from Panama Canal Commission Fund ...		289,663,021
Restoration of funds previously withdrawn .....		105,231
Operating revenues deposited into Panama Canal Commission Fund.....		<u>(112,765,084)</u>
Net operating cash received from Treasury..		<u>177,003,168</u>
Net cash provided by/(used in) operating activities.....	<u>(10,109,200)</u>	<u>227,465,528</u>
Cash Flows from Extraordinary Activities:		
Payment of interest on net direct investment (Note 9) .....		(61,653,129)
Repayment of 1980 appropriation (Note 9) .....		<u>(85,582,579)</u>
Net cash provided by/(used in) extraordinary activities ...		<u>(147,235,708)</u>
Cash Flows from Capital Activities:		
Capital expenditures.....	(39,584,851)	(27,069,345)
Increase/(Decrease) in liabilities.....	<u>4,324,748</u>	<u>(231,190)</u>
Net cash provided by/(used in) capital activities.....	<u>(35,260,103)</u>	<u>(27,300,535)</u>
Cash Flows from Postal and Trust funds:		
Postal funds.....	(5,279)	(6,630)
Trust funds.....	<u>100,242</u>	<u>12,048</u>
Net cash provided by/(used in) postal and trust fund activities.....	<u>94,963</u>	<u>5,418</u>
Net (decrease)/increase in cash.....	(45,274,340)	52,934,703
Cash, beginning of year.....	<u>147,116,138</u>	<u>94,181,435</u>
Cash, end of year.....	<u>\$101,841,798</u>	<u>\$147,116,138</u>

(Note 8)

The accompanying notes are an integral part of this statement.

## Fiscal Years Ended September 30, 1989 and 1988

RECONCILIATION OF NET REVENUE (LOSS) TO NET CASH PROVIDED BY  
OPERATING ACTIVITIES

	1989	1988
Net Revenue (loss) .....	<u>\$(7,319,496)</u>	<u>\$(1,818,241)</u>
Adjustments to reconcile net revenue (loss) to net cash provided by operating activities:		
Adjustments not requiring outlay of cash:		
Depreciation .....	22,963,018	21,352,682
Provision for lock overhauls .....	6,353,000	4,387,000
Provision for casualty losses .....	(5,642,936)	2,901,952
Provision for floating equipment overhauls .....	4,934,000	4,019,000
Advances for capital (Note 8) .....	4,451,618	8,474,087
Other (Note 8) .....	<u>720,370</u>	<u>(29,829,760)</u>
Total adjustments not requiring outlay of cash	<u>33,779,070</u>	<u>11,304,961</u>
Adjustments requiring outlay of cash:		
Lock overhauls expenditures .....	(6,192,767)	(5,699,523)
Casualty losses expenditures .....	(4,988,460)	(5,671,166)
Floating equipment overhauls expenditures .....	<u>(4,889,526)</u>	<u>(3,678,624)</u>
Total adjustments requiring outlay of cash ..	<u>(16,070,753)</u>	<u>(15,049,313)</u>
Other adjustments:		
Cash from Panama Canal Commission Fund ...		289,663,021
Restoration of funds previously withdrawn .....		105,231
Operating revenues deposited into Panama Canal Commission Fund .....		<u>(112,765,084)</u>
Total other adjustments .....		<u>177,003,168</u>
Changes in operating assets and liabilities:		
Decrease/(increase) in receivables .....	1,687,880	(3,057,444)
(Increase)/decrease in inventories .....	(794,260)	(1,789,780)
(Increase)/decrease in other assets (Note 8) .....	(427,609)	1,504,415
(Decrease)/increase in liabilities (Note 8) .....	<u>(20,964,032)</u>	<u>59,367,762</u>
Total changes in operating assets and liabilities .....	<u>(20,498,021)</u>	<u>56,024,953</u>
Total adjustments .....	<u>(2,789,704)</u>	<u>229,283,769</u>
Net cash provided by/(used in) operating activities .....	<u><u>\$(10,109,200)</u></u>	<u><u>\$227,465,528</u></u>

(Note 8)

The accompanying notes are an integral part of this statement.

**Table 5.—Statement of  
Fiscal Years Ended**

SOURCE OF APPROPRIATIONS:	1989	1988
Operating funds:		
Current year operating appropriation . . . . .	\$ . . . . .	\$407,088,000
Appropriation Public Law 99-195 (indefinite-funded interest) . . . . .	. . . . .	13,500,000
	. . . . .	<u>420,588,000</u>
Restoration of funds previously withdrawn . . . . .	. . . . .	105,231
Obligated operating funds brought forward:		
Fiscal year 1980 . . . . .	. . . . .	311,229
Fiscal years—Merged . . . . .	. . . . .	4,006,116
Fiscal year 1986 . . . . .	. . . . .	5,695,374
Fiscal year 1987 . . . . .	. . . . .	45,645,319
	. . . . .	<u>55,658,038</u>
	. . . . .	<u>476,351,269</u>
Capital funds:		
Current year capital appropriation (no year) . . . . .	. . . . .	33,715,000
Obligated capital funds brought forward:		
Fiscal year 1980 . . . . .	. . . . .	12,070
Fiscal years 1981 through 1987 . . . . .	. . . . .	23,766,934
	. . . . .	<u>23,779,004</u>
Unobligated capital funds brought forward (no year):		
Fiscal year 1980 . . . . .	. . . . .	8,257
Fiscal years 1981 through 1987 . . . . .	. . . . .	2,298,765
	. . . . .	<u>2,307,022</u>
	. . . . .	<u>59,801,026</u>
Emergency fund (no year) . . . . .	. . . . .	10,000,000
<b>TOTAL SOURCE OF APPROPRIATIONS . . . . .</b>	<b>\$ . . . . .</b>	<b>\$546,152,295</b>

(Note 10)

The accompanying notes are an integral part of this statement.



**Status of Appropriations  
September 30, 1989 and 1988**

APPLICATION OF APPROPRIATIONS:	<i>1989</i>	<i>1988</i>
Appropriations available .....	\$.....	<u>\$546,152,295</u>
Less appropriate expenditures—1st Quarter:		
Expenditures from operating appropriations:		
Fiscal year 1980 .....	.....	.....
Fiscal years—Merged .....	.....	(496,584)
Fiscal year 1986 .....	.....	447,217
Fiscal year 1987 .....	.....	32,653,300
Fiscal year 1988 .....	<u>.....</u>	<u>76,790,735</u>
	<u>.....</u>	<u>109,394,668</u>
Expenditures from capital appropriations:		
Fiscal year 1980 .....	.....	12,506
Fiscal years 1981 through 1988 .....	<u>.....</u>	<u>5,727,559</u>
	<u>.....</u>	<u>5,740,065</u>
	<u>.....</u>	<u>115,134,733</u>
Less funds transferred to the revolving fund:		
From Operations:		
Fiscal year 1980 .....	.....	311,229
Fiscal year 1980 restored .....	.....	105,231
Fiscal years—Merged .....	.....	4,502,700
Fiscal year 1986 .....	.....	5,248,157
Fiscal year 1987 .....	.....	12,992,019
Fiscal year 1988 .....	.....	179,157,285
Emergency fund .....	<u>.....</u>	<u>10,000,000</u>
	<u>.....</u>	<u>212,316,621</u>
From Capital:		
Fiscal year 1980 .....	.....	7,821
Fiscal years 1981 and 1988 .....	<u>.....</u>	<u>54,053,140</u>
	<u>.....</u>	<u>54,060,961</u>
	<u>.....</u>	<u>266,377,582</u>
Less funds returned to the U.S. Treasury .....	<u>.....</u>	<u>164,639,980</u>
<b>BALANCE OF APPROPRIATIONS.....</b>	<u><u>\$.....</u></u>	<u><u>\$.....</u></u>

(Note 10)

The accompanying notes are an integral part of this statement.

**Table 6.—Statement of Property, Plant and Equipment  
September 30, 1989 and 1988**

	1989		1988	
	Estimated service life	Cost	Depreciation and valuation allowances	Cost
Titles and treaty rights .....	40 years	\$14,728,889	\$5,983,612	\$14,728,889
Interest during construction .....	.....	50,892,311	50,892,311	50,892,311
Canal excavation, fills and embankments .....	15-100 years	347,753,732	140,138,508	347,555,199
Canal structures and equipment .....	4-100 years	326,975,387	157,356,034	317,897,397
Supporting and general facilities .....	5-100 years	146,352,516	87,790,847	131,459,891
Facilities held for future use .....	10-100 years	3,330,878	2,577,077	2,824,202
Plant additions in progress .....	.....	39,450,822	.....	30,607,367
Suspended construction projects .....	.....	40,145,798	40,145,798	40,145,798
<b>TOTAL (Notes 1c, 1e and 2) .....</b>		<b>\$969,630,333</b>	<b>\$484,884,187</b>	<b>\$936,111,054</b>
				<b>\$464,872,854</b>

The accompanying notes are an integral part of this statement.

## NOTES TO FINANCIAL STATEMENTS

**1. Summary of Significant Accounting Policies.**

A summary of significant accounting policies follows:

a. *Accounting and reporting.* As required by section 1311(a) of the Panama Canal Act of 1979 (Public Law 96-70), hereafter referred to as the Act, the accounts of the Commission are maintained pursuant to the Accounting and Auditing Act of 1950. This requires that the principles, standards and related requirements be met, as prescribed by the Comptroller General of the United States, after consulting with the Secretary of the Treasury and the Director of the Office of Management and Budget concerning their accounting, financial reporting and budgetary needs. The Accounting and Auditing Act of 1950 also requires that the accounts be maintained on an accrual basis.

b. *Cost recovery.* As required by section 1341(e)(1) of the Act, the application of generally accepted accounting principles to the Panama Canal Commission, a United States Government agency comparable to a rate-regulated public utility, determines the manner in which costs are recognized. The basis for tolls rates is prescribed in section 1602(b) of the Act. This section of the Act, known as the "statutory tolls formula," provides that:

"Tolls shall be prescribed at rates calculated to produce revenues to cover as nearly as practicable all costs of maintaining and operating the Panama Canal, together with the facilities and appurtenances related thereto, including unrecovered costs incurred on or after the effective date of this Act, interest, depreciation, working capital, payments to the Republic of Panama pursuant to paragraph 5 of Article III and paragraph 4(a) and (b) of Article XIII of the Panama Canal Treaty of 1977, and capital for plant replacement, expansion, and improvements. Tolls shall not be prescribed at rates calculated to produce revenues sufficient to cover payments to the Republic of Panama pursuant to paragraph 4(c) of Article XIII of the Panama Canal Treaty of 1977."

Under this statutory tolls formula, any unrecovered costs are to be recovered from subsequent revenues. The amount for recovery from subsequent revenues is transferred from Invested Capital to an account within the Other Assets classification. Unrecovered costs are charged back to Invested Capital to the extent subsequent annual revenues exceed annual costs.

c. *Property, plant and equipment.* Property, plant and equipment are recorded at cost, or if acquired from another United States Government agency, at the value determined by the Director of the Office of Management and Budget. Administrative and other related general expenses are

recovered currently and therefore not capitalized. The cost of minor items of property, plant and equipment is charged to expense as incurred.

d. *Advances for capital.* A portion of tolls in excess of depreciation recoveries may be programmed annually by the Board of Directors for plant replacement, expansion, or improvements. Such funds are considered capital advances from Canal users. Upon utilization, these advances are amortized through an offset to depreciation expense in an amount calculated to approximate the depreciation on assets acquired with such advances. In fiscal years 1989 and 1988, no amounts from tolls were programmed for such purpose.

At the direction of the Board of Directors, a system was implemented in fiscal year 1983 whereby shippers, for a fee, can make an advance reservation for a vessel transit. Such funds are considered capital advances from Canal users and upon utilization, the advances are amortized through an offset to depreciation expense in an amount calculated to approximate the depreciation on assets acquired with such advances. This system generated funds of \$4.5 million in fiscal year 1989 and \$8.5 million in fiscal year 1988.

e. *Depreciation.* Property, plant and equipment are depreciated over their estimated service lives at rates computed using a straight-line method with additional annual depreciation, identified as composite, to provide for premature plant retirements.

The recurring costs of dredging the waterway are charged to expense. Non-recurring dredging costs for substantial improvements and betterments to the waterway are considered additions to plant and are capitalized and depreciated over their estimated service lives.

f. *Accounts receivable.* Uncollectible accounts receivable of the Panama Canal Commission are recognized as a reduction in revenue when written off. Any subsequent collections of Commission accounts receivable previously written off are recorded as revenue.

g. *Inventories.* Operating materials and supplies are stated at average cost, plus cost of transportation to the ultimate destination on the Isthmus of Panama. An allowance has been established to reflect the estimated cost of obsolete and excess stock.

h. *Retirement benefits.* Employer contributions to the United States Civil Service Retirement System, to the Federal Employee Retirement System, and to the Republic of Panama social security system are charged to expense. The Commission has no liability for future payments to employees under these systems.

Non-United States citizen employees, who retired from predecessor agencies prior to October 5, 1958, are not covered by the United States Civil Service Retirement System but do receive benefits under a separate annuity plan. Payments made under this annuity plan are recorded as a current year expense. Annual amounts expended were \$1.3 million in fiscal years 1989 and 1988. The Commission's liability for future annuity payments to these former employees or their eligible widows is reflected in the statement of

financial position as retirement benefits to certain former employees of predecessor agencies and an equal amount is recorded as a deferred charge.

As required by the Act, the Panama Canal Commission is liable for the increase in the unfunded liability of the United States Civil Service Retirement Fund which is attributable to benefits payable from that fund to, or on behalf of, employees and their survivors under the early retirement provisions of the Act. The annual installment to liquidate the increased liability is determined by the Office of Personnel Management.

i. *Reserve for Lock Overhauls.* A reserve is provided through an annual charge to expense to cover the estimated cost of periodic lock overhauls.

j. *Reserve for Casualty Losses.* A reserve is provided through an annual charge to expense to cover the estimated cost of marine accidents and other casualty losses.

k. *Reserve for Floating Equipment Overhauls.* A reserve is provided through an annual charge to expense to cover the estimated cost of overhauls to the Commission tugboat fleet.

l. *Housing Use Rights.* No monetary value is assigned to the rights granted to the United States Government by the Republic of Panama to use Canal Area housing transferred to the Government of Panama under the terms of the Panama Canal Treaty of 1977. The cost to manage, maintain and provide livability improvements to these quarters is charged to expense. Rental income is included in other revenues.

m. *Work Injuries Compensation Benefits.* The Panama Canal Commission is liable for the cost of all benefits due under the Federal Employees' Compensation Act which provides compensation for performance of duty injuries for eligible employees. The costs of the FECA program are recognized over the life of the Treaty.

## **2. Plant Valuation Allowances.**

At July 1, 1951, certain valuation allowances for property, plant and equipment transferred from the Panama Canal (agency) to the Panama Canal Company and the Canal Zone Government were established, to reduce to usable value the costs of the assets transferred. At October 1, 1979, such valuation allowances as were applicable to the assets transferred from the Panama Canal Company and the Canal Zone Government to the Panama Canal Commission were carried forward and are comprised of: (a) \$4.1 million at September 30, 1989 and \$4.5 million at September 30, 1988, to reduce to usable value the cost of property, plant and equipment transferred; (b) \$50.9 million at September 30, 1989 and 1988, to offset interest costs imputed for the original Canal construction period; and (c) \$42.3 million at September 30, 1989 and 1988, to offset the cost of defense facilities and suspended construction projects, the latter being principally the partial construction of a third set of locks abandoned in the early part of World War II.

## **3. Budgetary Resources.**

a. Cash, accounts receivable, and the borrowing authority are the

resources used to determine the Commission solvency position as prescribed in Section 86.6 Office of Management and Budget Circular A-34, Instructions on Budget Execution, under which the incurring of obligations in excess of budgetary resources is a violation of the Antideficiency Act. All cash exceeding current operating requirements is kept on deposit with the U.S. Treasury.

b. The Panama Canal Commission has authority to borrow funds from the U.S. Treasury not to exceed \$100 million outstanding at any time for any of the purposes of the Commission. At September 30, 1989 and 1988 none of these funds had been borrowed.

#### 4. Unrecovered Costs Due From Subsequent Revenues.

Pursuant to the provisions of section 1602(b) of the Act, the net losses of \$7.3 million from fiscal year 1989 and \$2.4 million from fiscal years 1988 and 1987 operations, totaling \$9.7 million, were deferred as an unearned cost to be recovered from subsequent revenues. Also, section 1341(b)(2) of the Act requires recovery of these unearned costs before determining any net operating revenues due to the Government of Panama, as provided for under Article XIII, paragraph 4(c), of the Panama Canal Treaty of 1977.

#### 5. Cost of Work Injuries Compensation.

The Commission administers a program to compensate certain employees for death and disability resulting from performance of duty injuries or illnesses as set forth in the Federal Employees' Compensation Act (FECA). All United States citizen employees are eligible for coverage, as are non-United States citizen employees hired prior to October 1, 1979, who elected coverage on that date. As provided by FECA, employees and certain dependents are beneficiaries for various periods that can extend to life.

The liability and deferred charge recorded in these statements reflect the payments due to a Department of Labor fund established pursuant to Public Law 100-705. The Department of Labor will be reimbursed from this fund for all expected future payments for accidents, adjusted for inflation and interest earned. An evaluation as of September 30, 1989, was prepared by an independent actuarial firm. The results of that report were used to adjust the assets and liabilities as follows:

	<i>Millions of Dollars</i>	
Cost of work injuries compensation benefits at		
September 30, 1988 .....		\$79.1
Amount amortized in fiscal year 1989 .....	\$(7.0)	
Adjustments due to study:		
Accrued liability .....	(0.5)	
Long-Term liability .....	7.3	
Change in assets and liabilities .....		<u>(0.2)</u>
Cost of work injuries compensation benefits at		
September 30, 1989 .....		<u>\$78.9</u>

#### 6. Interest-Bearing Investment of the United States Government.

The interest-bearing investment of the United States Government in the Panama Canal is determined based on section 1603(a) of the Act. The

interest-bearing investment of the United States Government at September 30, 1989 and 1988, was determined as follows:

	<i>Millions of Dollars</i>
Investment at September 30, 1987 .....	\$64.7
Fiscal year 1988 transactions:	
Adjustment for interest accrued 10/1/79-12/31/85 .....	\$61.7
Disbursements .....	433.1
Receipts .....	(456.3)
Net property transfers .....	(0.4)
Net change .....	<u>38.1</u>
Investment at September 30, 1988 .....	<u>\$102.8</u>
Fiscal year 1989 transactions:	
Disbursements .....	486.7
Receipts .....	(441.4)
Net property transfers .....	(0.2)
Net change .....	<u>45.1</u>
Investment at September 30, 1989 .....	<u><u>\$147.9</u></u>

### 7. Reserve for Marine Accidents.

A reassessment of the Reserve for Marine Accidents was made in fiscal year 1989 and based on past experience, the Board approved a reserve balance objective of \$7.0 million.

### 8. Statement of Cash Flows.

Fiscal year 1989 Statement of Cash Flows reflects the use of revolving funds only. The fiscal year 1988 statement identifies as "Other adjustments" the appropriated funds received by the Commission prior to its conversion to a revolving fund agency on January 1, 1988. All funds received after that date were recorded as revolving funds.

In addition, certain data in the fiscal year 1988 Statement of Cash Flows was restated for fiscal year 1989 presentation to eliminate non fund items not pertinent to the Statement of Cash Flows thereby improving comparison between years.

### 9. Extraordinary Activities.

In fiscal year 1988, in addition to converting the Panama Canal Commission to a revolving fund agency, Public Law 100-203, the Budget Reconciliation Act of 1987, provided: (a) for restoring \$61.7 million to the interest-bearing investment of the United States Government in the Panama Canal by transferring interest collections prior to January 1, 1986 to the General Fund of the U.S. Treasury, and (b) for reimbursing to the General Fund of the U.S. Treasury the \$85.6 million unpaid balance of the Commission's fiscal year 1980 appropriation. These transactions were completed in fiscal year 1988.

### 10. Statement of Status of Appropriations.

This statement reflects the conversion of the Panama Canal Commission from an appropriated fund agency to a revolving fund agency. As such, the statement identifies: (a) expenditures made by the Commission during the first quarter operations as an appropriated fund agency, (b) funds

transferred to the revolving fund as of January 1, 1988, and (c) funds returned to the U.S. Treasury, also as of January 1, 1988. This statement is not applicable for fiscal year 1989 and is shown only to conform with the two year statement format.

### **11. Contingent Liabilities and Commitments.**

In addition to recorded liabilities, the estimated maximum contingent liability which could result from pending claims and lawsuits was \$10.1 million at September 30, 1989 and \$18.6 million at September 30, 1988. In the opinion of management and the Commission's General Counsel, these pending claims and lawsuits will be resolved with no material adverse effect on the financial condition of the agency.

Commitments under uncompleted construction contracts and unfilled purchase orders amounted to \$38.0 million at September 30, 1989 and \$42.2 million at September 30, 1988. Of these amounts, \$0.1 million in unfilled purchase orders were prepaid as of September 30, 1989 and 1988.

Cash and negotiable securities of a kind acceptable by the United States Government in the amount of \$12.4 million were held by the United States depositories designated by the Panama Canal Commission at September 30, 1989 and \$11.6 million at September 30, 1988, to guarantee payment by third parties of their obligations.

The Panama Canal Treaty of 1977, Article XIII, paragraph 4(c), provides that an annual amount of up to \$10 million per year be paid to the Government of Panama out of operating revenues to the extent that such revenues exceed expenditures. Payment to the Government of Panama is subject to the limitations set forth in section 1341(e) of the Act. In the event operating revenues in any year do not produce a surplus sufficient to cover this payment, the unpaid balance shall be paid from operating surpluses in future years up to the amount available from these surpluses. As of September 30, 1989, the balance contingently payable to the Government of Panama amounts to \$91.1 million. As of September 30, 1988, the balance contingently payable to the Government of Panama amounted to \$81.1 million.

### **12. Treaty Impact.**

On September 7, 1977, the United States of America and the Republic of Panama signed the Panama Canal Treaty of 1977. The treaty provided for the establishment of the Panama Canal Commission on October 1, 1979, to assume certain operational responsibilities for the Canal until December 31, 1999. When the treaty terminates on December 31, 1999, the Republic of Panama shall assume total responsibility for the management, operation, and maintenance of the Panama Canal, which shall be turned over in operating condition and free of liens and debts, except as the two parties may otherwise agree. The effects of these long range requirements are not considered in the financial statements.



