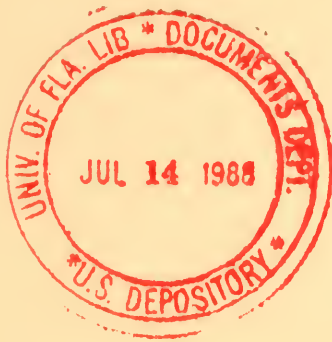


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PANAMA CANAL COMMISSION

# ANNUAL REPORT



FISCAL YEAR ENDED SEPTEMBER 30, 1987



# 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 1987.

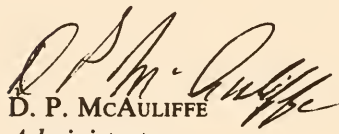
This report covers the eighth year of operation under the terms of the Panama Canal Treaty. During this period, Canal traffic and tolls revenue edged moderately upward over the previous year. Oceangoing transits increased 2.4 percent with a near parallel increase in tolls revenue of 2.2 percent. Most of the growth resulted from a sharp improvement in corn shipments and gains in a number of other commodities. While overall traffic was slightly up from last year, average vessel size remained near 1986 levels.

To ensure the long-term effective operation of the Canal, continued emphasis was placed on maintenance and modernization programs. Important major projects included the overhaul of the massive sea gates at Miraflores Locks, the addition of five new towing locomotives at Gatun Locks, dredging of the Pacific approach channel and enhancement of the new, second generation computerized marine traffic scheduling and monitoring system.

In the area of human resources, training programs continued to receive high priority to ensure increased participation by qualified Panamanians

throughout the organization. Panamanian citizens now comprise approximately 83 percent of the Commission work force with increasing involvement at all management levels. During the past year, the Commission's binational work force demonstrated exceptional esprit de corps, while providing high quality transit service.

The Panama Canal Commission's performance during fiscal year 1987 demonstrated once again that the waterway remains an important and efficient conduit for world trade. I am confident that our dedicated work force and the effectiveness of our ongoing modernization and maintenance efforts will allow the Panama Canal to continue handling the demand for its unique transit service well into the future.



D. P. McAULIFFE  
*Administrator*

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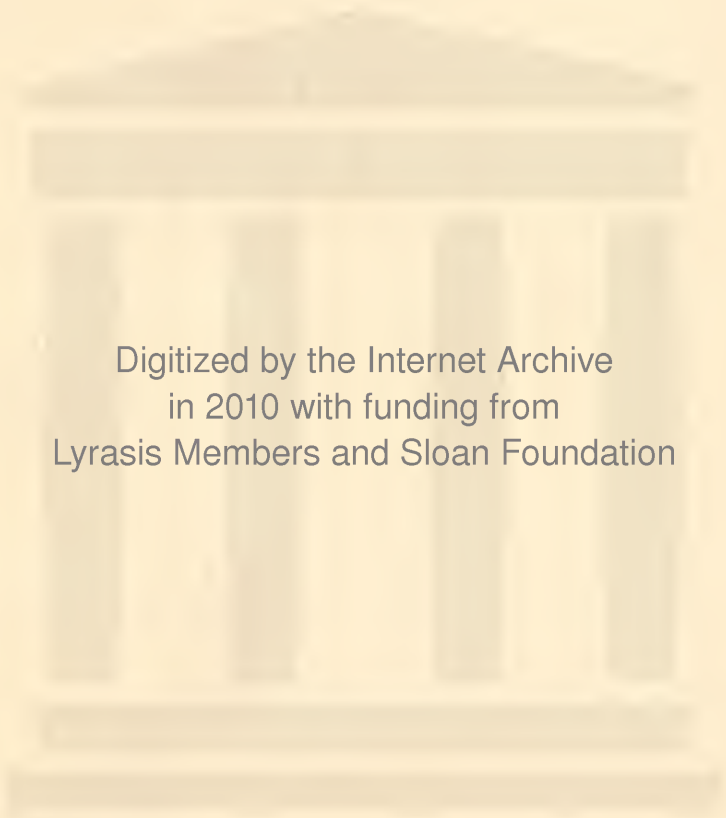
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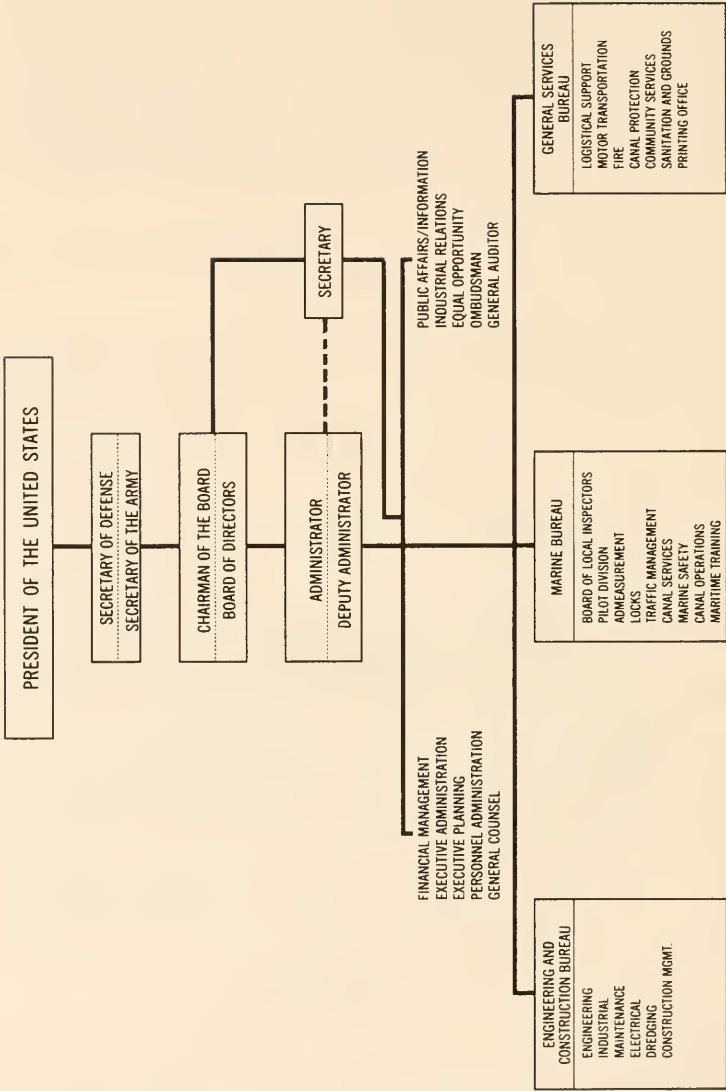
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# PANAMA CANAL COMMISSION





## **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, when the Republic of Panama will assume full responsibility for the Canal.

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 Commission Fund. Appropriations for operating expenses and capital improvements are enacted annually by the Congress and are limited to the sum of the estimated receipts for the year, plus any unexpended balances in the Panama Canal Commission Fund.

### **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 677,521 vessels of all types have transited with 570,239 or 84.2 percent of the total being of the oceangoing commercial class.

### **TOLL RATES**

Toll rates are: (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.

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 1987**

Honorable WILLIAM R. GIANELLI,  
*Chairman, Board of Directors*  
*Panama Canal Commission*  
*Washington, D.C.*

Honorable OYDEN ORTEGA  
*Panama, Republic of Panama*

Honorable LUIS A. ANDERSON  
*Panama, Republic of Panama*

Honorable CARLOS OZORES  
*Panama, Republic of Panama*

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

Honorable WALTER V. SHEA  
*Annapolis, Maryland*

Honorable RICHARD N. HOLWILL  
*Deputy Assistant Secretary*  
*Inter-American Affairs*  
*Department of State*  
*Washington, D.C.*

Honorable CARLOS VELARDE  
*Panama, Republic of Panama*

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

**Executive Committee**

Honorable WILLIAM R. GIANELLI  
*Chairman*

Honorable OYDEN ORTEGA

Honorable WALTER V. SHEA

Honorable CARLOS VELARDE

Honorable WILLIAM W. WATKIN, Jr.

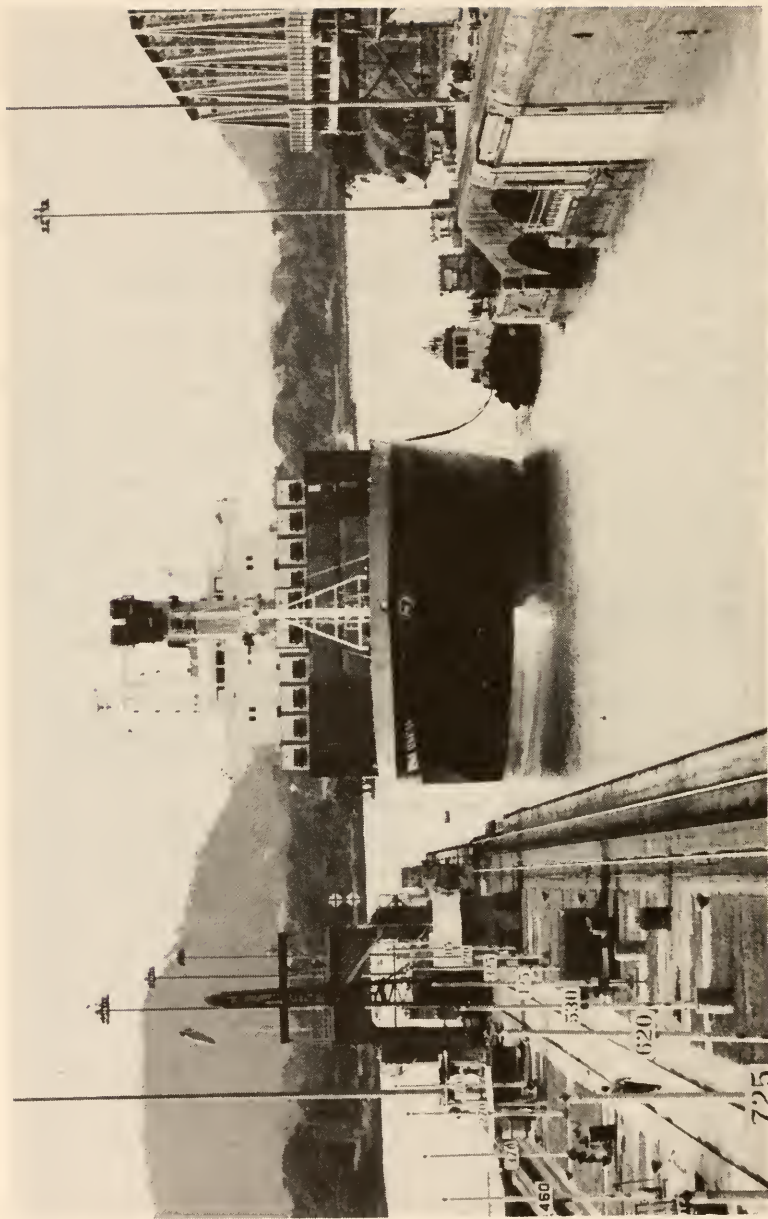
**OFFICIALS IN THE REPUBLIC OF PANAMA**

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

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

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

*Secretary* ..... MICHAEL RHODE, Jr.



The container ship GERMAN SENATOR approaches Miraflores Locks on its maiden voyage inaugurating a new round-the-world container service. This year, 18 million long tons of containerized cargo passed through the Canal reflecting continued strong growth in the movement of containers over the all-water route.

# *Chapter I*

## **CANAL TRAFFIC**

### **TRAFFIC**

Canal traffic and tolls revenue continued upward in fiscal year 1987, although at a more moderate rate than the previous year. Most of the growth resulted from a sharp improvement in corn shipments and moderate gains in a number of other commodities.

Oceangoing transits in fiscal year 1987 increased 2.4 percent to 12,313, or 33.7 vessels daily, from 12,023, or 32.9 daily, the prior year. Commercial vessels accounted for 12,230 of the total oceangoing transits, up from 11,925 in fiscal year 1986. Vessels owned or operated by the U.S. Government and free Colombian and Panamanian Government vessels accounted for 83 transits, compared with 98 last year.

While overall traffic showed growth over the prior year, vessel size remained near 1986 levels. Transits by vessels having beams of 100 feet and over totaled 2,668 compared with 2,627 transits the prior year. As a result, transits in this beam category as a proportion of total oceangoing transits decreased from 21.8 percent in 1986 to 21.7 percent, the first decline in this important traffic element since 1984. Vessels having beams of 80 feet and over accounted for 5,908 transits or 48 percent of total oceangoing transits compared with 5,898 or 49.1 percent in 1986. The lull in vessel size growth was reflected in the average Panama Canal net tonnage of oceangoing commercial vessels, which dropped slightly to 15,248 tons from the record 15,328 tons reached in the prior year.

Total Panama Canal net tonnage increased 2.0 percent to 187.3 million in fiscal year 1987 from 183.8 million tons in the prior year. Correspondingly, tolls revenue rose 2.2 percent to \$329.9 million from the \$322.7 million in 1986.

The high level of traffic was achieved despite a major landslide in Gaillard Cut on October 13, 1986, and persistent political unrest in Panama, which prevailed during the latter part of the fiscal 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>	
	1987	1986
Oceangoing transits:		
Commercial .....	12,230	11,925
U.S. Government .....	78	85
Free .....	5	13
Total .....	<u>12,313</u>	<u>12,023</u>
Daily average .....	33.7	32.9
Small transits:		
Commercial .....	852	912
U.S. Government .....	236	316
Free .....	43	27
Total .....	<u>1,131</u>	<u>1,255</u>
Total cargo:		
Commercial .....	148,693,662	139,948,885
U.S. Government .....	205,701	176,853
Free .....	62	80
Total .....	<u>148,899,425</u>	<u>140,125,818</u>
Total Panama Canal net tons and reconstructed displacement tonnage .....	187,340,780	183,750,961
Transit revenue:		
Commercial tolls .....	\$328,463,544	\$321,163,325
U.S. Government tolls .....	1,395,231	1,570,877
Tolls revenue .....	<u>\$329,858,775</u>	<u>\$322,734,202</u>
Harbor pilotage, tug, launch, and other services .....	\$68,128,024	\$67,363,962
Total transit revenue .....	<u>\$397,986,799</u>	<u>\$390,098,164</u>

### COMMODITIES AND TRADE ROUTES

Cargo movements in 1987 registered a fairly high rate of increase with other compared elements of traffic, with total commercial tonnage rising 6.2 percent to 148.7 million long tons from 139.9 million tons in the prior year. This relatively strong performance reflected an improvement in bulk cargoes, particularly grains.

Reversing the declining trend of the prior four years, grain shipments increased 41.1 percent to 32.4 million tons from the 22.9 million tons which passed through the Canal in fiscal year 1986. The increase was mainly fueled by a substantial improvement in corn shipments. Corn tonnage totaled 15.9 million tons, increasing 83.7 percent over the 8.6 million tons shipped via the Canal last year. Nearly 94 percent, or 14.9 million tons, was U.S. corn shipped to the Far East, with Japan receiving 10.7 million tons

and South Korea 2.4 million tons. Other components of the grain commodity group showing improvement included soybeans, which rose from 6.8 million tons to 7.8 million tons; wheat, which was up from 3.8 million tons to 4.5 million tons; and sorghum, which increased from 2.3 million tons to 2.6 million tons. The increased grain tonnage via the Canal reflected an overall recovery in U.S. grain exports generated by a number of factors, including the lower value of the dollar, reduced harvests in other major grain producing nations, and the U.S. Government export enhancement program.

Petroleum and petroleum products decreased 15.9 percent to 25.9 million long tons in fiscal year 1987. The decline in this commodity group was primarily due to a sharp drop in the crude oil movement, which was down to 9 million tons from 12.9 million tons. This drop reflected reduced oil flows from diverse sources, particularly Ecuador. On March 5, 1987, Ecuador was struck by an earthquake which damaged a section of the trans-Ecuadorian pipeline, forcing the country to halt oil exports for about six months. As a result, Ecuadorian oil exports via the Canal totaled 3.5 million tons this year versus the 5.8 million shipped in 1986. The petroleum products segment of this commodity group declined to 17.0 million tons from 17.9 million tons, with most of the reductions concentrated in diesel oil and residual oil shipments.

The nitrates, phosphates and potash commodity group improved significantly to 12.0 million tons from the depressed 9.9 million tons registered in 1986. Phosphates, which accounted for 54.2 percent of the group, rose 23.7 percent to 6.5 million tons from 5.3 million tons. Over 90 percent of phosphates moving via the Canal originated in the U.S. East Coast and were primarily destined for South Korea, Japan and China.

The coal and coke trade continued downward, falling to 7.9 million tons compared with 10.2 million tons in the prior year. Coal exports from the U.S. East Coast accounted for 5.8 million tons, with Taiwan and Japan as the main destinations.

The automobile trade, which generated most of the sharp traffic increases of the prior year, continued strong but did not attain further significant gains. The trade, included in the machinery and equipment group, totaled 2.5 million tons, up slightly from 2.4 million tons. Automobiles from Japan destined for the U.S. East Coast, accounting for 71.4 percent of the trade, totaled 1.8 million tons versus 1.7 million tons in 1986.

Most other commodity groups, with the exception of ores and metals, showed increases during the year. Fairly high gains were achieved in a number of trades, including refrigerated foods, lumber and products, and containerized cargoes.

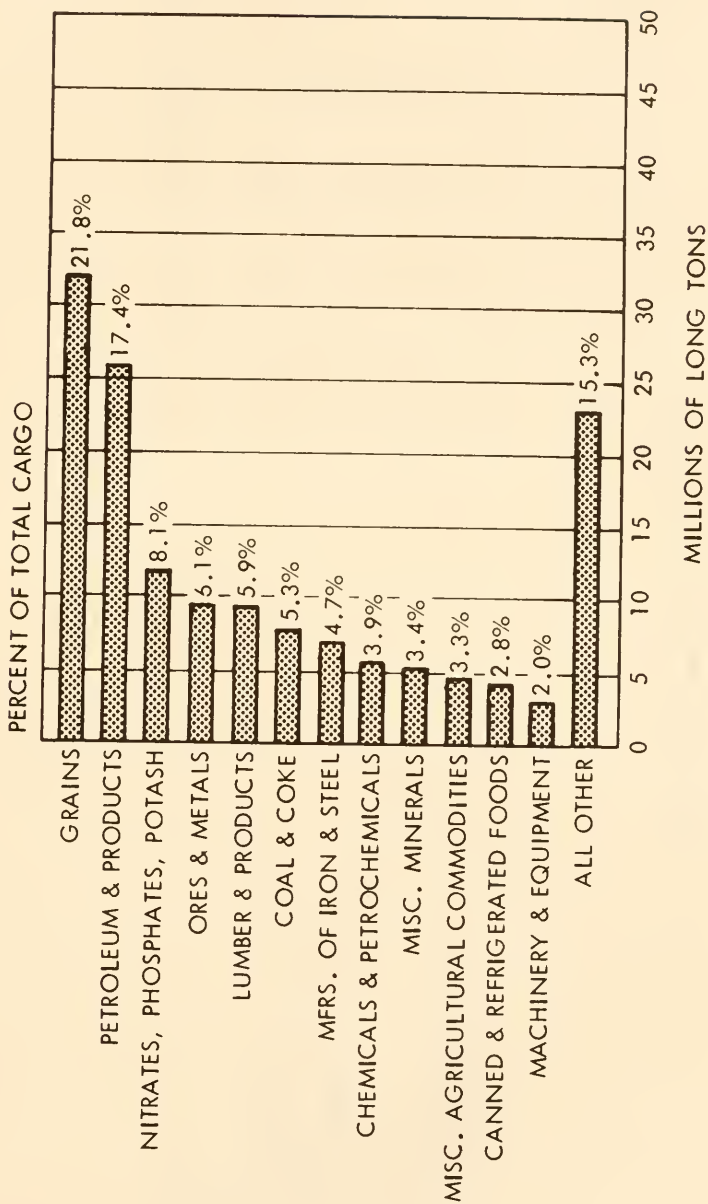
Trade between the East Coast United States and Asia remained the leading trade route in Canal traffic, accounting for 39.1 percent of total

Canal commercial cargo. The cargo tonnage carried by ships on this voyage route totaled 58.1 million long tons, up from 50.6 million tons in the prior year.

The following chart and table show the principal commodity groups moving in oceangoing commercial vessels during fiscal year 1987 and a comparison of the major trade routes in fiscal years 1987 and 1986.