# *Chapter VI*

## **STATISTICAL TABLES**

### **Shipping Statistics**

Table 1.—Panama Canal Traffic—Fiscal Years 1980 Through 1989

Fiscal year	Total traffic			Traffic assessed tolls on net tonnage basis		Traffic assessed tolls on displacement tonnage basis	
	Number of transits	Tolls	Long tons of cargo	Number of transits	Panama Canal net tonnage	Number of transits	Displacement tonnage
<b>OCEANGOING COMMERCIAL TRAFFIC <sup>1</sup></b>							
1980	13,507	\$291,838,590	167,214,935	13,476	182,063,175	31	137,593
1981	13,884	301,762,600	171,221,762	13,847	188,656,491	37	111,418
1982	14,009	323,958,366	185,452,332	13,976	202,884,207	33	129,684
1983	11,707	285,983,805	145,590,759	11,668	169,503,918	39	132,431
1984	11,230	286,677,844	140,470,818	11,199	162,335,342	31	116,335
1985	11,515	298,497,802	138,643,243	11,498	168,941,997	17	86,623
1986	11,925	321,073,748	139,945,181	11,901	182,750,830	24	73,631
1987	12,230	328,372,714	148,690,380	12,206	186,416,485	24	130,129
1988	12,234	337,866,211	156,482,641	12,209	191,506,903	25	106,599
1989	11,989	327,850,613	151,636,113	11,964	185,769,083	25	101,710
<b>OCEANGOING U.S. GOVERNMENT TRAFFIC <sup>1</sup></b>							
1980	101	\$1,515,326	396,481	73	844,748	28	217,055
1981	89	1,241,442	301,776	68	705,936	21	143,121
1982	110	1,546,746	285,451	67	794,282	43	309,206
1983	125	1,721,925	354,873	77	812,840	48	350,699
1984	137	2,388,272	329,607	88	1,131,865	49	410,682
1985	129	2,223,938	259,524	85	1,148,311	44	248,967
1986	85	1,553,037	176,853	53	708,616	32	309,161
1987	78	1,384,125	205,701	46	662,286	32	239,023
1988	69	1,361,393	296,140	46	714,055	23	129,545
1989	74	1,806,539	224,121	62	994,711	12	103,020
<b>FREE OCEANGOING TRAFFIC <sup>1 2</sup></b>							
1980	6	\$.....	.....	3	1,686	3	4,810
1981	11	.....	.....	4	2,248	7	8,544
1982	23	.....	.....	9	5,010	14	21,903
1983	14	.....	2,504	9	9,119	5	5,986
1984	17	.....	.....	4	2,224	13	21,025
1985	10	.....	20	4	2,731	6	8,771
1986	13	.....	.....	1	556	12	20,759
1987	5	.....	5	4	2,224	1	1,300
1988	15	.....	.....	6	3,312	9	16,765
1989	12	.....	.....	6	3,312	6	9,709
<b>TOTAL OCEANGOING TRAFFIC <sup>1</sup></b>							
1980	13,614	\$293,353,916	167,611,416	13,552	182,909,609	62	359,458
1981	13,984	303,004,042	171,523,538	13,919	189,364,675	65	263,083
1982	14,142	325,505,112	185,737,783	14,052	203,683,499	90	460,793
1983	11,846	287,705,730	145,948,136	11,754	170,325,877	92	489,116
1984	11,384	289,066,116	140,800,425	11,291	163,469,431	93	548,042
1985	11,654	300,721,740	138,902,787	11,587	170,093,039	67	344,361
1986	12,023	322,626,785	140,122,034	11,955	183,460,002	68	403,551
1987	12,313	329,756,840	148,896,086	12,256	187,080,995	57	370,452
1988	12,318	339,227,604	156,778,781	12,261	192,224,270	57	252,909
1989	12,075	329,657,153	151,860,234	12,032	186,767,106	43	214,439

**Table 1.—Panama Canal Traffic—Fiscal Years 1980 Through 1989  
(Continued)**

Fiscal year	Total traffic			Traffic assessed tolls on net tonnage basis		Traffic assessed tolls on displacement tonnage basis	
	Number of transits	Tolls	Long tons of cargo	Number of transits	Panama Canal net tonnage	Number of transits	Displacement tonnage
<b>SMALL COMMERCIAL TRAFFIC <sup>3</sup></b>							
1980	788	\$74,898	787	787	52,052	1	57
1981	791	65,604	1,355	788	44,962	3	279
1982	830	73,228	928	826	50,399	4	315
1983	810	73,887	669	810	48,033	....	.....
1984	802	76,921	652	800	48,008	2	145
1985	793	73,710	468	792	45,694	1	110
1986	912	89,577	3,704	904	55,249	8	470
1987	852	90,829	3,282	852	55,827	....	.....
1988	844	79,805	1,422	842	49,245	2	64
1989	997	96,158	8,311	996	60,156	1	430
<b>SMALL U.S. GOVERNMENT TRAFFIC <sup>3</sup></b>							
1980	276	\$15,129	.....	29	1,357	247	14,313
1981	225	10,712	.....	2	751	209	10,431
1982	241	10,757	.....	12	415	229	10,973
1983	242	11,406	.....	5	332	230	11,177
1984	241	11,998	.....	8	336	233	11,282
1985	273	12,464	.....	15	773	258	11,113
1986	316	17,840	.....	20	627	296	16,407
1987	236	11,106	.....	25	987	211	9,572
1988	246	11,917	.....	21	901	225	10,375
1989	287	12,316	.....	13	738	274	11,018
<b>SMALL FREE TRAFFIC <sup>2 3</sup></b>							
1980	47	\$ .....	.....	41	2,317	6	560
1981	50	.....	.....	41	2,613	9	1,012
1982	58	.....	70	40	2,803	18	1,172
1983	56	.....	8	39	2,321	17	2,010
1984	96	.....	59	86	4,637	10	1,360
1985	46	.....	3	32	1,721	14	1,103
1986	27	.....	80	20	1,371	7	674
1987	43	.....	57	26	1,451	17	1,012
1988	33	.....	.....	15	1,081	18	1,189
1989	30	.....	3	14	878	16	1,141
<b>TOTAL PANAMA CANAL TRAFFIC</b>							
1980	14,725	\$293,443,943	167,612,203	14,409	182,965,335	316	374,388
1981	15,050	303,080,358	171,524,895	14,764	189,413,001	286	274,805
1982	15,271	325,589,097	185,738,781	14,930	203,737,116	341	473,253
1983	12,954	287,791,023	145,948,818	12,615	170,376,563	339	502,303
1984	12,523	289,155,035	140,801,136	12,185	163,522,412	338	560,829
1985	12,766	300,807,914	138,903,258	12,426	170,141,227	340	356,687
1986	13,278	322,734,202	140,125,818	12,899	183,517,249	379	421,102
1987	13,444	329,858,775	148,899,425	13,159	187,139,260	285	381,036
1988	13,441	339,319,326	156,780,203	13,139	192,275,497	302	264,537
1989	13,389	329,765,627	151,868,548	13,055	186,828,878	334	227,028

<sup>1</sup> Oceangoing traffic includes ships of 300 net tons and over, Panama Canal measurement, or of 500 displacement tons and over on vessels paying tolls on displacement basis (dredges, warships, etc.).

<sup>2</sup> Free traffic includes ships of the Colombian and Panamanian Governments and ships transiting for repair by the Commission.

<sup>3</sup> Includes vessels under 300 net tons, Panama Canal measurement (or under 500 displacement tons for vessels assessed on displacement tonnage).

Table 2.—Oceangoing Commercial Traffic by Months—Fiscal Years 1989 and 1988

	Number of Transits		Panama Canal Net Tonnage		Long Tons of Cargo		Tolls	
	1988-89	1987-88	1988-89	1987-88	1988-89	1987-88	1988-89	1987-88
October.....	981	1,025	15,905,144	16,726,129	12,602,106	13,934,687	\$28,126,895	\$29,596,522
November.....	973	981	15,902,125	16,197,159	12,155,922	12,614,114	27,931,806	28,558,801
December.....	1,027	964	16,632,504	16,002,534	12,707,112	12,580,056	29,287,588	28,250,171
January.....	1,021	1,043	15,838,234	16,210,013	12,348,014	12,889,541	27,867,091	28,552,643
February.....	933	1,061	14,518,718	15,905,398	11,752,642	12,936,870	25,554,346	28,093,490
March.....	1,066	1,139	15,764,981	17,169,470	13,419,534	14,257,185	27,905,627	30,203,768
April.....	1,080	1,069	16,016,195	16,202,710	12,620,697	12,935,668	28,289,526	28,669,030
May.....	1,044	1,051	15,958,912	16,466,814	12,405,048	13,037,311	27,968,462	28,966,312
June.....	932	991	14,277,643	14,716,035	12,141,483	12,847,264	25,251,494	25,974,828
July.....	1,052	975	14,955,575	15,486,718	12,887,341	13,141,603	26,614,606	27,349,496
August.....	960	999	15,534,778	15,950,682	13,973,128	13,628,898	27,434,384	28,144,693
September.....	920	936	14,464,274	14,473,241	12,623,086	11,679,444	25,618,788	25,506,456
Total.....	11,989	12,234	185,769,083	191,506,903	151,636,113	156,482,641	\$327,850,613	\$337,866,211
Average per month.....	999	1,020	15,480,757	15,958,909	12,636,343	13,040,220	\$27,320,884	\$28,155,518

NOTE: The above includes only commercial vessels of 300 net tons and over, Panama Canal measurement, or of 500 displacement tons and over on vessels paying tolls on a displacement tonnage basis. Statistics on these vessels, except as relates to displacement tonnage, have been included in the table above.

Table 3.—Canal Traffic, by Flag of Vessel—Fiscal Year 1989

Flag	Number of transits	Measured tonnage		Tolls	Long tons of cargo
		Panama Canal net	Registered gross <sup>2</sup>		
Antigua-Barbuda	11	24,587	28,604	\$43,949	16,580
Australia	4	96,908	38,772	159,414	1,498
Austria	1	28,421	35,964	52,010	51,844
Bahamas	327	4,306,325	4,980,074	7,750,033	2,384,673
Bangladesh	2	16,170	18,700	29,591	1,567
Barbados	7	16,443	23,884	30,091	16,648
Belgium	31	737,960	866,072	1,350,467	885,612
Bermuda	10	127,875	162,444	229,576	150,452
Brazil	31	622,960	767,402	1,129,969	731,384
Bulgaria	13	134,178	161,398	232,353	81,853
Burma	59	1,097,214	1,219,054	1,982,767	1,268,929
Canada	8	20,396	12,465	33,702	24
Cayman Islands	5	52,275	52,478	95,351	53,065
Chile	94	895,633	992,579	1,609,199	981,978
Colombia	126	1,217,841	1,091,134	2,224,408	279,191
Cuba	150	917,505	1,070,397	1,656,132	775,454
Cyprus	614	6,850,316	7,908,303	12,266,308	8,020,480
Czechoslovakia	2	20,527	23,985	37,564	31,005
Denmark	251	4,867,405	5,890,656	8,804,631	3,433,950
East Germany	58	360,120	407,470	629,857	113,273
Ecuador	322	2,949,800	3,406,524	5,122,979	2,127,209
Egypt	5	74,929	88,792	130,178	94,022
El Salvador	1	1,143	1,146	1,669	.....
Faroes	1	376	631	549	.....
Finland	1	11,556	14,249	21,147	15,223
France	58	954,158	900,467	1,759,450	753,585
Greece	542	8,602,522	9,827,007	15,193,579	10,698,041
Guatemala	8	28,032	33,032	50,002	38,601
Honduras	19	39,589	37,573	71,246	45,078
Hong Kong	15	263,757	314,963	482,675	422,233
India	31	538,150	645,148	910,202	527,276
Iran	10	104,523	127,770	179,750	26,045
Ireland	3	4,964	5,737	7,795	1,265
Israel	68	1,381,286	1,812,532	2,527,753	960,332
Italy	110	1,392,381	1,725,156	2,482,062	1,163,054
Japan	640	11,493,799	7,985,487	19,494,306	3,384,839
Kuwait	42	507,965	646,713	925,148	536,881
Liberia	1,090	23,014,493	23,289,290	40,467,242	21,589,524
Malaysia	33	518,601	580,179	937,307	801,181
Maldives Island	1	9,711	11,720	17,771	16,153
Malta	53	609,657	723,415	1,087,947	756,787
Mauritius	1	13,887	16,432	25,413	16,339
Mexico	58	1,123,292	1,378,182	1,885,941	742,591
Morocco	18	193,668	238,934	331,447	207,152
Netherlands	297	3,146,154	3,233,737	5,659,940	1,976,984
Netherlands-Antilles	2	4,147	2,283	7,400	5,484
Norway	377	6,287,553	6,660,574	11,245,769	6,769,721
Panama	2,423	43,006,621	43,016,124	75,059,139	31,260,953
People's Republic of China	215	4,320,366	5,275,572	7,664,975	5,082,945
Peru	108	1,161,886	1,285,126	2,056,489	1,255,279
Philippines	374	6,997,576	7,784,450	12,531,369	9,520,162
Poland	91	886,204	1,037,732	1,598,637	743,422
Portugal	3	38,636	52,923	69,844	62,777
Qatar	3	36,706	45,294	67,172	24,403
Samoa	2	18,398	21,100	33,668	13,096
Saudi Arabia	15	96,199	95,768	159,745	17,826
Singapore	304	5,502,740	5,256,728	9,577,713	4,002,476
Somali Republic	3	27,945	31,629	51,139	20,260
South Korea	187	4,542,391	4,585,093	8,062,705	3,382,325
Spain	44	396,902	400,586	722,940	418,560
Sri Lanka	47	476,540	560,952	827,995	220,245
St. Vincent & Grenadines	38	371,602	438,533	677,478	438,351
Sweden	51	2,035,545	1,418,716	3,707,709	472,876
Switzerland	8	202,645	243,963	370,840	322,691
Taiwan	217	6,120,581	7,292,815	11,158,310	4,670,621
Togo	6	44,984	58,770	82,321	20,055
Turkey	15	351,026	414,137	628,719	519,085
U.S.S.R.	597	4,680,814	5,400,989	8,253,341	2,469,616
United Kingdom	435	6,751,501	8,337,574	12,084,880	5,489,842
United States	636	6,895,723	6,578,644	11,793,976	4,040,884
Vanuatu	89	312,106	348,719	542,046	254,842

Table 3.—Canal Traffic<sup>1</sup> by Flag of Vessel—Fiscal Year 1989—Continued

Flag	Num- ber of transits	Measured tonnage		Tolls	Long tons of cargo
		Panama Canal net	Registered gross <sup>2</sup>		
Venezuela .....	147	570,163	699,773	1,025,127	576,816
West Germany .....	219	2,890,496	3,441,644	5,223,363	1,867,714
Yugoslavia .....	101	1,342,339	1,566,380	2,434,360	1,512,931
N.A. <sup>3</sup> .....	1	9,296	.....	13,572	.....
Total .....	11,989	185,769,083	195,149,242	\$327,850,613	151,636,113

<sup>1</sup> Includes only commercial vessels of 300 net tons and over, Panama Canal measurement, or of 500 displacement tons and over on vessels paying tolls on displacement basis (dredges, warships, etc.).

<sup>2</sup> Includes 11 transits where no registered tonnage was reported.

<sup>3</sup> No flag of registry was reported.

NOTE.—In Canal traffic statistics, foreign naval vessels such as transports, supply ships, tankers, etc., with a measurement of 300 net tons (Panama Canal measurement) and over, and vessels of war, dredges, etc., with a displacement of 500 tons and over, are classified as oceangoing commercial vessels. Statistics on these vessels, except as related to displacement tonnage, have been included in the table above. As displacement tonnage cannot be combined with net tonnage, the following table shows statistics covering 25 vessels which transited the Canal during fiscal year 1989 and paid tolls on displacement tonnage.

Flag	Type	Num- ber of transits	Displace- ment tonnage	Tolls
Canada .....	Navy	1	2,910	\$2,968
Chile .....	Floating Dry Dock	1	817	833
Colombia .....	Dredge	2	3,285	3,351
Ecuador .....	Navy	2	2,200	2,244
France .....	Navy	6	40,226	41,031
Japan .....	Navy	3	13,210	13,474
Mexico .....	Navy	2	3,500	3,570
Panama .....	Dredge	1	3,681	3,755
United Kingdom .....	Navy	6	23,781	24,257
United Kingdom .....	Dredge	1	8,100	8,262
Total .....		25	101,710	\$103,744



Table 4.—Classification of Canal Traffic<sup>1</sup> by Type of Vessel—Fiscal Year 1989

Type of Vessel	Laden			Ballast			Grand Total
	Atlantic to Pacific		Total	Atlantic to Pacific		Total	
	Atlantic to Pacific	Pacific to Atlantic		Atlantic to Pacific	Pacific to Atlantic		
<b>CARGO AND CARGO/PASSENGER SHIPS:</b>							
<b>Bulk Carriers:</b>							
Number of transits	1,754	1,499	3,253	399	323	722	3,975
Panama Canal net tonnage (thousands)	36,707	34,489	71,196	14,995	6,049	21,044	92,240
Tolls (thousands of dollars)	\$67,239	\$63,116	\$130,354	\$21,893	\$8,831	\$30,724	\$161,078
Cargo (thousands of long tons)	54,193	30,277	84,470	.....	.....	.....	84,470
<b>Container Cargo Ships:</b>							
Number of transits	804	847	1,651	20	11	31	1,682
Panama Canal net tonnage (thousands)	17,049	18,566	35,615	267	129	397	36,012
Tolls (thousands of dollars)	\$31,200	\$33,975	\$65,175	\$390	\$189	\$579	\$65,754
Cargo (thousands of long tons)	12,662	11,949	24,611	.....	.....	.....	24,611
<b>General Cargo Ships:</b>							
Number of transits	764	745	1,509	78	69	147	1,656
Panama Canal net tonnage (thousands)	6,234	6,222	12,456	513	281	794	13,250
Tolls (thousands of dollars)	\$11,408	\$11,387	\$22,795	\$749	\$410	\$1,159	\$23,954
Cargo (thousands of long tons)	5,106	4,666	9,772	.....	.....	.....	9,772
<b>Passenger Ships:<sup>2</sup></b>							
Number of transits	118	58	176	.....	2	2	178
Panama Canal net tonnage (thousands)	2,467	1,289	3,756	.....	14	14	3,770
Tolls (thousands of dollars)	\$4,515	\$2,358	\$6,874	.....	\$21	\$21	\$6,895
Cargo (thousands of long tons)	.....	.....	.....	.....	.....	.....	.....
<b>Refrigerated Cargo Ships:</b>							
Number of transits	742	1,209	1,951	536	46	582	2,533
Panama Canal net tonnage (thousands)	3,755	6,896	10,651	3,193	194	3,387	14,038
Tolls (thousands of dollars)	\$6,872	\$12,620	\$19,492	\$4,661	\$283	\$4,944	\$24,436
Cargo (thousands of long tons)	701	3,311	4,012	.....	.....	.....	4,012
<b>Tank Ships:</b>							
Number of transits	674	463	1,137	165	237	402	1,539
Panama Canal net tonnage (thousands)	9,848	7,879	17,727	3,739	3,382	7,121	24,848
Tolls (thousands of dollars)	\$18,022	\$14,418	\$32,440	\$5,459	\$4,938	\$10,397	\$42,837
Cargo (thousands of long tons)	15,221	12,942	28,162	.....	.....	.....	28,162



OTHER TYPE SHIPS:

Naval Vessels:

Number of transits .....	8	12	20
Displacement tonnage (thousands).....	36	50	86
Tolls (thousands of dollars).....	\$37	\$51	\$88
Cargo (thousands of long tons).....	1	.....	1
Barges, Dredges, Drydocks, Tugs, etc.:			
Number of transits .....	76	56	132
Panama Canal net tonnage (thousands) .....	217	243	460
Displacement tonnage (thousands).....	6	10	16
Tolls (thousands of dollars).....	\$324	\$364	\$688
Cargo (thousands of long tons).....	.....	.....	.....
<b>SUMMARY:</b>	.....	.....	.....
Total Cargo and Cargo/Passenger Ships:			
Number of transits .....	1,198	688	1,886
Panama Canal net tonnage (thousands) .....	22,708	10,049	32,757
Tolls (thousands of dollars).....	\$33,152	\$14,672	\$47,824
Cargo (thousands of long tons).....	.....	.....	.....
Total Other Type Ships:			
Number of transits .....	84	68	152
Panama Canal net tonnage (thousands) .....	217	243	460
Displacement tonnage (thousands).....	43	59	102
Tolls (thousands of dollars).....	\$361	\$415	\$776
Cargo (thousands of long tons).....	1	.....	1
<b>Grand Total Ships:</b>			
Number of transits .....	1,282	756	2,038
Panama Canal net tonnage (thousands) .....	22,924	10,292	33,216
Displacement tonnage (thousands).....	43	59	102
Tolls (thousands of dollars).....	\$33,513	\$15,087	\$48,599
Cargo (thousands of long tons).....	1	.....	1

Total Cargo and Cargo/Passenger Ships:

Number of transits .....	4,856	9,677	11,563
Panama Canal net tonnage (thousands) .....	76,060	151,401	184,158
Tolls (thousands of dollars).....	\$139,256	\$277,130	\$324,954
Cargo (thousands of long tons).....	87,882	151,027	151,027
Total Other Type Ships:			
Number of transits .....	173	274	426
Panama Canal net tonnage (thousands) .....	713	1,152	1,611
Displacement tonnage (thousands).....	.....	.....	.....
Tolls (thousands of dollars).....	\$1,307	\$2,122	\$415
Cargo (thousands of long tons).....	393	608	609
<b>Grand Total Ships:</b>			
Number of transits .....	5,029	9,951	11,989
Panama Canal net tonnage (thousands) .....	76,773	152,553	185,769
Displacement tonnage (thousands).....	.....	.....	.....
Tolls (thousands of dollars).....	\$140,563	\$279,252	\$327,851
Cargo (thousands of long tons).....	88,275	151,635	151,636

<sup>1</sup> Includes only commercial vessels of 300 net tons and over (Panama Canal measurement) for vessels paying tolls on net tonnage basis, or of 500 displacement tons and over for vessels paying on displacement tonnage.

<sup>2</sup> Vessels certificated for more than 12 passengers.

Table 5.—Laden and Ballast Traffic by Flag of Vessel  
Fiscal Year 1989

Flag	Laden			Ballast		
	Number of transits	Panama Canal net tonnage	Tolls	Number of transits	Panama Canal net tonnage	Tolls
Antigua-Barbuda	9	21,763	\$39,826	2	2,824	\$4,123
Australia	2	48,454	88,671	2	48,454	70,743
Austria	1	28,421	52,010	.....	.....	.....
Bahamas	288	3,953,509	7,234,921	39	352,816	515,111
Bangladesh	2	16,170	29,591	.....	.....	.....
Barbados	7	16,443	30,091	.....	.....	.....
Belgium	31	737,960	1,350,467	.....	.....	.....
Bermuda	9	115,887	212,073	1	11,988	17,502
Brazil	30	595,804	1,090,321	1	27,156	39,648
Bulgaria	9	98,523	180,297	4	35,655	52,056
Burma	51	1,029,283	1,883,588	8	67,931	99,179
Canada	2	2,582	4,725	5	17,814	26,008
Cayman Islands	4	51,430	94,117	1	845	1,234
Chile	81	812,814	1,487,450	12	82,819	120,916
Colombia	118	1,197,322	2,191,099	6	20,519	29,958
Cuba	131	855,606	1,565,759	19	61,899	90,373
Cyprus	544	6,121,207	11,201,809	70	729,109	1,064,499
Czechoslovakia	2	20,527	37,564	.....	.....	.....
Denmark	220	4,589,783	8,399,303	31	277,622	405,328
East Germany	43	281,303	514,784	15	78,817	115,073
Ecuador	252	2,200,072	4,026,132	68	749,728	1,094,603
Egypt	4	56,167	102,786	1	18,762	27,393
El Salvador	.....	.....	.....	1	1,143	1,669
Faroes	.....	.....	.....	1	376	549
Finland	1	11,556	21,147	.....	.....	.....
France	45	879,322	1,609,159	7	74,836	109,261
Greece	442	7,118,639	13,027,109	100	1,483,883	2,166,469
Guatemala	7	24,528	44,886	1	3,504	5,116
Honduras	15	36,342	66,506	4	3,247	4,741
Hong Kong	15	263,757	482,675	.....	.....	.....
India	20	336,494	615,784	11	201,656	294,418
Iran	7	73,370	134,267	3	31,153	45,483
Ireland	1	1,480	2,708	2	3,484	5,087
Israel	68	1,381,286	2,527,753	.....	.....	.....
Italy	97	1,214,016	2,221,649	13	178,365	260,413
Japan	497	7,296,986	13,353,485	140	4,196,813	6,127,347
Kuwait	41	495,997	907,675	1	11,968	17,473
Liberia	898	18,342,612	33,617,849	192	4,671,881	6,820,355
Malaysia	31	486,891	891,011	2	31,710	46,297
Maldiv Island	1	9,711	17,771	.....	.....	.....
Malta	46	534,723	978,543	7	74,934	109,404
Mauritius	1	13,887	25,413	.....	.....	.....
Mexico	34	655,039	1,198,721	22	468,253	683,649
Morocco	11	131,600	240,828	7	62,068	90,619
Netherlands	253	2,882,582	5,275,125	44	263,572	384,815
Netherland-Antilles	1	3,635	6,652	1	512	748
Norway	329	5,583,627	10,218,037	48	703,926	1,027,732
Panama	1,916	33,150,588	60,665,576	506	9,856,033	14,389,808
People's Republic of China	184	3,668,217	6,712,837	31	652,149	952,138
Peru	100	973,338	1,781,209	8	188,548	275,280
Philippines	334	6,256,508	11,449,410	40	741,068	1,081,959
Poland	82	823,728	1,507,422	9	62,476	91,215
Portugal	2	36,312	66,451	1	2,324	3,393
Qatar	3	36,706	67,172	.....	.....	.....
Samoa	2	18,398	33,668	.....	.....	.....
Saudi Arabia	8	52,148	95,431	7	44,051	64,314
Singapore	239	4,172,197	7,635,121	65	1,330,543	1,942,593
Somali Republic	3	27,945	51,139	.....	.....	.....
South Korea	171	3,867,066	7,076,731	16	675,325	985,974
Spain	40	387,738	709,561	4	9,164	13,379
Sri Lanka	34	357,424	654,086	13	119,116	173,909
St. Vincent & Grenadines	33	364,702	667,404	5	6,900	10,074
Sweden	50	1,988,685	3,639,294	1	46,860	68,416
Switzerland	8	202,645	370,840	.....	.....	.....
Taiwan	212	6,006,111	10,991,183	5	114,470	167,126
Togo	6	44,984	82,321	.....	.....	.....
Turkey	13	314,112	574,825	2	36,914	53,894
U.S.S.R.	488	3,836,089	7,020,043	109	844,725	1,233,298

**Table 5.—Laden and Ballast Traffic by Flag of Vessel  
Fiscal Year 1989—Continued**

<i>Flag</i>	<i>Laden</i>			<i>Ballast</i>		
	<i>Number of transits</i>	<i>Panama Canal net tonnage</i>	<i>Tolls</i>	<i>Number of transits</i>	<i>Panama Canal net tonnage</i>	<i>Tolls</i>
United Kingdom .....	360	5,924,783	\$10,842,353	68	826,718	\$1,207,008
United States .....	462	4,665,460	8,537,792	174	2,230,263	3,256,184
Vanuatu .....	76	233,437	427,190	13	78,669	114,857
Venezuela .....	128	520,780	953,027	19	49,383	72,099
West Germany .....	201	2,711,456	4,961,964	18	179,040	261,398
Yugoslavia .....	95	1,282,553	2,347,072	6	59,786	87,288
N.A.* .....	.....	.....	.....	1	9,296	13,572
<b>Total .....</b>	<b>9,951</b>	<b>152,553,220</b>	<b>\$279,251,118</b>	<b>2,013</b>	<b>33,215,863</b>	<b>\$48,495,751</b>

Above table involves only commercial vessels of 300 net tons or over, Panama Canal measurement.

\* No flag of registry was reported.

Table 6.—Segregation of Transits<sup>1</sup> by Registered Gross Tonnage—Fiscal Year 1989

	Under 2,000	2,000 to 3,999	4,000 to 5,999	6,000 to 7,999	8,000 to 9,999	10,000 to 14,999	15,000 to 19,999	20,000 to 29,999	30,000 to 39,999	40,000 to over	Total <sup>2</sup>	Registered gross tonnage	Average gross tonnage per vessel
Antigua-Barbuda . . . . .	4	3	4								11	28,604	2,600
Australia . . . . .					4						4	38,772	9,693
Austria . . . . .											1	35,964	35,964
Bahamas . . . . .	15	12	2	6	36	105	53	90	1	3	327	4,980,074	15,230
Bangladesh . . . . .					2						2	18,700	9,350
Barbados . . . . .		7									7	23,884	3,412
Belgium . . . . .											31	866,072	27,938
Bermuda . . . . .				2		5	4		1		10	162,444	16,244
Brazil . . . . .				2		10	1	7		3	31	767,402	24,755
Bulgaria . . . . .				2		7		2			13	161,398	12,415
Burma . . . . .					8	12	21	2	16		59	1,219,054	20,662
Canada . . . . .	3	3									6	12,465	2,078
Cayman Islands . . . . .			1					2			5	52,478	10,496
Chile . . . . .	11			2	15	62	1		1		92	992,579	10,789
Colombia . . . . .	35	2		3		84					124	1,091,134	8,799
Cuba . . . . .		65		3	49	30	3				150	1,070,397	7,136
Cyprus . . . . .	66	20	16	75	80	132	136	51	37	1	614	7,908,303	12,880
Czechoslovakia . . . . .						2					2	23,985	11,993
Denmark . . . . .	76	1			17	26	6	16		104	251	5,890,656	23,469
East Germany . . . . .				27	8	5					58	407,470	7,025
Ecuador . . . . .	3	2	25	126	65	19	44	36			320	3,406,524	10,645
Egypt . . . . .					2			3			5	88,792	17,758
El Salvador . . . . .	1										1	1,146	1,146
Faroes . . . . .	1										1	631	631
Finland . . . . .						1					1	14,249	14,249
France . . . . .	6	2	4			3	11	25		1	52	900,467	17,317
Greece . . . . .	31	4	31	7	37	156	90	58	128		542	9,827,007	18,131
Guatemala . . . . .											8	33,032	4,129
Honduras . . . . .	18							1			19	37,573	1,978
Hong Kong . . . . .				2		1		6	4		15	314,963	20,998
India . . . . .			1			4	13	7	3	2	30	645,148	20,811
Iran . . . . .					3	7					10	127,770	12,777
Ireland . . . . .	2	1									3	5,737	1,912
Israel . . . . .								68			68	1,812,532	26,655
Italy . . . . .				3	44	8	27	24	4		110	1,725,156	15,683
Japan . . . . .	205	13	57	64	25	31	52	114	42	34	637	7,985,487	12,536
Kuwait . . . . .							42				42	646,713	15,398
Liberia . . . . .			8	55	81	195	253	216	221	56	1,090	23,289,290	21,366
Malaysia . . . . .	4				2	9	7	3	8		33	580,179	17,581

PANAMA CANAL COMMISSION

Maldives	6	2	3	1	10	1	9	3	5	1	11,720
Malta											11,720
Mauritius											723,415
Mexico	3	1		3			1	4	28	1	16,432
Morocco	15	40	34	42	37	8	8	8		56	1,378,182
Netherlands	2									18	238,934
Netherland-Antilles	12	8	4	8	77					297	3,233,737
Norway	113	168	239	122	153		39	97	41	2	2,283
Panama										377	6,660,574
People's Republic of China	2	4		1	444		311	371	304	197	43,016,124
Peru	2	33	7	1	5		33	97	53	2,422	5,275,572
Philippines	2	6	33	7	22		66	84	93	108	1,285,126
Poland	2	8	11	7	24		4		10	374	7,784,450
Portugal		1								90	1,037,732
Qatar								2		3	52,923
Samoa							3			3	43,294
Saudi Arabia				15						2	21,100
Singapore	2	1	1	79	29			45	48	15	95,768
Somali Republic										304	5,256,728
South Korea	11						3			3	4,585,093
Spain	6	7	18				19	62	44	187	4,585,093
Sri Lanka					34		8	6		44	400,586
St. Vincent & Grenadines	7	1	6	4			5	7	11	47	560,952
Sweden								8	1	38	438,533
Switzerland								23	8	51	1,418,716
Taiwan	12	1						5	5	8	243,963
Toga								73	73	217	7,292,815
Turkey					6					6	58,770
U.S.S.R.	9	54	56	147	102		2	3	7	15	414,137
United Kingdom	6	1	26	35	30		158	9	4	597	5,400,989
United States	249	13	17	21	7		95	88	60	428	8,337,574
Vanuatu	59		2	22	2		172	63	23	629	6,578,644
Venezuela	116	1						2	2	89	348,719
West Germany		18		3	29		11	5		147	699,773
Yugoslavia					7		38	27	13	219	3,441,644
Total	1,115	514	641	893	1,087		2,267	1,839	1,340	101	1,566,380
Percent of Total	9.3	4.3	5.4	7.5	9.1		19.0	14.3	11.2	552	11,953
								15.4	4.6	100.0	195,149,242

<sup>1</sup> Includes only commercial vessels of 300 net tons and over, Panama Canal measurement.

<sup>2</sup> Excludes 25 vessels paying tolls on displacement tonnage basis and 11 transits where no registered tonnage was reported.

Table 7.—Principal Commodities Shipped Through Canal by Fiscal Years

Commodity	South Atlantic to Pacific		North Pacific to Atlantic	
	1987	1988	1988	1987
Canned and Refrigerated Foods . . . . .	697	846	4,163	3,513
Canned Foods . . . . .	87	88	128	89
Fish . . . . .	2	2	25	20
Fruit . . . . .	5	4	15	18
Milk . . . . .	72	72	71	64
Other and unclassified . . . . .	7	11	17	18
Refrigerated Foods . . . . .	610	757	4,034	3,424
Bananas . . . . .	17	16	1,366	965
Dairy Products . . . . .	8	8	23	30
Fish . . . . .	131	179	836	774
Fruit, excluding bananas . . . . .	123	158	954	1,015
Meat . . . . .	13	23	80	112
Other and unclassified . . . . .	317	372	775	807
Chemicals and Petroleum Chemicals . . . . .	4,862	5,522	1,626	980
Caustic Soda . . . . .	893	976	5	4
Chemicals, unclassified . . . . .	3,115	2,941	1,439	1,167
Petroleum Chemicals, miscellaneous . . . . .	854	1,606	182	120
Coal and Coke (excluding petroleum coke) . . . . .	5,902	5,390	3,634	3,186
Grains . . . . .	29,936	32,756	1,790	2,432
Barley . . . . .	127	124	202	203
Corn . . . . .	15,883	16,165	10	2
Oats . . . . .	8	6	1	1
Rice . . . . .	76	98	350	365
Sorghum . . . . .	2,624	2,163	63	42
Soybeans . . . . .	7,758	6,871	1,134	2,445
Wheat . . . . .	3,166	6,997	30	52
Other and unclassified . . . . .	294	332	6,981	7,863
Lumber and Products . . . . .	928	1,671	3,949	4,128
Boards and planks . . . . .	24	61	788	847
Plywood, veneers, composition board . . . . .	30	27	1,831	1,850
Pulpwood . . . . .	853	1,129	412	463
Other and unclassified . . . . .	20	453	1,927	2,125
Machinery and Equipment . . . . .	540	531	2,125	2,387

[Thousands of long tons]

Agricultural machinery and implements .....	47	46	44	22	28	18
Automobiles, trucks, accessories and parts .....	342	322	309	1,717	1,899	2,120
Construction machinery and equipment .....	66	73	73	113	139	156
Electrical machinery and apparatus .....	24	47	32	21	17	24
Motorcycles, bicycles and parts .....	2	1	1	8	7	6
Other and unclassified .....	59	42	48	47	35	63
<b>Manufactures of Iron and Steel</b> .....	<b>3,346</b>	<b>2,736</b>	<b>4,325</b>	<b>3,526</b>	<b>4,107</b>	<b>3,626</b>
Angles, shapes, and sections .....	203	137	189	258	296	301
Nails, tacks, and spikes .....	3	8	20	67	99	50
Plates, sheets, and coils .....	2,005	1,379	2,672	1,424	1,406	1,495
Tubes, pipes, and fittings .....	91	144	261	372	461	248
Wire, bars, and rods .....	643	677	605	303	245	291
Other and unclassified .....	401	392	577	1,101	1,600	1,241
<b>Minerals, miscellaneous</b> .....	<b>261</b>	<b>144</b>	<b>142</b>	<b>3,337</b>	<b>4,977</b>	<b>4,851</b>
Asbestos .....	16	17	15	4	4	3
Borax .....	3	1	1	393	431	379
Infusorial earth .....	.....	1	.....	1	1	22
Salt .....	118	41	21	707	800	1,110
Soda and sodium compounds .....	115	75	98	78	158	112
Sulfur .....	8	9	7	2,154	3,583	3,226
<b>Nitrates, Phosphates, and Potash</b> .....	<b>9,888</b>	<b>10,289</b>	<b>11,702</b>	<b>2,502</b>	<b>1,848</b>	<b>2,114</b>
Ammonium compounds .....	781	521	558	18	23	16
Fishmeal .....	2	11	.....	1,427	1,080	1,296
Nitrate of soda .....	27	52	43	321	328	265
Phosphates .....	6,269	6,725	8,187	416	233	242
Potash .....	347	280	223	106	20	81
Fertilizers, unclassified .....	2,462	2,700	2,691	214	163	213
<b>Ores and Metals</b> .....	<b>3,569</b>	<b>3,462</b>	<b>3,130</b>	<b>7,379</b>	<b>6,872</b>	<b>5,412</b>
Ores .....	717	736	736	6,097	5,735	4,195
Alumina/bauxite .....	114	178	135	2,250	1,382	732
Chrome .....	7	7	31	66	25	22
Copper .....	35	39	48	570	857	725
Iron .....	61	133	117	282	764	526
Lead .....	.....	2	.....	221	209	189
Manganese .....	35	71	97	281	195	190
Tin .....	.....	.....	.....	31	9	15
Zinc .....	104	42	37	540	659	657

Table 7.—Principal Commodities Shipped Through Canal by Fiscal Years—Continued

Commodity	Atlantic to Pacific		North Pacific to Atlantic		
	1987	1988	1989	1988	1987
Other and unclassified					
Metals	361	264	1,855	1,634	1,139
Aluminum	2,852	2,726	1,282	1,137	1,216
Aluminum	365	415	14	38	51
Copper	15	14	872	773	827
Iron	30	105	12	4	25
Lead	3	7	67	61	50
Scrap	2,390	2,121	90	10	23
Tin, including tinplate	14	13	7	10	11
Zinc	14	15	163	168	150
Other and unclassified	19	36	58	72	79
Other Agricultural Commodities	1,514	2,422	3,324	2,998	3,346
Beans, edible	30	45	55	84	49
Cocoa and cacao beans	2	32	50	46	42
Coffee, raw and processed	13	19	275	292	355
Copra and coconuts	2	.....	.....	6	8
Cotton, raw	9	25	82	87	77
Molasses	7	11	672	578	656
Oilseeds	49	72	106	111	238
Peas, dry	.....	1	52	89	44
Rubber, raw	.....	3	137	116	48
Skins and hides	1	.....	1	1	.....
Sugar	1,399	2,213	1,891	1,581	1,825
Wool, raw	1	1	4	9	3
Petroleum and Products	13,093	11,851	12,396	12,740	12,840
Asphalt	139	52	1	.....	2
Crude oil	3,393	2,820	5,784	5,967	5,566
Diesel oil	1,171	1,416	418	467	199
Fuel oil, residual	1,784	1,557	3,179	3,371	4,118
Gasoline	2,428	2,009	486	252	257
Jet fuel	1,001	1,007	5	39	32
Kerosene	98	59	.....	.....	6

[Thousands of long tons]





Table 8.—Origin and Destination of Commercial Cargo Through the Panama Canal From Atlantic to Pacific During Fiscal Year 1989  
Segregated by Countries in Principal Trade Routes

	[Long tons]													
	To West Coast United States					To West Coast Central America								
	Alaska	Hawaii	Main-land	Total	Canada	Costa Rica	El Salvador	Guatemala	Mexico	Nicaragua	Panama	Central America (other)	Bahoa, R. P.?	Total
<b>EAST COAST NORTH AMERICA:</b>														
United States:														
North Atlantic ports.....			72,567	82,462	93		46,342		58,725		3,780	23,148	19,330	151,325
South Atlantic ports.....			9,543	9,571	24	19,095	2,559				19,260		13,352	54,266
Great Lakes ports.....							333				1,255		10,427	12,015
Gulf ports.....			1,310,348	1,337,393	178,087	447,019	556,550	104,011	1,366,353	3,807	15,512	62,202	302,464	2,857,918
United States (other) <sup>1</sup> .....			7,787	7,791	17,179	5,796	4,802						3,974	14,572
Total United States.....	383	36,589	1,400,245	1,437,217	195,383	471,910	610,586	104,011	1,425,078	5,062	38,552	85,350	349,547	3,090,096
<b>EAST COAST CANADA:</b>														
			16,883	16,883	51	660	3,107				7,329	4,817	251	16,164
<b>EAST COAST CENTRAL AMERICA:</b>														
Mexico.....		26,707	67,254	93,961		22	289,475	112,077	880,840				31	15,386
Panama.....			496	496										1,297,831
Central America (other) <sup>1</sup> .....														230,071
Cristobal, R. P.? <sup>2</sup> .....			1,554	1,554	4									5,782
Total Central America.....		26,707	69,304	96,011	4	22	289,475	112,077	880,840					1,533,684
<b>EAST COAST SOUTH AMERICA:</b>														
Brazil.....			654,743	654,743	99,784		1,640	7,879	13,951				577	24,047
Colombia.....			17,975	17,975	27,066		428		23,906		46	1,510	663	29,928
Venezuela.....		61,896	510,330	572,226	16,272	96,595	314,811	463,878	155,094	630			60,066	6,518
South America (other) <sup>1</sup> .....			89,160	89,160	30,978		628	3,592	69,148				605	2,000
Total South America.....		61,896	1,272,208	1,334,104	174,100	96,595	317,507	475,349	262,099	10,518	1,510	61,911	11,893	1,237,382
<b>WEST INDIES:</b>														
Cuba.....														20
Jamaica.....			33,125	33,125	21		1,587							1,085
Netherlands West Indies.....			65,449	65,449					43,414				34	2,303
Trinidad/Tobago.....	28,235		68,370	96,605	32,926	27,301	2,506				10,942		10	40,759
West Indies (other) <sup>1</sup> .....			278,335	278,335			37,204	19	50		19	225		7,821
Total West Indies.....	28,235		445,279	473,514	32,947	27,301	41,297	19	68,193	39,315	19,447	4,961	11,229	211,762

EUROPE:												
Belgium	410,551	410,551	51,683	18,843	91,212	51,396	.....	21,819	134	4,360	.....	187,764
France	194,857	194,857	27,202	.....	138	.....	135	21,603	.....	.....	2,743	24,619
Italy	222,271	222,271	16,186	.....	1,000	.....	506	14,873	.....	999	3,593	20,971
Netherlands	531,617	531,617	49,707	3,871	5,973	.....	2,520	4,063	13	1,751	.....	18,191
Norway	215,158	215,158	1,975	.....	13,336	29,537	.....	8,261	.....	.....	.....	51,134
Spain-Portugal	266,775	266,776	150,172	1,476	1,135	.....	92	22,178	.....	621	2,483	27,985
Sweden	54,358	54,358	1,040	.....	.....	.....	.....	2,368	.....	.....	.....	2,368
U.S.S.R.	5,846	5,846	.....	28	4,578	38,258	26,803	346,241	.....	7,606	.....	423,514
United Kingdom	110,182	110,182	15,403	.....	.....	.....	.....	21,263	.....	15,976	.....	37,239
West Germany	402,669	402,669	63,104	12,355	16,066	.....	159	14,284	4,486	3,963	.....	51,313
Europe (other) <sup>1</sup>	937,352	944,953	147,018	3,958	13,722	48,760	11,193	101,144	6,499	25,535	10	210,821
Total Europe	3,351,636	3,359,238	523,490	40,531	147,160	167,951	41,408	578,097	11,132	60,811	8,829	1,055,919
ASIA (MIDDLE EAST):	.....	132,635	.....	.....	.....	.....	.....	7,480	.....	.....	.....	7,480
AFRICA:	.....	20,449	956,052	.....	87	179	305,179	.....	.....	575	.....	306,020
GRAND TOTAL	36,219	125,193	6,708,639	6,870,051	1,409,219	859,586	2,982,797	647,801	75,458	215,275	631,352	7,458,507
Percent of Pacific-bound cargo	0.0	0.1	7.6	7.8	1.6	1.0	3.4	0.7	0.1	0.2	0.7	8.4

Table 8.—Origin and Destination of Commercial Cargo Through the Panama Canal From Atlantic to Pacific During Fiscal Year 1989 Segregated by Countries in Principal Trade Routes—Continued

[Long tons]

	To West Coast South America				To Oceania						
	Chile	Colombia	Ecuador	Peru	South America (other) <sup>1</sup>	Total	Australia	French Oceania	New Zealand	Oceania (other) <sup>1</sup>	Total
<b>EAST COAST NORTH AMERICA:</b>											
United States:											
North Atlantic ports . . . . .	113,453	57,705	74,777	58,733	24,900	329,568	157,095	392	39,166	60,999	257,652
South Atlantic ports . . . . .	117,638	23,740	146,895	23,848	14,205	326,326	148,669	100	142,429	44,854	336,052
Great Lakes ports . . . . .	1,216	87	87	21,940	10,016	33,259	1,900,824	21	190,646	58,593	2,150,084
Gulf ports . . . . .	1,490,297	532,864	630,307	772,030	86,423	3,511,921	1,900,824	21	190,646	58,593	2,150,084
United States (other) <sup>1</sup> . . . . .	88,818	23,662	61,214	40,879	20,629	235,202	132,052	438	93,301	50,066	275,857
Total United States . . . . .	1,811,422	637,971	913,280	917,430	156,173	4,436,276	2,338,640	951	465,542	214,512	3,019,645
<b>EAST COAST CANADA:</b>											
11,098	28,370	45,260	11,545	5,578	101,851	192,449	1,397	24,558	54,303	272,707	
<b>EAST COAST CENTRAL AMERICA:</b>											
Mexico . . . . .	22,942	68,351	101,959	94,712	6,782	294,746	456	12,308	12,308	12,764	
Panama . . . . .	567	5,467	3,784	1,871	11,689	11,689	7,500	11,308	7,500	7,500	
Central America (other) <sup>1</sup> . . . . .	3,045	8,223	40	40	11,308	11,308	11	11	11	11	
Cristobal, R. P. <sup>2</sup> . . . . .	9,352	3,211	336	280	13,179	13,179	7,967	12,308	12,308	20,275	
Total Central America . . . . .	32,294	71,963	118,860	98,872	8,933	330,922	7,967	12,308	12,308	20,275	
<b>EAST COAST SOUTH AMERICA:</b>											
Brazil . . . . .	40	18,738	173,966	676	193,420	3,499	3,499	3,499	3,499	3,499	
Colombia . . . . .	99,043	37,326	18,061	132,226	2,544	289,200	57,050	57,050	57,050	57,050	
Venezuela . . . . .	1,247,287	41,819	90,846	90,097	30,198	1,500,247	409	5,025	5,025	5,434	
South America (other) <sup>1</sup> . . . . .	6,444	55,095	4,488	16,090	82,117	82,117	60,958	5,025	5,025	65,983	
Total South America . . . . .	1,352,814	152,978	287,361	238,413	33,418	2,064,984	60,958	5,025	5,025	65,983	
<b>WEST INDIES:</b>											
Cuba . . . . .	167	19,894	73,930	12,753	106,744	25	793	793	793	793	
Jamaica . . . . .	140,223	16,914	9,437	88,763	255,337	50	119	119	119	169	
Netherlands West Indies . . . . .	46,576	5,963	16	16	52,539	1,673	18	18	18	93	
Trinidad/Tobago . . . . .	120	62,951	9,680	72,767	28,860	700	18	18	18	762	
West Indies (other) <sup>1</sup> . . . . .	186,919	69,081	46,488	83,383	101,516	487,387	30,608	700	829	981	
Total West Indies . . . . .	186,919	69,081	46,488	83,383	101,516	487,387	30,608	700	829	981	

<b>EUROPE:</b>											
Belgium	178,559	11,591	47,430	55,755	13,431	306,766	3,395	15,214	14,223	12,578	45,410
France	24,112	3,024	9,000	38,401	10,427	84,964	8,571	153,923	6,178	43,133	211,805
Italy	13,425	842	12,012	10,740	10,031	47,050	6,771	6,422	4,237	3,350	14,686
Netherlands	45,454	3,563	6,045	35,312	2,746	93,120	65,221	15,340	23,602	33,942	138,105
Norway	2,000	.....	.....	.....	640	2,640	.....	.....	10	.....	10
Norway	33,281	10,180	19,434	24,072	4,214	91,181	6,402	755	2,038	2,610	11,805
Spain-Portugal	21,229	2,888	3,227	7,395	389	35,128	18,443	.....	3,022	30,108	51,573
Sweden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23,641
U.S.S.R.	3,026	47,325	25,271	32,187	126,564	234,373	.....	.....	23,641	.....	23,641
United Kingdom	67,840	4,650	6,550	7,926	343	87,309	40,141	13,279	61,684	42,405	157,509
West Germany	130,916	11,914	37,113	33,067	4,416	217,426	47,478	10,076	8,841	55,945	122,340
Europe (other) <sup>1</sup>	113,373	103,635	87,571	162,769	43,451	510,799	59,927	104,080	18,486	81,576	264,069
Total Europe	633,215	199,612	233,653	407,624	216,652	1,710,756	250,255	319,089	165,962	305,647	1,040,953
<b>ASIA (MIDDLE EAST):</b>											
	834	9	277	.....	70	1,190	35	61	.....	.....	96
<b>AFRICA:</b>											
	24,862	.....	77,078	7,872	444	110,256	709	687	164,881	.....	166,277
<b>GRAND TOTAL</b>	<u>4,053,458</u>	<u>1,159,984</u>	<u>1,742,257</u>	<u>1,765,139</u>	<u>522,784</u>	<u>9,243,622</u>	<u>2,881,621</u>	<u>327,910</u>	<u>834,080</u>	<u>575,443</u>	<u>4,619,054</u>
Percent of Pacific-bound cargo	4.6	1.3	2.0	2.0	0.6	10.5	3.3	0.4	0.9	0.7	5.2

Table 8.—Origin and Destination of Commercial Cargo Through the Panama Canal From Atlantic to Pacific During Fiscal Year 1989 Segregated by Countries in Principal Trade Routes—Continued

[Long tons]

	To Asia										Grand total	Percent of total Pacific-bound cargo		
	China	Taiwan	Hong Kong	Indonesia	Japan	Philippine Islands	Singapore	South Korea	Thailand	U.S.S.R. (other) <sup>1</sup>			Asia (other) <sup>1</sup>	Total
<b>EAST COAST NORTH AMERICA:</b>														
United States:														
North Atlantic ports .....	504,985	1,054,095	206,810	.....	2,406,099	48,552	91,899	1,906,660	20,754	.....	397,470	6,637,324	7,458,424	8.4
South Atlantic ports .....	426,286	616,203	299,504	20,999	1,552,631	22,823	92,404	364,973	1,385	.....	395,070	3,792,278	4,518,517	5.1
Great Lakes ports .....	3,986	17,915	.....	.....	101,239	.....	.....	130,864	18,540	.....	58,924	331,468	376,742	0.4
Gulf ports .....	10,335,688	4,043,745	125,390	180,051	19,150,803	216,700	286,963	3,543,725	151,147	316,398	1,222,388	39,572,998	49,608,401	56.2
United States (other) <sup>1</sup> .....	196,665	409,251	100,711	3,445	763,551	5,077	67,214	332,034	1,890	.....	245,323	2,125,161	2,675,762	3.0
Total United States .....	11,467,610	6,141,209	732,415	204,495	23,974,323	293,152	538,480	6,278,256	193,716	316,398	2,319,175	52,459,229	64,637,846	73.2
<b>EAST COAST CANADA:</b>														
.....	338,320	184,914	38,926	.....	514,337	.....	7,435	485,663	80,043	.....	123,368	1,773,006	2,180,662	2.5
<b>EAST COAST CENTRAL AMERICA:</b>														
Mexico .....	52,408	23,686	8,444	.....	107,271	12,150	27,431	26,742	41,437	.....	63,019	362,588	2,061,890	2.3
Panama .....	.....	370	.....	.....	1,407	.....	36	19	.....	.....	.....	1,832	244,088	0.3
Central America (other) <sup>1</sup> .....	.....	.....	.....	.....	684	.....	.....	.....	.....	.....	1,386	2,070	26,660	0.0
Cristobal, R. P. <sup>2</sup> .....	.....	936	42	.....	8,930	.....	96	368	.....	.....	523	10,895	25,643	0.0
Total Central America .....	52,408	24,992	8,486	.....	118,292	12,150	27,563	27,129	41,437	.....	64,928	377,385	2,358,281	2.7
<b>EAST COAST SOUTH AMERICA:</b>														
Brazil .....	.....	3,249	8,081	.....	358,576	.....	3,673	20,871	.....	.....	130	394,580	1,370,073	1.6
Colombia .....	3,555	.....	.....	.....	98,968	.....	.....	.....	.....	.....	.....	102,523	466,692	0.5
Venezuela .....	70,578	.....	59	178	388,226	.....	.....	3,499	9,709	.....	6,628	478,877	3,722,264	4.2
South America (other) <sup>1</sup> .....	.....	4,279	5,239	.....	81,296	.....	1,776	6,545	.....	.....	10,520	109,655	403,159	0.5
Total South America .....	74,133	7,528	13,379	178	927,066	.....	5,449	30,915	9,709	.....	17,278	1,085,635	5,962,188	6.8
<b>WEST INDIES:</b>														
Cuba .....	897,028	27,550	.....	12,661	248,439	.....	.....	.....	.....	145,541	91,185	1,422,404	1,593,812	1.8
Jamaica .....	.....	30,699	30,141	.....	23,282	.....	345	15,538	.....	.....	16,442	116,447	161,783	0.2
Netherlands West Indies .....	.....	41,118	1,957	.....	3,152	.....	824	3,300	.....	.....	2,938	53,289	423,880	0.5
Trinidad/Tobago .....	.....	32,544	3	.....	13,678	.....	.....	9,772	.....	.....	13,424	69,421	294,034	0.3
West Indies (other) <sup>1</sup> .....	182	51,912	2,838	2,999	100,056	525	357	97,198	.....	.....	47,728	303,795	730,575	0.8
Total West Indies .....	897,210	183,823	34,939	15,660	388,607	525	1,526	125,808	.....	145,541	171,717	1,965,356	3,204,084	3.6

<b>EUROPE:</b>										
Belgium	1,779	594	1,864	7,254	240	11,731	1,013,905	1.1		
France	230	7	1,041	7,872	77	16,117	559,564	0.6		
Italy	9,959	38,461	332	4,439		5,001	326,165	0.4	24	
Netherlands		267		54,652	16,516	38,664	995,236	1.1		
Norway				13,935			284,852	0.3		
Spain-Portugal		144	108	1,946	98	8,905	556,824	0.6		
Sweden				9		6,609	144,476	0.2		
U.S.S.R.							856	0.8		
United Kingdom		1,101	3,473	10,486	6,205	11,282	688,230	0.8	856	
West Germany	1,836		221	32,202		320	469,809	0.5	19,839	
Europe (other) <sup>1</sup>	505	18,603	430	82,880	6,850	38,153	892,107	1.0	676	
Total Europe	14,309	58,910	11,449	215,675	6,205	18,209	2,251,513	2.6	38,153	
				46,748	5,977	856	8,182,681	9.3	103,965	
<b>ASIA (MIDDLE EAST):</b>										
		5,582	1,684	3,076		474	152,217	0.2		
<b>AFRICA:</b>										
	708	694	2,700	28,070	8	978	1,597,630	1.8	2,272	
GRAND TOTAL	12,844,698	6,607,652	842,551	26,169,446	312,040	599,640	88,275,589	100.0%	2,803,177	
Percent of Pacific-bound cargo	14.6	7.5	1.0	29.6	0.4	0.7	7.9	0.4	0.5	3.2

<sup>1</sup> Includes cargo not routed to permit segregation between definite countries.