PRINCIPAL COMMODITY GROUPS  
TRANSITING THE CANAL  
OCEANGOING COMMERCIAL CARGO FY 1987



## Major Voyage Trade Routes in Canal Traffic

Trade Route	Fiscal year						Percent of Increase or Decrease)
	1987			1986			
	Panama Canal Net Tons	Long Tons Cargo	Long Tons Cargo	Panama Canal Net Tons	Long Tons Cargo	Long Tons Cargo	
	[In thousands of tons]						
East Coast United States-Asia .....	77,471	58,111	71,147	50,583	8.9	14.9	
East Coast United States-West Coast South America .....	16,780	12,005	18,261	12,593	(8.1)	(4.7)	
Europe-West Coast United States/Canada .....	14,231	14,850	16,336	16,507	(12.9)	(10.0)	
Europe-West Coast South America .....	10,601	7,375	9,679	6,684	9.5	10.3	
Round the World .....	5,929	3,743	4,257	2,388	39.3	56.7	
East Coast Canada-Asia .....	4,594	3,951	4,545	3,794	1.1	4.1	
Europe-Asia .....	4,496	3,700	3,428	1,695	31.2	118.3	
U.S. Intercoastal (including Alaska and Hawaii) .....	4,020	2,879	6,121	4,805	(34.3)	(40.1)	
East Coast United States/Canada-Oceania .....	3,983	4,780	3,927	4,501	1.4	6.2	
Central America Intercoastal .....	3,985	3,313	4,733	4,009	(15.8)	(17.4)	
South America Intercoastal .....	3,461	2,964	2,473	2,749	40.0	7.8	
East Coast United States-West Coast Central America .....	3,288	2,961	2,684	2,415	22.5	22.6	
Subtotal .....	152,839	120,632	147,591	112,723	3.6	7.0	
All other routes .....	33,568	28,058	35,160	27,222	(4.5)	3.1	
Total .....	186,407	148,690	182,751	139,945	2.0	6.2	





One of four massive 750 ton sea gates, removed during the Miraflores Locks overhaul, is partially lifted from the water by the floating crane HERCULES to allow workmen to seal closure plates. The gate was then floated and towed in barge-like fashion to the Mt. Hope Industrial facility for thorough overhaul. Major maintenance efforts such as this are critical to the effective and efficient operation of the Canal's lockage system.

# Chapter II

## CANAL OPERATIONS

Canal operations are comprised of Transit Operations and Maintenance and Related Canal Projects. The various functions are divided among the operating bureaus within the Canal agency. On October 1, 1986, the Marine Bureau designated several new divisions and units to handle the functions formerly performed by the Navigation Division, which was dis-established on that date. The organizational chart on page VI reflects the present structure of the Marine Bureau.

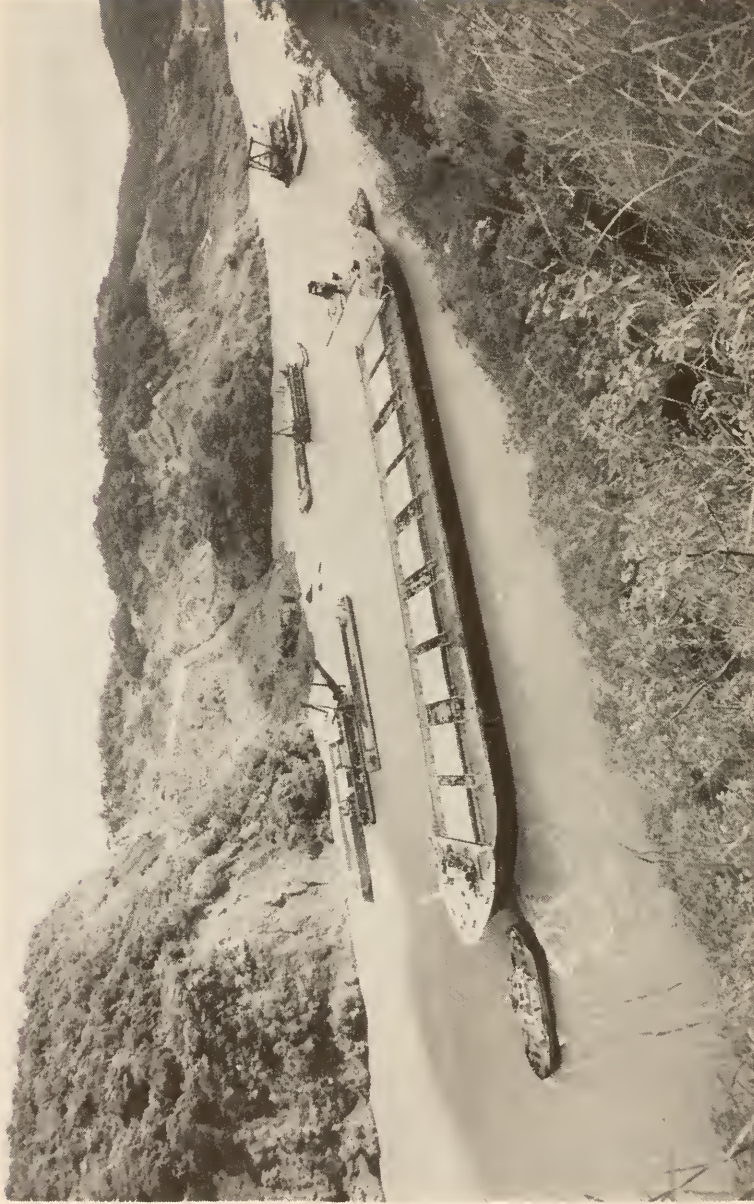
### TRANSIT OPERATIONS

Daily average transits by oceangoing vessels increased from the 32.9 per day during fiscal year 1986 to 33.7 per day during fiscal year 1987. Average time in Canal waters increased from 23.4 hours in fiscal year 1986 to 24.0 hours in fiscal year 1987.

<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>
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 drafts increased 16.5 percent during FY 1987 with 1,704 vessels transiting the Canal compared to 1,463 last year. The maximum allowable draft remained at 39 feet 6 inches during the entire fiscal year.

Total jobs performed by Commission tugs increased from 38,833 in fiscal year 1986 to 39,492 in fiscal year 1987.



A PANAMAX size bulk carrier, assisted by Panama Canal tugs, can be seen passing three dredges actively working to remove debris deposited by a major landslide which occurred on October 13, 1986. Full channel width and normal Canal operations were rapidly restored, demonstrating the effective responsiveness of the work force to emergency situations.

	<i>Fiscal year</i>	
	<i>1987</i>	<i>1986</i>
Oceangoing transits .....	12,313	12,023
Tug jobs:		
Balboa .....	27,893	26,939
Cristobal .....	11,599	11,894
Tug operating hours .....	58,380	60,442

## MAINTENANCE AND RELATED CANAL PROJECTS

Maintenance and improvements to the Canal continued at high levels 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.

During the first quarter of the fiscal year, considerable resources, materials and equipment were dedicated toward cleanup of the major landslide which occurred in Gaillard Cut on October 13, 1986. The slide resulted in approximately one-half million cubic yards of rock, earth and debris flowing into Canal waters. About half of this material was deposited in the shipping lanes, causing a narrowing of the navigable channel in the area of Gold Hill. All available dredging equipment was immediately stationed in the area to begin removal of the slide material. Given the significance of the slide, two dredges and related equipment were contracted from a dredging firm in the United States to assist in the removal project. Efforts were simultaneously undertaken by the Panama Canal Commission to successfully settle unstable areas affected by the slide. Precautionary transit measures temporarily implemented in the interest of navigational safety, were progressively withdrawn until full channel width and normal Canal operations were restored on December 23, 1986.

From January through September, maintenance dredging of the Pacific approach channel was completed to restore maximum channel depth. This project served to remove shoal formations and siltation caused by tidal variations and propeller wash. A similar dredging project is contemplated for the Atlantic approach channel.

A new miter gate lifting device was designed by the Engineering Division and built by the Industrial Division to facilitate removal and installation of miter gates. The device was successfully used during the Miraflores Locks overhaul, wherein Miter Gates Nos. 120, 121, 122, 123, the tallest and heaviest gates in the locks system, were removed for rehabilitation at the Mount Hope Industrial Division. A spare set of gates, refurbished six months in advance of the overhaul, were installed in the east lane of Miraflores Locks while the original gates were reconditioned and shifted to the west lane. The original west lane gates were then rehabilitated and now serve as spare gates.

Several other locks related projects performed during the year involved the replacement of 6,000 linear feet of fendering at the Pacific Locks, rehabilitation of a combined total of some 7,500 linear feet of locomotive tow track, conductor slot and rack sections at all locks, and inspection and maintenance of rising stem and cylindrical valves.

Other significant marine-related maintenance work included major overhauls of the dipper dredge *Christensen*, the tugs *Harding*, *Trinidad*, *Rousseau* and *Parfitt*, and drum gate No. 3 at Madden Dam.

Major equipment acquisitions in support of Canal operations consisted of the delivery of five new towing locomotives increasing the total fleet to 80, the dredge tender *Chagres* which is also capable of assisting with transits, and four aluminum hull pilot/linehandler launches *Xares*, *Umbla*, *Trucha*, and *Albacore II*.

Contracts were awarded for the fabrication of two tractor tugs, the *Guía* and *Líder*, the construction of a tug refueling facility at Miraflores landing, two locomotive cranes incorporating OSHA standards, and the fabrication and delivery of two locomotive turntables for subsequent installation at the north approach walls of Gatun and Miraflores locks respectively.

The second generation Marine Traffic Control computer system continued to undergo upgrading to further improve vessel monitoring and scheduling. This system, as well as other computer systems throughout the Commission, will also benefit from advanced telecommunication capabilities upon installation of a newly acquired telephone exchange system and fiber optic wiring.







The new dredge tender CHAGRES repositions the floating crane GOLIATH. Designed to provide operational support to the Dredging Division, the CHAGRES is equipped with a 3,000 h.p. diesel engine and is capable of assisting with vessel transits.

# *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 \$72.0 million in goods and services were procured during fiscal year 1987, including \$24.2 million from sources in Panama. Major contracting obligations included approximately \$3.7 million for Bunker "C" fuel oil for thermoelectric power generation, \$4.6 million for light diesel fuel, \$3.5 million for a tractor tugboat, \$2.1 million for vehicles, \$1.6 million for two towing locomotive turntables, \$1.4 million for locomotive cranes and \$1.3 million for a salvage barge.

Approximately \$18 million in Commission inventory items were issued for Commission use, and \$21.2 million was obligated for new inventory purchases during the year. A total inventory of 38,734 line items with an average cost value of \$28.7 million was on hand at year end.

Activities of the Excess Disposal Branch included no-cost transfers to other U.S. Government agencies of excess equipment having an original acquisition value of approximately \$879,225, while surplus property sold to the Government of Panama at current fair market value amounted to approximately \$92,244.

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, 12,326 measurement tons of containerized and breakbulk cargo were shipped to the Port of Balboa. An additional 5,274 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

The Community Services Division is responsible for managing employee housing, Commission-owned buildings, a technical resource center (library) and the employee fitness program for the agency. Other services are provided by the Office of Area Coordination.

The Housing Management Branch utilized Commission and contract forces to maintain and repair its quarters inventory, with a strong emphasis on safety and security upgrades. The agency continued its multiyear housing management plan designed to concentrate resources on diminishing housing requirements in selected areas. Implementation of the plan is intended to utilize remaining housing and related maintenance resources in the most cost-effective manner, while at the same time preserving optimum housing for eligible employees and meeting ongoing responsibilities under the Panama Canal Treaty. Under these criteria, 56 housing units located in Balboa, Gamboa and Margarita were transferred to the Government of Panama. By the end of the fiscal year, the Commission retained 1,573 housing units, representing 37% 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.

The Buildings Management Branch maintains and operates Commission buildings and structures not specifically assigned to other Commission units, a centralized custodial service and the agency's moves and relocations. This unit was designated as the agency space manager responsible for implementing and managing Executive Order 12411 and other regulations. The branch managed major renovations at four buildings and is actively engaged in the implementation of energy conservation programs.

The Technical Resources Center (library) provided mission-support information and research to all units of the Commission, other U.S. agencies, the Government of Panama and maintained a collection of library and three-dimensional materials relating to the history and operation of the Panama Canal. By September 30, 1987, this unit had relocated from Building 0610, Ancon, to Building 38, Balboa.

The Employee Fitness Branch provides comprehensive fitness programs for Commission employees and manages a variety of recreational areas used by employees and their dependents. The branch also provides services to the Commission such as certifying all job applicants and employees

required to be proficient in swimming, instructing employees from various divisions (i.e. Canal Protection, Fire, Dredging, Apprentice School, Locks, etc.) in basic rescue and water safety, advanced lifesaving, drown-proofing, survival floating and water safety instructor's courses.

### **SANITATION AND GROUNDS**

Mosquito control and other environmental health measures essential to maintain a high level of health of employees were carried out by the Sanitation Branch. Surveillance and control of biting insects and vermin capable of transmitting disease were continued, with emphasis on non-chemical control methods such as drainage maintenance in lieu of extensive dispersements of chemical insecticides. Some 220 miles of surface water drainage ditches were maintained to eliminate mosquito breeding around employee work and housing areas. Specialized mosquito control measures continue to be necessary for the prevention of such major insect-borne tropical diseases as malaria, yellow fever, and dengue. Additional control efforts were directed against cockroaches, houseflies, bats, rats, venomous snakes and other vermin.

Approximately 2,900 acres of improved grounds were maintained within and around Commission residential areas, buildings, the locks and industrial facilities. Vegetation control was maintained by Grounds Branch crews along utility line rights-of-way, earthen saddle dams, Gatun Dam, Canal bank stability drainage systems, and around the perimeters of aids to navigation towers and targets.

Following the major landslide in Gaillard Cut, referred to on page 15 of this report, Grounds and Sanitation workers participated in soil stabilization of the area by dispersing lime on the water saturated soil at the slide sites. Later, slopes of Gold Hill were planted with 4,700 tree seedlings of the *Gmelina—arborea* and *Acacia—magnium* species to reforest the area of the landslide and increase bank stability.

Africanized bee control operations remained stable in FY 1987 with 173 bee swarms and nests destroyed by Commission bee control teams. Four Africanized bee swarms were removed from transiting ships in FY 1987.

### **TRANSPORTATION SERVICES**

The Motor Transportation Division operated and maintained a consolidated motor pool of 884 vehicles designed to meet the vehicular transportation requirements of the Commission. The vehicle fleet in fiscal year 1987 included 633 trucks of various types, 208 passenger-carrying vehicles, and 43 special-purpose vehicles. Vehicle mileage decreased slightly from 7,187,895 miles in fiscal year 1986 to 7,112,193 miles in FY 1987. 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. In addition, some services were contracted out where they were

available in required quantity and quality in Panama. The vehicle inspection facility located within the Motor Transportation Division, Ancon area garage, also was used by the Government of Panama during the first six months of the fiscal year 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 1987 was 518 gigawatt hours, a 8.1 percent increase from the 479 gigawatts used last year. The peak hourly demand of 84 megawatts reached on September 28, 1987, was 2.4 percent above the peak of 82 megawatts in the prior year. Agency-directed energy consumption in fiscal year 1987 for electrical power and fuel, calculated together in Btu's, was reduced a total of 17.9 percent in relation to the fiscal year 1975 baseline established by the Federal Energy Management Program. Electrical power consumption by the Commission, 76.3 gigawatt hours, was 2.6 percent above the usage levels recorded for comparable operations in fiscal year 1975; fuel consumption, excluding fuel for power generation, 5.0 million gallons, was 34.9 percent below the corresponding 1975 fiscal year baselines.

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; and the separate Atlantic side system serves the Canal area, portions of Colon, and suburban areas. During fiscal year 1987, the two systems supplied 3.11 billion cubic feet of potable water to consumers, an increase of about 2.64 percent from the previous year. Water supplied by the Panama Canal Commission to Panama City and Colon metropolitan areas amounted to approximately 55.4 million gallons per day.

### **FIRE PROTECTION**

The Panama Canal Commission Fire Division and the Bomberos, Republic of Panama, in accordance with the Panama Canal Treaty of 1977, are responsible for providing fire protection, firefighting, and rescue operations in Canal operating areas, defense sites, civilian and military areas of coordination and shipboard firefighting on all vessels in Canal area waters.

The total number of responses for fiscal year 1987 were 5,748 compared to 5,804 for fiscal year 1986. About 43 percent of the responses for this year were attributable to a marine standby program initiated during the last

quarter of fiscal year 1985. Under this program, Fire Division personnel respond with foam apparatus on standby at the locks for certain vessels identified by the Marine Bureau as transporting hazardous or flammable cargoes, particularly during the critical period when a vessel is entering the locks.

Requests for ambulance service increased from 1,366 last year to 1,476 this year. Bomb threats also increased from 15 last year to 31 this year. Excluding ship fires, there were 517 fires during the year. As in the past, the vast majority of these incidents were grass and brush fires, most frequently occurring during the vulnerable dry season period. Additional Fire Division statistics appear in Table 16 on page 120 of this report.

### **CANAL PROTECTION**

The Canal Protection Division provides operational security for the Panama Canal Commission and plant protection of installations and facilities devoted to the management, operation, and maintenance of the waterway. Security improvements to vital installations and support activities continued throughout the year with site surveys, inspection of facilities and installation of essential security hardware/systems. Recruitment of in-service employees into upward mobility program guard positions continued heavy during the year to meet the increased coverage requirements.

### **HEALTH AND SAFETY**

The Occupational Health Division and the Safety Division 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 1987, the Commission experienced 628 performance-of-duty accidents/illnesses for which employees required medical attention beyond first aid, as compared to 598 such accidents/illnesses in fiscal year 1986. The incident rate rose slightly from 7.5 in fiscal year 1986 to 7.9 per 100 employees in fiscal year 1987. There were no fatalities recorded in either fiscal year 1987 or fiscal year 1986.

As a means of enhancing safety and health in the Commission workplace during fiscal year 1987, on- and off-Isthmus training was increased, workplace inspections and evaluations were intensified, ongoing publicity was accomplished, and a safety incentive awards program was revitalized to recognize safe workers and foster positive safety attitudes. A Dive Safety Board was established to recommend improved safety and technical standards and procedures in dive operations. Also, controlled alcohol and drug testing procedures were continued as a means to further ensure a safe working environment. In addition, the certified Safety and Health Committee continued its active role in the safety and health program.





# *Chapter IV*

## **ADMINISTRATION AND STAFF**

### **PERSONNEL**

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

At the end of fiscal year 1987, the total Isthmian force of the Commission was 8,562 compared to 8,338 employees in fiscal year 1986. Of the total Isthmian force, 7,561 were permanent and 1,001 temporary. Of the permanent work force, 6,269 (82.9%) were Panamanians, 1,151 (15.2%) were U.S. citizens and 141 (1.9%) were third-country nationals. Nineteen persons, all U.S. citizens, were employed by the Commission in New Orleans and Washington, D.C.

The total Commission payroll was \$196.2 million in fiscal year 1987 compared to \$190.8 million in fiscal year 1986. Of the total Commission fiscal year 1987 payroll, \$133.6 million was paid to non-U.S. citizen employees and \$62.6 million to U.S. citizen employees.

#### **EQUAL OPPORTUNITY PROGRAM**

The new Multi-Year Affirmative Action Plan covering fiscal years 1988 through 1992 for this agency was initiated in fiscal year 1987. The Affirmative Action Accomplishment Report for fiscal year 1987 indicated that the agency met its stated affirmative action goals and exceeded its employment goal for the severely handicapped.

Formal EO complaints filed remained at the same level as the previous fiscal year. Under an ongoing educational program, several workshops were conducted on sexual harassment, and the EEO complaint process. Special emphasis program activities included commemorations of National Employ the Handicapped Week, Black History Week, National Hispanic Heritage Week, and Women's Week. Ongoing monitoring of the Panamanian Preference Program reflected continued increasing participa-

tion of Panamanian nationals at all levels. At the end of fiscal year 1987, the composition of the work force by sex and minority group designation was as follows:

<b>By sex</b>	
Male .....	88.6%
Female .....	11.0%

<b>By Minority Group Designation</b>				
<i>Hispanics</i>	<i>Blacks</i>	<i>Whites</i>	<i>Oriental</i> s	<i>Amer. Ind.</i>
61.7%	23.9%	12.8%	1.3%	0.3%

### 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 *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. Such support included the development of exhibits for international shipping exhibitions and conferences like Expoship 87 in London and the Seatrade Cruise Shipping Conference in Miami, and audio visual assistance for engagements where key agency officials served as guest speakers. Similar support was provided for Commission exhibits at the annual regional fair held in David; Expocomer, an international exhibition held in Panama City; a display commemorating the Bicentennial of the U.S. Constitution; and a photographic display featuring the work of Canal construction day photographer Ernest Hallen. English and Spanish language press releases, films, video and audio tape segments were also developed for internal agency use and for distribution to the press services.

The landslide in Gaillard Cut and political events in Panama placed greater than usual demands on the office to provide local and international media representatives with information on the Canal under various formats.

The guide service handled a total of 305,416 visitors at the Canal and conducted 680 VIP tours. Visitors included representatives of major news services, 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. However, the office provides the widest latitude possible for handling problems affecting employee morale and the quality of life.

During fiscal year 1987, there was marked increase in telephone traffic, particularly during the last quarter. Much of the increase was attributable to heightened concerns of Canal area employees and residents fueled by ongoing political unrest in Panama. A "hotline" was activated to more effectively handle the high volume of calls.