<sup>2</sup> Includes both local and transhipped cargo.





<b>OCEANIA:</b>											
Australia .....	630,525	135,242	38,489	2,432,122	121,795	3,358,173	561,725	134,469	.....	.....	134,469
British Oceania .....	.....	.....	.....	.....	9,200	9,200	.....	.....	.....	.....	.....
French Oceania .....	.....	.....	.....	.....	2,779	2,779	.....	.....	.....	.....	.....
New Zealand .....	140,430	31,166	.....	156,547	50,932	379,075	33,398	31,621	.....	.....	31,621
Oceania (other) <sup>1</sup> .....	96,081	36,186	.....	21,214	19,740	173,221	34,668	.....	.....	.....	.....
Total Oceania .....	867,036	202,594	38,489	2,612,662	201,667	3,922,448	632,153	166,090	.....	.....	166,090
<b>ASIA:</b>											
China .....	123,160	47,602	.....	1,367,248	54,755	1,592,765	175,959	.....	.....	.....	.....
Taiwan .....	739,226	327,069	.....	43,704	152,455	1,262,454	103,156	.....	.....	.....	.....
Hong Kong .....	342,058	168,156	.....	2,297	65,583	578,094	78,041	.....	.....	.....	.....
Indonesia .....	91,642	20,860	.....	116,449	286,957	515,908	.....	658	.....	.....	658
Japan .....	2,949,679	1,149,551	186,097	2,214,106	657,533	7,156,966	69,254	80	.....	.....	25,111
Philippine Islands .....	30,421	9,212	.....	67,800	92,619	200,052	11,373	.....	.....	.....	.....
Singapore .....	311,985	169,529	.....	56,490	41,251	579,255	52,669	.....	.....	.....	.....
South Korea .....	368,180	113,260	.....	209,895	213,130	904,465	58,959	21	.....	.....	.....
Thailand .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
U.S.S.R. .....	5,027	.....	.....	.....	5,132	10,159	.....	.....	.....	.....	.....
Asia (other) <sup>1</sup> .....	601,301	297,468	.....	220,117	302,438	1,421,344	19,856	15,813	.....	.....	.....
Total Asia .....	5,562,679	2,302,707	186,097	4,298,106	1,871,873	14,221,462	570,528	16,572	.....	.....	.....
<b>GRAND TOTAL .....</b>	<b>12,993,729</b>	<b>3,547,220</b>	<b>224,586</b>	<b>11,150,211</b>	<b>3,547,350</b>	<b>31,463,096</b>	<b>1,480,746</b>	<b>839,979</b>	<b>441,102</b>	<b>46,108</b>	<b>327,534</b>
Percent of Atlantic-bound cargo .....	20.5	5.6	0.4	17.6	5.6	49.7	2.3	1.3	0.7	0.1	0.5
Percent of Atlantic-bound cargo .....											

See footnotes at end of table.

Table 9.—Origin and Destination of Commercial Cargo Through the Panama Canal From Pacific to Atlantic During Fiscal Year 1989 Segregated by Countries in Principal Trade Routes—Continued

	[Long tons]											
	To East Coast South America					To West Indies						
	Brazil	Colombia	Venezuela	South America (other) <sup>1</sup>	Total	Cuba	Haiti/Dominican Republic	Netherlands West Indies	Puerto Rico	Trinidad/Tobago (other) <sup>1</sup>	West Indies Total	
<b>WEST COAST NORTH AMERICA:</b>												
United States:												
Alaska									61,887			61,887
Hawaii								53,721	46,299		250,297	353,955
Mainland	216,046	13,698	86,483	6,177	322,404	67	3,571	53,721	46,299		250,297	353,955
Total United States	216,046	13,698	86,483	6,177	322,404	67	3,571	53,721	108,186		250,297	415,842
<b>WEST COAST CANADA</b>												
	315,992	21,417	112,764	35,208	485,381	35,932	9,611	29,858			118	146,393
<b>WEST COAST CENTRAL AMERICA:</b>												
Costa Rica	631	874			1,505				1,272	4,990		7,643
El Salvador	2,379	46	731		3,156		1,381					11,019
Guatemala	1,104			18,484	19,588		8,470	9	15,791	14,763	6,813	45,846
Honduras										14		18,941
Mexico	11,850	180	20		12,050	5,400	3,644		4,671			13,715
Nicaragua	2,962	94	4	606	3,666	7,190	930	118				8,238
Panama		855	1,491	2,313	4,659		9,041	4,685	12,726		2,882	29,334
Central America (other) <sup>1</sup>		18,050	39,766		57,816	4,110		837	70,754		30	75,731
Balboa, R. P. <sup>2</sup>		2,461		4,134	6,595	1,800			116			1,916
Total Central America	18,926	22,560	42,012	25,537	109,035	18,500	22,085	6,184	11,865	105,330	19,767	212,383
<b>WEST COAST SOUTH AMERICA:</b>												
Chile									91,163			135,327
Colombia	21	50,906	57,087	18,700	126,714		41,886		22,996		6,898	34,525
Ecuador		50,768	497		51,265		4,631		1,360,440		66,168	1,523,929
Peru	2,892	49	6,500		9,441	58,404		38,917			143	44,702
South America (other) <sup>1</sup>		31,509	79,992	7,598	119,099	39,935	20		4,604			1728
		27,544	10,488		38,032	68,730		9,171	841			80,470
Total South America	2,913	160,776	154,564	26,298	344,551	167,069	46,537	48,088	1,480,044		77,215	1,818,953

<b>OCEANIA:</b>										
Australia	478,326	478,326	344	1,535	292	3,277	3,685	9,133	3	3
British Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
French Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Zealand	39,883	39,883	.....	.....	.....	.....	.....	.....	.....	.....
Oceania (other) <sup>1</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Oceania	518,209	518,209	344	18,674	509	13,833	5,437	14,820	.....	61,470
<b>ASIA:</b>										
China	5,000	31,340	234,270	7,633	21,010	3,860	8,865	1,976	4,038	234,270
Taiwan	497	2,311	.....	3,624	23,949	10,512	4,025	2,505	6,053	47,382
Hong Kong	697	3,471	.....	2,030	18	.....	56,484	.....	.....	50,668
Indonesia	.....	.....	.....	.....	.....	.....	.....	.....	.....	58,532
Japan	22,723	32,746	23,397	31,595	43,698	4,828	72,499	3,600	28,173	207,790
Philippine Islands	.....	.....	.....	3,270	.....	.....	.....	.....	.....	3,270
Singapore	52	282	.....	2,276	.....	2,121	9,273	1,422	1,635	16,727
South Korea	680	717	7,991	6,720	17,229	1,582	5,823	954	4,432	44,731
Thailand	.....	.....	138,270	.....	.....	.....	.....	.....	.....	138,270
U.S.S.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	287,807
Asia (other) <sup>1</sup>	13,857	10,748	55,632	33,961	10,920	7,119	64,280	4,487	39,981	216,380
Total Asia	38,506	50,344	747,367	91,109	116,824	30,022	221,249	14,944	84,312	1,305,827
GRAND TOTAL	592,383	268,795	969,279	188,016	164,290	144,205	1,999,516	40,148	455,414	3,960,868

Percent of Atlantic-bound cargo..... 0.9 0.4 1.7 0.2 3.2 1.5 0.3 0.3 0.2 3.2 0.1 0.7 6.3

See footnotes at end of table.

Table 9.—Origin and Destination of Commercial Cargo Through the Panama Canal From Pacific to Atlantic During Fiscal Year 1989  
Segregated by Countries in Principal Trade Routes—Continued

[Long tons]

	To Europe											Total		
	Belgium	Den- mark	Finland	France	Italy	Nether- lands	Spain/ Portugal	Sweden	U.S.S.R.	United Kingdom	Yugo- slavia		West Germany	Europe (other) <sup>1</sup>
<b>WEST COAST NORTH AMERICA:</b>														
United States:														
Alaska .....	123,641			27,599	39,476		6,223			8,020		41,957	93,199	340,115
Hawaii .....													49,312	49,312
Mainland .....	467,230	70,885		258,358	166,840	2,025,215	230,767	31,297	14,921	193,675	14,596	320,784	1,251,644	5,046,212
Total United States .....	590,871	70,885		285,957	206,316	2,025,215	236,990	31,297	14,921	201,695	14,596	362,741	1,394,155	5,435,639
WEST COAST CANADA .....	640,307	600		336,573	315,911	1,035,016	389,377	631	139,974	1,734,459	38,551	300,715	1,503,004	6,435,118
<b>WEST COAST CENTRAL AMERICA:</b>														
Costa Rica .....	6,109				172	1,953			26,638			1,543	78	36,493
El Salvador .....	392			197		495	289		14	10		21,464	9,280	32,141
Guatemala .....	660			1,195	1,653	49,567	192		97,075			4,789	37	155,168
Honduras .....							5,615					57		5,672
Mexico .....	63,911			2,659	56,960	725	43,966	785		632		12,541	122,053	304,232
Nicaragua .....	86,196				488	12,776	18,540		46,699			19,541	16,986	201,226
Panama .....	61,844				74,509		6,054	7,625				85,525	9,298	244,855
Central America (other) <sup>1</sup> .....	950			5,109	61	1,820	2,679	1,298	404	643		24,826	7,968	45,758
Balboa, R.P. <sup>2</sup> .....														
Total Central America .....	220,062			9,160	133,843	67,336	77,335	9,708	170,830	1,285		170,286	165,700	1,025,545
<b>WEST COAST SOUTH AMERICA:</b>														
Chile .....	415,941			89,100	221,769	463,798	200,707	31,812		188,144	45,964	506,585	464,683	2,661,713
Colombia .....	8,555			2,622	172	28,507	2,619	411		616	796	124,008	11,384	179,690
Ecuador .....	174,617			3,611	94,967	21,903	26,705	604	20,668	7,712	20,133	118,699	108,720	597,839
Peru .....	224,963			19,115	115,057	126,126	54,289	12,741	50,797	56,807	128,479	426,710	287,237	1,502,321
South America (other) <sup>1</sup> .....	8,254			48,699	21,696	63,977	17,161		405,324	19,479	18,411	46,584	92,574	742,159
Total South America .....	832,330			163,147	453,661	704,311	301,481	45,568	476,789	272,758	213,783	1,222,586	964,098	5,683,722

<b>OCEANIA:</b>													
Australia	23,397				1,050	4,239	705	603	465	29,506	24,219	60,331	144,515
British Oceania							34,709			146,500			181,209
French Oceania	29				1,628		3,251			143		1,067	6,118
New Zealand	187,505				4,294	9,028	78,513	56	8,804	43,882	8,555	46,834	397,022
Oceania (other) <sup>1</sup>	6,215				310	1,423				5,032	2,854	34,109	49,943
Total Oceania	217,146				7,282	14,690	117,178	659	9,269	225,063	35,628	142,341	778,807
<b>ASIA:</b>													
China	13,981				29					2			14,012
Taiwan	4,294				116		808	19		243		515	6,399
Hong Kong	273				342		290	364	253	600		655	3,933
Indonesia													
Japan	4,397				9,734		86,280		22	14,297	2,284	17,608	134,622
Philippine Islands							16,979						16,979
Singapore	292				128		232	35		310	336	3,555	4,888
South Korea	519				193		1,829			413	491	1,605	5,050
Thailand													
U.S.S.R.													
Asia (other) <sup>1</sup>	1,591				716		16,476	37		2,377	6,697	15,139	43,033
Total Asia	25,347				11,258		122,894	455	275	18,242	10,978	39,467	236,616
<b>GRAND TOTAL</b>	<b>2,526,063</b>	<b>71,485</b>	<b>36,162</b>	<b>813,377</b>	<b>1,124,421</b>	<b>4,071,950</b>	<b>1,006,297</b>	<b>96,748</b>	<b>816,813</b>	<b>2,453,502</b>	<b>2,102,934</b>	<b>4,208,765</b>	<b>19,595,447</b>
Percent of Atlantic-bound cargo	4.0	0.1	0.1	1.3	1.8	6.4	1.6	0.2	1.3	3.9	0.4	3.3	30.9

See footnotes at end of table.

Table 9.—Origin and Destination of Commercial Cargo Through the Panama Canal From Pacific to Atlantic During Fiscal Year 1989 Segregated by Countries in Principal Trade Routes—Continued

	[Long tons]										Percent of total Atlantic-bound cargo	
	To Asia (Middle East)			To Africa								Grand Total
	Asia (Middle East)	Algeria	Egypt	Morocco	South Africa	Tunisia	Africa (other) <sup>1</sup>	Total				
<b>WEST COAST NORTH AMERICA:</b>												
United States:												
Alaska	.....	.....	.....	55,246	.....	.....	.....	55,246	.....	.....	627,496	1.0
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	288,520	0.5
Mainland	56,031	8,319	674,827	32,347	.....	.....	.....	795,662	.....	.....	7,494,666	11.8
Total United States	.....	8,319	674,827	87,593	.....	.....	.....	880,169	.....	.....	8,410,682	13.3
WEST COAST CANADA	247,165	315,684	2,000	756,439	.....	191,405	175,578	1,441,106	.....	.....	10,647,168	16.8
<b>WEST COAST CENTRAL AMERICA:</b>												
Costa Rica	.....	.....	.....	.....	.....	.....	92	92	.....	.....	73,296	0.1
El Salvador	.....	.....	.....	.....	84	.....	.....	26,659	.....	.....	85,518	0.1
Guatemala	.....	12,795	13,779	.....	.....	.....	.....	.....	.....	.....	452,415	0.7
Honduras	.....	.....	.....	.....	.....	.....	7,174	7,174	.....	.....	41,067	0.1
Mexico	.....	22,007	.....	.....	.....	273,088	.....	296,809	.....	.....	1,660,465	2.6
Nicaragua	.....	.....	.....	13,779	.....	.....	130	13,909	.....	.....	262,178	0.4
Panama	9,220	.....	.....	.....	.....	.....	3,403	3,403	.....	.....	345,857	0.5
Central America (other) <sup>2</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	181,112	0.3
Bahoa, R. P. <sup>3</sup>	459	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,789	0.0
Total Central America	9,679	34,802	13,779	13,779	84	273,088	12,514	348,046	.....	.....	3,113,697	4.9
<b>WEST COAST SOUTH AMERICA:</b>												
Chile	1,980	8,858	1,034	.....	.....	.....	17,451	27,343	.....	.....	4,811,773	7.6
Colombia	626	.....	.....	55,117	.....	.....	.....	55,117	.....	.....	697,476	1.1
Ecuador	63,987	2,506	.....	.....	.....	.....	.....	2,506	.....	.....	7,536,792	11.9
Peru	20,834	18,109	.....	5,638	.....	.....	7,698	31,445	.....	.....	4,157,372	6.6
South America (other) <sup>4</sup>	.....	.....	.....	.....	.....	.....	.....	307	.....	.....	1,012,791	1.6
Total South America	87,427	29,473	1,034	60,755	.....	.....	25,456	116,718	.....	.....	18,216,204	28.8

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OCEANIA:										
Australia	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.4
British Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,686,341
French Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	190,412
New Zealand	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,156
Oceania (other) <sup>1</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	919,655
Total Oceania	.....	.....	.....	.....	.....	.....	.....	.....	.....	271,186
	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,573
	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,081,750
	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.6
ASIA:										
China	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,053,346
Taiwan	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,449,802
Hong Kong	.....	.....	.....	.....	.....	.....	.....	.....	.....	771,011
Indonesia	.....	.....	.....	.....	.....	.....	.....	.....	.....	575,098
Japan	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,734,657
Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	231,674
Singapore	.....	.....	.....	.....	.....	.....	.....	.....	.....	667,921
South Korea	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,038,717
Thailand	.....	.....	.....	.....	.....	.....	.....	.....	.....	148,429
U.S.S.R.	.....	.....	.....	.....	.....	.....	.....	.....	.....	296,768
Asia (other) <sup>1</sup>	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,923,600
Total Asia	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,168
	.....	.....	.....	.....	.....	.....	.....	.....	.....	16,891,023
	.....	.....	.....	.....	.....	.....	.....	.....	.....	26.7
GRAND TOTAL										
	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,762,519
	.....	.....	.....	.....	.....	.....	.....	.....	.....	63,360,524
	.....	.....	.....	.....	.....	.....	.....	.....	.....	100.0%
Percent of Atlantic-bound cargo	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.4
	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.5
	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.7
	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.1
	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.4
	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.6
	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.6
	.....	.....	.....	.....	.....	.....	.....	.....	.....	390,851
	.....	.....	.....	.....	.....	.....	.....	.....	.....	691,640
	.....	.....	.....	.....	.....	.....	.....	.....	.....	918,566
	.....	.....	.....	.....	.....	.....	.....	.....	.....	84
	.....	.....	.....	.....	.....	.....	.....	.....	.....	464,493
	.....	.....	.....	.....	.....	.....	.....	.....	.....	296,885
	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,168
	.....	.....	.....	.....	.....	.....	.....	.....	.....	16,891,023
	.....	.....	.....	.....	.....	.....	.....	.....	.....	26.7

<sup>1</sup> Also includes cargo not routed to permit segregation between definite countries.

<sup>2</sup> Includes both local and transshipped cargo.

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>UNITED STATES:</b>			
Chemicals and petroleum chemicals .....	509	429	308
Caustic soda .....	149	98	80
Chemicals, unclassified .....	197	176	111
Toluene .....	39	30	50
Petroleum chemicals, miscellaneous .....	124	125	67
Grains .....			51
Corn .....			51
Lumber and products .....		2	
Plywood, veneers, composition board .....		2	
Machinery and equipment, miscellaneous .....	7	1	20
Manufactures of iron and steel .....	2		9
Plates, sheets and coils .....			6
Wire, bars and rods .....			3
Other and unclassified .....	2		
Minerals, miscellaneous .....	11		
Nitrates, phosphates, and potash .....	66		
Ammonium compounds .....	29		
Phosphates .....	37		
Ores and metals, miscellaneous .....	28		
Other agricultural commodities .....		2	
Coffee .....		2	
Petroleum and products .....	744	566	278
Diesel oil .....	19		
Fuel oil, residual .....	54	37	28
Gasoline .....	221	254	86
Jet fuel .....	101		
Kerosene .....	11		
Liquefied gas .....		1	2
Lubricating oil .....	290	271	162
Other and unclassified .....	48	3	
Miscellaneous .....	34	11	16
Container cargo .....	30	10	7
All other and unclassified .....	4	1	9
Total .....	<u>1,401</u>	<u>1,011</u>	<u>682</u>
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>CANADA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	24		
Nitrates, phosphates, and potash .....	171	200	819
Phosphates .....	171	200	819
Miscellaneous .....			13
All other and unclassified .....			13
Total .....	<u>195</u>	<u>200</u>	<u>832</u>
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....		3	
Chemicals and petroleum chemicals .....	1	3	11
Caustic soda .....	1	2	
Chemicals, unclassified .....		1	10
Petroleum chemicals, miscellaneous .....			1



**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO WEST COAST CENTRAL AMERICA—Continued</b>			
Coal and coke (excluding petroleum coke) . . . . .	39	174	.....
Coal . . . . .	39	174	.....
Grains . . . . .	1,368	946	1,177
Barley . . . . .	.....	9	.....
Corn . . . . .	571	460	443
Rice . . . . .	57	14	9
Sorghum . . . . .	133	.....	103
Soybeans . . . . .	318	218	288
Wheat . . . . .	277	245	331
Other and unclassified . . . . .	12	.....	3
Lumber and products, miscellaneous . . . . .	1	2	10
Machinery and equipment . . . . .	3	2	1
Construction machinery and equipment . . . . .	.....	2	.....
Other and unclassified . . . . .	3	.....	1
Manufactures of iron and steel, miscellaneous . . . . .	1	4	11
Minerals, miscellaneous . . . . .	.....	.....	31
Nitrates, phosphates, and potash . . . . .	917	605	726
Ammonium compounds . . . . .	129	95	146
Fertilizers, unclassified . . . . .	116	83	103
Fishmeal . . . . .	.....	8	.....
Phosphates . . . . .	662	403	466
Potash . . . . .	10	16	11
Ores and metals, miscellaneous . . . . .	29	16	22
Other agricultural commodities . . . . .	2	33	42
Beans, edible . . . . .	1	4	.....
Cotton, raw . . . . .	.....	1	.....
Oilseeds . . . . .	.....	28	42
Peas, dry . . . . .	1	.....	.....
Petroleum and products . . . . .	276	197	152
Asphalt . . . . .	.....	.....	3
Diesel oil . . . . .	113	79	80
Fuel oil, residual . . . . .	34	33	.....
Gasoline . . . . .	113	77	49
Jet fuel . . . . .	6	2	6
Kerosene . . . . .	7	3	6
Liquefied gas . . . . .	2	2	2
Lubricating oil . . . . .	1	.....	6
Other and unclassified . . . . .	.....	1	.....
Miscellaneous . . . . .	104	71	51
Flour, wheat . . . . .	1	.....	.....
Oil, vegetable . . . . .	24	21	8
Paper and paper products . . . . .	17	23	16
Tallow . . . . .	48	12	18
All other and unclassified . . . . .	14	15	9
Total . . . . .	<u>2,741</u>	<u>2,056</u>	<u>2,234</u>
<b>EAST COAST UNITED STATES TO WEST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods, miscellaneous . . . . .	2	28	21
Chemicals and petroleum chemicals . . . . .	264	241	296
Caustic soda . . . . .	88	54	113
Chemicals, unclassified . . . . .	157	169	163
Benzene . . . . .	6	3	.....

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>SOUTH AMERICA—Continued</b>			
<b>Chemicals and petroleum chemicals—Continued</b>			
Toulene .....	6	5	5
Petroleum coke, miscellaneous .....	7	10	15
Coal and coke .....	<u>591</u>	<u>59</u>	<u>174</u>
Coal .....	591	59	171
Coke .....	.....	.....	3
Grains .....	<u>1,331</u>	<u>2,245</u>	<u>1,668</u>
Corn .....	259	719	473
Oats .....	2	5	4
Rice .....	97	13	29
Sorghum .....	33	136	.....
Soybeans .....	48	324	221
Wheat .....	889	1,043	941
Other and unclassified .....	3	5	.....
Lumber and products .....	<u>7</u>	<u>34</u>	<u>7</u>
Boards and planks .....	.....	21	.....
Plywood, veneers, composition board .....	1	1	1
Pulpwood .....	3	7	5
Other and unclassified .....	3	5	1
Machinery and equipment .....	<u>92</u>	<u>62</u>	<u>60</u>
Agricultural machinery and implements .....	18	18	17
Automobiles, trucks, accessories, and parts .....	27	17	16
Construction machinery and equipment .....	27	18	17
Electrical machinery and apparatus .....	7	5	5
Motorcycles, bicycles and parts .....	.....	.....	1
Other and unclassified .....	13	4	4
Manufactures of iron and steel .....	<u>28</u>	<u>28</u>	<u>23</u>
Angles, shapes, and sections .....	8	6	6
Nails, tacks and spikes .....	1	2	.....
Plates, sheets, and coils .....	10	2	4
Tubes, pipes, and fittings .....	6	7	9
Wire, bars, and rods .....	2	1	2
Other and unclassified .....	1	10	2
Minerals, miscellaneous .....	<u>24</u>	<u>34</u>	<u>19</u>
Asbestos .....	2	2	.....
Infusorial earth .....	.....	1	.....
Soda and sodium compounds .....	17	24	14
Sulfur .....	5	7	5
Nitrates, phosphates, and potash .....	<u>593</u>	<u>700</u>	<u>738</u>
Ammonium compounds .....	11	9	18
Fertilizers, unclassified .....	359	365	370
Nitrate of soda .....	.....	2	.....
Phosphates .....	187	292	275
Potash .....	36	32	75
Ores and metals .....	<u>58</u>	<u>134</u>	<u>175</u>
Ores .....	<u>18</u>	<u>14</u>	<u>26</u>
Other and unclassified .....	18	14	26
Metals .....	<u>40</u>	<u>120</u>	<u>149</u>
Aluminum .....	2	1	2
Copper .....	.....	.....	1
Iron .....	.....	16	.....
Scrap .....	36	102	146
Tin, including tinplate .....	1	.....	.....
Other and unclassified .....	1	1	.....

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>SOUTH AMERICA—Continued</b>			
Other agricultural commodities .....	12	16	79
Beans, edible .....	1	1	.....
Copra and coconuts .....	.....	.....	1
Cotton, raw .....	2	3	2
Oilseeds .....	7	1	2
Peas, dry .....	.....	1	.....
Rubber, raw .....	1	2	1
Sugar .....	.....	8	73
Other and unclassified .....	1	.....	.....
Petroleum and products .....	<u>558</u>	<u>643</u>	<u>108</u>
Crude oil .....	3	.....	.....
Diesel oil .....	301	327	27
Fuel oil, residual .....	27	1	.....
Gasoline .....	114	46	4
Jet fuel .....	54	182	.....
Kerosene .....	1	.....	.....
Liquefied gas .....	.....	11	13
Lubricating oil .....	58	76	61
Petroleum coke .....	.....	.....	2
Other and unclassified .....	.....	.....	1
Miscellaneous .....	<u>876</u>	<u>855</u>	<u>808</u>
Bricks and tile .....	4	2	2
Carbon black .....	.....	1	1
Clay, fire, and china .....	11	7	10
Fibers, plant .....	2	3	6
Flour, wheat .....	50	53	56
Glass and glassware .....	2	2	2
Groceries, miscellaneous .....	1	3	3
Marble and stone .....	20	7	.....
Oil, coconut .....	3	3	4
Oil, vegetable .....	36	23	23
Paper and paper products .....	147	138	143
Resin .....	25	32	39
Rubber, manufactured .....	7	3	5
Tallow .....	42	56	42
Textiles .....	4	7	11
Container cargo .....	454	431	363
All other and unclassified .....	68	84	98
Total .....	<u>4,436</u>	<u>5,079</u>	<u>4,176</u>
<b>EAST COAST UNITED STATES TO BALBOA, R.P.:</b>			
Canned and refrigerated foods, miscellaneous .....	5	3	2
Chemicals and petroleum chemicals, miscellaneous .....	6	13	14
Grains .....	<u>135</u>	<u>132</u>	<u>122</u>
Corn .....	35	24	23
Rice .....	.....	2	.....
Soybeans .....	28	28	10
Wheat .....	71	78	89
Other and unclassified .....	1	.....	.....
Minerals, miscellaneous .....	1	.....	2
Nitrates, phosphates and potash .....	.....	3	.....
Ores and metals, miscellaneous .....	5	6	4
Other agricultural commodities, miscellaneous .....	4	.....	.....
Petroleum and products .....	<u>161</u>	<u>123</u>	<u>109</u>

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO BALBOA,</b>			
R.P.—Continued			
Petroleum and products—Continued			
Diesel oil .....	103	69	23
Fuel oil, residual .....	28	7	83
Gasoline .....	8	27	2
Jet fuel .....	19	.....	.....
Other and unclassified .....	3	20	1
Miscellaneous .....	33	33	63
Flour, wheat .....	.....	6	.....
Oil, coconut .....	.....	1	.....
Oil, vegetable .....	.....	1	.....
Tallow .....	1	1	2
All other and unclassified .....	32	24	61
Total .....	<u>350</u>	<u>313</u>	<u>316</u>
<b>EAST COAST UNITED STATES TO OCEANIA:</b>			
Canned and refrigerated foods, miscellaneous .....	12	19	13
Chemicals and petroleum chemicals .....	838	690	576
Caustic soda .....	660	536	458
Chemicals, unclassified .....	158	147	107
Benzene .....	3	.....	1
Toulene .....	1	4	5
Petroleum coke, miscellaneous .....	16	3	5
Coal and coke .....	3	19	.....
Grains .....	86	122	34
Corn .....	8	10	.....
Sorghum .....	24	.....	.....
Soybeans .....	54	112	34
Lumber and products .....	20	28	26
Pulpwood .....	20	28	26
Machinery and equipment .....	6	7	1
Agricultural machinery and equipment .....	2	2	.....
Automobiles, trucks, accessories and parts .....	1	2	1
Construction machinery and equipment .....	3	1	.....
Electrical machinery and apparatus .....	.....	1	.....
Other and unclassified .....	.....	1	.....
Manufactures of iron and steel, miscellaneous .....	25	.....	.....
Minerals, miscellaneous .....	18	11	27
Salt .....	.....	.....	7
Soda and compounds .....	18	10	20
Sulfur .....	.....	1	.....
Nitrates, phosphates, and potash .....	1,026	552	579
Ammonium compounds .....	18	19	17
Fertilizers, unclassified .....	101	86	172
Phosphates .....	864	408	374
Potash .....	43	39	16
Ores and metals, miscellaneous .....	16	5	2
Petroleum and products .....	313	207	313
Crude oil .....	21	.....	.....
Diesel oil .....	.....	65	.....
Gasoline .....	28	1	121
Jet fuel .....	4	.....	11
Kerosene .....	1	.....	.....
Liquefied gas .....	57	59	63

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO OCEANIA—</b>			
Continued			
Petroleum and products—Continued			
Lubricating oil .....	23	32	28
Petroleum coke .....	155	48	85
Other and unclassified .....	24	2	5
Miscellaneous .....	<u>657</u>	<u>571</u>	<u>498</u>
Carbon black .....	.....	33	.....
Clay, fire and china .....	33	25	31
Oil, vegetable .....	1	1	2
Paper and paper products .....	7	38	13
Resin .....	5	1	1
Container cargo .....	607	467	441
All other and unclassified .....	4	6	10
Total .....	<u>3,020</u>	<u>2,231</u>	<u>2,069</u>
<b>EAST COAST UNITED STATES TO ASIA:</b>			
Canned and refrigerated foods .....	<u>394</u>	<u>368</u>	<u>262</u>
Canned foods, miscellaneous .....	8	.....	.....
Refrigerated foods .....	<u>386</u>	<u>368</u>	<u>262</u>
Fish .....	1	.....	1
Fruit, excluding bananas .....	167	150	115
Other and unclassified .....	218	218	146
Chemicals and petroleum chemicals .....	<u>3,639</u>	<u>3,445</u>	<u>2,846</u>
Caustic soda .....	219	163	151
Chemicals, unclassified .....	1,979	1,979	1,860
Benzene .....	84	106	58
Toulene .....	139	122	133
Petroleum chemicals, miscellaneous .....	1,218	1,075	644
Coal and coke .....	<u>4,416</u>	<u>4,812</u>	<u>5,669</u>
Coal .....	4,206	4,732	5,610
Coke .....	210	80	59
Grains .....	<u>24,727</u>	<u>28,701</u>	<u>26,277</u>
Barley .....	.....	91	110
Corn .....	9,593	14,939	14,881
Oats .....	.....	.....	1
Rice .....	.....	33	15
Sorghum .....	1,750	2,025	2,521
Soybeans .....	4,684	6,143	7,098
Wheat .....	8,283	5,188	1,452
Other and unclassified .....	417	282	199
Lumber and products .....	<u>2,013</u>	<u>1,117</u>	<u>510</u>
Boards, and planks .....	37	20	.....
Plywood, veneers, composition board .....	2	12	.....
Pulpwood .....	899	705	510
Other and unclassified .....	1,075	380	.....
Machinery and equipment .....	<u>51</u>	<u>49</u>	<u>29</u>
Agricultural machinery and equipment .....	.....	3	2
Automobiles, trucks, accessories and parts .....	14	7	2
Construction machinery and equipment .....	13	8	4
Electrical machinery and apparatus .....	6	22	3
Other and unclassified .....	18	9	18
Manufactures of iron and steel .....	<u>1,425</u>	<u>115</u>	<u>199</u>
Angles, shapes, and sections .....	35	1	11
Nails, tacks and coils .....	13	.....	.....

Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
EAST COAST UNITED STATES TO ASIA—			
Continued			
Manufactures of iron and steel—Continued			
Plates, sheets, and coils .....	1,031	86	100
Tubes, pipes and fittings .....	85	.....	.....
Wires, bars, and rods .....	108	6	22
Other and unclassified .....	153	22	66
Minerals, miscellaneous .....	11	5	7
Nitrates, phosphates, and potash .....	5,230	5,256	4,521
Ammonium compounds .....	54	88	60
Fertilizers, unclassified .....	418	842	343
Phosphates .....	4,726	4,282	4,011
Potash .....	32	44	107
Ores and metals .....	1,659	1,870	2,028
Ores, miscellaneous .....	87	49	47
Metals .....	1,572	1,821	1,981
Aluminum .....	1	5	.....
Copper .....	.....	13	6
Iron .....	.....	35	.....
Scrap .....	1,559	1,762	1,971
Tin, including tinplate .....	1	.....	.....
Zinc .....	5	1	4
Other and unclassified .....	6	5	.....
Other agricultural commodities .....	240	113	181
Beans, edible .....	120	38	28
Cocoa and cacao beans .....	.....	27	.....
Cotton, raw .....	112	.....	.....
Molasses .....	8	8	.....
Oilseeds .....	.....	40	3
Sugar .....	.....	.....	150
Petroleum and products .....	1,719	2,261	2,062
Diesel oil .....	37	108	.....
Fuel oil, residual .....	.....	55	.....
Gasoline .....	17	274	414
Jet fuel .....	287	457	225
Kerosene .....	38	30	26
Liquefied gas .....	373	179	192
Lubricating oil .....	140	97	114
Petroleum coke .....	768	1,051	1,061
Other and unclassified .....	59	10	30
Miscellaneous .....	6,935	6,716	5,895
Carbon black .....	56	.....	.....
Clay, fire and china .....	456	371	369
Fibers, plant .....	.....	.....	1
Flour, wheat .....	30	31	.....
Glass and glassware .....	.....	3	.....
Groceries, miscellaneous .....	3	11	22
Marble and stone .....	11	4	8
Oil, vegetable .....	61	55	71
Paper and paper products .....	291	240	355
Resin .....	16	32	40
Rubber, manufactured .....	5	1	1
Tallow .....	2	6	6
Textiles .....	.....	.....	2
Tobacco and manufactures .....	.....	.....	3
Wax, paraffin .....	10	1	.....

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST UNITED STATES TO ASIA—</b>			
Continued			
Miscellaneous—Continued			
Container cargo .....	5,730	5,801	4,781
All other and unclassified .....	264	160	236
Total .....	<u>52,459</u>	<u>54,828</u>	<u>50,486</u>
<b>EAST COAST CANADA TO WEST COAST UNITED STATES:</b>			
Lumber and products, miscellaneous .....	4		
Manufactures of iron and steel, miscellaneous .....		11	45
Ores and metals .....			35
Ores, miscellaneous .....			30
Metals, miscellaneous .....			5
Miscellaneous .....	13	6	6
All other and unclassified .....	13	6	6
Total .....	<u>17</u>	<u>17</u>	<u>86</u>
<b>EAST COAST CANADA TO WEST COAST CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	1	1	
Grains, miscellaneous .....	2	4	22
Machinery and equipment, miscellaneous .....	1	1	
Manufactures of iron and steel, miscellaneous .....		1	
Miscellaneous .....	12	10	11
Paper and paper products .....	5	3	7
All other and unclassified .....	7	7	4
Total .....	<u>16</u>	<u>17</u>	<u>33</u>
<b>EAST COAST CANADA TO WEST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	2	13	19
Grains .....			11
Wheat .....			11
Lumber and products .....	1		4
Pulpwood .....	1		4
Machinery and equipment, miscellaneous .....			2
Manufactures of iron and steel, miscellaneous .....	17		2
Minerals, miscellaneous .....	7	10	9
Asbestos .....	7	10	9
Nitrates, phosphates, and potash .....	19	37	16
Potash .....	19	37	16
Ores and metals, miscellaneous .....	22		
Miscellaneous .....	34	31	37
Paper and paper products .....	16	24	19
Resin .....			4
All other and unclassified .....	18	7	14
Total .....	<u>102</u>	<u>91</u>	<u>100</u>
<b>EAST COAST CANADA TO OCEANIA:</b>			
Canned and refrigerated foods, miscellaneous .....	11	2	6
Lumber and products, miscellaneous .....			1

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST CANADA TO OCEANIA—Continued</b>			
Machinery and equipment, miscellaneous .....		2	1
Manufactures of iron and steel, miscellaneous .....	10		
Minerals, miscellaneous .....			21
Nitrates, phosphates and potash .....		18	15
Potash .....		18	15
Ores and metals, miscellaneous .....	55	3	27
Miscellaneous .....	197	139	127
Paper and paper products .....		20	35
All other and unclassified .....	197	119	92
Total .....	273	164	198
<b>EAST COAST CANADA TO ASIA:</b>			
Canned and refrigerated foods .....	49	64	40
Refrigerated foods .....	49	64	40
Fish .....	39	47	22
Meat .....		11	
Other and unclassified .....	10	6	18
Chemicals and petroleum chemicals, miscellaneous .....			5
Grains .....	276	292	289
Soybeans .....	35	40	106
Wheat .....	241	252	174
Other and unclassified .....			9
Lumber and products .....	282	274	240
Boards and planks .....	18		4
Pulpwood .....	247	251	228
Other and unclassified .....	17	23	8
Machinery and equipment, miscellaneous .....	8	10	5
Manufactures of iron and steel, miscellaneous .....	448	133	265
Minerals, miscellaneous .....	4		
Nitrates, phosphates and potash .....		40	16
Ores and metals .....	238	222	318
Ores, miscellaneous .....	31	41	70
Metals .....	207	181	248
Aluminum .....	3	1	2
Copper .....			6
Iron .....			16
Scrap .....	202	176	222
Zinc .....		4	2
Other and unclassified .....	2		
Miscellaneous .....	468	428	493
Flour, wheat .....		33	83
Marble and stone .....	74	37	8
Paper and paper products .....	185	154	127
Resin .....		7	34
Container cargo .....	197	170	223
All other and unclassified .....	12	27	18
Total .....	1,773	1,463	1,671
<b>EAST COAST CENTRAL AMERICA TO WEST COAST CENTRAL AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....		16	3
Nitrates, phosphates, and potash .....	427	297	398
Ammonium compounds .....	51	95	142



**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EAST COAST CENTRAL AMERICA TO WEST COAST CENTRAL AMERICA—Continued</b>			
Nitrates, phosphates, and potash—Continued			
Phosphates .....	49	2	22
Fertilizers, unclassified .....	327	200	234
Petroleum and products .....	<u>856</u>	<u>2,039</u>	<u>2,655</u>
Asphalt .....	21	8	8
Crude oil .....	382	565	624
Diesel oil .....	20	78	118
Liquefied gas .....	399	427	509
Fuel oil, residual .....	.....	946	1,376
Gasoline .....	34	5	1
Jet fuel .....	.....	10	.....
Other and unclassified .....	.....	.....	19
Miscellaneous .....	<u>1</u>	<u>4</u>	<u>22</u>
All other and unclassified .....	<u>1</u>	<u>4</u>	<u>22</u>
Total .....	<u><u>1,284</u></u>	<u><u>2,356</u></u>	<u><u>3,078</u></u>
<b>EAST COAST CENTRAL AMERICA TO WEST COAST SOUTH AMERICA:</b>			
Nitrates, phosphates, and potash, miscellaneous .....	71	49	6
Ores and metals, miscellaneous .....	8	9	11
Other agricultural commodities, miscellaneous .....	.....	3	12
Petroleum and products, miscellaneous .....	157	78	171
Miscellaneous .....	<u>82</u>	<u>102</u>	<u>83</u>
All other and unclassified .....	<u>82</u>	<u>102</u>	<u>83</u>
Total .....	<u><u>318</u></u>	<u><u>241</u></u>	<u><u>283</u></u>
<b>EAST COAST CENTRAL AMERICA TO BALBOA, R.P.:</b>			
Petroleum and products .....	250	176	27
Diesel oil .....	63	33	11
Fuel oil, residual .....	187	143	16
Miscellaneous .....	.....	1	1
All other and unclassified .....	.....	1	1
Total .....	<u><u>250</u></u>	<u><u>177</u></u>	<u><u>28</u></u>
<b>EAST COAST CENTRAL AMERICA TO ASIA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	45	51	26
Manufactures of iron and steel, miscellaneous .....	123	84	282
Nitrates, phosphates, and potash .....	.....	1	.....
Fertilizers, unclassified .....	.....	1	.....
Ores and metals, miscellaneous .....	48	20	46
Other agricultural commodities .....	20	142	1
Beans, edible .....	.....	1	.....
Coffee .....	.....	1	1
Sugar .....	20	140	.....
Petroleum and products, miscellaneous .....	10	39	.....
Miscellaneous .....	<u>120</u>	<u>105</u>	<u>150</u>
All other and unclassified .....	<u>120</u>	<u>105</u>	<u>150</u>
Total .....	<u><u>366</u></u>	<u><u>442</u></u>	<u><u>505</u></u>

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	6	7	13
Chemicals and petroleum chemicals, miscellaneous .....		1	1
Lumber and products, miscellaneous .....	54	53	42
Manufactures of iron and steel, miscellaneous .....	494	555	479
Ores and metals .....	75	42	35
Ores .....	17	12	29
Alumina/bauxite .....	12	12	28
Other and unclassified .....	5	.....	1
Metals, miscellaneous .....	58	30	6
Other agricultural commodities .....	10	9	2
Cocoa and cacao beans .....	2	2	.....
Coffee .....	8	7	2
Petroleum and products .....	510	437	253
Asphalt .....	.....	41	82
Diesel oil .....	88	13	29
Fuel oil, residual .....	171	.....	.....
Gasoline .....	204	205	81
Jet fuel .....	34	165	61
Liquefied gas .....	13	13	.....
Miscellaneous .....	123	121	109
Paper and paper products .....	6	18	21
All other and unclassified .....	117	103	88
Total .....	<u>1,272</u>	<u>1,225</u>	<u>934</u>
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>CANADA:</b>			
Manufactures of iron and steel, miscellaneous .....	108	50	51
Miscellaneous .....	66	37	60
All other and unclassified .....	66	37	60
Total .....	<u>174</u>	<u>87</u>	<u>111</u>
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>CENTRAL AMERICA:</b>			
Grains .....	14	.....	3
Soybeans .....	14	.....	.....
Other and unclassified .....	.....	.....	3
Manufactures of iron and steel, miscellaneous .....	127	101	75
Nitrates, phosphates, and potash .....	17	12	8
Fertilizers, unclassified .....	17	12	8
Ores and metals, miscellaneous .....	13	54	.....
Petroleum and products .....	1,010	1,019	757
Crude oil .....	704	751	716
Diesel oil .....	24	29	32
Fuel oil, residual .....	249	147	5
Gasoline .....	30	60	3
Other and unclassified .....	3	32	1
Other agricultural commodities .....	19	.....	.....
Oilseeds .....	19	.....	.....
Miscellaneous .....	25	18	21
All other and unclassified .....	25	18	21
Total .....	<u>1,225</u>	<u>1,204</u>	<u>864</u>

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>SOUTH AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous . . . . .	21	10	26
Coal and coke . . . . .	163	38	.....
Grains, miscellaneous . . . . .	9	10	1
Manufactures of iron and steel, miscellaneous . . . . .	202	90	39
Minerals, miscellaneous . . . . .	21	8	16
Nitrates, phosphates, and potash . . . . .	142	158	137
Ammonium compounds . . . . .	17	.....	.....
Fertilizers, unclassified . . . . .	125	158	137
Ores and metals . . . . .	20	59	49
Ores . . . . .	11	32	8
Alumina/bauxite . . . . .	11	9	8
Iron . . . . .	.....	23	.....
Metals, miscellaneous . . . . .	9	27	41
Other agricultural commodities . . . . .	1	53	40
Other and unclassified . . . . .	1	53	40
Petroleum and products . . . . .	1,378	1,550	2,563
Crude oil . . . . .	859	915	1,602
Diesel oil . . . . .	210	185	179
Fuel oil, residual . . . . .	.....	7	29
Gasoline . . . . .	131	239	513
Jet fuel . . . . .	79	28	28
Liquefied gas . . . . .	56	134	96
Lubricating oil . . . . .	38	37	48
Other and unclassified . . . . .	5	5	68
Miscellaneous . . . . .	108	131	87
All other and unclassified . . . . .	108	131	87
Total . . . . .	2,065	2,107	2,958
<b>EAST COAST SOUTH AMERICA TO BALBOA, R.P.:</b>			
Petroleum and products . . . . .	6	8	77
Diesel oil . . . . .	.....	.....	24
Fuel oil, residual . . . . .	.....	.....	39
Gasoline . . . . .	6	.....	14
Lubricating oil . . . . .	.....	8	.....
Miscellaneous . . . . .	6	4	5
All other and unclassified . . . . .	6	4	5
Total . . . . .	12	12	82
<b>EAST COAST SOUTH AMERICA TO HAWAII:</b>			
Petroleum and products . . . . .	62	19	90
Jet fuel . . . . .	62	19	90
Total . . . . .	62	19	90
<b>EAST COAST SOUTH AMERICA TO OCEANIA:</b>			
Ores and metals, miscellaneous . . . . .	57	.....	.....
Petroleum and products, miscellaneous . . . . .	.....	.....	26
Miscellaneous . . . . .	9	3	4
All other and unclassified . . . . .	9	3	4
Total . . . . .	66	3	30

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>EAST COAST SOUTH AMERICA TO ASIA:</b>			
Canned and refrigerated foods, miscellaneous .....	50	60	59
Chemicals and petroleum chemicals, miscellaneous .....	.....	3	10
Coal and coke .....	89	260	59
Lumber and products, miscellaneous .....	56	64	12
Manufactures of iron and steel, miscellaneous .....	68	126	420
Nitrates, phosphates, and potash .....	61	1	1
Fertilizers, unclassified .....	61	1	1
Ores and metals .....	479	474	382
Ores .....	202	124	79
Alumina/bauxite .....	56	11	10
Chrome .....	11	.....	.....
Iron .....	54	54	56
Manganese .....	81	54	4
Other and unclassified .....	.....	5	9
Metals .....	277	350	303
Aluminum .....	266	334	293
Other and unclassified .....	11	16	10
Other agricultural commodities .....	40	22	10
Cotton, raw .....	.....	3	.....
Molasses .....	36	.....	.....
Other and unclassified .....	5	19	10
Petroleum and products .....	123	118	382
Gasoline .....	27	.....	113
Jet fuel .....	61	.....	87
Kerosene .....	35	.....	.....
Liquefied gas .....	.....	118	150
Other and unclassified .....	.....	.....	32
Miscellaneous .....	120	142	88
Container cargo .....	60	36	16
All other and unclassified .....	60	106	73
Total .....	1,086	1,270	1,423
<b>WEST INDIES TO WEST COAST UNITED STATES:</b>			
Manufactures of iron and steel, miscellaneous .....	16	.....	19
Nitrates, phosphates and potash .....	53	.....	35
Ores and metals .....	22	.....	7
Ore, alumina/bauxite .....	22	.....	7
Petroleum and products .....	359	133	254
Asphalt .....	.....	.....	25
Crude oil .....	.....	47	.....
Diesel oil .....	98	.....	.....
Fuel oil, residual .....	54	.....	.....
Gasoline .....	179	55	105
Jet fuel .....	28	31	29
Lubricating oil .....	.....	.....	46
Other and unclassified .....	.....	.....	49
Miscellaneous .....	24	9	93
All other and unclassified .....	24	9	93
Total .....	474	142	408
<b>WEST INDIES TO WEST COAST CENTRAL AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	4	.....	.....