A total of 275 cases were processed by the Ombudsman as compared to 264 cases in FY 1986. A number of complaints continue to flow from the progressive deterioration and lack of maintenance of highways, streets and railroad crossings within the Canal Area, which are outside the responsibility of the Panama Canal Commission.

### **INDUSTRIAL RELATIONS**

During the past year, contract administration activities continued routinely. Efforts to promote more constructive and harmonious labor relations have resulted in an increased willingness on the part of management officials to meet with union representatives to discuss changes in the work place and attempt resolution of disputes without resort to third parties.

The collective bargaining agreement with Local No. 13, International Association of Firefighters, was extended for an additional year, until April of 1988. The agreement with the Professional Bargaining Unit, represented by the Maritime/Metal Trades Council, was extended for three more years.

The Commission was one of several U.S. Federal agencies directly affected by a landmark decision of the Federal Labor Relations Authority (FLRA) which held that union proposals concerning pay and fringe benefits are not intrinsically non-negotiable. The FLRA ruled in four cases involving the Commission that eleven such union proposals were negotiable. Negotiations are pending.

### **GENERAL COUNSEL**

On December 23, 1985, the President signed into law the Panama Canal Amendments Act, Public Law 99-209, which authorized the Panama Canal Commission to settle all vessel-accident claims, regardless of the amount and irrespective of the site 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 1987, 24 of these claims had been settled, and \$15,702,367 (out of a total of \$21,266,200 claimed) had been paid to the aggrieved shipowners.

Two lawsuits for out-of-locks vessel-accident damage were filed before the passage of the Amendments Act and an additional seven were filed after its enactment. By September 30, 1987, one case had been dismissed by the Court, while six suits have been settled out of court for a total payment of \$2,084,899.

In fiscal year 1987, one phase of litigation arising from the termination of a contract for the purchase of a tugboat was successfully completed. The litigation concerned the Commission's termination for default of a contract with a New England builder for the construction of the tugboat *Paz*. The contract was terminated in August 1984 when the contractor failed to make timely delivery of the tug. In the ensuing litigation in the Claims Court, the contractor demanded \$1.9 million in damages, and the Canal Commission counterclaimed for approximately \$750,000. The Claims Court in June 1986 denied the contractor's claim and granted judgement in favor of the Commission on its counterclaim. This decision was affirmed by the U.S. Court of Appeals for the Federal Circuit on February 2, 1987.

# *Chapter V*

## **FINANCIAL REPORT**

### **FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 1987**

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, 1987, and the results of its operations for the fiscal year then ended.

The accounts and statements of the Panama Canal Commission have been examined by the Office of General Auditor of the Commission and 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 operating results and capital expenditures follows:

#### **RESULTS OF OPERATIONS**

Net loss from operations amounted to \$0.6 million. This amount 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 1987 amounted to \$29.0 million. The principal expenditures were \$3.2 million for purchase of a tugboat, \$2.4 million for replacement of a dredge tender, \$2.2 million for replacement of motor vehicles, \$2.1 million for purchase of five towing locomotives, \$1.6 million for purchase of four new launches, \$1.5 million for improvements to Commission buildings, \$1.4 million for replacement of the Commission's telephone system, \$0.6 million for purchase of a locomotive turntable at Gatun Locks, and \$0.6 million for improvements to the electrical power system.

Table 1.—Statement of Financial Position

Assets	1987	1986
<b>PROPERTY, PLANT AND EQUIPMENT:</b>		
At cost (Note 1c) .....	\$915,595,874	\$891,030,194
Less accumulated depreciation and valuation allowances (Notes 1e and 2) .....	<u>447,025,403</u>	<u>427,840,218</u>
	<u>468,570,471</u>	<u>463,189,976</u>
<b>CURRENT ASSETS:</b>		
Cash and Fund balances (Notes 3 and 4):		
Deposit funds and undeposited receipts:		
Postal fund .....	134,738	140,954
Trust fund .....	1,214,518	1,122,442
Cash receipts for deposit into U.S. Treasury ...	<u>1,088,115</u>	<u>579,276</u>
	<u>2,437,371</u>	<u>1,842,672</u>
Unexpended appropriated funds:		
Operating funds .....	55,658,038	75,776,159
Capital funds .....	26,086,026	30,367,019
Emergency fund .....	<u>10,000,000</u>	<u>10,000,000</u>
	<u>91,744,064</u>	<u>116,143,178</u>
	<u>94,181,435</u>	<u>117,985,850</u>
Accounts receivable .....	<u>9,760,924</u>	<u>9,956,099</u>
Inventories, less allowance for obsolete and excess stock of \$532,268 and \$401,972, respectively (Note 1g) .....	<u>35,139,169</u>	<u>34,452,692</u>
Other current assets .....	<u>1,887,373</u>	<u>1,868,675</u>
	<u>140,968,901</u>	<u>164,263,316</u>
<b>OTHER ASSETS:</b>		
Deferred charges:		
Cost of early retirement benefits (Note 1h) .....	234,720,000	254,280,000
Cost of work injuries compensation benefits (Notes 1m, 7 and 8a) .....	50,344,000	.....
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	<u>6,628,000</u>	<u>7,599,000</u>
	<u>291,692,000</u>	<u>261,879,000</u>
Unrecovered costs due from subsequent revenues (Notes 1b and 5) .....	590,424	.....
	<u>292,282,424</u>	<u>261,879,000</u>
<b>TOTAL ASSETS .....</b>	<u>\$901,821,796</u>	<u>\$889,332,292</u>

The accompanying notes are an integral part of this statement.

## September 30, 1987 and 1986

Capital and Liabilities	1987	1986
<b>CAPITAL:</b>		
Investment of the United States Government:		
Interest-bearing (10.756% and 11.033%, respectively) (Notes 8c and 9) .....	\$64,711,276	\$49,803,121
Non-interest-bearing .....	<u>287,336,291</u>	<u>287,909,798</u>
	352,047,567	337,712,919
Unexpended appropriations (Note 3):		
Obligated operating funds .....	55,658,038	75,776,159
Obligated capital funds .....	23,779,004	21,196,656
Unobligated capital funds .....	2,307,022	9,170,363
Unobligated emergency fund .....	<u>10,000,000</u>	<u>10,000,000</u>
	91,744,064	116,143,178
	<u>443,791,631</u>	<u>453,856,097</u>
<b>CURRENT LIABILITIES:</b>		
Accounts payable:		
U.S. Government agencies .....	4,752,021	5,119,155
Government of Panama .....	6,942,830	6,574,365
Other .....	<u>10,490,935</u>	<u>11,989,470</u>
	22,185,786	23,682,990
Accrued liabilities:		
Employees' leave .....	43,808,225	41,845,798
Salaries and wages .....	6,643,633	5,856,533
Cost of early retirement benefits (Note 1h) .....	19,560,000	19,560,000
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	917,000	1,017,000
Employees' repatriation .....	613,000	930,000
Marine accident claims (Note 8d) .....	10,296,755	26,485,284
Net revenue payable to Government of Panama (Note 6) .....		2,012,762
Other .....	<u>1,889,633</u>	<u>2,262,308</u>
	83,728,246	99,969,685
Other current liabilities:		
Advances for capital-unexpended (Notes 1d and 10) ...	16,316,050	16,435,985
Other .....	<u>1,109,701</u>	<u>1,294,778</u>
	17,425,751	17,730,763
	<u>123,339,783</u>	<u>141,383,438</u>
<b>DEFERRED CREDIT:</b>		
Advances for capital being amortized (Notes 1d and 9) .....	<u>32,517,416</u>	<u>28,185,316</u>
<b>LONG-TERM LIABILITIES AND RESERVES:</b>		
Cost of early retirement benefits (Note 1h) .....	215,160,000	234,720,000
Cost of work injuries compensation benefits (Notes 1m, 7 and 8a) .....	50,344,000	.....
Retirement benefits to certain former employees of predecessor agencies (Note 1h) .....	5,711,000	6,582,000
Employees' repatriation .....	6,391,000	6,528,000
Lock overhauls (Note 1i) .....	1,524,156	3,219,734
Marine accidents (Note 1j) .....	20,516,706	12,452,991
Casualty losses (Note 1j) .....	877,771	841,679
Floating equipment overhaul (Note 1k) .....	<u>1,648,333</u>	<u>1,563,037</u>
	302,172,966	265,907,441
<b>TOTAL CAPITAL AND LIABILITIES .....</b>	<u>\$901,821,796</u>	<u>\$889,332,292</u>

The accompanying notes are an integral part of this statement.





**Table 2.—Statement of Operations and Non-Interest-Bearing Investment  
Fiscal Years Ended September 30, 1987 and 1986**

	1987	1986
<b>OPERATING REVENUES:</b>		
Tolls Revenue (Note 8b) .....	\$329,858,775	\$319,643,202
Other Revenues (Note 8b) .....	<u>106,275,461</u>	<u>104,658,022</u>
Total operating revenues .....	<u>436,134,236</u>	<u>424,301,224</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>58,072,944</u>	<u>56,959,549</u>
	78,072,944	76,959,549
Maintenance of channels and harbors .....	49,264,895	40,256,410
Navigation service and control .....	73,257,348	70,835,092
Locks operation .....	46,527,859	49,260,120
General repair, engineering and maintenance services .....	23,970,536	21,689,776
Supply and logistics .....	18,858,026	17,909,207
Utilities .....	30,181,152	31,783,509
Housing operations .....	6,380,002	4,940,672
General and administrative .....	69,234,014	66,487,315
Interest on interest-bearing investment (Notes 8c and 9) .....	6,944,752	6,786,828
Other .....	<u>34,033,132</u>	<u>35,379,984</u>
Total operating expenses .....	<u>436,724,660</u>	<u>422,288,462</u>
<b>NET OPERATING REVENUE (LOSS)</b> (Notes 1b, 5 and 6) .....	(590,424)	2,012,762
<b>INVESTED CAPITAL-NON-INTEREST-BEARING:</b>		
Unrecovered costs due from subsequent revenues (Notes 1b and 5) .....	590,424	.....
Net revenue payable to Government of Panama (Note 6) .....	.....	(2,012,762)
Investment at beginning of fiscal year .....	287,909,798	286,084,032
Miscellaneous receipts deposited into the U.S. Treasury .....	579,276	456,513
Due U.S. Treasury for undeposited receipts .....	(1,088,115)	(579,276)
Interest on interest-bearing investment (Notes 8c and 9) .....	<u>(64,668)</u>	<u>1,948,529</u>
<b>INVESTED CAPITAL-NON-INTEREST-BEARING AT END OF FISCAL YEAR .....</b>	<u>\$287,336,291</u>	<u>\$287,909,798</u>

The accompanying notes are an integral part of this statement.

**Table 3A.—Statement of Changes in the Investment of the United States Government  
Fiscal Year Ended September 30, 1987**

	Invested Capital				Emergency Fund	Operating Funds	Capital Funds	Total
	Interest-Bearing	Non-Interest-Bearing						
INVESTMENT AT OCTOBER 1, 1986	\$49,803,121	\$287,909,798	\$10,000,000	\$75,776,159	\$30,367,019	\$453,856,097		
Appropriation by the Congress for FY 1987	.....	.....	.....	414,783,000	24,403,000	439,186,000		
Appropriation Public Law 99-195 (indefinite-funded interest)	.....	.....	.....	7,000,000	.....	7,000,000		
	<u>49,803,121</u>	<u>287,909,798</u>	<u>10,000,000</u>	<u>497,559,159</u>	<u>54,770,019</u>	<u>900,042,097</u>		
INCREASES IN INVESTMENT:								
Prior year receipts deposited into the U.S. Treasury	.....	579,276	.....	.....	.....	579,276		
Expenditures from capital appropriations	28,683,993	.....	.....	.....	(28,683,993)	.....		
Expenditures from operating appropriations	427,764,822	.....	.....	(427,764,822)	.....	.....		
Interest on interest-bearing investment	.....	(64,668)	.....	.....	.....	(64,668)		
Unrecovered costs due from subsequent revenues (Notes 1b and 5)	.....	590,424	.....	.....	.....	590,424		
	<u>456,448,815</u>	<u>1,105,032</u>	<u>.....</u>	<u>(427,764,822)</u>	<u>(28,683,993)</u>	<u>1,105,032</u>		
DECREASES IN INVESTMENT:								
Funds to be covered into the U.S. Treasury	.....	.....	.....	14,136,299	.....	14,136,299		
Receipts deposited into the U.S. Treasury	441,233,422	.....	.....	.....	.....	441,233,422		
Due U.S. Treasury for undeposited receipts	.....	1,088,115	.....	.....	.....	1,088,115		
Property transferred to the Government of Panama	131,798	.....	.....	.....	.....	131,798		
Property transferred to other U.S. Government agencies	175,440	.....	.....	.....	.....	175,440		
Net loss (Notes 1b and 5)	.....	590,424	.....	.....	.....	590,424		
	<u>441,540,660</u>	<u>1,678,539</u>	<u>.....</u>	<u>14,136,299</u>	<u>.....</u>	<u>457,355,498</u>		
INVESTMENT AT SEPTEMBER 30, 1987	<u>\$64,711,276</u>	<u>\$287,336,291</u>	<u>\$10,000,000</u>	<u>\$55,658,038</u>	<u>\$26,086,026</u>	<u>\$443,791,631</u>		

(Note 9)

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, 1986**

	Invested Capital				Total	
	Interest-Bearing	Non-Interest-Bearing	Emergency Fund	Operating Funds		Capital Funds
INVESTMENT AT OCTOBER 1, 1985	\$76,901,053	\$286,084,032	\$10,000,000	\$43,357,867	\$24,605,692	\$440,948,644
Appropriation by the Congress for FY 1986	.....	.....	.....	418,584,000	25,500,000	444,084,000
Appropriation Public Law 99-195 (indefinite-funded interest)	.....	.....	.....	6,450,000	.....	6,450,000
	<u>76,901,053</u>	<u>286,084,032</u>	<u>10,000,000</u>	<u>468,391,867</u>	<u>50,105,692</u>	<u>891,482,644</u>
INCREASES IN INVESTMENT:						
Prior year receipts deposited into the U.S. Treasury	.....	456,513	.....	.....	.....	456,513
Expenditures from capital appropriations	19,738,673	.....	.....	.....	(19,738,673)	.....
Expenditures from operating appropriations	392,080,587	.....	.....	(392,080,587)	.....	.....
Interest on interest-bearing investment	.....	1,948,529	.....	.....	.....	1,948,529
Net revenue (Note 6)	.....	2,012,762	.....	.....	.....	2,012,762
	<u>411,819,260</u>	<u>4,417,804</u>	.....	<u>(392,080,587)</u>	<u>(19,738,673)</u>	<u>4,417,804</u>
DECREASES IN INVESTMENT:						
Funds to be covered into the U.S. Treasury	.....	.....	.....	535,121	.....	535,121
Receipts deposited into the U.S. Treasury	436,961,276	.....	.....	.....	.....	436,961,276
Due U.S. Treasury for undeposited receipts	.....	579,276	.....	.....	.....	579,276
Property transferred to the Government of Panama	1,948,292	.....	.....	.....	.....	1,948,292
Property transferred to other U.S. Government agencies	7,624	.....	.....	.....	.....	7,624
Net revenue payable to the Government of Panama (Note 6)	.....	2,012,762	.....	.....	.....	2,012,762
	<u>438,917,192</u>	<u>2,592,038</u>	.....	<u>535,121</u>	.....	<u>442,044,351</u>
INVESTMENT AT SEPTEMBER 30, 1986	<u>\$49,803,121</u>	<u>\$287,909,798</u>	<u>\$10,000,000</u>	<u>\$75,776,159</u>	<u>\$30,367,019</u>	<u>\$453,856,097</u>

(Notes 8c and 9)

The accompanying notes are an integral part of this statement.

**Table 4.—Statement of Changes in Financial Position  
Fiscal Years Ended September 30, 1987 and 1986**

SOURCE OF FUNDS:	1987	1986
From Operations:		
Revenue .....	<u>\$436,134,236</u>	<u>\$424,301,224</u>
Less operating expenses:		
Interest on interest-bearing investment .....	6,944,752	6,786,828
Payments to the Government of Panama ...	78,072,944	76,959,549
Other expenses .....	<u>351,706,964</u>	<u>338,542,085</u>
Total operating expenses .....	<u>436,724,660</u>	<u>422,288,462</u>
Net operating revenue (loss) (Notes 1b, 5 and 6) .....	(590,424)	2,012,762
Unrecovered costs due from subsequent revenues (Notes 1b and 5) .....	590,424	.....
Net revenue payable to Government of Panama (Note 6) .....	.....	(2,012,762)
Add transactions not requiring outlay of funds:		
Depreciation (Notes 1d, 1e and 10) .....	20,827,542	22,587,367
Provision for lock overhauls (Note 1i) .....	4,333,000	4,141,000
Provision for casualty losses (Note 1j) .....	5,226,464	5,200,000
Provision for floating equipment overhaul (Note 1k) .....	3,305,000	2,500,000
Other .....	<u>5,329,995</u>	<u>2,055,856</u>
	<u>39,022,001</u>	<u>36,484,223</u>
Change in investment of the U.S. Government:		
Interest on interest-bearing investment (Notes 8c and 9) .....	(64,668)	1,948,529
Receipts deposited into U.S. Treasury .....	(441,233,422)	(436,961,276)
Disbursements from appropriated funds .....	456,448,815	411,819,260
Net property transfers .....	(307,238)	(1,955,916)
Other .....	<u>(508,839)</u>	<u>(122,763)</u>
	<u>14,334,648</u>	<u>(25,272,166)</u>
Advances for capital utilized (including transit booking fees) (Notes 1d and 10) .....	<u>5,968,896</u>	<u>3,623,694</u>
Total source of funds .....	<u>59,325,545</u>	<u>14,835,751</u>
<b>APPLICATION OF FUNDS:</b>		
Lock overhauls expenditures .....	6,028,578	3,717,913
Casualty losses expenditures .....	1,917,360	5,704,238
Accrued capital expenditures .....	29,011,549	19,853,012
Floating equipment overhaul expenditures .....	<u>3,219,705</u>	<u>3,322,565</u>
Total application of funds .....	<u>40,177,192</u>	<u>32,597,728</u>
<b>INCREASE (DECREASE) IN WORKING CAPITAL...</b>	<u>\$ 19,148,353</u>	<u>\$(17,761,977)</u>
<b>ANALYSIS OF CHANGES IN WORKING CAPITAL:</b>		
Increase (decrease) in current assets:		
Cash .....	\$594,699	\$67,666
Receivables .....	(195,174)	(2,181,713)
Inventories .....	686,477	(6,242,340)
Other .....	18,698	1,468,109
	<u>1,104,700</u>	<u>(6,888,278)</u>
Decrease (increase) in current liabilities:		
Accounts payable .....	1,497,204	(3,338,382)
Accrued liabilities .....	16,241,438	(23,659,260)
Other current liabilities .....	305,011	16,123,943
	<u>18,043,653</u>	<u>(10,873,699)</u>
<b>INCREASE (DECREASE) IN WORKING CAPITAL...</b>	<u>\$19,148,353</u>	<u>(17,761,977)</u>

The accompanying notes are an integral part of this statement.



**Table 5.—Statement of Status of Appropriations  
Fiscal Years Ended September 30, 1987 and 1986**

	<i>1987</i>	<i>1986</i>
SOURCE OF APPROPRIATIONS:		
Operating funds:		
Current year operating appropriation .....	\$414,783,000	\$418,584,000
Appropriation Public Law 99-195 (indefinite-funded interest) .....	<u>7,000,000</u>	<u>6,450,000</u>
	<u>421,783,000</u>	<u>425,034,000</u>
Obligated operating funds brought forward:		
Fiscal year 1980 .....	674,235	713,275
Fiscal years—Merged .....	9,215,292	3,687,150
Fiscal year 1984 .....	.....	3,197,827
Fiscal year 1985 .....	5,525,096	35,759,615
Fiscal year 1986 .....	<u>60,361,536</u>	<u>.....</u>
	<u>75,776,159</u>	<u>43,357,867</u>
	<u>497,559,159</u>	<u>468,391,867</u>
Capital funds:		
Current year capital appropriation (no year) ....	<u>24,403,000</u>	<u>25,500,000</u>
Obligated capital funds brought forward:		
Fiscal year 1980 .....	20,908	124,574
Fiscal years 1981 through 1985 .....	.....	15,107,899
Fiscal years 1981 through 1986 .....	<u>21,175,748</u>	<u>.....</u>
	<u>21,196,656</u>	<u>15,232,473</u>
Unobligated capital funds brought forward (no year)		
Fiscal year 1980 .....	30,997	53,346
Fiscal years 1981 through 1985 .....	.....	9,319,873
Fiscal years 1981 through 1986 .....	<u>9,139,366</u>	<u>.....</u>
	<u>9,170,363</u>	<u>9,373,219</u>
	<u>54,770,019</u>	<u>50,105,692</u>
Emergency fund (no year) .....	<u>10,000,000</u>	<u>10,000,000</u>
<b>TOTAL SOURCE OF APPROPRIATIONS .....</b>	<u><u>\$562,329,178</u></u>	<u><u>\$528,497,559</u></u>

The accompanying notes are an integral part of this statement.