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST INDIES TO WEST COAST CENTRAL AMERICA—Continued</b>			
Nitrates, phosphates and potash .....	42	46	37
Other agricultural commodities .....	35	15	.....
Molasses .....	10	.....	.....
Sugar .....	25	15	.....
Petroleum and products .....	95	169	169
Asphalt .....	.....	2	4
Crude oil .....	.....	65	35
Diesel oil .....	19	42	71
Fuel oil, residual .....	43	2	34
Gasoline .....	30	46	22
Jet fuel .....	3	3	2
Kerosene .....	.....	1	.....
Liquefied gas .....	.....	8	.....
Lubricating oil .....	.....	.....	1
Miscellaneous .....	25	44	53
Cement .....	.....	2	8
All other and unclassified .....	25	42	45
Total .....	201	274	259
<b>WEST INDIES TO WEST COAST SOUTH AMERICA:</b>			
Nitrates, phosphates and potash .....	53	73	53
Other agricultural commodities, miscellaneous .....	32	.....	24
Ores and metals .....	32	29	.....
Ores, miscellaneous .....	.....	15	.....
Metals, miscellaneous .....	32	14	.....
Petroleum and products .....	363	342	822
Crude oil .....	.....	26	.....
Diesel oil .....	138	178	356
Fuel oil, residual .....	13	6	51
Gasoline .....	124	70	266
Jet fuel .....	14	32	104
Liquefied gas .....	20	.....	.....
Kerosene .....	.....	.....	9
Lubricating oil .....	54	30	32
Other and unclassified .....	.....	.....	4
Miscellaneous .....	7	23	15
All other and unclassified .....	7	23	15
Total .....	487	467	914
<b>WEST INDIES TO BALBOA, R.P.:</b>			
Minerals, miscellaneous .....	8	.....	.....
Petroleum and products .....	2	26	77
Diesel oil .....	.....	10	46
Fuel oil, residual .....	.....	.....	5
Gasoline .....	1	7	26
Lubricating oil .....	1	9	.....
Miscellaneous .....	1	4	6
All other and unclassified .....	1	4	6
Total .....	11	30	83

Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST INDIES TO HAWAII:</b>			
Petroleum and products .....	.....	.....	87
Jet fuel .....	.....	.....	87
Total .....	.....	.....	87
<b>WEST INDIES TO OCEANIA:</b>			
Minerals, miscellaneous .....	.....	32	20
Salt .....	.....	32	20
Ores and metals, miscellaneous .....	2	.....	.....
Petroleum and products .....	29	.....	3
Gasoline .....	29	.....	.....
Lubricating oil .....	.....	.....	2
Other and unclassified .....	.....	.....	1
Miscellaneous .....	2	5	5
All other and unclassified .....	2	5	5
Total .....	33	37	28
<b>WEST INDIES TO ASIA:</b>			
Canned and refrigerated foods .....	35	28	24
Fish, refrigerated .....	25	20	16
Other and unclassified .....	10	8	8
Chemicals and petroleum chemicals, miscellaneous .....	179	64	94
Manufactures of iron and steel, miscellaneous .....	102	97	29
Nitrates, phosphates and potash .....	42	65	.....
Ores and metals .....	22	53	30
Ores .....	2	33	28
Alumina/bauxite .....	.....	32	28
Other and unclassified .....	2	1	.....
Metals, miscellaneous .....	20	20	2
Other agricultural commodities .....	1,350	1,814	953
Sugar .....	1,349	1,808	953
Other and unclassified .....	1	6	.....
Petroleum and products .....	67	195	192
Diesel oil .....	.....	75	.....
Fuel oil, residual .....	.....	41	.....
Gasoline .....	.....	38	94
Jet fuel .....	66	17	68
Lubricating oil .....	1	12	6
Petroleum products, miscellaneous .....	.....	12	24
Miscellaneous .....	168	197	282
Container cargo .....	167	183	176
All other and unclassified .....	1	14	6
Total .....	1,965	2,513	1,604
<b>EUROPE TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	59	76	78
Chemicals and petroleum chemicals .....	39	66	51
Caustic soda .....	4	7	16
Chemicals, unclassified .....	35	59	35
Lumber and products, miscellaneous .....	3	20	20
Machinery and equipment .....	171	180	224

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>EUROPE TO WEST COAST UNITED STATES—</b>			
Continued			
Machinery and equipment—Continued			
Automobiles, trucks, accessories and parts . . . . .	162	173	217
Construction machinery and equipment . . . . .	2	3	1
Electrical machinery and apparatus . . . . .	2	3	2
Other and unclassified . . . . .	5	1	4
Manufactures of iron and steel . . . . .	<u>630</u>	<u>553</u>	<u>568</u>
Angles, shapes, and sections . . . . .	44	35	38
Plates, sheets, and coils . . . . .	452	359	312
Tubes, pipes, and fittings . . . . .	4	8	19
Wires, bars, and rods . . . . .	102	105	77
Other and unclassified . . . . .	28	46	122
Nitrates, phosphates, and potash . . . . .	<u>393</u>	<u>328</u>	<u>345</u>
Ammonium compounds . . . . .	80	51	119
Fertilizers, unclassified . . . . .	271	220	194
Nitrate of soda . . . . .	42	47	23
Other and unclassified . . . . .	.....	10	9
Ores and metals . . . . .	<u>13</u>	<u>26</u>	<u>123</u>
Ores, miscellaneous . . . . .	5	.....	115
Metals . . . . .	8	26	8
Iron . . . . .	.....	19	.....
Other and unclassified . . . . .	8	7	8
Petroleum and products . . . . .	<u>230</u>	<u>503</u>	<u>236</u>
Diesel oil . . . . .	.....	14	19
Fuel oil, residual . . . . .	37	.....	52
Gasoline . . . . .	147	407	63
Jet fuel . . . . .	.....	57	66
Kerosene . . . . .	.....	25	.....
Other and unclassified . . . . .	46	.....	36
Miscellaneous . . . . .	<u>1,821</u>	<u>1,711</u>	<u>1,799</u>
Bricks and tile . . . . .	8	7	4
Cement . . . . .	130	115	227
Glass and glassware . . . . .	1	1	1
Liquors and wines . . . . .	4	4	8
Marble and stone . . . . .	7	4	1
Oil, vegetable . . . . .	11	5	7
Paper and paper products . . . . .	77	136	130
Rubber, manufactured . . . . .	1	1	.....
Container cargo . . . . .	1,561	1,409	1,377
All other and unclassified . . . . .	21	29	44
Total . . . . .	<u>3,359</u>	<u>3,463</u>	<u>3,444</u>
<b>EUROPE TO WEST COAST CANADA:</b>			
Canned and refrigerated foods, miscellaneous . . . . .	9	8	12
Chemicals and petroleum chemicals, miscellaneous . . . . .	.....	3	.....
Lumber and products, miscellaneous . . . . .	.....	5	.....
Machinery and equipment . . . . .	<u>16</u>	<u>6</u>	<u>13</u>
Automobiles, trucks, accessories and parts . . . . .	15	6	13
Other and unclassified . . . . .	1	.....	.....
Manufactures of iron and steel . . . . .	<u>175</u>	<u>250</u>	<u>135</u>
Angles, shapes, and sections . . . . .	21	23	5
Plates, sheets, and coils . . . . .	78	118	40
Tubes, pipes, and fittings . . . . .	9	17	6
Wire, bars, and rods . . . . .	33	73	38
Other and unclassified . . . . .	34	19	46

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EUROPE TO WEST COAST CANADA—Continued</b>			
Ores and metals, miscellaneous .....	114	138	48
Miscellaneous .....	209	173	168
Bricks and tile .....	1	1	1
All other and unclassified .....	208	172	167
Total .....	<u>523</u>	<u>583</u>	<u>376</u>
<b>EUROPE TO WEST COAST CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	15	23	32
Chemicals and petroleum chemicals, miscellaneous ....	14	18	54
Grains .....	80	112	73
Corn .....	.....	2	1
Rice .....	17	18	9
Wheat .....	48	68	42
Other and unclassified .....	15	24	21
Machinery and equipment .....	33	45	48
Automobiles, trucks, accessories and parts .....	23	21	20
Construction machinery and equipment .....	4	11	19
Other and unclassified .....	6	13	9
Manufactures of iron and steel .....	85	94	142
Angles, shapes, and sections .....	4	9	12
Plates, sheets, and coils .....	24	39	65
Tubes, pipes, and fittings .....	25	2	2
Wire, bars, and rods .....	30	38	58
Other and unclassified .....	2	6	5
Minerals, miscellaneous .....	3	3	.....
Nitrates, phosphates, and potash .....	470	425	567
Ammonium compounds .....	40	51	95
Fertilizers, unclassified .....	417	341	470
Phosphates .....	.....	1	.....
Potash .....	13	32	2
Ores and metals, miscellaneous .....	6	7	11
Petroleum and products .....	177	599	607
Crude oil .....	120	451	416
Diesel oil .....	29	77	87
Gasoline .....	16	33	50
Other and unclassified .....	12	38	54
Other agricultural commodities, miscellaneous .....	13	5	.....
Miscellaneous .....	151	156	155
Cement .....	2	2	1
Glass and glassware .....	1	3	1
Paper and paper products .....	19	29	18
All other and unclassified .....	129	122	135
Total .....	<u>1,047</u>	<u>1,487</u>	<u>1,689</u>
<b>EUROPE TO WEST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	23	43	42
Canned foods .....	16	27	24
Milk .....	16	25	22
Other and unclassified .....	.....	2	2
Refrigerated foods .....	7	16	18



**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EUROPE TO WEST COAST SOUTH AMERICA—</b>			
Continued			
Canned and refrigerated foods—Continued			
Refrigerated foods—Continued			
Dairy products .....	3	3	6
Other and unclassified .....	4	13	12
Chemicals and petroleum chemicals .....	34	71	29
Caustic soda .....	12	45	9
Chemicals, unclassified .....	20	25	18
Benzene .....	1	.....	.....
Petroleum chemicals, miscellaneous .....	1	1	2
Coal and coke .....	.....	27	.....
Grains .....	87	91	122
Barley .....	4	24	14
Oats .....	3	.....	3
Wheat .....	71	35	65
Rice .....	.....	4	7
Other and unclassified .....	9	28	33
Lumber and products .....	.....	.....	1
Pulpwood .....	.....	.....	1
Machinery and equipment .....	46	60	61
Agricultural machinery and implements .....	7	7	14
Automobiles, trucks, accessories and parts .....	18	21	20
Construction machinery and equipment .....	11	14	12
Electrical machinery and apparatus .....	5	6	8
Other and unclassified .....	5	12	7
Manufactures of iron and steel .....	92	249	276
Angles, shapes, and sections .....	7	15	34
Plates, sheets, and coils .....	55	78	123
Tubes, pipes, and fittings .....	7	17	12
Wire, bars, and rods .....	20	128	82
Other and unclassified .....	3	11	25
Minerals, miscellaneous .....	26	16	24
Soda and sodium compounds .....	25	16	21
Other and unclassified .....	1	.....	3
Nitrates, phosphates, and potash .....	391	195	435
Ammonium compounds .....	42	51	77
Fertilizers, unclassified .....	307	108	287
Phosphates .....	21	23	30
Potash .....	21	8	41
Other and unclassified .....	.....	5	.....
Ores and metals .....	61	92	50
Ores, miscellaneous .....	36	77	39
Metals .....	25	15	11
Iron .....	4	.....	.....
Tin, including tinplate .....	16	12	4
Other and unclassified .....	5	3	7
Other agricultural commodities .....	41	180	156
Sugar .....	40	176	148
Other and unclassified .....	1	4	8
Petroleum and products .....	152	109	127
Diesel oil .....	77	24	3
Gasoline .....	2	6	5
Liquefied gas .....	.....	11	33
Lubricating oil .....	25	24	37
Fuel oil, residual .....	44	44	13

Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>EUROPE TO WEST COAST SOUTH AMERICA—</b>			
Continued			
Petroleum and products—Continued			
Other and unclassified .....	4	.....	36
Miscellaneous .....	758	697	756
Ammunition and explosives .....	.....	2	2
Bricks and tile .....	13	3	3
Cement .....	1	3	4
Flour, wheat .....	33	37	31
Glass and glassware .....	2	2	3
Groceries, miscellaneous .....	3	2	5
Liquors and wines .....	.....	1	.....
Oil, vegetable .....	1	1	1
Paper and paper products .....	52	42	51
Resin .....	1	2	3
Rubber, manufactured .....	1	1	2
Textiles .....	1	1	3
Wax, paraffin .....	4	4	5
Container cargo .....	563	490	509
All other and unclassified .....	83	106	134
Total .....	<u>1,711</u>	<u>1,830</u>	<u>2,079</u>
<b>EUROPE TO OCEANIA:</b>			
Canned and refrigerated foods, miscellaneous .....	18	12	15
Chemicals and petroleum chemicals .....	144	132	135
Caustic soda .....	61	51	56
Chemicals, unclassified .....	65	77	68
Petroleum chemicals, miscellaneous .....	18	4	11
Grains, miscellaneous .....	12	7	.....
Lumber and products, miscellaneous .....	4	2	9
Machinery and equipment .....	23	26	32
Agricultural machinery and implements .....	2	3	3
Automobiles, trucks, accessories and parts .....	14	14	22
Construction machinery and equipment .....	4	3	4
Electrical machinery and apparatus .....	3	4	3
Other and unclassified .....	.....	2	.....
Manufactures of iron and steel .....	54	52	41
Angles, shapes, and sections .....	4	13	10
Plates, sheets, and coils .....	14	17	15
Tubes, pipes, and fittings .....	11	6	5
Wire, bars, and rods .....	14	9	9
Other and unclassified .....	11	7	2
Minerals, miscellaneous .....	6	11	6
Salt .....	4	9	4
Soda and sodium compounds .....	2	2	2
Nitrates, phosphates, and potash .....	49	59	57
Ammonium compounds .....	4	12	35
Fertilizers, unclassified .....	18	43	8
Phosphates .....	1	.....	.....
Potash .....	26	4	14
Ores and metals, miscellaneous .....	2	3	2
Other agricultural commodities, miscellaneous .....	2	3	3
Petroleum and products .....	10	7	86
Lubricating oil .....	9	4	11
Gasoline .....	.....	1	71
Other and unclassified .....	1	2	4

**Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>EUROPE TO OCEANIA—Continued</b>			
Miscellaneous .....	717	713	634
Bricks and tile .....	1	1	3
Cement .....	6	14	10
Flour, wheat .....	15	12	14
Glass and glassware .....	1	1	4
Groceries, miscellaneous .....	.....	.....	1
Liquors and wines .....	1	.....	1
Oil, vegetable .....	13	13	11
Paper and paper products .....	7	16	12
Textiles .....	.....	.....	1
Container cargo .....	618	606	521
All other and unclassified .....	55	50	56
Total .....	<u>1,041</u>	<u>1,027</u>	<u>1,020</u>
<b>EUROPE TO ASIA:</b>			
Canned and refrigerated foods .....	35	41	17
Canned foods, miscellaneous .....	2	.....	.....
Refrigerated foods, miscellaneous .....	33	41	17
Chemicals and petroleum chemicals .....	210	218	301
Caustic soda .....	21	13	4
Chemicals, unclassified .....	136	147	261
Benzene .....	2	12	11
Petroleum chemicals, miscellaneous .....	51	46	25
Lumber and products, miscellaneous .....	7	50	8
Machinery and equipment .....	15	41	14
Automobiles, trucks, accessories and parts .....	14	41	13
Other and unclassified .....	1	.....	1
Manufactures of iron and steel, miscellaneous .....	8	62	29
Nitrates, phosphates, and potash .....	24	.....	25
Potash .....	24	.....	25
Ores and metals, miscellaneous .....	17	72	32
Petroleum and products, miscellaneous .....	8	29	12
Miscellaneous .....	168	135	98
Paper and paper products .....	9	10	5
All other and unclassified .....	159	125	93
Total .....	<u>492</u>	<u>648</u>	<u>536</u>
<b>AFRICA TO WEST COAST UNITED STATES:</b>			
Manufactures of iron and steel, miscellaneous .....	.....	.....	146
Ores and metals .....	15	10	18
Ores .....	15	10	15
Alumina/bauxite ore .....	5	.....	.....
Manganese ore .....	4	6	6
Other and unclassified .....	6	4	9
Metals .....	.....	.....	3
Other and unclassified .....	.....	.....	3
Petroleum and products .....	.....	27	31
Gasoline .....	.....	27	4
Jet fuel .....	.....	.....	27
Miscellaneous .....	5	14	11
All other and unclassified .....	5	14	11
Total .....	<u>20</u>	<u>51</u>	<u>206</u>

Table 10.—Important Commodity Shipments Over Principal Trade Routes  
Atlantic to Pacific—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>AFRICA TO WEST COAST CANADA:</b>			
Nitrates, phosphates, and potash .....	952	787	195
Phosphates .....	952	787	195
Miscellaneous .....	4	2	2
All other and unclassified .....	4	2	2
Total .....	956	789	197
<b>AFRICA TO WEST COAST CENTRAL AMERICA:</b>			
Grains, miscellaneous .....		5	11
Manufactures of iron and steel, miscellaneous .....		2	.....
Nitrates, phosphates, and potash .....	305	204	49
Phosphates .....	305	191	49
Fertilizers, unclassified .....		13	.....
Miscellaneous .....	1	1	.....
All other and unclassified .....	1	1	.....
Total .....	306	212	60
<b>AFRICA TO WEST COAST SOUTH AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	7	.....	.....
Manufactures of iron and steel, miscellaneous .....	35	21	.....
Nitrates, phosphates, and potash .....	23	26	80
Fertilizers, unclassified .....	23	26	70
Phosphates .....		.....	10
Petroleum and products, miscellaneous .....	42	8	5
Miscellaneous .....	3	5	7
All other and unclassified .....	3	5	7
Total .....	110	60	92
<b>AFRICA TO OCEANIA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	4	14	4
Nitrates, phosphates, and potash .....	161	88	.....
Phosphates .....	161	88	.....
Miscellaneous .....	1	.....	1
All other and unclassified .....	1	.....	1
Total .....	166	102	5
<b>AFRICA TO ASIA:</b>			
Canned and refrigerated foods .....	29	38	34
Fish, refrigerated .....	29	38	34
Miscellaneous .....	10	29	16
All other and unclassified .....	10	29	16
Total .....	39	67	50
<b>ASIA (MIDDLE EAST) TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	1	1	.....
Petroleum and products .....	95	130	230
Gasoline .....	95	130	230
Miscellaneous .....	37	38	40
All other and unclassified .....	37	38	40
Total .....	133	169	270

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST COAST UNITED STATES TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	2	.....	.....
Chemicals and petroleum chemicals .....	<u>75</u>	<u>64</u>	<u>48</u>
Caustic soda .....	4	.....	.....
Chemicals, unclassified .....	71	64	48
Lumber and products, miscellaneous .....	46	.....	.....
Machinery and equipment .....	<u>1</u>	<u>6</u>	<u>3</u>
Automobiles, trucks, accessories and parts .....	1	4	3
Construction machinery and equipment .....	.....	1	.....
Other and unclassified .....	.....	1	.....
Petroleum and products .....	<u>722</u>	<u>747</u>	<u>1,317</u>
Crude oil .....	215	480	984
Diesel oil .....	49	102	40
Fuel oil, residual .....	121	36	103
Gasoline .....	89	.....	5
Jet fuel .....	5	.....	.....
Lubricating oil .....	123	99	139
Petroleum coke .....	104	.....	.....
Other and unclassified .....	14	30	46
Miscellaneous .....	<u>72</u>	<u>55</u>	<u>103</u>
All other and unclassified .....	72	55	103
Total .....	<u>918</u>	<u>872</u>	<u>1,471</u>
<b>WEST COAST UNITED STATES TO EAST COAST CANADA:</b>			
Canned and refrigerated foods, miscellaneous .....	1	.....	.....
Nitrates, phosphates and potash .....	47	.....	.....
Ores and metals, miscellaneous .....	.....	10	.....
Petroleum and products .....	<u>110</u>	<u>178</u>	<u>101</u>
Crude oil .....	13	.....	.....
Jet fuel .....	.....	38	.....
Lubricating oil .....	.....	26	11
Petroleum coke .....	97	114	90
Miscellaneous .....	<u>2</u>	<u>3</u>	<u>1</u>
All other and unclassified .....	2	3	1
Total .....	<u>160</u>	<u>191</u>	<u>102</u>
<b>WEST COAST UNITED STATES TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	<u>1</u>	<u>3</u>	<u>8</u>
Canned foods .....	<u>1</u>	<u>2</u>	<u>4</u>
Milk .....	1	2	4
Refrigerated foods .....	.....	1	4
Other and unclassified .....	.....	1	4
Chemicals and petroleum chemicals, miscellaneous .....	5	.....	1
Coke, coal type .....	11	.....	10
Lumber and products .....	<u>6</u>	<u>42</u>	<u>57</u>
Pulpwood .....	6	42	57
Machinery and equipment .....	<u>5</u>	<u>2</u>	<u>2</u>
Automobiles, trucks, accessories and parts .....	.....	.....	2
Agricultural machinery and implements .....	.....	1	.....
Construction machinery and equipment .....	2	1	.....
Other, unclassified .....	3	.....	.....

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST COAST UNITED STATES TO EAST COAST SOUTH AMERICA—Continued</b>			
Minerals, miscellaneous .....	65	13	40
Borax .....	10	1	.....
Salt .....	.....	.....	3
Soda and sodium compounds .....	12	.....	37
Sulfur .....	43	12	.....
Nitrates, phosphates, and potash .....	6	2	5
Nitrate of soda .....	.....	2	.....
Fertilizers, unclassified .....	6	.....	5
Ores and metals .....	51	1	2
Ores, miscellaneous .....	40	.....	.....
Metals, miscellaneous .....	11	1	2
Other agricultural commodities .....	.....	1	3
Cotton .....	.....	1	2
Peas, dried .....	.....	.....	1
Petroleum and products .....	151	108	58
Fuel oil, residual .....	53	.....	.....
Petroleum coke .....	98	108	58
Miscellaneous .....	23	60	97
Clay, fire and china .....	.....	5	6
Tallow .....	.....	.....	6
Paper and paper products .....	.....	10	14
Seeds, excluding oilseeds .....	.....	1	.....
Container cargo .....	23	42	67
All other and unclassified .....	.....	2	4
Total .....	324	232	283
<b>WEST COAST UNITED STATES TO WEST INDIES:</b>			
Canned and refrigerated foods, miscellaneous .....	.....	3	1
Grains .....	26	34	70
Rice .....	26	34	70
Petroleum and products .....	387	448	865
Crude oil .....	62	.....	.....
Diesel oil .....	3	64	51
Fuel oil, residual .....	304	384	782
Gasoline .....	18	.....	.....
Jet fuel .....	.....	.....	32
Miscellaneous .....	5	5	3
All other and unclassified .....	5	5	3
Total .....	416	490	939
<b>WEST COAST UNITED STATES TO EUROPE:</b>			
Canned and refrigerated foods .....	183	208	145
Refrigerated foods .....	183	208	145
Fish .....	83	76	54
Fruit, excluding bananas .....	13	31	7
Other and unclassified .....	87	101	84
Chemicals and petroleum chemicals .....	92	61	83
Chemicals, unclassified .....	60	31	.....
Petroleum chemicals, miscellaneous .....	32	30	.....
Coal and coke .....	129	205	195
Grains .....	185	157	125

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST UNITED STATES TO EUROPE—</b>			
Continued			
Grains—Continued			
Barley .....			26
Rice .....	152	126	99
Wheat .....	30	31	.....
Other and unclassified .....	3	.....	.....
Lumber and products .....	629	732	781
Boards and planks .....	208	244	212
Plywood, veneers, composition board .....	85	87	92
Pulpwood .....	237	232	214
Other and unclassified .....	99	169	263
Machinery and equipment .....	.....	1	.....
Other and unclassified .....	.....	1	.....
Manufactures of iron and steel, miscellaneous .....	28	.....	.....
Minerals, miscellaneous .....	559	531	405
Borax .....	383	426	339
Salt .....	.....	5	.....
Soda and sodium compound .....	56	80	34
Sulfur .....	120	20	32
Nitrates, phosphates, and potash .....	16	88	44
Fishmeal .....	16	25	18
Fertilizers, miscellaneous .....	.....	63	26
Ores and metals .....	406	341	283
Ores .....	287	295	225
Copper .....	55	107	10
Iron .....	15	.....	.....
Lead .....	77	92	76
Tin .....	2	.....	.....
Zinc .....	88	90	130
Other and unclassified .....	50	6	9
Metals .....	119	46	58
Copper .....	11	6	.....
Lead .....	.....	12	12
Scrap .....	85	.....	23
Zinc .....	23	28	23
Other agricultural commodities .....	9	55	4
Beans, edible .....	.....	2	.....
Cotton, raw .....	5	11	4
Molasses .....	.....	28	.....
Peas, dry .....	4	14	.....
Petroleum and products .....	1,927	2,087	2,306
Diesel oil .....	.....	28	41
Fuel oil, residual .....	48	194	336
Liquefied gas .....	3	.....	9
Lubricating oil .....	2	4	52
Petroleum coke .....	1,874	1,831	1,817
Other and unclassified .....	.....	30	51
Miscellaneous .....	1,223	1,065	1,018
Clay, fire and china .....	10	15	7
Groceries, miscellaneous .....	13	15	5
Oil, coconut .....	4	1	.....
Oil, vegetable .....	14	16	14
Paper and paper products .....	41	18	54
Slag, clinkers and dross .....	.....	2	.....

Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
WEST COAST UNITED STATES TO EUROPE—			
Continued			
Miscellaneous—Continued			
Container cargo .....	1,105	934	824
All other and unclassified .....	36	64	114
Total .....	<u>5,386</u>	<u>5,531</u>	<u>5,389</u>
WEST COAST UNITED STATES TO AFRICA:			
Grains .....	631	2,184	806
Barley .....	.....	125	.....
Rice .....	.....	30	32
Wheat .....	631	2,029	774
Lumber and products .....	15	26	3
Pulpwood .....	15	.....	3
Other and unclassified .....	.....	26	.....
Manufactures of iron and steel, miscellaneous .....	6	.....	.....
Minerals, miscellaneous .....	58	122	230
Infusorial earth .....	.....	1	.....
Salt .....	.....	5	.....
Sulfur .....	58	71	206
Soda and sodium compound .....	.....	45	24
Nitrates, phosphates, and potash .....	.....	.....	13
Ores and metals .....	56	5	.....
Ores, miscellaneous .....	41	5	.....
Metals, miscellaneous .....	15	5	.....
Other agricultural commodities .....	26	58	7
Cotton, raw .....	26	32	7
Sugar .....	.....	26	.....
Petroleum and products .....	48	83	52
Fuel oil, residual .....	48	83	52
Miscellaneous .....	11	29	10
Flour, wheat .....	.....	29	.....
Textiles .....	.....	.....	9
Container cargo .....	11	.....	.....
All other and unclassified .....	.....	.....	1
Total .....	<u>851</u>	<u>2,507</u>	<u>1,121</u>
WEST COAST CANADA TO EAST COAST UNITED STATES:			
Chemicals and petroleum chemicals, miscellaneous .....	349	453	200
Coke, coal type .....	.....	.....	42
Grains .....	.....	.....	29
Oats .....	.....	.....	29
Lumber and products .....	1,242	1,721	1,839
Boards and planks .....	1,217	1,688	1,839
Pulpwood .....	7	2	.....
Other and unclassified .....	18	31	.....
Nitrates, phosphates, potash .....	.....	21	34
Nitrate of soda .....	.....	21	.....
Fertilizers, miscellaneous .....	.....	.....	34
Other agricultural commodities .....	20	.....	.....
Oil seeds .....	20	.....	.....
Petroleum and products .....	205	112	270



**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST CANADA TO EAST COAST UNITED STATES—Continued</b>			
Petroleum and products—Continued			
Crude oil .....	106	112	270
Diesel oil .....	75		
Gasoline .....	24		
Miscellaneous .....	18	2	4
Clay, fire and china .....	16		
Paper and paper products .....		1	
All other and unclassified .....	2	1	4
Total .....	<u>1,834</u>	<u>2,309</u>	<u>2,418</u>
<b>WEST COAST CANADA TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	2	1	
Chemicals and petroleum chemicals, miscellaneous .....	7		
Coal .....		52	
Grains .....	69	67	136
Barley .....	19	21	87
Wheat .....	45	46	49
Other and unclassified .....	5		
Lumber and products .....	48	59	66
Pulpwood .....	48	59	66
Minerals, miscellaneous .....	232	168	204
Soda and sodium compounds .....	8		
Sulfur .....	223	168	203
Other and unclassified .....	1		1
Nitrates, phosphates, and potash .....	78	13	1
Potash .....	78	13	
Other and unclassified .....			1
Ores and metals, miscellaneous .....	15	52	6
Other agricultural commodities, miscellaneous .....		1	1
Miscellaneous .....	34	70	39
Paper and paper products .....	25	61	34
All other and unclassified .....	9	9	5
Total .....	<u>485</u>	<u>483</u>	<u>453</u>
<b>WEST COAST CANADA TO WEST INDIES:</b>			
Chemicals and petroleum chemicals, miscellaneous .....		5	
Grains .....		25	
Wheat .....		25	
Lumber and products .....	71	83	43
Boards and planks .....	71	80	43
Plywood, veneers, composition board .....		3	
Minerals, miscellaneous .....	30	36	33
Sulfur .....	30	36	33
Nitrates, phosphates, and potash .....	39	8	28
Other agricultural commodities, miscellaneous .....		10	
Miscellaneous .....	6	35	7
Paper and paper products .....	6	13	4
All other and unclassified .....		22	3
Total .....	<u>146</u>	<u>202</u>	<u>111</u>

Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST COAST CANADA TO EUROPE:</b>			
Canned and refrigerated foods .....	21	20	25
Refrigerated foods .....	21	20	25
Fish .....	6	3	2
Other and unclassified .....	15	17	23
Chemicals and petroleum chemicals .....	147	33	17
Benzene .....	6	.....	.....
Chemicals, unclassified .....	109	30	1
Petroleum chemicals, miscellaneous .....	32	3	16
Coal .....	1,582	1,242	1,116
Grains .....	243	52	574
Barley .....	148	.....	308
Wheat .....	73	.....	221
Other and unclassified .....	22	52	45
Lumber and products .....	3,186	3,421	2,904
Boards and planks .....	1,575	1,832	1,326
Plywood, veneers, composition board .....	111	105	130
Pulpwood .....	1,301	1,339	1,223
Other and unclassified .....	199	145	225
Machinery and equipment, miscellaneous .....	1	.....	.....
Minerals, miscellaneous .....	389	320	734
Asbestos .....	3	3	1
Borax .....	1	315	.....
Sulfur .....	385	2	733
Nitrates, phosphates, and potash .....	17	24	76
Potash .....	16	.....	69
Fishmeal .....	1	1	.....
Fertilizer, unclassified .....	.....	23	7
Ores and metals .....	195	119	86
Ores .....	146	62	50
Copper .....	126	56	38
Iron .....	20	.....	.....
Lead .....	.....	2	5
Zinc .....	.....	4	.....
Other and unclassified .....	.....	.....	7
Metals .....	49	57	36
Aluminum .....	7	4	1
Copper .....	6	27	.....
Lead .....	20	17	11
Zinc .....	13	9	24
Other and unclassified .....	3	.....	.....
Other agricultural commodities .....	15	84	156
Beans, edible .....	.....	2	1
Oilseeds .....	15	50	149
Peas, dry .....	.....	32	3
Coffee .....	.....	.....	3
Petroleum and products .....	.....	.....	80
Petroleum coke .....	.....	.....	79
Other and unclassified .....	.....	.....	1
Miscellaneous .....	639	624	585
Marble and stone .....	.....	6	.....
Paper and paper products .....	332	269	241
Seeds, excluding oilseeds .....	.....	3	30
Tallow .....	30	21	11
Container cargo .....	246	209	219

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST CANADA TO EUROPE—Continued</b>			
Miscellaneous—Continued			
All other and unclassified .....	31	26	84
Total .....	<u>6,435</u>	<u>5,939</u>	<u>6,353</u>
<b>WEST COAST CANADA TO AFRICA:</b>			
Coal .....		86	
Grains .....	78	117	292
Wheat .....	78	117	292
Lumber and products .....	314	161	36
Boards and planks .....	293	161	32
Plywood, veneers, composition board .....	19		
Pulpwood .....	2		
Other and unclassified .....			4
Minerals, miscellaneous .....	1,045	2,714	1,855
Soda and sodium compounds .....			9
Sulfur .....	1,045	2,714	1,846
Nitrates, phosphates, and potash .....			10
Potash .....			10
Miscellaneous .....	4	2	13
Paper and paper products .....	4	2	
All other and unclassified .....			13
Total .....	<u>1,441</u>	<u>3,080</u>	<u>2,206</u>
<b>WEST COAST CANADA TO ASIA (MIDDLE EAST):</b>			
Grains .....			150
Barley .....			135
Wheat .....			15
Lumber and products, miscellaneous .....	2	16	46
Minerals, miscellaneous .....	245	224	172
Sulfur .....	245	224	172
Miscellaneous .....		2	1
All other and unclassified .....		2	1
Total .....	<u>247</u>	<u>242</u>	<u>369</u>
<b>WEST COAST CENTRAL AMERICA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	21	77	35
Refrigerated foods .....	21	77	35
Bananas .....	20	77	33
Other and unclassified .....	1		2
Chemicals and petroleum chemicals .....	176	9	12
Chemicals, unclassified .....	171	9	12
Petroleum chemicals, miscellaneous .....	5		
Manufactures of iron and steel .....	2	10	10
Tubes, pipes and fittings .....	2	10	10
Minerals, miscellaneous .....	332	451	421
Salt .....	332	451	421
Nitrates, phosphates, and potash .....	32	13	18
Fishmeal .....	20	13	18

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST COAST CENTRAL AMERICA TO EAST COAST UNITED STATES—Continued</b>			
Nitrates, phosphates, and potash—Continued			
Fertilizers, unclassified .....	12	.....	.....
Ores and metals .....	.....	26	.....
Ores .....	.....	26	.....
Other and unclassified .....	.....	26	.....
Other agricultural commodities .....	235	376	405
Coffee .....	3	8	7
Molasses .....	142	167	205
Sugar .....	90	201	193
Petroleum and products .....	12	40	5
Fuel oil, residual .....	.....	.....	5
Gasoline .....	12	40	.....
Miscellaneous .....	23	16	1
All other and unclassified .....	23	16	1
Total .....	833	1,018	907
<b>WEST COAST CENTRAL AMERICA TO EAST COAST CENTRAL AMERICA</b>			
Canned and refrigerated foods, miscellaneous .....	1	.....	.....
Chemicals, and petroleum chemicals .....	.....	76	56
Chemicals, unclassified .....	.....	74	56
Petroleum chemicals, miscellaneous .....	.....	2	.....
Grains .....	.....	3	6
Other and unclassified .....	.....	3	6
Lumber and products, miscellaneous .....	3	.....	.....
Nitrates, phosphates, and potash .....	416	231	253
Phosphates .....	416	231	242
Fertilizer, unclassified .....	.....	.....	11
Other agricultural commodities, miscellaneous .....	38	.....	.....
Petroleum and products .....	58	94	6
Diesel oil .....	19	50	2
Fuel oil, residual .....	.....	4	.....
Gasoline .....	39	39	3
Jet fuel .....	.....	1	.....
Kerosene .....	.....	.....	1
Miscellaneous .....	2	6	3
Oil, vegetable .....	.....	4	.....
All other and unclassified .....	2	2	3
Total .....	518	410	324
<b>WEST COAST CENTRAL AMERICA TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	60	27	22
Refrigerated foods .....	60	27	22
Dairy products .....	1	.....	.....
Fish .....	59	27	22
Chemicals and petroleum chemicals, miscellaneous .....	.....	.....	6
Minerals, miscellaneous .....	.....	.....	129
Salt .....	.....	.....	129
Ores and metals .....	13	13	11

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST CENTRAL AMERICA TO EAST COAST SOUTH AMERICA—Continued</b>			
<b>Ores and metals—Continued</b>			
Ores .....	12	12	.....
Copper .....	12	12	.....
Metals .....	1	1	11
Aluminum .....			1
Copper .....			10
Scrap .....	1	1	.....
Other agricultural commodities .....	20	18	1
Sugar .....	20	18	.....
Other and unclassified .....			1
Petroleum and products .....		34	.....
Gasoline .....		34	.....
Miscellaneous .....	9	4	1
All other and unclassified .....	9	4	1
Total .....	<u>102</u>	<u>96</u>	<u>170</u>
<b>WEST COAST CENTRAL AMERICA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	90	128	149
Refrigerated foods .....	90	128	149
Dairy products .....		1	.....
Fish .....	89	126	149
Other and unclassified .....	1	1	.....
Chemicals and petroleum chemicals, miscellaneous .....			10
Lumber and products .....	19	27	23
Boards and planks .....	19	27	19
Other and unclassified .....			4
Manufactures of iron and steel, miscellaneous .....	5		1
Nitrates, phosphates, and potash .....	4	3	2
Fishmeal .....	4	3	2
Other agricultural commodities .....	73	36	33
Molasses .....	22	6	7
Sugar, raw .....	45	30	20
Other and unclassified .....	6	.....	6
Petroleum and products .....	11	21	13
Diesel oil .....		6	.....
Fuel oil, residual .....	11	12	13
Gasoline .....		1	.....
Liquefied gas .....		2	.....
Miscellaneous .....	8	13	9
All other and unclassified .....	8	13	9
Total .....	<u>210</u>	<u>228</u>	<u>240</u>
<b>WEST COAST CENTRAL AMERICA TO EUROPE:</b>			
Canned and refrigerated foods .....	355	278	155
Canned foods, miscellaneous .....	1	.....	2
Refrigerated foods .....	354	278	153
Bananas .....	307	210	82
Fish .....	40	60	67
Fruit, excluding bananas .....	1	1	2
Meat .....		1	.....

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST CENTRAL AMERICA TO EUROPE—</b>			
Continued			
Canned and refrigerated foods—Continued			
Refrigerated foods—Continued			
Other and unclassified . . . . .	6	6	2
Chemicals and petroleum chemicals . . . . .	7	7	7
Chemicals, unclassified . . . . .	7	7	7
Grains . . . . .	25	25	25
Wheat . . . . .	25	25	25
Lumber and products . . . . .	21	12	12
Boards and planks . . . . .	7	12	12
Pulpwood . . . . .	14	12	12
Manufactures of iron and steel . . . . .	174	1	1
Angles, shapes and sections . . . . .	30	1	1
Plates, sheets and coils . . . . .	110	1	1
Wire, bars and rods . . . . .	34	1	1
Tubes, pipes and fittings . . . . .	1	1	1
Nitrates, phosphates, and potash . . . . .	1	1	1
Fishmeal . . . . .	1	1	1
Ores and metals . . . . .	23	137	230
Ores . . . . .	17	127	168
Copper . . . . .	10	119	159
Zinc . . . . .	7	8	9
Metals . . . . .	6	10	62
Copper . . . . .	4	10	58
Other and unclassified . . . . .	2	4	4
Other agricultural commodities . . . . .	392	507	420
Beans, edible . . . . .	1	1	1
Cocoa and cacao beans . . . . .	3	3	3
Coffee . . . . .	84	90	95
Cotton, raw . . . . .	24	25	24
Molasses . . . . .	69	117	59
Oilseeds . . . . .	3	3	3
Peas, dried . . . . .	34	30	31
Sugar . . . . .	180	242	208
Petroleum and products . . . . .	23	23	23
Gasoline . . . . .	23	23	23
Miscellaneous . . . . .	61	74	66
Clay, fire and china . . . . .	11	11	11
Groceries, miscellaneous . . . . .	1	1	1
Oil, fish . . . . .	8	8	3
Oil, vegetable . . . . .	2	3	3
Seeds, excluding oilseeds . . . . .	1	1	1
Container cargo . . . . .	50	59	44
Paper and paper products . . . . .	2	2	2
All other and unclassified . . . . .	7	2	7
Total . . . . .	<u>1,026</u>	<u>1,064</u>	<u>885</u>
<b>WEST COAST CENTRAL AMERICA TO AFRICA</b>			
Canned and refrigerated foods . . . . .	5	3	1
Refrigerated foods . . . . .	5	3	1
Bananas . . . . .	3	3	3
Fish . . . . .	2	3	1
Grains . . . . .	273	88	88

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST CENTRAL AMERICA TO AFRICA—</b>			
Continued			
Grains—Continued			
Wheat .....	273	88	.....
Lumber and products .....	7	5	5
Boards and planks .....	5	5	5
Other and unclassified .....	2	.....	.....
Manufactures of iron and steel .....	15	17	.....
Wires, bars and rods .....	15	17	.....
Other agricultural commodities, miscellaneous .....	47	.....	.....
Miscellaneous .....	1	1	3
All other and unclassified .....	1	1	3
Total .....	<u>348</u>	<u>114</u>	<u>9</u>
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
UNITED STATES:			
Canned and refrigerated foods .....	906	843	807
Canned foods, miscellaneous .....	25	27	10
Refrigerated foods .....	881	816	797
Bananas .....	475	399	416
Fish .....	32	37	37
Fruit, excluding bananas .....	339	340	315
Refrigerated, miscellaneous .....	35	40	29
Chemicals and petroleum chemicals .....	242	12	12
Chemicals, miscellaneous .....	232	12	11
Benzene .....	3	.....	.....
Petroleum chemicals, miscellaneous .....	7	.....	1
Coal and coke .....	3	.....	.....
Grains, miscellaneous .....	2	.....	.....
Lumber and products .....	64	58	39
Boards and planks .....	36	26	11
Plywood, veneers, composition board .....	11	11	13
Pulpwood .....	14	19	14
Other and unclassified .....	3	2	1
Machinery and equipment, miscellaneous .....	2	6	.....
Manufactures of iron and steel, miscellaneous .....	15	49	62
Minerals, miscellaneous .....	375	346	559
Salt .....	375	326	556
Soda and sodium compounds .....	.....	20	.....
Other and unclassified .....	.....	.....	3
Nitrates, phosphates, and potash .....	304	183	212
Fishmeal .....	124	33	96
Nitrate of soda .....	180	142	113
Potash .....	.....	.....	3
Fertilizers, miscellaneous .....	.....	8	.....
Ores and metals .....	473	781	642
Ores .....	222	610	387
Copper .....	3	25	30
Iron .....	172	516	328
Lead .....	3	2	.....
Tin .....	10	3	9
Zinc .....	3	38	19
Other and unclassified .....	31	26	1
Metals .....	<u>251</u>	<u>171</u>	<u>255</u>

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>UNITED STATES—Continued</b>			
Ores and metals—Continued			
Metals—Continued			
Copper .....	189	152	192
Iron .....	1	.....	20
Lead .....	5	1	.....
Zinc .....	20	17	23
Other and unclassified .....	36	1	20
Other agricultural commodities .....	424	257	331
Beans, edible .....	.....	1	1
Cocoa and cacao beans .....	43	35	30
Coffee .....	77	75	104
Cotton, raw .....	3	3	1
Molasses .....	21	27	60
Sugar .....	279	115	135
Wool, raw .....	1	1	.....
Petroleum and products .....	6,077	4,047	4,367
Crude oil .....	3,444	1,636	2,330
Diesel oil .....	254	157	.....
Fuel oil, residual .....	2,333	2,230	1,942
Gasoline .....	46	24	94
Other and unclassified .....	.....	.....	1
Miscellaneous .....	606	434	379
Fibers, plant .....	1	2	2
Groceries, miscellaneous .....	7	6	9
Liquors and wines .....	6	6	6
Marble and stone .....	3	3	1
Oil, vegetable .....	18	12	21
Paper and paper products .....	7	4	3
Seeds, excluding oilseeds .....	.....	1	.....
Slag, clinkers and dross .....	28	6	.....
Textiles .....	7	8	8
Container cargo .....	486	348	294
All other and unclassified .....	43	38	36
Total .....	<u>9,493</u>	<u>7,016</u>	<u>7,410</u>
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>CANADA:</b>			
Nitrates, phosphates, and potash .....	6	11	8
Nitrate of soda .....	6	11	8
Ores and metals, miscellaneous .....	29	61	77
Petroleum and products .....	54	.....	47
Crude oil .....	54	.....	.....
Fuel oil, residual .....	.....	.....	47
Miscellaneous .....	2	.....	5
All other and unclassified .....	2	.....	5
Total .....	<u>91</u>	<u>72</u>	<u>137</u>
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>CENTRAL AMERICA:</b>			
Chemicals and petroleum chemicals .....	.....	5	.....
Chemicals, unclassified .....	.....	5	.....
Nitrates, phosphates and potash .....	3	.....	.....
Ores and metals .....	60	31	24



**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>CENTRAL AMERICA—Continued</b>			
<b>Ores and metals—Continued</b>			
Ores, miscellaneous .....	56	31	19
Metals, miscellaneous .....	4	.....	5
Other agricultural commodities .....	20	.....	29
Beans, edible .....	20	.....	29
Petroleum and products .....	437	322	565
Crude oil .....	437	322	565
Miscellaneous .....	35	23	6
Oil, fish .....	16	.....	.....
Oil, vegetable.....	5	14	.....
Paper and paper products .....	3	2	.....
All other and unclassified .....	11	7	6
Total .....	555	381	624
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	4	8	13
Canned foods, miscellaneous .....	1	1	6
Refrigerated foods, miscellaneous .....	3	7	7
Chemicals and petroleum chemicals .....	9	11	16
Chemicals unclassified .....	9	11	16
Grains .....	2	26	9
Rice .....	.....	19	.....
Soybeans .....	2	7	9
Lumber and products .....	29	77	59
Boards and planks .....	7	17	16
Plywood, veneers, composition board .....	.....	1	.....
Pulpwood .....	22	57	40
Other and unclassified .....	.....	2	3
Machinery and equipment, miscellaneous .....	.....	1	1
Manufactures of iron and steel, miscellaneous .....	19	.....	.....
Minerals, miscellaneous .....	6	15	7
Borax .....	.....	2	.....
Soda and sodium compounds .....	.....	13	7
Sulfur .....	6	.....	.....
Nitrates, phosphates, and potash .....	1	1	1
Fishmeal .....	1	1	1
Ores and metals, miscellaneous .....	83	94	48
Other agricultural commodities .....	4	39	21
Beans, edible .....	3	31	10
Coffee .....	.....	2	.....
Peas, dry .....	.....	1	.....
Sugar .....	.....	5	10
Other and unclassified .....	1	.....	1
Petroleum and products .....	121	107	77
Crude oil .....	48	96	66
Gasoline .....	73	11	11
Miscellaneous .....	67	70	71
Liquors and wines .....	.....	1	1
Oil, fish .....	.....	.....	1
Oil, vegetable.....	35	20	10

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST SOUTH AMERICA TO EAST COAST</b>			
<b>SOUTH AMERICA—Continued</b>			
<b>Miscellaneous—Continued</b>			
Paper and paper products .....	15	24	18
Textiles .....	.....	3	1
All other and unclassified .....	17	21	40
Total .....	<u>345</u>	<u>449</u>	<u>323</u>
<b>WEST COAST SOUTH AMERICA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	80	58	37
Canned foods, miscellaneous .....	2	.....	.....
Refrigerated foods .....	78	58	37
Dairy products .....	.....	5	.....
Fish .....	69	48	35
Fruit, excluding bananas .....	7	4	1
Other and unclassified .....	2	1	1
Grains .....	4	6	.....
Wheat .....	4	.....	.....
Soybeans .....	.....	6	.....
Lumber and products .....	49	66	102
Boards and planks .....	46	54	83
Plywood, veneers, composition board .....	3	12	6
Pulpwood .....	.....	.....	10
Other and unclassified .....	.....	.....	3
Manufactures of iron and steel, miscellaneous .....	2	1	.....
Nitrates, phosphates, and potash .....	41	21	18
Fishmeal .....	41	21	18
Other agricultural commodities .....	34	59	36
Beans, edible .....	1	13	1
Molasses .....	29	46	25
Sugar .....	4	.....	10
Petroleum and products .....	1,576	3,705	1,887
Crude oil .....	1,365	3,283	1,224
Diesel oil .....	.....	50	56
Fuel oil, residual .....	186	372	605
Gasoline .....	25	.....	.....
Other and unclassified .....	.....	.....	2
Miscellaneous .....	33	13	15
Groceries, miscellaneous .....	3	2	1
Oil, vegetable .....	16	.....	6
Paper and paper products .....	2	3	6
All other and unclassified .....	12	8	2
Total .....	<u>1,819</u>	<u>3,929</u>	<u>2,095</u>
<b>WEST COAST SOUTH AMERICA TO EUROPE:</b>			
Canned and refrigerated foods .....	1,296	1,221	1,091
Canned foods, miscellaneous .....	16	16	9
Refrigerated foods .....	1,280	1,205	1,082
Bananas .....	489	433	388
Fish .....	393	338	378
Fruit, excluding bananas .....	316	328	251
Meat .....	.....	21	.....
Other and unclassified .....	82	85	65

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>WEST COAST SOUTH AMERICA TO EUROPE—</b>			
Continued			
Chemicals and petroleum chemicals, miscellaneous . . . . .	6	6	6
Coke, coal type . . . . .	12	13	2
Grains, miscellaneous . . . . .	12	1	12
Lumber and products . . . . .	383	330	523
Boards and planks . . . . .	189	149	110
Plywood, veneers, composition board . . . . .	12	19	4
Pulpwood . . . . .	152	93	145
Other and unclassified . . . . .	30	69	264
Machinery and equipment, miscellaneous . . . . .	2	.....	.....
Minerals, miscellaneous . . . . .	.....	.....	21
Nitrates, phosphates, and potash . . . . .	1,313	1,112	1,205
Fishmeal . . . . .	1,174	958	1,073
Nitrate of soda . . . . .	135	154	132
Potash . . . . .	4	.....	.....
Ores and metals . . . . .	1,615	1,722	1,610
Ores . . . . .	890	1,064	959
Copper . . . . .	280	358	218
Iron . . . . .	54	107	136
Lead . . . . .	89	70	81
Manganese . . . . .	14	.....	.....
Tin . . . . .	15	5	6
Zinc . . . . .	380	471	469
Other and unclassified . . . . .	58	53	49
Metals . . . . .	725	658	651
Aluminum . . . . .	.....	10	.....
Copper . . . . .	613	523	555
Iron . . . . .	.....	4	.....
Lead . . . . .	15	18	18
Tin, including tinplate . . . . .	1	1	.....
Zinc . . . . .	87	78	58
Other and unclassified . . . . .	9	24	20
Other agricultural commodities . . . . .	130	167	195
Beans, edible . . . . .	4	8	4
Cocoa and cacao beans . . . . .	6	5	12
Coffee . . . . .	101	105	138
Cotton, raw . . . . .	15	5	9
Molasses . . . . .	.....	5	22
Oilseeds . . . . .	.....	13	8
Sugar . . . . .	.....	24	.....
Wool, raw . . . . .	3	2	2
Other and unclassified . . . . .	1	.....	.....
Miscellaneous . . . . .	927	660	607
Groceries, miscellaneous . . . . .	34	12	12
Oil, fish . . . . .	285	68	77
Paper and paper products . . . . .	60	24	18
Slag, clinkers and dross . . . . .	.....	4	.....
Textiles . . . . .	5	1	5
Container cargo . . . . .	478	489	412
All other and unclassified . . . . .	65	62	83
Total . . . . .	5,684	5,232	5,272
<b>HAWAII TO EAST COAST UNITED STATES:</b>			
Other agricultural commodities . . . . .	239	256	422

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>HAWAII TO EAST COAST UNITED STATES—</b>			
Continued			
Other agricultural commodities—Continued			
Sugar .....	239	256	422
Miscellaneous .....	.....	.....	1
All other and unclassified .....	.....	.....	1
Total .....	<u>239</u>	<u>256</u>	<u>423</u>
<b>OCEANIA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	388	413	381
Refrigerated foods .....	388	413	381
Fruit, excluding bananas .....	27	27	28
Meat .....	42	78	51
Other and unclassified .....	319	308	302
Chemicals and petroleum chemicals, miscellaneous .....	119	180	140
Coal and coke .....	526	484	206
Manufactures of iron and steel, miscellaneous .....	62	18	25
Minerals, miscellaneous .....	.....	22	.....
Sulfur .....	.....	22	.....
Nitrates, phosphates, and potash .....	18	20	60
Fertilizers, unclassified .....	18	20	60
Ores and metals .....	1,946	1,518	1,122
Ores .....	1,941	1,510	1,082
Alumina/bauxite .....	1,299	846	544
Chrome .....	3	6	2
Copper .....	10	.....	.....
Iron .....	.....	60	.....
Manganese .....	125	85	87
Other and unclassified .....	504	513	449
Metals .....	5	8	40
Aluminum .....	.....	.....	34
Lead .....	5	5	.....
Other and unclassified .....	.....	3	6
Other agricultural commodities .....	481	167	292
Molasses .....	304	130	166
Sugar .....	177	34	126
Wool, raw .....	.....	3	.....
Petroleum and products .....	107	247	270
Crude oil .....	.....	38	.....
Fuel oil, residual .....	.....	27	111
Gasoline .....	24	.....	.....
Liquefied gas .....	63	9	127
Lubricating oil .....	20	56	32
Petroleum coke .....	.....	117	.....
Miscellaneous .....	275	327	342
Groceries, miscellaneous .....	.....	3	.....
Liquors and wines .....	.....	1	.....
Oil, coconut .....	.....	6	6
Container cargo .....	265	292	316
All other and unclassified .....	10	25	20
Total .....	<u>3,922</u>	<u>3,396</u>	<u>2,838</u>
<b>OCEANIA TO EAST COAST CANADA:</b>			
Canned and refrigerated foods .....	51	68	71