Statement of Status of Appropriations  
Fiscal Years Ended September 30, 1987 and 1986

	1987	1986
APPLICATION OF APPROPRIATIONS:		
Operating funds:		
Expenditures from operating appropriations:		
Fiscal year 1980 .....	\$362,500	\$4,111
Fiscal years—Merged .....	2,316,168	507,114
Fiscal year 1984 .....	.....	1,317,197
Fiscal year 1985 .....	2,011,226	31,588,926
Fiscal year 1986 .....	52,852,454	358,663,239
Fiscal year 1987 .....	<u>370,222,474</u>	.....
	<u>427,764,822</u>	<u>392,080,587</u>
Obligated operating funds:		
Fiscal year 1980 .....	311,229	674,235
Fiscal years—Merged .....	1,857,423	7,352,546
Fiscal year 1984 .....	.....	1,862,745
Fiscal year 1985 .....	2,148,693	5,525,097
Fiscal year 1986 .....	5,695,374	60,361,536
Fiscal year 1987 .....	<u>45,645,319</u>	.....
	<u>55,658,038</u>	<u>75,776,159</u>
Unobligated operating funds lapsed .....	<u>14,136,299</u>	<u>535,121</u>
	<u>497,559,159</u>	<u>468,391,867</u>
Capital funds:		
Expenditures from capital appropriations:		
Fiscal year 1980 .....	31,578	126,014
Fiscal years 1981 through 1986 .....	.....	19,612,659
Fiscal years 1981 through 1987 .....	<u>28,652,415</u>	.....
	<u>28,683,993</u>	<u>19,738,673</u>
Obligated capital funds:		
Fiscal year 1980 .....	12,070	20,908
Fiscal years 1981 through 1986 .....	.....	21,175,748
Fiscal years 1981 through 1987 .....	<u>23,766,934</u>	.....
	<u>23,779,004</u>	<u>21,196,656</u>
Unobligated capital funds (no year):		
Fiscal year 1980 .....	8,257	30,997
Fiscal years 1981 through 1986 .....	.....	9,139,366
Fiscal years 1981 through 1987 .....	<u>2,298,765</u>	.....
	<u>2,307,022</u>	<u>9,170,363</u>
	<u>54,770,019</u>	<u>50,105,692</u>
Unobligated emergency fund (no year) .....	<u>10,000,000</u>	<u>10,000,000</u>
TOTAL APPLICATION OF APPROPRIATIONS .....	<u>\$562,329,178</u>	<u>\$528,497,559</u>

The accompanying notes are an integral part of this statement.

**Table 6.—Statement of Property, Plant and Equipment  
September 30, 1987 and 1986**

	1987		1986		
	Estimated service life	Cost	Depreciation and valuation allowances	Cost	Depreciation and valuation allowances
Titles and treaty rights .....	40 years	\$14,728,889	\$5,247,167	\$14,728,889	\$4,878,945
Interest during construction .....	.....	50,892,311	50,892,311	50,892,311	50,892,311
Canal excavation, fills and embankments .....	15-100 years	347,536,452	123,071,833	347,536,452	114,551,412
Canal structures and equipment .....	4-100 years	301,627,426	145,097,031	288,439,752	138,474,168
Supporting and general facilities .....	5-100 years	125,431,001	80,193,747	122,268,880	76,515,928
Facilities held for future use .....	10-100 years	2,824,202	2,377,516	2,827,602	2,381,656
Plant additions in progress .....	.....	32,409,795	.....	24,190,510	.....
Suspended construction projects .....	.....	40,145,798	40,145,798	40,145,798	40,145,798
Total .....		\$915,595,874	\$447,025,403	\$891,030,194	\$427,840,218

The accompanying notes are an integral part of this statement.



## NOTES TO FINANCIAL STATEMENTS

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

The Comptroller General of the United States approved the Accounting Principles and Standards Statement of the Panama Canal Commission in his letter dated September 14, 1982. 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), hereinafter 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, 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. In fiscal year 1986, \$3.1 million were programmed for this purpose. In fiscal year 1987 no amounts were programmed. 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.

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 payments to the contributory United States Civil Service 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 \$1.4 million in fiscal year 1987 and fiscal year 1986. The liability of the Commission for future

annuity payments to these former employees or their eligible widows is reflected in the balance sheet 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 overhaul.* 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.* Under provisions of the Act, the Panama Canal Commission is liable for payment of all benefits due under the Federal Employees' Compensation Act (FECA) which provides compensation for workplace injuries for eligible employees. The Commission accounts for these costs on an accrual basis.

## **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) \$4.7 million at September 30, 1987, and 1986, to reduce to usable value the cost of property, plant and equipment transferred; (b) \$50.9 million at September 30, 1987, and 1986, to offset interest costs imputed for the original Canal construction period; and (c) \$42.3 million at September 30, 1987, and 1986, to offset the cost of defense facilities and suspended con-

struction projects, the latter being principally the partial construction of a third set of locks abandoned in the early part of World War II.

Property, plant and equipment offset by valuation allowances, when fully or partially reactivated, are reinstated by a reduction in the valuation allowance and by an increase to the non-interest-bearing investment of the United States Government in proportion to the value to the Commission of the reactivated asset.

### **3. Cash and Fund Balances.**

As of September 30, 1987, the cash and fund balances totaled \$94,181,435. Of this total, \$91,744,064 represents current unexpended appropriated funds for operations, capital and the emergency fund, and \$2,437,371 represents postal and trust funds. These funds are deposited: \$87,961,303 in the United States Treasury, \$2,717,457 in commercial banks and \$3,502,675 on hand.

As of September 30, 1986, the cash and fund balances totaled \$117,985,850. Of this total, \$116,143,178 represented unexpended appropriated funds for operations, capital and the emergency fund, and \$1,842,672 represented postal and trust funds. These funds were deposited: \$111,480,204 in the United States Treasury, \$2,209,950 in commercial banks and \$4,295,696 on hand.

The unexpended appropriated funds for operations are limited to paying operating obligations incurred but not yet liquidated. The unexpended appropriated funds for capital are limited to paying for the acquisition or construction of property, plant and equipment.

The emergency fund represents the amount on deposit in the United States Treasury which is to be used “. . . to defray emergency expenditures and to insure the continuous efficient and safe operation of the Panama Canal when funds appropriated for the operation and maintenance of the Canal prove insufficient for such purposes. . . .”

The postal fund consists of outstanding money orders, postal savings and interest accrued thereon. This fund will remain available until liquidated. The trust fund primarily includes deposits made by customers for future tolls and other service payments.

### **4. Panama Canal Commission Fund.**

The Panama Canal Commission Fund as established by the Panama Canal Act of 1979 (the Act) is made up of receipts deposited in the United States Treasury less appropriation warrants issued during the fiscal year. The balance in this account, \$176.9 million as of September 30, 1987, and \$167.7 million as of September 30, 1986, is available for future appropriations.

Section 1302 of the Act provides that all appropriations necessary to operate the Panama Canal shall be issued from the Panama Canal Commission Fund. The appropriations for fiscal year 1980 were issued to the Commission from the General Fund of the United States Treasury. The status of the amount still owed to the General Fund of the United States Treasury for fiscal year 1980 is as follows:

	<i>Millions of Dollars</i>	
Operating Appropriation .....	\$427.2	
Capital Appropriation .....	36.6	\$463.8
Repaid to General Fund (07/81) .....	(350.0)	
Repaid to General Fund (12/82) .....	<u>(28.2)</u>	<u>(378.2)</u>
Amount owed General Fund of U.S. Treasury as of September 30, 1987 .....		<u>\$ 85.6</u>

### 5. Unrecovered Cost Due From Subsequent Revenues.

Pursuant to the provisions of section 1602(b) of the Panama Canal Act of 1979 (Public Law 96-70), the net loss from fiscal year 1987 operations of \$0.6 million was deferred as an unearned cost to be recovered from subsequent revenues. Also, in accordance with section 1341(b) (2) of the Act such unearned costs must be deducted from any future net operating revenue due to the Government of Panama.

### 6. Net Revenue Payable to Government of Panama.

Based on the provisions of paragraph 4 (c) of Article XIII of the Panama Canal Treaty, which states that an annual amount of up to \$10 million will be paid out of Canal operating revenue to the extent that such revenue exceed expenditures of the Panama Canal Commission, net revenue in the amount of \$2.0 million from fiscal year 1986 operation was payable to the Government of Panama. This net revenue was paid to the Government of Panama on July 20, 1987.

### 7. Cost of Work Injuries Compensation.

The Commission administers a self-insured program to compensate certain employees for death and disability resulting from workplace 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 net present value of all expected future payments for accidents occurring prior to October 1, 1987, adjusted for inflation. The gross amount to be

recovered from tolls over the remaining life of the Treaty to retire this liability is \$75.6 million.

### **8. Accounting Changes.**

a. Effective in fiscal year 1987, the Commission changed from a cash basis to an accrual basis in accounting for workmen's injury compensation costs under the Federal Employees' Compensation Act. To implement this change, the cost of accidents will be expensed as incurred starting in fiscal year 1989. Also beginning in 1989, the unamortized cost of accidents which occur prior to that year will be amortized to expense over the remaining life of the Treaty. In fiscal year 1987, the total liability for past accidents was recorded. This change has no impact on the fiscal year 1987 financial position or operating results of the Commission.

b. Effective with fiscal year 1987 financial statements, advances for capital will no longer be shown as separate line items on the Statement of Operations and Non-Interest-Bearing Investment. In prior years, advances for capital were shown as deductions from tolls and other revenues. This presentation has been discontinued because those collections represent direct capital contributions by Canal users and not operating revenues. The fiscal year 1986 presentation was changed to be consistent with fiscal year 1987.

c. Effective January 1, 1986, the Commission implemented a change in the treatment of interest required by enactment of Public Law 99-195 on December 23, 1985 which amended, prospectively, the interest provision of the Panama Canal Act of 1979. Under the Act as amended, interest on the United States investment in the Panama Canal will be deposited into the General Fund of the United States Treasury as miscellaneous receipts rather than into the Panama Canal Commission Fund. Accordingly, as of January 1, 1986, interest will no longer reduce the investment base. Interest for fiscal year 1986 amounted to \$6,786,828 of which \$4,838,299 was deposited into the General Fund of the United States Treasury in accordance with the Act, as amended.

d. Public Law 99-209, dated December 23, 1985, amended the Act to authorize the Commission to adjust and pay damages from marine accidents which occurred outside the locks where the amount of the claim exceeded \$120,000. The authority under Public Law 99-209 is retroactive to October 1, 1979. Prior to this amendment, the Commission's authority was limited to those claims for accidents which occurred (i) prior to October 1, 1979, (ii) within the locks after September 30, 1979, or (iii) outside the locks where the claim was \$120,000 or less. Claims exceeding \$120,000 for accidents occurring outside the locks were, prior to the amendment, required to be submitted to Congress for approval and were booked as non-fund liabilities. Beginning in fiscal year 1986, the Commission elimi-

nated the non-fund category of marine accident liabilities and recognized all these liabilities as funded.

**9. 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, 1987, and September 30, 1986, was determined as follows:

	<i>Millions of Dollars</i>
Investment at September 30, 1985 .....	\$76.9
Fiscal year 1986 transactions:	
Disbursements .....	\$411.9
Receipts .....	(437.0)
Net property transfers .....	<u>(2.0)</u>
Net change .....	<u>(27.1)</u>
Investment at September 30, 1986 .....	49.8
Fiscal year 1987 transactions:	
Disbursements .....	456.4
Receipts .....	(441.2)
Net property transfers .....	<u>(0.3)</u>
Net change .....	<u>14.9</u>
Investment at September 30, 1987 .....	<u><u>\$64.7</u></u>

**10. Advances for Capital—Transit Booking System Fees.**

With the approval of the Board of Directors, a system was activated in fiscal year 1983 whereby shippers, for a fee, can make an advance reservation for vessel transit. This system generated funds of \$5.8 million in fiscal year 1987 and \$7.4 million in fiscal year 1986. Such funds are considered capital advances from Canal users. By direction of the Board of Directors, these fees are set aside for capital improvements. 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.

**11. Contingent Liabilities and Commitments.**

In addition to recorded liabilities, the estimated maximum contingent liability which could result from pending claims and lawsuits was \$19.6 million at September 30, 1987, and \$14.1 million at September 30, 1986. In the opinion of management and Commission 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 \$40.0 million at September 30, 1987, and \$39.9 million at September 30, 1986. Of these amounts \$0.1 million in unfilled purchase orders were prepaid as of September 30, 1987, and 1986.

Cash and negotiable securities of a kind acceptable by the United States Government in the amount of \$11.4 million were held by United States depositories designated by the Panama Canal Commission at September 30, 1987, and \$8.9 million at September 30, 1986, 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, 1987, the balance contingently payable to the Government of Panama amounts to \$71.1 million. As of September 30, 1986, the balance contingently payable to the Government of Panama amounted to \$61.1 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.

## **13. Recent Legislation—Public Law 100-203.**

Public Law 100-203, converted the Panama Canal Commission from a special fund agency to a revolving fund agency effective January 1, 1988. This conversion to a revolving fund financial structure is not expected to result in any major change in the accounting policies and principles of the Commission. In addition to affecting the financial format of the agency, Public Law 100-203 provides: (a) for reimbursement to the General Fund of the U.S. Treasury of the \$85.6 million balance of the 1980 appropriation to the Commission, as described in note 4; and (b) 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.



# *Chapter VI*

## **STATISTICAL TABLES**

### **Shipping Statistics**

Table 1.—Panama Canal Traffic—Fiscal Years 1978 Through 1987

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>							
1978	12,677	194,773,111	142,518,288	12,647	156,907,260	30	109,798
1979	12,935	208,376,741	154,110,866	12,902	167,470,601	33	136,600
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	186,406,530	24	130,129
<b>OCEANGOING U.S. GOVERNMENT TRAFFIC <sup>1</sup></b>							
1978	103	889,093	291,115	70	589,085	33	214,145
1979	111	1,054,169	357,482	80	726,755	31	207,640
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
<b>FREE OCEANGOING TRAFFIC <sup>1 2</sup></b>							
1978	5			4	3,789	1	1,100
1979	10		1	8	4,527	2	2,194
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
<b>TOTAL OCEANGOING TRAFFIC <sup>1</sup></b>							
1978	12,785	195,662,204	142,809,403	12,721	157,500,134	64	325,043
1979	13,056	209,430,910	154,468,349	12,990	168,201,883	66	346,434
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	187,071,040	57	370,452

**Table 1.—Panama Canal Traffic—Fiscal Years 1978 Through 1987  
(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>							
1978	792	63,526	6,962	785	57,827	7	1,040
1979	936	76,591	7,718	934	69,229	2	94
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	....	....
<b>SMALL U.S. GOVERNMENT TRAFFIC <sup>3</sup></b>							
1978	187	9,504	8	25	1,446	162	10,742
1979	315	14,375	9	48	2,865	267	15,519
1980	276	15,129	.....	29	1,357	247	14,313
1981	225	10,712	2	16	751	209	10,431
1982	241	10,757	.....	12	415	229	10,973
1983	242	11,406	5	12	332	230	11,177
1984	241	11,998	.....	8	236	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
<b>SMALL FREE TRAFFIC <sup>2 3</sup></b>							
1978	44	.....	20	42	2,986	2	72
1979	55	.....	3	47	2,160	8	632
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
<b>TOTAL PANAMA CANAL TRAFFIC</b>							
1978	13,808	195,735,234	142,816,393	13,573	157,562,393	235	336,897
1979	14,362	209,521,876	154,476,079	14,019	168,276,137	343	362,679
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	187,129,305	285	381,036

<sup>1</sup> Ongoing 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 1987 and 1986

	Number of Transits		Panama Canal Net Tonnage		Long Tons of Cargo		Tolls	
	1986-87	1985-86	1986-87	1985-86	1986-87	1985-86	1986-87	1985-86
October.....	974	1,023	15,271,569	15,755,054	12,024,411	12,421,246	\$ 27,018,718	\$ 27,728,150
November.....	1,063	999	16,766,740	15,500,886	12,836,251	12,068,720	29,443,943	27,200,683
December.....	1,026	973	16,371,635	15,070,554	12,435,273	11,601,750	28,668,718	26,657,676
January.....	1,024	1,019	15,455,363	15,310,085	11,951,475	11,667,355	27,180,307	26,946,687
February.....	962	879	14,626,744	13,048,320	11,558,412	9,867,014	25,653,899	22,985,849
March.....	1,072	1,057	15,277,765	16,149,153	11,989,051	12,201,051	26,894,455	28,271,106
April.....	1,041	1,026	15,452,727	15,889,710	12,632,112	12,500,141	27,349,267	27,981,933
May.....	1,034	1,067	15,758,513	16,713,740	12,380,904	11,811,885	27,778,988	29,118,514
June.....	1,000	972	15,208,298	14,976,048	12,257,040	11,441,598	26,742,301	26,329,749
July.....	1,020	1,017	14,927,232	15,653,076	11,606,948	11,843,699	26,411,019	27,428,194
August.....	1,040	990	16,207,063	15,167,021	13,582,446	11,425,871	28,511,509	26,616,812
September.....	974	903	15,082,881	13,517,183	13,436,057	11,094,851	26,719,590	23,808,395
Total.....	12,230	11,925	186,406,530	182,750,830	148,690,380	139,945,181	\$328,372,714	\$321,073,748
Average per month.....	1,019	994	15,533,794	15,229,236	12,390,865	11,662,098	\$27,364,393	\$26,756,146

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<sup>1</sup> by Flag of Vessel—Fiscal Year 1987

Flag	Number of transits	Measured tonnage		Tolls	Long tons of cargo
		Panama Canal net	Registered gross <sup>2</sup>		
Antigua.....	3	7,118	5,277	\$13,026	6,392
Argentina.....	1	9,426	10,076	17,250	2,811
Australia.....	2	56,649	69,044	103,668	37,855
Austria.....	5	130,817	149,251	228,879	173,113
Bahamas.....	246	3,115,197	3,720,897	5,542,319	2,257,283
Belgium.....	61	1,038,579	1,202,637	1,864,069	1,076,395
Bermuda.....	11	137,689	155,952	235,681	100,725
Brazil.....	19	198,488	265,198	366,546	194,958
Bulgaria.....	15	157,555	192,231	266,523	73,111
Canada.....	9	71,815	91,098	120,364	31,782
Cayman Islands.....	50	549,977	280,936	1,005,360	113,735
Chile.....	85	797,819	913,221	1,428,636	707,981
Colombia.....	175	1,505,666	1,443,645	2,716,083	466,575
Costa Rica.....	2	6,333	4,309	11,239	738
Cuba.....	141	769,338	906,822	1,362,958	492,422
Cyprus.....	448	4,726,979	5,495,912	8,538,748	5,435,920
Czechoslovakia.....	4	44,718	53,621	80,325	54,783
Denmark.....	202	4,530,447	5,650,781	8,227,417	2,801,117
Dominica.....	2	3,370	2,954	5,544	1,108
Dominican Republic.....	2	1,256	998	2,066	819
East Germany.....	52	363,742	405,311	641,679	128,832
Ecuador.....	533	4,583,825	5,307,672	8,011,041	3,326,892
Egypt.....	2	36,162	44,204	66,176	60,722
El Salvador.....	5	5,715	5,730	10,036	935
Finland.....	1	22,491	24,464	41,159	30,699
France.....	73	989,574	761,667	1,813,581	501,106
Ghana.....	4	39,427	52,016	72,151	27,537
Greece.....	678	9,845,011	11,240,399	17,557,206	12,694,682
Guatemala.....	7	24,528	28,903	42,293	27,901
Honduras.....	14	53,359	66,149	91,209	16,739
Hong Kong.....	43	897,094	1,053,491	1,600,273	911,622
India.....	26	526,231	636,134	926,691	589,854
Israel.....	67	1,353,472	1,786,701	2,476,854	969,014
Italy.....	98	1,541,314	1,889,868	2,706,305	1,086,927
Japan.....	1,170	24,215,003	16,458,153	40,835,609	7,489,522
Jordan.....	3	30,903	38,922	56,552	56,746
Kuwait.....	12	145,153	184,794	265,630	109,942
Liberia.....	1,225	25,361,198	25,075,674	44,452,492	24,885,302
Malaysia.....	15	337,142	382,639	610,898	568,963
Malta.....	13	211,867	259,485	387,717	360,047
Mexico.....	123	2,301,627	2,772,637	3,854,499	1,729,870
Morocco.....	4	29,614	30,812	52,724	37,859
Netherlands.....	240	2,421,114	2,638,872	4,371,797	1,973,246
New Guinea.....	1	1,392	1,190	2,032	.....
New Zealand.....	4	17,716	15,430	28,062	267
Nicaragua.....	3	16,094	18,414	23,497	.....
Nigeria.....	1	9,924	13,197	18,161	7,354
North Korea.....	1	8,556	9,160	15,657	11,121
Norway.....	74	1,608,175	1,621,850	2,903,936	1,299,110
Panama.....	2,467	40,136,752	40,304,380	70,695,766	30,923,310
People's Republic of China.....	109	2,035,988	2,538,507	3,764,969	2,540,121
Peru.....	139	1,337,188	1,487,855	2,377,431	1,477,623
Philippines.....	305	5,919,793	6,214,564	10,552,406	7,421,945
Poland.....	99	750,389	856,935	1,361,751	464,811
Portugal.....	29	166,934	207,263	279,931	37,176
Qatar.....	2	24,250	30,250	44,378	16,110
Rumania.....	4	80,076	88,048	131,725	61,102
St. Vincent.....	7	82,330	100,794	149,083	109,326
Samoa.....	3	27,597	31,650	50,503	16,672
Saudi Arabia.....	4	56,552	67,746	103,490	55,062
Sierra Leone.....	1	674	964	1,233	15
Singapore.....	250	5,144,510	5,098,676	8,988,310	4,183,975
Somali Republic.....	2	18,630	21,086	34,093	13,871
South Korea.....	174	3,610,319	4,085,481	6,377,250	3,128,347
Spain.....	80	496,786	517,258	900,230	354,466
Sri Lanka.....	31	344,364	432,339	614,101	210,151
Sweden.....	64	2,414,120	1,799,664	4,388,473	514,814
Switzerland.....	69	765,879	907,784	1,374,630	564,545
Taiwan.....	184	5,047,563	5,995,796	9,237,040	4,605,327
Thailand.....	1	14,202	16,125	25,990	19,223
Toga.....	4	23,872	16,959	43,686	16,159
Turkey.....	25	280,532	355,268	497,052	401,351
United Arab Emirates.....	1	12,058	15,135	22,066	3,960
United Kingdom.....	396	7,296,624	8,874,909	13,161,879	7,531,907
United States.....	665	5,946,211	6,354,955	10,201,551	4,435,973
Uruguay.....	1	.....	683	714	.....
U.S.S.R.....	635	4,977,004	5,748,311	8,696,726	3,008,296

Table 3.—Canal Traffic<sup>1</sup> by Flag of Vessel—Fiscal Year 1987—Continued

Flag	Number of transits	Measured tonnage		Tolls	Long tons of cargo
		Panama Canal net	Registered gross <sup>2</sup>		
Vanuatu .....	30	254,430	236,185	458,455	246,105
Venezuela .....	138	355,579	401,646	635,142	206,545
West Germany .....	269	3,069,968	3,566,915	5,573,453	2,192,702
Yugoslavia .....	67	858,697	1,007,482	1,556,589	996,936
Total .....	12,230	186,406,530	190,800,411	\$328,372,714	148,690,380

<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 8 transits where no registered tonnage 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 24 vessels which transited the Canal during fiscal year 1986 and paid tolls on displacement tonnage.