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>OCEANIA TO EAST COAST CANADA—Continued</b>			
Canned and refrigerated foods—Continued			
Refrigerated foods .....	51	68	71
Meat .....	.....	1	1
Other and unclassified .....	51	67	70
Ores and metals .....	107	21	22
Ores .....	107	21	22
Alumina/bauxite .....	59	14	13
Chrome .....	2	4	.....
Manganese .....	20	.....	.....
Other and unclassified .....	26	3	9
Other agricultural commodities .....	420	285	397
Sugar .....	420	285	397
Miscellaneous .....	54	70	65
Groceries, miscellaneous .....	.....	1	.....
Container cargo .....	53	67	65
All other and unclassified .....	1	2	.....
Total .....	<u>632</u>	<u>444</u>	<u>555</u>
<b>OCEANIA TO EAST COAST CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	32	33	13
Ores and metals .....	134	86	81
Manganese ore .....	103	84	64
Ores, miscellaneous .....	31	2	17
Other agricultural commodities .....	.....	16	23
Oilseeds .....	.....	16	23
Petroleum and products .....	.....	8	.....
Lubricating oil .....	.....	8	.....
Miscellaneous .....	.....	1	.....
All other and unclassified .....	.....	1	.....
Total .....	<u>166</u>	<u>144</u>	<u>117</u>
<b>OCEANIA TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	39	33	26
Canned foods, miscellaneous .....	33	30	26
Refrigerated foods, miscellaneous .....	6	3	10
Grains, miscellaneous .....	12	.....	14
Ores and metals .....	428	177	.....
Ores .....	428	177	.....
Alumina/bauxite .....	428	177	.....
Other agricultural commodities .....	39	.....	.....
Sugar .....	28	.....	.....
Oilseeds .....	11	.....	.....
Miscellaneous .....	.....	9	7
All other and unclassified .....	.....	9	7
Total .....	<u>518</u>	<u>219</u>	<u>47</u>
<b>OCEANIA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	47	53	53
Canned foods, miscellaneous .....	12	8	8
Refrigerated foods .....	35	45	45

Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
OCEANIA TO WEST INDIES—Continued			
Canned and refrigerated foods—Continued			
Refrigerated foods—Continued			
Dairy products .....	3	7	8
Fish, .....	13	20	20
Other and unclassified .....	19	18	17
Petroleum and products .....	.....	22	.....
Gasoline .....	.....	22	.....
Miscellaneous .....	14	8	19
All other and unclassified .....	14	8	19
Total .....	61	83	72
OCEANIA TO EUROPE:			
Canned and refrigerated foods .....	258	295	244
Canned foods, miscellaneous .....	.....	.....	1
Refrigerated foods .....	258	295	243
Dairy products .....	.....	.....	9
Fruit, excluding bananas .....	234	268	218
Meat .....	7	1	6
Other and unclassified .....	17	26	10
Chemicals and petroleum chemicals, miscellaneous .....	54	.....	90
Coal and coke .....	18	.....	.....
Grains .....	.....	30	11
Barley .....	.....	30	10
Other and unclassified .....	.....	.....	1
Lumber and products, miscellaneous .....	5	.....	.....
Ores and metals .....	63	42	259
Ores .....	63	9	227
Alumina/bauxite .....	36	.....	.....
Copper .....	.....	.....	174
Other and unclassified .....	27	9	53
Metals .....	.....	33	32
Other and unclassified .....	.....	33	32
Other agricultural commodities .....	181	218	161
Beans, edible .....	.....	1	.....
Copra .....	.....	6	6
Molasses .....	35	.....	27
Peas, dry .....	.....	1	.....
Sugar .....	146	207	127
Wool, raw .....	.....	3	.....
Other and unclassified .....	.....	.....	1
Miscellaneous .....	200	259	264
Groceries, miscellaneous .....	.....	5	4
Liquors and wines .....	.....	2	.....
Oil, coconut .....	.....	2	4
Oil, vegetable .....	.....	2	3
Rubber, manufactured .....	.....	1	.....
Seeds, excluding oilseeds .....	.....	1	.....
Tallow .....	3	.....	.....
Container cargo .....	196	241	237
All other and unclassified .....	1	5	16
Total .....	779	844	1,029

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>ASIA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	134	129	139
Canned foods .....	.....	.....	10
Fruit .....	.....	.....	10
Refrigerated foods .....	134	129	129
Other and unclassified .....	134	129	129
Chemicals and petroleum chemicals .....	262	286	210
Chemicals, unclassified .....	223	220	145
Benzene .....	29	58	59
Toulene .....	.....	4	.....
Petroleum chemicals, miscellaneous .....	10	4	6
Coke, coal type .....	1,323	997	380
Grains .....	.....	6	.....
Rice .....	.....	6	.....
Lumber and products .....	602	701	897
Boards and planks .....	23	73	67
Plywood, veneers, composition board .....	526	584	759
Other and unclassified .....	53	44	71
Machinery and equipment .....	1,773	1,901	2,157
Agricultural machinery .....	18	22	16
Automobiles, trucks, accessories and parts .....	1,605	1,725	1,943
Construction machinery and equipment .....	100	123	133
Electrical machinery and apparatus .....	9	2	12
Other and unclassified .....	41	29	53
Manufactures of iron and steel .....	3,044	3,820	3,255
Angles, shapes, and sections .....	206	285	278
Nails, tacks, and spikes .....	60	94	42
Plates, sheets, and coils .....	1,184	1,305	1,337
Tubes, pipes, and fittings .....	326	406	205
Wire, bars, and rods .....	179	185	188
Other and unclassified .....	1,089	1,545	1,205
Nitrates, phosphates, and potash .....	90	21	50
Fertilizers, unclassified .....	90	21	50
Ores and metals .....	1,434	1,336	771
Ores .....	1,407	1,293	757
Alumina/bauxite .....	360	278	155
Chrome .....	49	13	5
Iron .....	21	82	62
Manganese .....	20	18	14
Other and unclassified .....	957	902	521
Metals .....	27	43	14
Aluminum .....	6	21	10
Copper .....	2	11	.....
Iron .....	11	.....	.....
Tin, including tinplate .....	2	2	1
Zinc .....	1	4	2
Other and unclassified .....	5	5	1
Other agricultural commodities .....	263	254	200
Cocoa and cacao beans .....	1	1	.....
Coffee .....	2	5	1
Copra .....	.....	.....	2
Oilseeds .....	.....	3	.....
Rubber, raw .....	131	107	43
Sugar .....	128	138	150
Other and unclassified .....	1	.....	4

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>ASIA TO EAST COAST UNITED STATES—Continued</b>			
Petroleum and products .....	248	183	374
Crude petroleum .....			92
Fuel oil, residual .....	49		104
Gasoline .....	77		53
Liquefied gas .....	23	4	15
Lubricating oil .....	11	22	19
Petroleum coke .....	88	146	59
Other and unclassified .....		11	32
Miscellaneous .....	5,048	5,118	5,408
Bricks and tile .....	2	2	2
Cement .....			1
Clay, fire and china .....	6		3
Flour, wheat .....		6	
Glass and glassware .....			1
Groceries, miscellaneous .....	5	2	7
Oil, coconut .....	41	29	18
Oil, vegetable .....	43	41	21
Porcelainware .....		6	1
Rubber, manufactured .....		5	6
Textiles .....			1
Wax, paraffin .....	10	64	5
Container cargo .....	4,861	4,837	5,179
All other and unclassified .....	80	126	163
Total .....	14,221	14,752	13,841
<b>ASIA TO EAST COAST CANADA:</b>			
Canned and refrigerated foods, miscellaneous .....	9	3	7
Chemicals and petroleum chemicals, miscellaneous .....	10		
Lumber and products .....		2	6
Other and unclassified .....		2	6
Machinery and equipment .....	3	9	14
Agricultural machinery .....		1	
Automobiles, trucks, accessories and parts .....	2	6	
Construction machinery and equipment .....	1	2	10
Other and unclassified .....			4
Manufactures of iron and steel .....	2	24	11
Angles, shapes, and sections .....	1	2	
Nails, tacks and spikes .....		10	
Plates, sheets, and coils .....	1		7
Tubes, pipes, and fittings .....		1	
Wires, bars and rods .....		5	1
Other and unclassified .....		6	3
Ores and metals .....	187	146	42
Ores .....	187	135	42
Alumina/bauxite .....	63	65	20
Chrome .....	11	2	14
Copper .....		10	
Manganese .....		9	8
Other and unclassified .....	113	49	
Metals .....		11	
Copper .....		11	
Other agricultural commodities .....			11
Cotton .....			11
Miscellaneous .....	360	367	340



**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>ASIA TO EAST COAST CANADA—Continued</b>			
Miscellaneous—Continued			
Container cargo .....	353	361	335
All other and unclassified .....	7	6	5
Total .....	<u>571</u>	<u>551</u>	<u>431</u>
<b>ASIA TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	1	2	1
Refrigerated foods .....	1	2	1
Fish .....	1	1	.....
Other and unclassified .....	.....	1	1
Chemicals and petroleum chemicals, miscellaneous .....	9	21	18
Coke, coal type .....	21	42	61
Grains .....	.....	17	.....
Rice .....	.....	17	.....
Machinery and equipment .....	28	43	32
Agricultural machinery .....	1	1	1
Automobiles, trucks, accessories and parts .....	9	22	16
Construction machinery and equipment .....	2	4	4
Electrical machinery and apparatus .....	6	8	7
Motorcycles, bicycles and parts .....	5	5	3
Other and unclassified .....	5	3	1
Manufactures of iron and steel .....	63	64	79
Angles, shapes, and sections .....	9	1	3
Plates, sheets, and coils .....	15	32	48
Tubes, pipes, and fittings .....	23	11	5
Wires, bars, and rods .....	10	15	19
Other and unclassified .....	6	5	4
Nitrates, phosphates, and potash .....	3	17	.....
Fertilizers, unclassified .....	3	17	.....
Ores and metals .....	16	33	21
Ores .....	12	26	14
Alumina/bauxite .....	5	2	.....
Other and unclassified .....	7	24	14
Metals .....	4	7	7
Aluminum .....	.....	1	2
Tin, including tinplate .....	.....	2	3
Other and unclassified .....	4	4	2
Other agricultural commodities .....	10	16	16
Cotton .....	6	9	4
Oilseeds .....	1	.....	8
Rubber, raw .....	3	7	4
Petroleum and products .....	.....	22	.....
Petroleum coke .....	.....	22	.....
Miscellaneous .....	112	127	180
Carbon black .....	1	1	.....
Fibers, plant .....	.....	1	.....
Resin .....	1	2	1
Rubber, manufactured .....	.....	1	5
Textiles .....	.....	1	1
Wax, paraffin .....	.....	1	.....
Container cargo .....	64	79	102

Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued

[Thousands of long tons]

	Fiscal year		
	1989	1988	1987
<b>ASIA TO EAST COAST SOUTH AMERICA—</b>			
Continued			
Miscellaneous—Continued			
All other and unclassified .....	46	41	71
Total .....	<u>263</u>	<u>404</u>	<u>408</u>
<b>ASIA TO CRISTOBAL, R.P.:</b>			
Machinery and equipment .....	.....	2	8
Electrical machinery and apparatus .....	.....	2	2
Other and unclassified .....	.....	.....	6
Manufactures of iron and steel, miscellaneous .....	6	7	28
Miscellaneous .....	<u>256</u>	<u>162</u>	<u>176</u>
Textiles .....	.....	1	1
Container cargo .....	246	147	151
All other and unclassified .....	10	14	24
Total .....	<u>262</u>	<u>171</u>	<u>212</u>
<b>ASIA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	51	28	20
Canned foods, miscellaneous .....	12	12	10
Refrigerated foods .....	<u>39</u>	<u>16</u>	<u>10</u>
Fish .....	27	13	9
Meat .....	11	2	1
Other and unclassified .....	1	1	.....
Chemicals and petroleum chemicals, miscellaneous .....	10	6	18
Coal and coke .....	7	10	5
Grains .....	<u>222</u>	<u>163</u>	<u>117</u>
Corn .....	9	1	.....
Rice .....	152	133	107
Soybeans .....	61	29	10
Lumber and products .....	<u>239</u>	<u>282</u>	<u>266</u>
Boards and planks .....	218	267	240
Plywood, veneers, composition board .....	4	10	10
Pulpwood .....	11	5	6
Other and unclassified .....	6	.....	10
Machinery and equipment .....	<u>107</u>	<u>142</u>	<u>158</u>
Agricultural machinery .....	1	3	1
Automobiles, trucks, accessories and parts .....	97	131	147
Construction machinery and equipment .....	4	2	4
Electrical machinery and apparatus .....	5	4	3
Motorcycles, bicycles and parts .....	.....	2	3
Manufactures of iron and steel .....	<u>80</u>	<u>84</u>	<u>137</u>
Angles, shapes and sections .....	3	7	15
Nails, tacks and spikes .....	4	2	4
Plates, sheets, and coils .....	37	41	65
Tubes, pipes, and fittings .....	10	12	15
Wires, bars, and rods .....	21	11	24
Other and unclassified .....	5	11	14
Nitrates, phosphates and potash .....	<u>6</u>	<u>13</u>	<u>6</u>
Fertilizers, unclassified .....	6	11	6
Phosphates .....	.....	2	.....
Ores and metals .....	<u>8</u>	<u>8</u>	<u>10</u>
Ores, miscellaneous .....	4	3	3
Metals, miscellaneous .....	4	5	7

**Table 11.—Important Commodity Shipments Over Principal Trade Routes  
Pacific to Atlantic—Continued**

[Thousands of long tons]

	<i>Fiscal year</i>		
	1989	1988	1987
<b>ASIA TO WEST INDIES—Continued</b>			
Other agricultural commodities .....	63	28	6
Beans, edible .....	26	26	4
Cotton, raw .....	1	1	1
Oilseeds .....	36	.....	.....
Rubber, raw .....	.....	1	1
Petroleum and products .....	98	62	73
Diesel oil .....	41	3	9
Gasoline .....	56	59	63
Other and unclassified .....	1	.....	1
Miscellaneous .....	415	446	488
Bricks and tile .....	1	1	2
Cement .....	4	1	1
Fibers, plant .....	.....	2	2
Glass and glassware .....	6	5	3
Groceries, miscellaneous .....	1	5	2
Oil, vegetable .....	12	14	2
Paper and paper products .....	21	22	11
Porcelainware .....	.....	1	2
Resin .....	1	.....	.....
Rubber, manufactured .....	7	6	3
Textiles .....	4	8	5
Wax, paraffin .....	1	2	1
Container cargo .....	243	291	376
All other and unclassified .....	114	88	78
Total .....	<u>1,306</u>	<u>1,272</u>	<u>1,304</u>
<b>ASIA TO EUROPE:</b>			
Canned and refrigerated foods, miscellaneous .....	10	5	8
Chemicals and petroleum chemicals, miscellaneous .....	50	39	36
Coke, coal type .....	14	55	.....
Lumber and products .....	.....	2	5
Boards and planks .....	.....	2	5
Machinery and equipment .....	1	8	6
Automobiles, trucks, accessories and parts .....	1	7	3
Construction machinery and equipment .....	.....	1	2
Other and unclassified .....	.....	.....	1
Manufactures of iron and steel .....	.....	9	.....
Other and unclassified .....	.....	9	.....
Other agricultural commodities .....	.....	.....	10
Cotton .....	.....	.....	7
Oilseeds .....	.....	.....	3
Petroleum and products, miscellaneous .....	.....	6	30
Miscellaneous .....	162	153	97
Oil, coconut .....	1	11	10
Oil, fish .....	80	64	44
Oil, vegetable .....	.....	.....	13
Wax, paraffin .....	.....	7	.....
Container cargo .....	68	56	22
All other and unclassified .....	13	15	8
Total .....	<u>237</u>	<u>277</u>	<u>192</u>

Table 12.—Principal Canal Commodities by Direction—Fiscal Year 1989

[Long tons]

<i>Commodity</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>	<i>Total</i>
Ammonium compounds .....	558,206	18,082	576,288
Asbestos .....	14,658	3,916	18,574
Asphalt .....	30,272	1,325	31,597
Automobiles, trucks, and accessories .....	309,212	1,716,553	2,025,765
Bananas .....	8,519	1,366,450	1,374,969
Barley .....	4,917	201,997	206,914
Beans, edible .....	122,982	55,408	178,390
Benzene .....	130,918	43,400	174,318
Borax .....	1,134	392,850	393,984
Bricks and tile .....	28,614	13,069	41,683
Canned food products .....	50,204	128,224	178,428
Carbon black .....	76,762	2,028	78,790
Caustic soda .....	1,219,805	4,500	1,224,305
Cement .....	233,518	4,491	238,009
Chemicals, petroleum various .....	1,538,388	138,656	1,677,044
Chemicals, various .....	2,844,763	1,438,954	4,283,717
Clay, fire and china .....	553,401	39,482	592,883
Coal and coke (excluding petroleum coke) .....	5,300,574	3,633,842	8,934,416
Cocoa and cacao beans .....	5,217	49,949	55,166
Coffee .....	13,563	274,616	288,179
Coke, petroleum .....	922,683	2,260,899	3,183,582
Copra and coconuts .....	298	22	320
Corn .....	10,475,032	10,036	10,485,068
Cotton, raw .....	115,618	82,157	197,775
Fertilizers, various .....	2,691,254	213,645	2,904,899
Fibers, plant .....	6,619	3,572	10,191
Fishmeal .....	285	1,427,317	1,427,602
Flour, wheat .....	147,617	6,095	153,712
Gasoline .....	1,554,288	485,886	2,040,174
Glass and glassware .....	11,339	6,127	17,466
Grains, various .....	456,608	30,110	486,718
Groceries, various .....	11,728	64,969	76,697
Infusorial earth .....	25	1,027	1,052
Jet fuel .....	846,664	4,518	851,182
Kerosene .....	93,967	378	94,345
Liquefied gas .....	1,064,941	90,431	1,155,372
Liquors .....	4,528	2,810	7,338
Lumber and products (excluding pulpwood) .....	1,211,691	5,149,290	6,360,981
Machinery, agricultural .....	43,831	22,040	65,871
Machinery, construction .....	73,004	112,908	185,912
Machinery, electrical .....	31,911	20,929	52,840
Machinery, various .....	48,505	54,853	103,358
Manufactures of iron and steel .....	4,324,838	3,525,570	7,850,408
Metal, aluminum .....	282,698	13,887	296,585
Metal, copper .....	1,664	871,988	873,652
Metal, iron .....	82,504	12,232	94,736
Metal, scrap .....	1,928,500	90,086	2,018,586
Metals, various (including tinplate) .....	98,703	294,305	393,008
Molasses .....	54,091	671,609	725,700
Nitrate of soda .....	42,931	321,050	363,981
Oats .....	4,916	746	5,662
Oil, coconut .....	3,037	51,143	54,180
Oil, crude .....	2,088,924	5,784,340	7,873,264
Oil, diesel .....	1,404,090	418,142	1,822,232
Oil, fish .....	975	394,715	395,690
Oil, lube .....	658,758	156,498	815,256
Oil, residual fuel .....	995,075	3,179,392	4,174,467
Oil, vegetable .....	160,987	171,020	332,007
Oilseeds .....	42,367	105,539	147,906
Ore, alumina/bauxite .....	134,778	2,249,997	2,384,775
Ore, copper .....	48,148	570,197	618,345

**Table 12.—Principal Canal Commodities by Direction—Fiscal Year 1989—  
Continued**

[Long tons]

<i>Commodity</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>	<i>Total</i>
Ore, iron .....	116,502	281,813	398,315
Ores, various .....	436,280	2,994,708	3,430,988
Paper and paper products .....	892,194	527,228	1,419,422
Peas, dry .....	4,934	51,765	56,699
Petroleum products, various .....	178,650	14,447	193,097
Phosphates .....	8,186,548	416,102	8,602,650
Potash .....	222,640	105,511	328,151
Pulpwood .....	1,253,029	1,831,427	3,084,456
Refrigerated food products (excluding bananas) .....	708,907	2,667,993	3,376,900
Resin .....	81,227	2,435	83,662
Rice .....	170,798	349,578	520,376
Rubber, manufactured .....	19,262	8,490	27,752
Rubber, raw .....	3,077	136,816	139,893
Salt .....	20,912	707,092	728,004
Seeds, excluding oilseeds .....	4,239	23,018	27,257
Slag, clinkers, and dross .....	16,393	27,720	44,113
Soda and sodium compounds .....	98,383	77,992	176,375
Sorghum .....	1,941,986	.....	1,941,986
Soybeans .....	5,180,139	63,295	5,243,434
Sugar .....	1,473,187	1,890,972	3,364,159
Sulfur .....	7,343	2,153,771	2,161,114
Tallow .....	96,689	34,345	131,034
Textiles .....	14,705	17,690	32,395
Tobacco and manufactures .....	624	961	1,585
Toluene .....	265,760	29	265,789
Wax, paraffin .....	17,380	12,127	29,507
Wheat .....	9,892,554	1,134,197	11,026,751
Wool, raw .....	394	3,908	4,302
All other .....	<u>11,754,806</u>	<u>9,364,827</u>	<u>21,119,633</u>
<b>Total .....</b>	<b><u>88,275,589</u></b>	<b><u>63,360,524</u></b>	<b><u>151,636,113</u></b>

## Other Statistics

**Table 13.—Water Supply and Usage**

	Fiscal year		Percent of usage	
	1989	1988	1989	1988
	(Acre feet)			
<b>MADDEN AND GATUN LAKE WATER SUPPLY:</b>				
Total runoff, Madden Lake Basin .....	2,024,984	2,284,537		
Evaporation from Madden Lake .....	<u>— 44,733</u>	<u>— 46,113</u>		
Available for Madden Lake usage .....	1,980,251	2,238,424		
Municipal water use Madden Lake .....	<u>—111,036</u>	<u>—110,246</u>		
Available for downstream usage .....	1,869,215	2,128,178		
Total runoff, Gatun Lake (area below Madden) ...	<u>1,904,667</u>	<u>2,024,701</u>		
Subtotal .....	3,773,882	4,152,879		
Evaporation from Gatun Lake .....	<u>—454,435</u>	<u>—450,018</u>		
Available for Gatun watershed usage .....	3,319,447	3,702,861		
<b>MADDEN LAKE WATER USAGE:</b>				
Hydroelectric power .....	1,843,595	1,983,999	89	84
Leakage .....	14,479	14,519	1	...
Spillway discharge .....	92,837	255,234	5	11
Municipal .....	<u>111,036</u>	<u>110,246</u>	<u>5</u>	<u>5</u>
Total Madden Lake usage .....	2,061,947	2,363,998	100	100
<b>GATUN LAKE WATER USAGE:</b>				
Hydroelectric power .....	983,999	1,220,454	28	32
Lockages, Gatun and Pedro Miguel .....	2,005,739	2,019,537	56	53
Municipal and other usages .....	104,734	104,238	3	3
Spillway discharge .....	<u>455,762</u>	<u>470,340</u>	<u>13</u>	<u>12</u>
Total Gatun Lake usage .....	<u>3,550,234</u>	<u>3,814,569</u>	<u>100</u>	<u>100</u>

**Table 14.—Dredging Operations—Fiscal Year 1989**

	(Cubic yards)		
	Earth	Rock	Total
Pacific Entrance Widening .....	2,568,530	.....	2,568,530
Bohio Curve Widening .....	130,030	334,690	464,720
Miraflores South Approach Widening .....	42,650	118,500	161,150
Empire Reach Maintenance .....	121,500	36,850	158,350
Grand Total .....	<u>2,862,710</u>	<u>490,040</u>	<u>3,352,750</u>

**Table 15.—Electrical Power Generated**

(Gigawatt hours) <sup>1</sup>

	<i>Fiscal year</i>	
	<i>1989</i>	<i>1988</i>
<b>Generation:</b>		
Gatun hydro station .....	62	77
Madden hydro station .....	187	206
Thermal generating stations .....	258	277
Gross generated by Panama Canal Commission .....	507	560
Less station service usage .....	(10)	(13)
Net total generated by Panama Canal Commission .....	497	547
<b>Power Purchases:</b>		
Through interconnect from Panama .....	17	5
Net Energy received for Wheeling .....	6	4
<b>Power Sales:</b>		
Through interconnect to Panama .....	(0.3)	(32)
Net power generated and purchases for Canal area only .....	520	524
Other power generated by military for own use .....	4	1
Total Canal area requirements .....	524	525
Power distributed to Comission's customers .....	487	494
Transmission and Distribution losses .....	37	30
Peak load (thousands of kilowatts) .....	83.6	84
Date of peak load .....	March 6	Dec. 18
Canal area load factor <sup>2</sup> .....	71%	67%

<sup>1</sup> One gigawatt hour equal to 1 million kilowatt hours.

<sup>2</sup> Total Canal area requirements divided by number of hours per year times peak load.

**Table 16.—Fire Division Statistics**

	<i>Fiscal Year 1989</i>		<i>Fiscal Year 1988</i>	
	<i>Number of fires</i>	<i>Property loss</i>	<i>Number of fires</i>	<i>Property loss</i>
Panama Canal Commission .....	66	\$44,005	95	\$102,100
Armed Forces .....	247	56,126	321	100,308
Private (including ships) .....	94	442,609	48	775,202
Republic of Panama <sup>1</sup> .....	129	16,793	185	5,140
Total .....	536	559,532	649	\$982,751
			<i>FY 1989</i>	<i>FY 1988</i>
Calls for Emergency Aid <sup>2</sup> .....			5,268	4,615
Total number of calls (all types) responded to .....			7,911	6,497

<sup>1</sup> Responses made to areas transferred to the Republic of Panama.

<sup>2</sup> Includes responses by both ambulances and fire apparatuses.









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