Flag	Type	Number of transits	Displacement tonnage	Tolls
Brazil .....	Naval	1	3,248	\$3,313
Canada .....	Naval	2	7,635	7,788
Ecuador .....	Naval	2	5,200	5,304
France .....	Naval	1	8,140	8,303
Japan .....	Naval	3	12,880	13,138
Mexico .....	Naval	2	3,530	3,601
Netherlands .....	Dredge	1	8,001	8,161
People's Republic of China .....	Dredge	3	51,836	52,873
Sweden .....	Naval	1	3,357	3,424
United Kingdom .....	Naval	4	13,231	13,496
United States .....	Dredge	2	10,421	10,629
Uruguay .....	Naval	1	700	714
West Germany .....	Naval	1	1,950	1,989
Total .....		24	130,129	\$132,732

Statistics compiled by Office of Executive Planning.



Table 4.—Classification of Canal Traffic<sup>1</sup> by Type of Vessel—Fiscal Year 1987

Type of Vessel	Laden			Ballast			Grand Total
	Atlantic to Pacific	Pacific to Atlantic	Total	Atlantic to Pacific	Pacific to Atlantic	Total	
<b>CARGO AND CARGO/PASSENGER SHIPS:</b>							
<b>Bulk Carriers:</b>							
Number of transits	1,799	1,662	3,461	553	153	706	4,167
Panama Canal net tonnage (thousands)	36,578	37,229	73,807	19,419	1,678	21,096	94,903
Tolls (thousands of dollars)	\$66,938	\$68,122	\$135,059	\$28,352	\$2,779	\$30,801	\$165,860
Cargo (thousands of long tons)	52,272	29,446	82,718	.....	.....	.....	82,718
<b>Container Cargo Ships:</b>							
Number of transits	828	909	1,737	18	20	38	1,775
Panama Canal net tonnage (thousands)	15,576	18,427	34,003	180	131	311	34,314
Tolls (thousands of dollars)	\$28,504	\$33,722	\$62,226	\$263	\$191	\$454	\$62,679
Cargo (thousands of long tons)	10,677	12,057	22,734	.....	.....	.....	22,734
<b>General Cargo Ships:</b>							
Number of transits	825	785	1,610	62	104	166	1,776
Panama Canal net tonnage (thousands)	6,247	6,352	12,600	425	433	858	13,457
Tolls (thousands of dollars)	\$11,433	\$11,625	\$23,058	\$620	\$632	\$1,252	\$24,309
Cargo (thousands of long tons)	4,919	4,560	9,479	.....	.....	.....	9,479
<b>Passenger Ships:<sup>2</sup></b>							
Number of transits	123	73	196	4	2	6	202
Panama Canal net tonnage (thousands)	2,149	1,117	3,265	8	18	26	3,291
Tolls (thousands of dollars)	\$3,932	\$2,044	\$5,975	\$12	\$26	\$38	\$6,014
Cargo (thousands of long tons)	.....	.....	.....	.....	.....	.....	.....
<b>Refrigerated Cargo Ships:</b>							
Number of transits	631	1,018	1,649	482	67	549	2,198
Panama Canal net tonnage (thousands)	2,806	5,412	8,218	2,478	257	2,735	10,953
Tolls (thousands of dollars)	\$5,134	\$9,904	\$15,038	\$3,618	\$376	\$3,993	\$19,032
Cargo (thousands of long tons)	587	2,740	3,327	.....	.....	.....	3,327
<b>Tank Ships:</b>							
Number of transits	739	425	1,164	184	336	520	1,684
Panama Canal net tonnage (thousands)	10,959	7,632	18,591	4,214	4,983	9,197	27,788
Tolls (thousands of dollars)	\$20,055	\$13,966	\$34,022	\$6,152	\$7,276	\$13,428	\$47,449
Cargo (thousands of long tons)	17,056	12,472	29,528	.....	.....	.....	29,528



OTHER TYPE SHIPS:

Naval Vessels:									
Number of transits	.....	.....	.....	.....	.....	.....	.....	.....	.....
Displacement tonnage (thousands)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tolls (thousands of dollars)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cargo (thousands of long tons)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barges, Dredges, Drydocks, Tugs, etc.:	.....	.....	.....	.....	.....	.....	.....	.....	.....
Number of transits	146	121	267	63	80	11	7	11	18
Displacement tonnage (thousands)	.....	.....	.....	18	53	39	21	39	60
Tolls (thousands of dollars)	\$1,167	\$888	\$2,055	\$369	\$543	\$39	\$22	\$39	\$61
Cargo (thousands of long tons)	492	409	901	.....	.....	.....	.....	.....	4
SUMMARY:									
Total Cargo and Cargo/Passenger Ships:									
Number of transits	4,945	4,872	9,817	1,303	682	.....	.....	.....	.....
Panama Canal net tonnage (thousands)	74,315	76,170	150,484	26,723	7,500	.....	.....	.....	11,802
Tolls (thousands of dollars)	\$135,996	\$139,382	\$275,378	\$39,016	\$10,950	.....	.....	.....	184,708
Cargo (thousands of long tons)	86,511	61,275	147,786	.....	.....	.....	.....	.....	\$325,344
Total Other Type Ships:									
Number of transits	146	121	267	70	91	.....	.....	.....	.....
Panama Canal net tonnage (thousands)	638	486	1,123	241	335	.....	.....	.....	428
Displacement tonnage (thousands)	.....	.....	.....	39	91	.....	.....	.....	1,699
Tolls (thousands of dollars)	\$1,167	\$888	\$2,055	\$391	\$582	.....	.....	.....	130
Cargo (thousands of long tons)	49	409	091	4	.....	.....	.....	.....	\$3,029
Grand Total Ships:									
Number of transits	5,091	4,993	10,084	1,373	773	.....	.....	.....	.....
Panama Canal net tonnage (thousands)	74,952	76,655	151,607	26,964	7,835	.....	.....	.....	12,230
Displacement tonnage (thousands)	.....	.....	.....	39	91	.....	.....	.....	186,407
Tolls (thousands of dollars)	\$137,163	\$140,271	\$277,433	\$39,407	\$11,532	.....	.....	.....	\$328,373
Cargo (thousands of long tons)	87,003	61,684	148,687	4	.....	.....	.....	.....	148,690

<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.

Statistics compiled by Office of Executive Planning.

Table 5.—Laden and Ballast Traffic by Flag of Vessel  
Fiscal Year 1987

Flag	Laden			Ballast		
	Number of transits	Panama Canal net tonnage	Tolls	Number of transits	Panama Canal net tonnage	Tolls
Antigua	3	7,118	\$13,026			
Argentina	1	9,426	17,250			
Australia	2	56,649	103,668			
Austria	4	102,396	187,385			
Bahamas	198	2,686,842	4,916,921	48	428,355	625,398
Belgium	52	939,847	1,719,920	9	98,732	144,149
Bermuda	6	93,661	171,400	5	44,028	64,281
Brazil	18	198,488	363,233			
Bulgaria	9	98,630	180,493	6	58,925	86,030
Canada	4	20,883	38,216	3	50,932	74,361
Cayman Islands	48	547,009	1,001,026	2	2,968	4,333
Chile	69	696,072	1,273,812	15	101,747	148,551
Colombia	155	1,399,489	2,561,065	20	106,177	155,018
Costa Rica	1	5,386	9,856	1	947	1,383
Cuba	111	647,904	1,185,664	30	121,434	177,294
Cyprus	402	4,425,293	8,098,286	46	301,686	440,462
Czechoslovakia	3	40,640	74,371	1	4,078	5,954
Denmark	178	4,359,364	7,977,636	24	171,083	249,781
Dominica	1	1,685	3,084	1	1,685	2,460
Dominican Republic	1	628	1,149	1	628	917
East Germany	40	298,961	547,099	12	64,781	94,580
Ecuador	432	3,549,601	6,495,770	99	1,034,224	1,509,967
Egypt	2	36,162	66,176			
El Salvador	4	4,572	8,367	1	1,143	1,669
Finland	1	22,491	41,159			
France	62	974,324	1,783,013	10	15,250	22,265
Ghana	4	39,427	72,151			
Greece	594	8,604,027	15,745,369	84	1,240,984	1,811,837
Guatemala	5	17,520	32,062	2	7,008	10,232
Honduras	9	35,958	65,803	5	17,401	25,405
Hong Kong	36	785,178	1,436,876	7	111,916	163,397
India	21	428,091	783,407	5	98,140	143,284
Israel	67	1,353,472	2,476,854			
Italy	80	1,232,395	2,255,283	18	308,919	451,022
Japan	860	14,779,841	27,047,135	307	9,435,162	13,775,337
Jordan	3	30,903	56,552			
Kuwait	12	145,153	265,630			
Liberia	995	20,090,557	36,757,356	230	5,270,641	7,695,136
Malaysia	14	320,731	586,938	1	16,411	23,960
Malta	13	211,867	387,717			
Mexico	73	1,325,738	2,426,101	48	975,889	1,424,798
Morocco	3	25,643	46,927	1	3,971	5,798
Netherlands	201	2,240,027	4,099,249	38	181,087	264,387
New Guinea				1	1,392	2,032
New Zealand	2	5,938	10,867	2	11,778	17,196
Nicaragua				3	16,094	23,497
Nigeria	1	9,924	18,161			
North Korea	1	8,556	15,657			
Norway	66	1,502,705	2,749,950	8	105,470	153,986
Panama	2,058	32,692,184	59,826,697	409	7,444,568	10,869,069
People's Republic of China	102	1,998,795	3,657,795	4	37,193	54,302
Peru	119	1,149,018	2,102,703	20	188,170	274,728
Philippines	266	5,160,832	9,444,323	39	758,961	1,108,083
Poland	90	719,413	1,316,526	9	30,976	45,225
Portugal	17	97,857	179,078	12	69,077	100,852
Qatar	2	24,250	44,378			
Rumania	2	40,038	73,270	2	40,038	58,455
Saint Vincent	6	78,056	142,842	1	4,274	6,240
Samoa	3	27,597	50,503			
Saudi Arabia	4	56,552	103,490			
Sierra Leone	1	674	1,233			
Singapore	202	3,992,770	7,306,769	48	1,151,740	1,681,540
Somali Republic	2	18,630	34,093			
South Korea	155	2,989,687	5,471,127	19	620,632	906,123
Spain	72	472,763	865,156	8	24,023	35,074
Sri Lanka	26	300,892	550,632	5	43,472	63,469
Sweden	61	2,325,497	4,255,660	2	88,623	129,390
Switzerland	60	693,099	1,268,371	9	72,780	106,259

**Table 5.—Laden and Ballast Traffic by Flag of Vessel  
Fiscal Year 1987—Continued**

Flag	Laden			Ballast		
	Number of transits	Panama Canal net tonnage	Tolls	Number of transits	Panama Canal net tonnage	Tolls
Taiwan .....	184	5,047,563	9,237,040	.....	.....	.....
Thailand .....	1	14,202	25,990	.....	.....	.....
Toga .....	4	23,872	43,686	.....	.....	.....
Turkey .....	19	236,419	432,647	6	44,113	64,405
United Arab Emirates .....	1	12,058	22,066	.....	.....	.....
United Kingdom .....	347	6,761,045	12,372,712	46	535,579	781,945
United States .....	471	4,079,605	7,465,677	192	1,866,606	2,725,245
Uruguay .....	.....	.....	.....	.....	.....	.....
U.S.S.R. ....	485	3,865,677	7,074,189	150	1,111,327	1,622,537
Vanuatu .....	25	235,101	430,235	5	19,329	28,220
Venezuela .....	212	313,505	573,714	26	42,074	61,428
West Germany .....	257	2,944,084	5,387,674	11	125,884	183,791
Yugoslavia .....	63	818,625	1,498,084	4	40,072	58,505
Total .....	10,084	151,607,532	\$277,433,446	2,122	34,798,998	\$50,806,537

Above table involves only commercial vessels of 300 net tons or over, Panama Canal measurement.  
Statistics compiled by Office of Executive Planning.

Table 6.—Segregation of Transits<sup>1</sup> by Registered Gross Tonnage—Fiscal Year 1987

	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.....	2	1									3	5,277	1,759
Argentina.....						1					1	10,076	10,076
Australia.....								1		1	2	69,044	34,522
Austria.....								3			5	149,251	29,850
Bahamas.....	10	23	6	10	39	45	37	66	9	1	246	3,720,897	15,126
Belgium.....	1			14		13	2	21	10		61	1,202,637	19,715
Bermuda.....		1		4		3	1		2		11	155,952	14,177
Brazil.....						15		1	2		18	263,158	14,620
Bulgaria.....					2	10	2				15	192,231	12,815
Canada.....	3							2			7	82,930	11,847
Cayman Islands.....			46					1			50	280,936	5,619
Chile.....	3			7	29	45					84	906,606	10,793
Colombia.....	34	17	28	3	2	85	6				175	1,443,645	8,249
Costa Rica.....	1										2	4,309	2,154
Cuba.....		71	6	2	26	36					141	906,822	6,431
Cyprus.....	45	15	14	59	68	104	82	42	19		448	5,495,912	12,268
Czechoslovakia.....			1			2		1			4	53,621	13,405
Denmark.....	35	6	2	1	5	12	11	18	10	102	202	5,650,781	27,974
Dominica.....	2										2	2,954	1,477
Dominican Republic.....											2	998	499
East Germany.....	2		13	14	22				1		52	405,311	7,794
Ecuador.....	6	51	46	175	63	62	93	35			531	5,307,672	9,996
Egypt.....								2			2	44,204	22,102
El Salvador.....	5										5	5,730	1,146
Finland.....									1		1	24,464	24,464
France.....	15	16				23	11	7			72	761,667	10,579
Ghana.....						4					4	52,016	13,004
Greece.....	79	1	7	7	76	193	117	84	110	4	678	11,240,399	16,579
Guatemala.....			7								7	28,903	4,129
Honduras.....	5	1		4	4						14	66,149	4,725
Hong Kong.....					2	14		11	10	6	43	1,053,491	24,500
India.....					2	3	7	67	4	3	26	636,134	24,467
Israel.....											67	1,786,701	26,667
Italy.....			9		6	8	17	57	1		98	1,889,868	19,284
Japan.....	245	32	104	107	38	90	237	181	91	42	1,167	16,458,153	14,103
Jordan.....						3					3	38,922	12,974
Kuwait.....							12				12	184,794	15,400
Liberia.....	9	4	18	40	131	191	307	260	227	38	1,225	25,075,674	20,470
Malaysia.....							3	2	9		15	382,639	25,509
Malta.....		2				1	2	5	2		13	259,485	19,960
Mexico.....	3	4	2			17	35	11	48		120	2,771,237	23,094

Morocco	3	20	9	30	54	1	14	4	30,812	7,703
Netherlands	29	44	20	9	30	4	35	239	2,630,959	11,008
New Guinea	1	.....	.....	.....	.....	.....	.....	1	1,190	1,190
New Zealand	3	.....	.....	.....	1	.....	.....	4	15,430	3,858
Nicaragua	.....	.....	2	.....	.....	.....	.....	3	18,414	6,138
Nigeria	.....	.....	.....	.....	.....	1	.....	1	13,197	13,197
North Korea	.....	.....	.....	.....	.....	.....	.....	1	9,160	9,160
Norway	2	.....	.....	.....	.....	.....	.....	74	1,621,850	21,917
Panama	170	189	177	127	265	451	300	2,467	40,304,380	6,337
People's Republic of China	.....	.....	.....	.....	.....	.....	.....	140	2,495,523	23,543
Peru	10	37	11	3	6	11	14	19	1,487,855	10,704
Philippines	8	9	21	21	4	41	45	76	6,214,564	20,376
Poland	2	13	24	10	25	14	8	3	856,935	8,656
Portugal	.....	.....	.....	29	.....	.....	.....	29	207,263	7,147
Qatar	.....	.....	.....	.....	.....	.....	.....	2	30,250	15,125
Rumania	.....	.....	2	.....	.....	.....	.....	4	88,048	22,012
Saint Vincent	.....	.....	2	.....	1	.....	.....	7	100,794	14,399
Samoa	.....	.....	.....	.....	3	.....	.....	3	31,650	10,550
Saudi Arabia	.....	.....	.....	.....	.....	3	.....	4	67,746	16,936
Sierra Leone	.....	.....	.....	.....	.....	.....	.....	1	964	964
Singapore	1	.....	.....	.....	.....	.....	.....	250	5,098,676	20,395
Somali Republic	3	.....	9	10	39	47	11	14	21,086	10,543
South Korea	14	.....	.....	.....	.....	.....	.....	2	4,085,481	23,480
Spain	14	11	20	6	12	16	.....	16	517,258	6,466
Sri Lanka	.....	.....	.....	.....	22	1	.....	80	432,339	13,946
Sweden	.....	.....	.....	.....	.....	2	28	63	1,799,664	28,566
Switzerland	2	.....	.....	.....	.....	55	1	69	907,784	13,156
Taiwan	9	.....	.....	.....	.....	.....	.....	184	5,995,796	32,586
Thailand	.....	.....	.....	.....	.....	.....	.....	1	16,125	16,125
Toga	.....	.....	4	.....	.....	.....	.....	4	16,959	4,240
Turkey	2	.....	5	4	.....	6	4	25	335,268	13,411
United Arab Emirates	.....	.....	.....	.....	.....	.....	.....	1	15,135	15,135
United Kingdom	14	1	25	13	9	43	57	393	8,870,763	22,572
United States	308	16	3	14	11	125	100	656	6,347,085	9,675
U.S.S.R.	29	65	69	118	136	130	56	635	5,748,311	9,052
Vanuatu	12	.....	.....	.....	.....	8	.....	30	236,185	7,873
Venezuela	104	7	2	10	.....	15	.....	138	401,646	2,910
West Germany	.....	52	19	8	26	33	100	268	3,565,467	13,304
Yugoslavia	.....	.....	.....	.....	.....	.....	.....	67	1,007,482	15,037
Total	1,241	702	724	833	1,155	2,111	1,813	12,198	190,717,144	15,635
Percent of Total	10.2	5.8	5.9	6.8	9.5	17.3	14.9	457	190,717,144	15,635
								100.0		

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

2 Excludes 24 vessels paying tolls on displacement tonnage basis and 8 transits where no registered tonnage was reported.

Statistics compiled by Office of Executive Planning.

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

Commodity	Atlantic to Pacific		Pacific to Atlantic		North
	1985	1986	1987	1988	
Canned and Refrigerated Foods .....	459	589	3,513	3,202	3,202
Canned Foods .....	73	112	89	126	182
Fish .....	3	3	20	28	52
Fruit .....	7	24	18	31	57
Milk .....	48	72	43	50	55
Other and unclassified .....	15	13	8	18	17
Refrigerated Foods .....	386	477	3,424	3,114	3,020
Bananas .....	.....	9	965	1,001	883
Dairy Products .....	7	11	30	38	72
Fish .....	113	141	795	691	909
Fruit, excluding bananas .....	34	69	827	667	537
Meat .....	7	11	62	35	37
Other and unclassified .....	224	236	745	682	581
Chemicals and Petroleum Chemicals .....	3,855	3,723	980	922	1,154
Caustic Soda .....	714	786	4	.....	5
Chemicals, unclassified .....	2,305	2,236	897	855	967
Petroleum Chemicals, miscellaneous .....	837	700	78	68	182
Coal and Coke (excluding petroleum coke) .....	8,553	7,534	2,020	2,672	2,929
Grains .....	20,843	20,417	2,432	2,521	2,668
Barley .....	55	115	592	579	421
Corn .....	8,132	8,622	.....	23	60
Oats .....	38	32	38	1	1
Rice .....	93	28	344	345	516
Sorghum .....	2,269	2,253	.....	25	.....
Soybeans .....	6,382	6,830	31	8	10
Wheat .....	3,742	2,378	1,356	1,464	1,656
Other and unclassified .....	133	160	71	75	4
Lumber and Products .....	582	763	7,782	6,156	5,644
Boards and planks .....	11	9	4,128	3,406	3,102
Plywood, veneers, composition board .....	21	28	1,023	787	802
Pulpwood .....	514	715	1,795	1,649	1,472
Other and unclassified .....	37	11	835	314	268
Machinery and Equipment .....	556	555	2,387	2,352	1,823

[Thousands of long tons]

Agricultural machinery and implements.....	47	54	18	17	23
Automobiles, trucks, accessories and parts.....	342	341	2,120	2,083	1,589
Construction machinery and equipment.....	66	79	156	147	113
Electrical machinery and apparatus.....	24	36	24	23	39
Motorcycles, bicycles and parts.....	2	2	6	8	4
Other and unclassified.....	59	44	63	74	54
Manufactures of Iron and Steel.....	3,346	2,725	3,626	4,162	5,092
Angles, shapes, and sections.....	203	150	301	226	426
Nails, tacks, and spikes.....	3	6	50	60	67
Plates, sheets, and coils.....	2,005	1,244	1,495	1,706	1,822
Tubes, pipes, and fittings.....	91	136	248	713	921
Wire, bars, and rods.....	643	595	291	368	279
Other and unclassified.....	401	594	1,241	1,089	1,578
Minerals, miscellaneous.....	261	225	4,851	4,590	4,194
Asbestos.....	16	21	3	5	2
Borax.....	3	.....	379	400	415
Infusorial earth.....	.....	3	22	1	3
Salt.....	118	77	1,110	748	524
Soda and sodium compounds.....	115	109	112	70	198
Sulfur.....	8	16	3,226	3,365	3,051
Nitrates, Phosphates, and Potash.....	9,888	9,530	2,114	2,376	2,331
Ammonium compounds.....	781	653	16	11	15
Fishmeal.....	2	2	1,296	1,408	1,297
Nitrate of soda.....	27	34	265	245	240
Phosphates.....	6,269	6,764	242	338	376
Potash.....	347	186	81	140	335
Fertilizers, unclassified.....	2,462	1,891	213	234	67
Ores and Metals.....	3,569	3,695	5,412	5,420	6,037
Ores.....	717	829	4,195	4,065	4,791
Alumina/bauxite.....	114	227	732	884	1,145
Chrome.....	7	4	22	31	55
Copper.....	35	13	725	661	415
Iron.....	61	108	526	184	329
Lead.....	.....	14	189	148	144
Manganese.....	35	101	190	192	170
Tin.....	.....	1	15	30	25
Zinc.....	104	73	1,657	566	464
Other and unclassified.....	361	288	1,139	1,369	2,044

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

Commodity	South Atlantic to Pacific			North Pacific to Atlantic		
	1985	1986	1987	1987	1986	1985
Metals .....	2,866	3,768	2,852	1,216	1,357	1,246
Aluminum .....	256	212	365	51	91	74
Copper .....	77	10	15	827	911	818
Iron .....	134	217	30	25	42	7
Lead .....	5	5	3	50	81	96
Scrap .....	2,318	3,225	2,390	23	1	5
Tin, including tinplate .....	11	21	14	11	19	56
Zinc .....	36	46	14	150	173	156
Other and unclassified .....	29	31	19	79	40	35
Other Agricultural Commodities .....	1,384	1,395	1,514	3,346	3,346	3,593
Beans, edible .....	7	4	30	49	90	57
Cocoa and cacao beans .....	3	2	2	42	56	76
Coffee, raw and processed .....	12	10	13	355	381	414
Copra and coconuts .....	.....	.....	.....	8	9	11
Cotton, raw .....	12	18	9	77	121	146
Molasses .....	5	4	7	656	582	781
Oilseeds .....	67	51	49	238	61	125
Peas, dry .....	.....	2	.....	44	24	63
Rubber, raw .....	1	3	3	48	70	98
Skins and hides .....	2	2	1	.....	1	7
Sugar .....	1,273	1,299	1,399	1,825	1,941	1,799
Wool, raw .....	.....	1	1	3	10	17
Petroleum and Products .....	10,837	11,931	13,093	12,840	18,918	15,936
Asphalt .....	74	46	139	2	8	1
Crude oil .....	3,397	2,933	3,393	5,566	10,003	9,029
Diesel oil .....	1,094	1,119	1,171	199	995	755
Fuel oil, residual .....	2,378	2,088	1,784	4,118	4,332	3,629
Gasoline .....	1,206	2,206	2,428	257	574	659
Jet fuel .....	478	565	1,001	32	51	12
Kerosene .....	45	86	98	6	14	1
Liquified gas .....	713	1,072	1,123	151	71	28
Lubricating oil .....	610	468	597	253	275	220
Petroleum coke .....	664	1,203	1,147	2,103	2,445	1,553
Other and unclassified .....	178	145	213	153	150	52

[Thousands of long tons]

Commodity



	10,908	11,056	12,470	Miscellaneous	10,381	10,591	9,889
Bricks and tile	41	29	15	.....	7	7	13
Carbon black	29	22	6	.....	84	1	5
Cement	255	193	249	.....	3	23	5
Clay, fire and china	417	357	440	.....	27	15	42
Fibers, plant	9	4	11	.....	7	25	6
Flour, wheat	122	149	191	.....	1	1	1
Glass and glassware	20	28	18	.....	5	6	5
Groceries, miscellaneous	36	23	37	.....	46	44	60
Liquors and wines	23	25	12	.....	27	25	21
Marble and stone	24	27	21	.....	2	1	1
Oil, coconut	2	4	5	.....	38	52	54
Oil, fish	.....	.....	.....	.....	125	208	174
Oil, vegetable	190	197	167	.....	114	164	151
Paper and paper products	854	765	984	.....	409	421	461
Porcelainware	4	3	2	.....	3	1	1
Resin	312	203	166	.....	2	9	3
Rubber, manufactured	21	20	16	.....	14	15	34
Seeds, excluding oilseeds	1	1	.....	.....	33	62	12
Slag, clinkers, and gross	8	31	15	.....	.....	7	15
Tallow	67	93	77	.....	23	42	57
Textiles	65	28	24	.....	38	33	38
Tobacco and manufactures	4	1	3	.....	2	2	4
Wax, paraffin	7	5	7	.....	7	5	11
All other and unclassified	8,397	8,849	10,004	.....	9,364	9,421	8,717
Total	<u>74,151</u>	<u>72,675</u>	<u>87,006</u>	.....	<u>61,684</u>	<u>67,270</u>	<u>64,492</u>

Statistics compiled by Office of Executive Planning.



EUROPE:

Belgium	463,381	64,718	11,607	48,613	19,424	487	11,112	140	21,415	112,798
France	310,553	20,527	9	5,133	131	8,293	18,623	.....	6,222	48,456
Italy	217,286	11,874	2,909	5,250	.....	.....	5,878	.....	395	17,806
Netherlands	407,541	43,438	33,976	4,560	41,090	2,900	19,306	.....	4,251	106,083
Norway	196,643	3,503	.....	17,010	56,021	.....	19,471	.....	.....	92,502
Spain-Portugal	305,482	306,220	65,758	7,288	.....	3,049	5,054	.....	3,744	22,850
Sweden	125,575	5,433	.....	.....	.....	468	7,597	.....	.....	8,065
United Kingdom	126,943	14,430	1	5,643	447	12,675	6,097	.....	269	25,132
U.S.S.R.	13,873	.....	161	1,541	41,086	106,435	757,998	.....	4,781	912,002
West Germany	436,615	42,054	1,816	11,254	1,148	2,370	15,479	4,609	7,001	43,677
Europe (other) <sup>1</sup>	813,896	103,970	21,879	24,592	92,606	37,846	118,204	7,783	12,470	317,814
Total Europe	3,417,788	375,705	79,646	125,343	251,953	174,523	984,819	12,532	60,548	1,707,185

ASIA (MIDDLE EAST):

.....	30,105	269,504	299,609	.....	.....	.....	18,964	.....	.....	18,964
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AFRICA:

.....	205,580	197,148	.....	89	4,092	48,717	6,872	.....	.....	59,770
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GRAND TOTAL

.....	54,019	239,686	5,999,206	1,626,490	486,157	3,743,151	1,175,873	217,633	219,960	528,198
Percent of Pacific-bound cargo	0.1	0.3	6.9	7.2	1.9	0.6	1.7	1.0	4.3	10.1

Table 8.—Origin and Destination of Commercial Cargo Through the Panama Canal From Atlantic to Pacific During Fiscal Year 1987  
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 (other) <sup>1</sup>	Total	
<b>EAST COAST NORTH AMERICA:</b>											
United States:											
North Atlantic ports .....	199,729	12,584	30,699	141,578	89	384,679	133,518	799	40,289	53,099	227,705
South Atlantic ports .....	30,591	17,026	109,168	69,829	.....	226,614	1,111,749	372	234,327	35,429	381,877
Great Lakes ports .....	5,005	924	19,725	16,146	.....	41,800	.....	.....	.....	.....	.....
Gulf ports .....	878,748	482,491	640,282	1,130,157	24,481	2,156,519	1,085,520	.....	147,515	101,758	1,334,793
United States (other) <sup>2</sup> .....	180,746	19,003	66,845	85,840	14,456	366,890	67,352	307	9,141	47,500	124,300
Total United States .....	1,294,819	532,028	866,719	1,443,550	39,026	4,176,142	1,398,139	1,478	431,272	237,786	2,068,675
<b>EAST COAST CANADA:</b>											
.....	3,777	28,769	6,943	54,637	6,065	100,191	101,845	292	58,911	36,530	197,578
<b>EAST COAST CENTRAL AMERICA:</b>											
Mexico .....	18,385	49,422	133,449	37,994	4	239,254	51	.....	18,776	.....	18,827
Panama .....	25,162	.....	8,081	3,386	.....	36,629	.....	.....	.....	.....	.....
Central America (other) <sup>1</sup> .....	.....	.....	7,613	.....	.....	7,613	.....	.....	.....	.....	.....
Cristobal, R.P. <sup>3</sup> .....	.....	.....	1,353	150	150	1,653	.....	.....	.....	4,000	4,000
Total Central America .....	43,547	49,422	150,496	41,530	154	285,149	51	.....	18,776	4,000	22,827
<b>EAST COAST SOUTH AMERICA:</b>											
Brazil .....	.....	4,080	35,963	36,654	.....	76,697	544	.....	.....	.....	544
Colombia .....	10,841	519,992	4,048	62,658	8,250	605,789	.....	.....	.....	.....	.....
Venezuela .....	1,083,498	28,072	1,007,047	85,541	34,512	2,238,670	11	.....	25,812	.....	25,823
South America (other) <sup>1</sup> .....	3,031	7,484	4,909	15,415	6,402	37,241	900	.....	10	2,474	3,384
Total South America .....	1,097,370	559,628	1,051,967	200,268	49,164	2,958,397	1,455	.....	25,822	2,474	29,751
<b>WEST INDIES:</b>											
Cuba .....	.....	.....	688	23,976	656	25,320	.....	.....	.....	.....	.....
Jamaica .....	.....	19	.....	27,441	.....	27,460	22	.....	.....	.....	97
Netherlands West Indies .....	352,314	.....	138,394	5,091	130,978	626,777	1,481	.....	20,939	.....	22,420
Trinidad/Tobago .....	24,948	14,915	6,439	34,018	.....	80,320	62	.....	.....	141	203
West Indies (other) <sup>1</sup> .....	25,645	6,843	4,903	82,974	33,779	154,144	1,165	.....	55	4,251	5,471
Total West Indies .....	402,907	21,777	150,424	173,500	165,413	914,021	2,730	.....	20,994	4,467	28,191



Table 8.—Origin and Destination of Commercial Cargo Through the Panama Canal From Atlantic to Pacific During Fiscal Year 1987 Segregated by Countries in Principal Trade Routes—Continued

	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.....	179,157	963,710	177,047	1,134	1,755,558	70,671	123,273	1,960,796	6,730	13,090	313,421	5,564,587	6,259,849	7.2
South Atlantic ports.....	276,297	340,501	246,819	21,650	858,253	29,188	73,375	197,399	5,408	.....	234,512	2,283,402	3,223,409	3.7
Great Lakes ports.....	15,157	14,110	.....	.....	44,010	.....	.....	127,785	16,004	.....	3,246	220,312	317,337	0.4
Gulf ports.....	2,774,976	7,083,139	100,767	57,170	22,628,748	338,602	140,622	5,739,047	42,771	331,028	1,020,732	40,257,602	48,297,776	55.5
United States (other) <sup>1</sup> .....	155,125	329,385	136,486	20,712	661,462	12,155	54,199	278,707	199	.....	511,989	2,160,419	2,729,095	3.1
Total United States.....	3,400,712	8,730,845	661,119	100,666	25,948,031	450,616	391,469	8,303,734	71,112	344,118	2,083,900	50,486,322	60,827,466	69.9
EAST COAST CANADA:	468,290	210,813	18,991	.....	454,927	24,378	.....	282,823	19,852	.....	191,287	1,671,361	2,118,532	2.4
<b>EAST COAST CENTRAL AMERICA:</b>														
Mexico.....	44,901	38,891	1,583	16,991	136,975	3,483	27,908	15,942	104,019	.....	100,324	501,017	3,843,795	4.4
Panama.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	81,252	0.1
Central America (other) <sup>1</sup> .....	.....	.....	.....	.....	3,259	.....	.....	.....	.....	.....	968	4,227	18,070	0.0
Cristobal, R.P. <sup>2</sup> .....	.....	3,100	8	.....	7,378	.....	.....	.....	.....	.....	2,299	12,785	20,711	0.0
Total Central America.....	44,901	41,991	1,591	16,991	147,612	3,483	27,908	15,942	104,019	.....	113,591	518,029	3,963,828	4.6
<b>EAST COAST SOUTH AMERICA:</b>														
Brazil.....	52,061	1,738	2,154	.....	231,653	.....	1,056	.....	.....	.....	111	288,773	1,004,597	1.2
Colombia.....	13,883	.....	.....	.....	77,372	.....	.....	.....	.....	.....	7,365	98,620	796,980	0.9
Venezuela.....	126,897	7,760	90,298	.....	676,100	.....	.....	45,864	20,408	.....	2,277	969,604	4,488,959	5.2
South America (other) <sup>1</sup> .....	11,212	2,423	1,302	.....	43,852	.....	411	5,381	.....	.....	1,549	66,130	201,541	0.2
Total South America.....	204,053	11,921	93,754	.....	1,028,977	.....	1,467	51,245	20,408	.....	11,302	1,423,127	6,492,077	7.5
<b>WEST INDIES:</b>														
Cuba.....	395,814	.....	.....	.....	369,037	.....	418	11,121	.....	140,756	64,383	981,529	1,091,816	1.3
Jamaica.....	432	57,470	22,961	.....	54,408	168	19,157	29,453	.....	.....	81,233	265,282	346,100	0.4
Netherlands West Indies.....	.....	.....	.....	.....	773	.....	3,656	.....	.....	.....	6,851	11,280	959,444	1.1
Trinidad/Tobago.....	.....	23,551	.....	.....	151,959	.....	.....	.....	.....	.....	43	175,553	449,226	0.5
West Indies (other) <sup>1</sup> .....	.....	21,504	.....	.....	96,202	.....	.....	44,185	.....	.....	8,553	170,444	610,646	0.7
Total West Indies.....	396,246	102,525	22,961	.....	672,379	168	23,231	84,759	.....	140,756	161,063	1,604,088	3,457,232	4.0

[Long tons]

<b>EUROPE:</b>										
Belgium	151	98	1,967	4,607	151	6,974	1,086,788	1.2		
France	16,284		4,347	3,827	119	24,577	779,886	0.9		
Italy	212	88	140	66		573	325,172	0.4		
Netherlands	1,500	34,254	98,249	12,083	92,181	248,773	1,147,020	1.3		
Norway	4,974	1,188	11,282			16,256	325,286	0.4		
Spain-Portugal		182	756	202	8,035	9,887	584,833	0.7		
Sweden	696	712	34	171		901	232,628	0.3		
United Kingdom	200	22,000	14,055	849	11,326	57,504	450,844	0.5		
U.S.S.R.			24,753		845	25,598	1,146,967	1.3		
West Germany	248	5,285	12,207	5,242		31,960	929,776	1.1		
Europe (other)	15,562	1,659	56,019	21,102	18,329	113,336	2,153,350	2.5		
Total Europe	39,827	63,566	223,809	48,149	130,986	536,339	9,162,550	10.5		
<b>ASIA (MIDDLE EAST):</b>										
		112	110	154		6,080	375,649	0.4		
<b>AFRICA:</b>										
		4,304	38,243	2,262		2,868	609,125	0.7		
GRAND TOTAL	4,554,029	9,166,077	28,514,088	8,787,345	2,700,454	56,295,206	87,006,459			
Percent of Pacific-bound cargo	5.2	10.5	32.8	10.1	3.1	64.7	100.0			

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

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

Statistics compiled by Office of Executive Planning.

Table 9.—Origin and Destination of Commercial Cargo Through the Panama Canal From Pacific to Atlantic During Fiscal Year 1987  
Segregated by Countries in Principal Trade Routes

[Long tons]

	To East Coast United States					To E. C. Canada		To East Coast Central America				
	North Atlantic ports	South Atlantic ports	Great Lakes ports	Gulf ports	United States (other) <sup>1</sup>	Total	Canada	Mexico	Panama	Central America (other) <sup>1</sup>	Cristobal R. P. <sup>2</sup>	Total
<b>WEST COAST NORTH AMERICA:</b>												
United States:												
Alaska						246,397						
Hawaii	78,972				33,354	422,665						
Mainland	220,121	23,540			36,235	1,224,229	102,299			1,386	29,865	31,251
Total United States	299,093	23,540			69,589	1,893,291	102,299			1,386	29,865	31,251
<b>WEST COAST CANADA</b>	766,212	477,527	24,332		736,589	413,096	4	46,841				46,841
<b>WEST COAST CENTRAL AMERICA:</b>												
Costa Rica	8,669	732			23,605	13,700			143			11,109
El Salvador	5,670				47,558	10,050						266
Guatemala	105,715	29,518			54,134	13,433				99	56	155
Honduras					2,774							
Mexico	273,896				147,578	26,362			19,958	305,626	173	553
Nicaragua					98		98		2,528			283
Panama	43,715	5,730			79,362	2,985			131,792			792
Central America (other) <sup>1</sup>					11,434	295			11,729		110	
Balboa, R. P. <sup>2</sup>		268			35,451						591	
Total Central America	437,665	36,248			401,994	66,825	22,486	306,451		18,091	1,268	325,810
<b>WEST COAST SOUTH AMERICA:</b>												
Chile	937,211	133,702			532,382	150,780	62,980	29,937	5,612		864	36,413
Colombia	74,793				262,599	96,129	710	139	33,244	67,263		100,646
Ecuador	1,393,863	110,714			1,514,914	95,690	1,012	1,326	342,058	62,316	18,652	424,352
Peru	1,528,663	147,920			154,266	194,962	72,473	26,575	55,305			81,880
South America (other) <sup>1</sup>	22,144	3,374			16,223	22,525	400	69			412	481
Total South America	3,956,674	412,814			2,480,384	560,086	137,575	58,046	436,219	129,579	19,928	543,772



<b>OCEANIA:</b>											
Australia .....	391,356	49,904	56,627	1,573,087	112,664	2,183,638	487,329	102,807	.....	763	103,570
British Oceania .....	21,554	.....	.....	.....	21,554	.....	.....	.....	.....	.....	.....
French Oceania .....	12,306	.....	2,500	1,412	16,218	.....	.....	308	.....	.....	308
New Zealand .....	176,112	29,062	.....	232,832	14,792	452,798	37,163	13,949	.....	1,789	15,738
Oceania (other) .....	54,939	21,355	.....	13,639	73,552	163,485	30,394	.....	.....	.....	.....
Total Oceania .....	656,267	100,321	56,627	1,822,058	202,420	2,837,693	554,886	116,756	308	2,552	119,616
<b>ASIA:</b>											
China .....	135,305	13,287	21,996	724,946	10,258	905,792	38,648	.....	.....	42	42
Taiwan .....	781,577	333,276	26	55,662	304,565	1,475,106	74,795	112	.....	1,053	17,230
Hong Kong .....	254,499	145,979	.....	6,276	71,286	478,040	59,954	.....	.....	984	15,257
Indonesia .....	122,814	49,523	.....	203,980	176,714	553,031	.....	.....	.....	.....	.....
Japan .....	2,720,201	1,155,497	234,668	2,031,536	671,521	6,813,423	95,332	384	400	2,416	43,817
Philippine Islands .....	210,022	33,679	.....	51,013	140,086	434,800	8,500	.....	.....	.....	43
Singapore .....	185,540	101,009	.....	35,493	42,722	364,764	23,777	.....	.....	.....	3,288
South Korea .....	394,849	140,725	2,365	255,304	264,163	1,057,406	35,080	213	.....	1,543	11,449
Thailand .....	11,732	8,474	.....	1,592	10,575	32,373	.....	.....	.....	.....	.....
U.S.S.R. .....	805,623	396,015	.....	266,959	257,206	1,725,803	88,108	.....	.....	8,666	121,260
Asia (other) <sup>1</sup> .....	5,622,162	2,377,464	259,055	3,632,761	1,949,096	13,840,538	430,584	709	400	14,662	212,386
Total .....	11,738,073	3,427,914	340,014	10,574,855	3,261,112	29,341,968	1,247,834	528,803	436,927	163,718	265,999
<b>GRAND TOTAL .....</b>											
Percent of Atlantic-bound cargo .....	19.0	5.6	0.6	17.1	5.3	47.6	2.0	0.9	0.7	0.3	0.4

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 1987  
Segregated by Countries in Principal Trade Routes—Continued

	To East Coast South America				To West Indies				Total				
	Brazil	Colombia	Venezuela (other) <sup>1</sup>	South America (other) <sup>1</sup>	Total	Cuba	Haiti/Dominican Republic	Jamaica		Netherlands West Indies	Puerto Rico	Trinidad/Tobago	West Indies (other) <sup>1</sup>
[Long tons]													
WEST COAST NORTH AMERICA:													
United States:													
Alaska			900		900								
Hawaii													
Mainland	114,313	5,367	163,667		283,347		580	2,345	369,445	71,312		495,047	938,729
Total United States	114,313	5,367	164,567		284,247		580	2,345	369,445	71,312		495,047	938,729
WEST COAST CANADA:													
	250,024	99,815	102,658	721	453,218	39,743		28,387		42,844			110,974
WEST COAST CENTRAL AMERICA:													
Costa Rica	35				35			5,071			634		5,705
El Salvador	326	627			953			3,093	13,469			7	16,569
Guatemala								9,842			9,869		19,711
Honduras											2,005	20,514	22,519
Mexico	140,109		6,064		146,173	6,300	36	1	38	15,118		429	21,922
Nicaragua	1,170			413	1,583	10,598							10,959
Panama			800		800	1,405						115	40,959
Central America (other) <sup>1</sup>													
Balboa, R. P. <sup>2</sup>													
Total Central America	141,640	627	26,851	1,153	170,271	37,931	224	18,007	13,507	137,011	11,874	21,112	239,666
WEST COAST SOUTH AMERICA:													
Chile													
Colombia		17,941	111,201	1,259	130,401								95,732
Ecuador		82,210	4,182		86,392					2,036			35,322
Peru		5,693	1,310	1,201	8,204					25,554	9,768		1,277,240
South America (other) <sup>1</sup>			65,159	11,303	82,325	10,949	8,757	150,159	79,957	1,034,919	1,824	10,381	645,195
Total South America		13,580	2,425	79	16,084	33,434		1,000	6,000	517,261		124	41,693
Total West Indies		5,693	119,594	184,277	323,406	44,383	78,790	151,709	87,993	1,602,532	11,592	118,183	2,095,182

OCEANIA:

Australia	7,382	10,305	17,687	675	5,931	334	334	4,875	2,952	16,101
British Oceania										
French Oceania										618
New Zealand		29,571		29,571	6,402	9,809	2,556	2,362	7,886	29,151
Oceania (other)								19,778	6,672	26,450
Total Oceania	7,382	39,876	47,258	7,077	15,740	2,890	470	20,396	7,237	72,320

ASIA:

China	8,267	12,884	21,151	147,021				13,913		160,934
Taiwan	1,043	2,914	4,578		4,286	78,593	2,173	12,813	1,648	105,919
Hong Kong	1,229	3,971	5,709		1,589	33,400	2,208	2,611	450	42,432
Indonesia								60,487		60,487
Japan	23,097	39,099	13,940	262,064	21,340	36,996	19,823	104,914	9,844	290,102
Philippine Islands							47	8		63
Singapore	88	11,735	5	11,834	893	765	343	3,783	376	12,933
South Korea	703	107	982	6,004	6,107	29,978	484	4,834	1,368	51,798
Thailand						4,921				4,921
U.S.S.R.						290,711				290,711
Asia (other)	18,573	10,385	22,373	96,803	25,897	44,634	8,688	53,576	12,264	283,397
Total	53,000	49,817	38,210	408,143	490,783	94,377	33,766	256,939	25,950	1,303,697
GRAND TOTAL	564,670	282,602	1,686,543	619,917	189,711	474,512	505,181	2,131,034	56,653	4,760,568

Percent of Atlantic-bound cargo . . . . . 0.9 0.5 1.3 0.1 2.7 1.0 0.3 0.8 0.8 3.5 0.1 1.3 7.7

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 1987  
Segregated by Countries in Principal Trade Routes—Continued

[Long tons]

	To Europe										Total			
	Belgium	Den- mark	Finland	France	Italy	Nether- lands	Spain/ Portugal	Sweden	United Kingdom	U.S.S.R.		Yugo- slavia	West Germany	Europe (other) <sup>1</sup>
<b>WEST COAST NORTH AMERICA:</b>														
United States:														
Alaska.....	105,428			34,255	27,460	5,616		1,820	1,649			5,672	176,382	358,282
Hawaii.....						86,374								86,374
Mainland.....	451,036	68,433	10,480	194,515	354,267	1,796,280	506,095	153,331	152,785	6,437	766	157,462	1,177,734	5,029,621
Total United States.....	556,464	68,433	10,480	228,770	381,727	1,888,270	506,095	155,151	154,434	6,437	766	163,134	1,354,116	5,474,277
WEST COAST CANADA.....	683,608	8,252	21,949	318,640	458,162	778,989	262,876	177,217	1,275,381	104,751	29,453	189,066	2,044,499	6,352,843
<b>WEST COAST CENTRAL AMERICA:</b>														
Costa Rica.....							236			47,791		3,673	2,505	54,205
El Salvador.....	1,170		2		833	170	3,486		66	14,852		44,174	8,257	73,010
Guatemala.....					567	21,576				29,602		3,641	53,263	108,649
Honduras.....					264		5,276						16,205	21,745
Mexico.....	23,463		9,599	3,171	15,245	28,900	117,909	3,329	3,207			108,529	54,591	367,943
Nicaragua.....	86,813				482	695	2,134		53	51,778		14,003	13,356	169,314
Panama.....					31,603	3,000	9,670				428	2,771	4,752	53,906
Central America (other) <sup>1</sup> .....	6,131				3,354		2,666			12,142		9,571	2,553	36,417
Balboa, R. P. <sup>2</sup> .....														
Total Central America.....	117,577		9,599	4,855	52,348	54,341	141,377	3,329	3,326	156,165	428	186,362	155,482	885,189
<b>WEST COAST SOUTH AMERICA:</b>														
Chile.....	293,742	3,405	14,261	118,092	218,766	437,991	118,300	171,474	176,292			523,934	415,610	2,527,383
Colombia.....	22,008			1,348	1,371	42,498	729	1,028	13,768	11,810	2,669	172,078	8,056	277,363
Ecuador.....				5,555	57,576	30,555	14,886	3,097	6,507	25,157	19,872	139,141	127,216	504,411
Peru.....	74,849				67,870	48,647	20,261	21,168	84,708	114,192	133,218	206,399	301,902	1,367,917
South America (other) <sup>1</sup> .....	4,582			26,460	22,145	27,272	10,254		4,611	377,165	1,464	8,665	112,219	594,837
Total South America.....	640,962	3,405	14,261	219,325	423,629	586,963	164,430	196,767	285,886	528,324	192,739	1,050,217	965,003	5,271,911

OCEANIA:

Australia	26,803	3,213	12,644	17,221	14	28,840	43,364	18,184	152,545
British Oceania						153,659	156		153,815
French Oceania	7,542	3,026	2,422	194	9		220	23,172	96,184
New Zealand	155,314	3,084	100,862	596	8,144	67,737	5,542	16,931	415,572
Oceania (other)	10,996	1,248	3,914	15,199		19,240		138,605	210,741
Total Oceania	200,655	10,571	119,842	33,210	8,158	269,485	5,542	199,276	1,028,857

ASIA:

China	2,941							3,732	6,673
Taiwan			1,490	105					5,951
Hong Kong		12	650	34		6		62	1,566
Indonesia									
Japan	12,441	560	76,994	552	1,675	8,419		12,861	118,478
Philippine Islands			23,423						23,423
Singapore			4,159					98	4,414
South Korea			80	21		981		217	14,331
Thailand									
U.S.R.									
Asia (other)	38		3,926	4	14	254		8,132	8,132
Total	15,420	560	123,319	716	1,689	9,660	8,132	17,183	8,566
GRAND TOTAL	2,214,686	80,650	3,551,724	1,108,704	542,311	1,998,172	809,351	1,805,238	19,204,611

Percent of Atlantic-bound cargo . . . . . 3.6 0.1 0.1, 1.4 2.2 5.8 1.8 0.9 3.2 1.3 0.4 2.9 7.5 31.1

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 1987 Segregated by Countries in Principal Trade Routes—Continued

	To Africa							Grand Total	Percent of total Atlantic-bound cargo		
	To Asia (Middle East)		Algeria	Egypt	Morocco	Africa Tunisia (other) <sup>1</sup>	Total				
<b>WEST COAST NORTH AMERICA:</b>											
United States:											
Alaska				1,950				1,950	606,679	1.0	
Hawaii				792,001				792,001	509,939	0.8	
Mainland	144,040			115,693	36,712		76,399	1,119,034	8,872,550	14.4	
Total United States	144,040			793,951	115,693		76,399	1,120,984	9,989,118	16.2	
WEST COAST CANADA	368,828		31,549	295,865	1,317,451	120,674	376,095	64,494	2,206,128	11,956,592	19.4
<b>WEST COAST CENTRAL AMERICA:</b>											
Costa Rica									118,169	0.2	
El Salvador									153,810	0.2	
Guatemala									331,315	0.5	
Honduras									5,444	0.1	
Mexico	4,249			1,968					1,968	2.1	
Nicaragua									1,316,401	0.3	
Panama	32,748								190,523	0.3	
Central America (other) <sup>1</sup>									1,434	0.4	
Balboa, R.P. <sup>2</sup>									62	0.3	
Total Central America	36,997			1,968					36,310	0.1	
									8,908	4.2	
<b>WEST COAST SOUTH AMERICA:</b>											
Chile				591	1,039				3,829	4,629,457	7.5
Colombia					27,559		370		27,929	978,987	1.6
Ecuador					68				2,005	5,349,837	8.7
Peru									2,000	4,358,371	7.0
South America (other) <sup>1</sup>									71,369	717,761	1.2
Total South America	43,984		72,794	591	28,666		370		108,625	16,034,413	26.0

OCEANIA:

Australia .....	2,960,870	4.8
British Oceania .....	175,369	0.3
French Oceania .....	113,328	0.2
New Zealand .....	979,993	1.6
Oceania (other) <sup>1</sup> .....	431,070	0.7
Total Oceania .....	4,660,630	7.6

ASIA:

China .....	1,133,240	1.8
Taiwan .....	1,684,788	2.7
Hong Kong .....	604,037	1.0
Indonesia .....	613,518	1.0
Japan .....	737	0.001
Philippine Islands .....	3,200	0.005
Singapore .....	7,630,353	12.4
South Korea .....	466,829	0.8
Thailand .....	421,149	0.7
U.S.S.R. .....	1,177,905	1.9
Asia (other) <sup>1</sup> .....	37,294	0.1
Total .....	305,233	0.5
Asia (other) <sup>2</sup> .....	3,563	0.006
Total .....	4,475	0.007
GRAND TOTAL .....	598,324	1.0
Percent of Atlantic-bound cargo .....	104,343	0.2
Percent of Atlantic-bound cargo .....	1,092,375	1.8
Percent of Atlantic-bound cargo .....	1,461,810	2.4
Percent of Atlantic-bound cargo .....	157,756	0.3
Percent of Atlantic-bound cargo .....	452,494	0.7
Percent of Atlantic-bound cargo .....	179,848	0.3
Percent of Atlantic-bound cargo .....	3,448,626	5.6
Percent of Atlantic-bound cargo .....	61,683,971	100.0

<sup>1</sup> Also includes cargo not routed to permit segregation between definite countries.  
<sup>2</sup> Includes both local and transhipped cargo.

Statistics compiled by Office of Executive Planning.

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....		1	5
Chemicals and petroleum chemicals .....	308	238	327
Caustic soda .....	80	76	93
Chemicals, unclassified .....	111	76	116
Toluene .....	50		6
Petroleum chemicals, miscellaneous .....	67	86	112
Grains .....	51		
Corn .....	51		
Machinery and equipment, miscellaneous .....	20	2	
Manufactures of iron and steel .....	9	9	
Other and unclassified .....	9	9	
Nitrates, phosphates, and potash .....			38
Ammonium compounds .....			16
Phosphates .....			22
Ores and metals .....		32	
Ore, alumina/bauxite .....		32	
Petroleum and products .....	278	947	530
Fuel oil, residual .....	28	81	37
Gasoline .....	86	479	147
Jet fuel .....		184	28
Lubricating oil .....	162	169	260
Petroleum coke .....			57
Other and unclassified .....	2	34	1
Miscellaneous .....	16	311	466
All other and unclassified .....	16	311	466
Total .....	682	1,540	1,366
<b>EAST COAST UNITED STATES TO WEST COAST CANADA:</b>			
Nitrates, phosphates, and potash .....	819	603	808
Phosphates .....	819	603	808
Miscellaneous .....	13	25	10
All other and unclassified .....	13	25	10
Total .....	832	628	818
<b>EAST COAST UNITED STATES TO WEST COAST CENTRAL AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	11	8	16
Coal .....		138	322
Grains .....	1,177	476	760
Corn .....	443	80	95
Sorghum .....	103		131
Soybeans .....	288	134	294
Wheat .....	331	238	236
Other and unclassified .....	12	24	4
Lumber and products, miscellaneous .....	10	9	
Machinery and equipment, miscellaneous .....	1		
Manufactures of iron and steel, miscellaneous .....	11		2
Minerals, miscellaneous .....	31		
Soda and sodium compounds .....	31		
Nitrates, phosphates, and potash .....	726	660	490



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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>CENTRAL AMERICA—Continued</b>			
Nitrates, phosphates, and potash—Continued			
Ammonium compounds . . . . .	146	148	116
Fertilizers, unclassified . . . . .	103	107	136
Phosphates . . . . .	466	382	219
Potash . . . . .	11	23	19
Ores and metals . . . . .	22	.....	.....
Other agricultural commodities . . . . .	42	34	59
Oilseeds . . . . .	42	34	59
Petroleum and products . . . . .	152	113	171
Diesel oil . . . . .	80	42	37
Gasoline . . . . .	49	29	13
Fuel oil, residual . . . . .	.....	2	94
Lubricating oil . . . . .	6	1	6
Petroleum products, miscellaneous . . . . .	17	39	21
Miscellaneous . . . . .	51	98	64
Flour, wheat . . . . .	.....	2	1
Oil, vegetable . . . . .	8	23	6
Paper and paper products . . . . .	.....	15	17
Tallow . . . . .	18	39	22
All other and unclassified . . . . .	25	19	18
Total . . . . .	<u>2,234</u>	<u>1,536</u>	<u>1,884</u>
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>SOUTH AMERICA:</b>			
Canned and refrigerated foods, miscellaneous . . . . .	21	33	23
Chemicals and petroleum chemicals . . . . .	296	302	231
Caustic soda . . . . .	113	108	61
Chemicals, unclassified . . . . .	163	178	164
Petroleum chemicals, miscellaneous . . . . .	20	16	6
Coal and coke . . . . .	174	108	162
Grain . . . . .	1,668	1,656	1,772
Corn . . . . .	473	257	91
Oats . . . . .	4	5	1
Rice . . . . .	29	2	37
Sorghum . . . . .	.....	22	85
Soybeans . . . . .	221	103	154
Wheat . . . . .	941	1,262	1,403
Other and unclassified . . . . .	.....	5	1
Lumber and products . . . . .	7	7	8
Pulpwood . . . . .	5	7	4
Other and unclassified . . . . .	2	.....	4
Machinery and equipment . . . . .	60	59	52
Agricultural machinery and implements . . . . .	17	16	15
Automobiles, trucks, accessories, and parts . . . . .	16	18	14
Construction machinery and equipment . . . . .	17	13	14
Electrical machinery and apparatus . . . . .	5	8	6
Other and unclassified . . . . .	5	4	3
Manufactures of iron and steel . . . . .	23	33	26
Angles, shapes, and sections . . . . .	6	6	5
Plates, sheets, and coils . . . . .	4	7	5
Tubes, pipes, and fittings . . . . .	9	11	7
Wire, bars, and rods . . . . .	2	4	3
Other and unclassified . . . . .	2	5	6

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO WEST COAST</b>			
<b>SOUTH AMERICA—Continued</b>			
Minerals, miscellaneous .....	19	17	45
Soda and sodium compounds .....	14	6	36
Sulfur .....	5	7	7
Other and unclassified .....	.....	4	2
Nitrates, phosphates, and potash .....	738	482	445
Ammonium compounds .....	18	32	13
Fertilizers, unclassified .....	370	150	147
Phosphates .....	275	281	261
Potash .....	75	19	24
Ores and metals .....	175	89	158
Ores, miscellaneous .....	26	15	26
Metals .....	149	74	132
Scrap .....	146	68	127
Tin, including tinplate .....	.....	3	3
Other and unclassified .....	3	3	2
Other agricultural commodities .....	75	90	5
Oilseeds .....	2	1	4
Sugar .....	73	83	.....
Other and unclassified .....	.....	6	1
Petroleum and products .....	108	134	256
Diesel oil .....	27	16	65
Gasoline .....	4	8	75
Jet fuel .....	.....	23	.....
Liquified gas .....	13	5	52
Lubricating oil .....	61	57	25
Residual fuel oil .....	.....	14	29
Other and unclassified .....	3	11	10
Miscellaneous .....	812	636	577
Bricks and tile .....	2	3	3
Carbon black .....	1	1	1
Clay, fire, and china .....	10	16	13
Flour, wheat .....	56	27	15
Groceries, miscellaneous .....	3	5	2
Oil, coconut .....	4	3	1
Oil, vegetable .....	23	41	54
Paper and paper products .....	143	147	111
Resin .....	39	52	36
Rubber, manufactured .....	5	4	4
Tallow .....	42	40	33
Textiles .....	11	11	7
All other and unclassified .....	473	286	297
Total .....	<u>4,176</u>	<u>3,646</u>	<u>3,760</u>
<b>EAST COAST UNITED STATES TO BALBOA, R.P.:</b>			
Canned and refrigerated foods, miscellaneous .....	2	6	9
Chemicals and petroleum chemicals, miscellaneous .....	14	16	13
Grains .....	122	96	84
Corn .....	23	24	33
Wheat .....	89	70	51
Soybeans .....	10	2	.....
Machinery and equipment, miscellaneous .....	.....	.....	1
Ores and metals, miscellaneous .....	4	9	7

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO BALBOA, R.P.—Continued</b>			
Petroleum and products .....	109	45	169
Diesel .....	23	.....	63
Fuel oil, residual .....	83	34	98
Other and unclassified .....	3	11	8
Miscellaneous .....	65	77	115
Oil, vegetable .....	.....	1	11
All other and unclassified .....	65	76	104
Total .....	<u>316</u>	<u>249</u>	<u>398</u>
<b>EAST COAST UNITED STATES TO HAWAII:</b>			
Petroleum and products .....	32	.....	.....
Jet fuel .....	32	.....	.....
Miscellaneous .....	.....	26	46
All other and unclassified .....	.....	26	46
Total .....	<u>32</u>	<u>26</u>	<u>46</u>
<b>EAST COAST UNITED STATES TO OCEANIA:</b>			
Chemicals and petroleum chemicals .....	576	523	519
Caustic soda .....	458	443	430
Chemicals, unclassified .....	107	79	82
Petroleum chemicals, miscellaneous .....	11	1	7
Coal and coke .....	.....	51	.....
Grains .....	34	41	48
Rice .....	.....	1	.....
Soybeans .....	34	40	48
Other and unclassified .....	.....	.....	.....
Lumber and products .....	26	7	2
Pulpwood .....	26	7	2
Machinery and equipment .....	1	3	11
Agricultural machinery and implements .....	.....	1	1
Automobiles, trucks, accessories and parts .....	1	.....	4
Construction machinery and equipment .....	.....	2	5
Other and unclassified .....	.....	.....	1
Manufactures of iron and steel, miscellaneous .....	.....	3	.....
Minerals, miscellaneous .....	.....	8	10
Nitrates, phosphates, and potash .....	579	403	743
Ammonium compounds .....	17	12	10
Fertilizers, unclassified .....	172	97	191
Phosphates .....	374	263	510
Potash .....	16	31	32
Petroleum and products .....	313	263	338
Diesel oil .....	.....	39	44
Gasoline .....	121	58	5
Jet fuel .....	11	10	2
Liquefied gas .....	63	71	105
Lubricating oil .....	28	15	23
Residual fuel oil .....	.....	3	.....
Petroleum coke .....	85	64	156
Other and unclassified .....	5	13	5
Miscellaneous .....	540	470	445
Clay, fire and china .....	31	24	24
Oil, vegetable .....	2	1	3

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO OCEANIA—</b>			
Continued			
Miscellaneous—Continued			
Paper and products .....	13	22	18
Resin .....	.....	1	1
All other and unclassified .....	494	422	399
Total .....	<u>2,069</u>	<u>1,772</u>	<u>2,116</u>
<b>EAST COAST UNITED STATES TO ASIA:</b>			
Canned and refrigerated foods .....	262	166	111
Canned foods, miscellaneous .....	.....	.....	3
Refrigerated foods .....	262	166	108
Fruit .....	115	67	28
Meat .....	.....	.....	1
Other and unclassified .....	147	99	79
Chemicals and petroleum chemicals .....	<u>2,846</u>	<u>1,973</u>	<u>1,919</u>
Caustic soda .....	151	63	41
Chemicals, unclassified .....	1,860	1,404	1,340
Benzene .....	58	7	.....
Toulene .....	133	1	2
Petroleum chemicals, miscellaneous .....	644	498	536
Coal and coke .....	5,669	7,000	7,990
Grains .....	<u>26,277</u>	<u>17,665</u>	<u>17,731</u>
Barley .....	110	106	31
Corn .....	14,881	8,215	7,853
Rice .....	15	.....	1
Sorghum .....	2,521	2,223	2,033
Soybeans .....	7,098	6,413	5,725
Wheat .....	1,452	623	1,984
Other and unclassified .....	200	85	104
Lumber and products .....	510	400	284
Pulpwood .....	510	400	279
Other and unclassified .....	.....	.....	5
Machinery and equipment .....	29	41	49
Agricultural machinery and implements .....	2	3	5
Automobiles, trucks, accessories and parts .....	2	3	5
Construction machinery and equipment .....	4	19	14
Electrical machinery and apparatus .....	3	1	6
Other and unclassified .....	18	15	19
Manufactures of iron and steel .....	<u>199</u>	<u>56</u>	<u>41</u>
Angles, shapes, and sections .....	11	8	1
Plates, sheets, and coils .....	100	.....	9
Wires, bars, and rods .....	22	3	.....
Other and unclassified .....	66	45	31
Minerals, miscellaneous .....	7	39	4
Nitrates, phosphates, and potash .....	<u>4,521</u>	<u>3,384</u>	<u>5,193</u>
Ammonium compounds .....	60	8	122
Fertilizers, unclassified .....	343	137	249
Phosphates .....	4,011	3,187	4,810
Potash .....	107	52	12
Ores and metals .....	<u>2,028</u>	<u>2,942</u>	<u>2,149</u>
Ores, miscellaneous .....	47	54	64
Metals .....	<u>1,981</u>	<u>2,888</u>	<u>2,085</u>
Aluminum .....	.....	.....	1
Iron .....	.....	.....	24

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EAST COAST UNITED STATES TO ASIA—</b>			
Continued			
Ores and metals—Continued			
Scrap .....	1,971	2,877	2,048
Tin, including tinplate .....	.....	1	1
Other and unclassified .....	10	10	11
Other agricultural commodities .....	181	1	6
Beans, edible .....	28	.....	2
Cotton, raw .....	.....	.....	4
Sugar .....	150	.....	.....
Other and unclassified .....	3	1	.....
Petroleum and products .....	2,062	1,824	821
Gasoline .....	414	120	3
Kerosene .....	26	60	.....
Liquefied gas .....	192	324	130
Lubricating oil .....	114	81	71
Petroleum coke .....	1,061	1,106	447
Diesel .....	.....	29	.....
Residual fuel oil .....	.....	82	50
Jet fuel .....	225	.....	28
Other and unclassified .....	30	22	92
Miscellaneous .....	5,895	4,929	4,678
Bricks and tile .....	.....	.....	1
Carbon black .....	.....	17	24
Clay, fire and china .....	369	312	364
Fibers, plant .....	1	.....	6
Flour, wheat .....	.....	13	4
Groceries, miscellaneous .....	22	1	16
Marble and stone .....	8	5	9
Oil, vegetable .....	71	63	70
Paper and paper products .....	355	166	184
Resin .....	40	78	181
Rubber, manufactured .....	1	5	7
Tallow .....	6	5	2
Textiles .....	2	6	50
Tobacco and manufactures .....	3	.....	4
All other and unclassified .....	5,017	4,258	3,756
Total .....	<u>50,486</u>	<u>40,420</u>	<u>40,976</u>
<b>EAST COAST CANADA TO WEST COAST UNITED STATES:</b>			
Manufactures of iron and steel .....	45	.....	.....
Plates, sheets, and coils .....	45	.....	.....
Ores and metals .....	35	.....	.....
Ores, miscellaneous .....	30	.....	.....
Metals, miscellaneous .....	5	.....	.....
Miscellaneous .....	6	35	19
Paper and products .....	.....	16	11
All other and unclassified .....	6	19	8
Total .....	<u>86</u>	<u>35</u>	<u>19</u>
<b>EAST COAST CANADA TO WEST COAST CENTRAL AMERICA:</b>			
Grains, miscellaneous .....	22	30	.....
Manufactures of iron and steel, miscellaneous .....	.....	7	24

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EAST COAST CANADA TO WEST COAST CENTRAL AMERICA—Continued</b>			
Manufactures of iron and steel, miscellaneous—Continued			
Miscellaneous .....	11	37	20
Paper and paper products .....	7	13	11
All other and unclassified .....	4	24	9
Total .....	<u>33</u>	<u>74</u>	<u>44</u>
<b>EAST COAST CANADA TO WEST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods, miscellaneous .....	19	11	3
Grains .....	<u>11</u>	.....	.....
Wheat .....	11	.....	.....
Lumber and products .....	4	<u>1</u>	.....
Pulpwood .....	4	1	.....
Machinery and equipment, miscellaneous .....	2	2	.....
Manufactures of iron and steel, miscellaneous .....	2	2	.....
Minerals, miscellaneous .....	<u>9</u>	<u>14</u>	<u>9</u>
Asbestos .....	9	14	9
Nitrates, phosphates, and potash .....	<u>16</u>	.....	<u>12</u>
Potash .....	16	.....	12
Ores and metals .....	.....	.....	<u>1</u>
Metals .....	.....	.....	1
Tin, including tinplate .....	.....	.....	1
Miscellaneous .....	<u>37</u>	<u>38</u>	<u>64</u>
Paper and paper products .....	19	17	33
Resin .....	4	.....	1
All other and unclassified .....	<u>14</u>	<u>21</u>	<u>30</u>
Total .....	<u>100</u>	<u>68</u>	<u>89</u>
<b>EAST COAST CANADA TO OCEANIA:</b>			
Canned and refrigerated foods, miscellaneous .....	6	2	3
Lumber and products .....	<u>35</u>	<u>23</u>	.....
Pulpwood .....	35	23	.....
Machinery and equipment .....	1	.....	.....
Minerals, miscellaneous .....	21	6	.....
Nitrates, phosphates and potash .....	<u>15</u>	.....	.....
Potash .....	15	.....	.....
Ores and metals .....	<u>27</u>	<u>4</u>	<u>8</u>
Ores, miscellaneous .....	25	4	8
Metals .....	<u>2</u>	.....	.....
Iron .....	2	.....	.....
Miscellaneous .....	<u>93</u>	<u>68</u>	<u>98</u>
Paper and paper products .....	35	23	.....
All other and unclassified .....	<u>58</u>	<u>45</u>	<u>98</u>
Total .....	<u>198</u>	<u>103</u>	<u>109</u>
<b>EAST COAST CANADA TO ASIA:</b>			
Canned and refrigerated foods .....	40	75	51
Canned foods, miscellaneous .....	.....	7	.....
Refrigerated foods .....	<u>40</u>	<u>68</u>	<u>51</u>

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EAST COAST CANADA TO ASIA—Continued</b>			
Canned and refrigerated foods—Continued			
Fish .....	22	32	23
Other and unclassified .....	18	36	28
Chemicals and petroleum chemicals, miscellaneous .....	5	7	5
Grains .....	289	248	107
Soybeans .....	106	122	79
Wheat .....	174	101	.....
Other and unclassified .....	9	25	28
Lumber and products .....	240	204	185
Pulpwood .....	228	204	185
Other and unclassified .....	12	.....	.....
Machinery and equipment, miscellaneous .....	5	6	2
Manufactures of iron and steel, miscellaneous .....	265	31	25
Ores and metals .....	318	451	355
Ores, miscellaneous .....	70	54	48
Metals .....	248	397	307
Aluminum .....	2	14	45
Copper .....	6	2	59
Iron .....	16	98	48
Scrap .....	222	241	124
Other and unclassified .....	2	42	31
Miscellaneous .....	509	528	796
Flour, wheat .....	83	51	50
Paper and paper products .....	127	86	193
Resin .....	34	23	59
All other and unclassified .....	265	368	494
Total .....	<u>1,671</u>	<u>1,550</u>	<u>1,526</u>
<b>EAST COAST CENTRAL AMERICA TO WEST COAST CENTRAL AMERICA:</b>			
Nitrates, phosphates, and potash .....	398	414	536
Ammonium compounds .....	142	188	45
Phosphates .....	22	.....	86
Fertilizers, unclassified .....	234	226	405
Petroleum and products .....	2,655	3,042	3,022
Asphalt .....	8	8	49
Crude oil .....	624	561	745
Diesel oil .....	118	256	111
Liquefied gas .....	509	441	327
Fuel oil, residual .....	1,376	1,580	1,734
Gasoline .....	1	196	17
Other and unclassified .....	19	.....	39
Miscellaneous .....	25	10	24
All other and unclassified .....	25	10	24
Total .....	<u>3,078</u>	<u>3,466</u>	<u>3,582</u>
<b>EAST COAST CENTRAL AMERICA TO WEST COAST SOUTH AMERICA:</b>			
Nitrates, phosphates, and potash .....	6	11	2
Fertilizers, unclassified .....	6	11	2
Other agricultural commodities .....	12	.....	.....
Sugar .....	12	.....	.....

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EAST COAST CENTRAL AMERICA TO WEST COAST SOUTH AMERICA—Continued</b>			
Petroleum and products .....	171	201	138
Other and unclassified .....	171	201	138
Miscellaneous .....	94	79	46
All other and unclassified .....	94	79	46
Total .....	283	291	186
<b>EAST COAST CENTRAL AMERICA TO BALBOA, R.P.:</b>			
Petroleum and products .....	27	63	104
Diesel oil .....	11	10	30
Fuel oil, residual .....	16	53	73
Other and unclassified .....	.....	.....	1
Miscellaneous .....	1	1	.....
All other and unclassified .....	1	1	.....
Total .....	28	64	104
<b>EAST COAST CENTRAL AMERICA TO ASIA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	26	34	19
Manufactures of iron and steel, miscellaneous .....	282	.....	12
Nitrates, phosphates, and potash .....	.....	14	18
Fertilizers, unclassified .....	.....	14	18
Ores and metals, miscellaneous .....	46	68	90
Other agricultural commodities .....	1	26	2
Coffee .....	1	1	2
Sugar .....	.....	25	.....
Miscellaneous .....	150	123	109
All other and unclassified .....	150	123	109
Total .....	505	265	238
<b>EAST COAST SOUTH AMERICA TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	13	23	9
Chemicals and petroleum chemicals, miscellaneous .....	1	29	77
Lumber and products, miscellaneous .....	42	41	26
Manufactures of iron and steel, miscellaneous .....	479	405	648
Ores and metals .....	35	89	76
Ores .....	29	34	74
Alumina/bauxite .....	28	34	64
Other and unclassified .....	1	.....	10
Metals, miscellaneous .....	6	55	2
Other agricultural commodities .....	2	.....	9
Cocoa and cacao beans .....	.....	.....	1
Coffee .....	2	.....	8
Petroleum and products .....	253	109	93
Asphalt .....	82	.....	.....
Diesel oil .....	29	53	22
Gasoline .....	81	55	28
Jet fuel .....	61	.....	42
Petroleum products, miscellaneous .....	.....	1	1
Miscellaneous .....	109	123	142
Paper and products .....	21	14	9
All other and unclassified .....	88	109	133
Total .....	934	819	1,080



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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>CANADA:</b>			
Manufactures of iron and steel, miscellaneous .....	51	50	26
Miscellaneous .....	60	28	18
All other and unclassified .....	60	28	18
Total .....	<u>111</u>	<u>78</u>	<u>44</u>
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>CENTRAL AMERICA:</b>			
Coal .....		54	77
Grains .....	3	1	49
Sorghum .....			21
Soybeans .....		1	28
Other and unclassified .....	3		
Manufactures of iron and steel, miscellaneous .....	75	30	18
Nitrates, phosphates, and potash .....	8	3	17
Fertilizers, unclassified .....	8	3	17
Petroleum and products .....	757	601	687
Crude oil .....	716	558	659
Other and unclassified .....	41	43	28
Other agricultural commodities .....		31	
Sugar .....		31	
Miscellaneous .....	21	61	12
All other and unclassified .....	21	61	12
Total .....	<u>864</u>	<u>781</u>	<u>860</u>
<b>EAST COAST SOUTH AMERICA TO WEST COAST</b>			
<b>SOUTH AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	26	16	8
Grains .....	1	2	1
Oats .....	1	2	1
Manufactures of iron and steel, miscellaneous .....	39	31	170
Minerals, miscellaneous .....	16	14	7
Salt .....	12	13	6
Soda and sodium compounds .....	4	1	1
Nitrates, phosphates, and potash .....	137	176	91
Fertilizers, unclassified .....	137	176	91
Ores and metals .....	49	29	13
Ore, alumina/bauxite .....	8	10	6
Metals, miscellaneous .....	41	19	7
Other agricultural commodities .....	40	11	
Other and unclassified .....	40	11	
Petroleum and products .....	2,563	1,696	1,582
Crude oil .....	1,602	1,115	1,133
Diesel oil .....	179	174	77
Fuel oil, residual .....	29	35	32
Gasoline .....	513	249	271
Jet fuel .....	28	23	9
Liquefied gas .....	96	24	
Lubricating oil .....	48	37	42
Other and unclassified .....	68	39	18
Miscellaneous .....	87	96	44
All other and unclassified .....	87	96	44
Total .....	<u>2,958</u>	<u>2,070</u>	<u>1,916</u>

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EAST COAST SOUTH AMERICA TO BALBOA, R.P.:</b>			
Petroleum and products .....	77	61	71
Diesel oil .....	24	35	65
Gasoline .....	14	26	1
Fuel oil, residual .....	39	.....	5
Miscellaneous .....	5	2	7
All other and unclassified .....	5	2	7
Total .....	<u>82</u>	<u>63</u>	<u>78</u>
<b>EAST COAST SOUTH AMERICA TO HAWAII:</b>			
Petroleum and products .....	90	92	60
Jet fuel .....	90	92	60
Total .....	<u>90</u>	<u>92</u>	<u>60</u>
<b>EAST COAST SOUTH AMERICA TO OCEANIA:</b>			
Petroleum and products, miscellaneous .....	26	.....	29
Miscellaneous .....	4	4	3
All other and unclassified .....	4	4	3
Total .....	<u>30</u>	<u>4</u>	<u>32</u>
<b>EAST COAST SOUTH AMERICA TO ASIA:</b>			
Canned and refrigerated foods, miscellaneous .....	59	38	15
Chemicals and petroleum chemicals, miscellaneous .....	10	35	70
Coal and coke .....	59	177	.....
Grains, miscellaneous .....	.....	3	53
Lumber and products, miscellaneous .....	12	23	42
Manufactures of iron and steel, miscellaneous .....	420	361	357
Nitrates, phosphates, and potash .....	1	2	.....
Fertilizers, unclassified .....	1	2	.....
Ores and metals .....	<u>382</u>	<u>269</u>	<u>364</u>
Ores .....	<u>79</u>	<u>93</u>	<u>146</u>
Alumina/bauxite .....	10	12	14
Iron .....	56	32	64
Manganese .....	4	31	66
Other and unclassified .....	9	18	2
Metals .....	<u>303</u>	<u>176</u>	<u>218</u>
Aluminum .....	293	170	200
Other and unclassified .....	10	6	18
Other agricultural commodities .....	10	21	5
Cotton, raw .....	.....	4	3
Other and unclassified .....	10	17	2
Petroleum and products .....	<u>382</u>	<u>163</u>	<u>632</u>
Crude oil .....	.....	.....	508
Diesel oil .....	.....	.....	29
Gasoline .....	113	.....	34
Jet fuel .....	87	85	61
Liquefied gas .....	150	78	.....
Other and unclassified .....	32	.....	.....
Miscellaneous .....	<u>88</u>	<u>37</u>	<u>29</u>
All other and unclassified .....	88	37	29
Total .....	<u>1,423</u>	<u>1,129</u>	<u>1,567</u>

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST INDIES TO WEST COAST UNITED STATES:</b>			
Chemicals and petroleum chemicals, miscellaneous .....		11	
Manufactures of iron and steel, miscellaneous .....	19	5	30
Minerals, miscellaneous .....		27	38
Salt .....		27	38
Nitrates, phosphates and potash, miscellaneous .....	35	56	63
Ores and metals .....	7	5	57
Ore, alumina/bauxite .....	7	5	57
Petroleum and products .....	254	227	166
Asphalt .....	25		
Fuel oil, residual .....		36	
Gasoline .....	105	139	43
Jet fuel .....	29	29	106
Lubricating oil .....	46	23	17
Other and unclassified .....	49		
Miscellaneous .....	93	6	
All other and unclassified .....	93	6	
Total .....	<u>408</u>	<u>337</u>	<u>354</u>
<b>WEST INDIES TO WEST COAST CENTRAL AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....		5	1
Other agricultural commodities .....			3
Sugar .....			3
Petroleum and products .....	169	41	135
Crude oil .....	35		
Diesel oil .....	71	28	44
Fuel oil, residual .....	34		8
Gasoline .....	22	7	54
Kerosene .....			15
Lubricating oil .....	1	1	5
Other and unclassified .....	6	5	9
Miscellaneous .....	90	73	71
Cement .....	8	2	15
All other and unclassified .....	82	71	56
Total .....	<u>259</u>	<u>119</u>	<u>210</u>
<b>WEST INDIES TO WEST COAST SOUTH AMERICA:</b>			
Nitrates, phosphates and potash, miscellaneous .....	53	12	41
Other agricultural commodities, miscellaneous .....	24	25	
Minerals, miscellaneous .....		2	2
Sulfur .....		2	2
Ores and metals .....		9	13
Ores, miscellaneous .....		9	8
Metals, miscellaneous .....			5
Petroleum and products .....	822	462	567
Diesel oil .....	356	267	232
Fuel oil, residual .....	51	33	76
Gasoline .....	266	87	138
Jet fuel .....	104	45	16
Kerosene .....	9	5	7
Lubricating oil .....	32	25	98
Other and unclassified .....	4		

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST INDIES TO WEST COAST SOUTH AMERICA—</b>			
Continued			
Miscellaneous .....	15	23	7
All other and unclassified .....	15	23	7
Total .....	914	533	630
<b>WEST INDIES TO BALBOA, R.P.:</b>			
Petroleum and products .....	77	6	64
Diesel oil .....	46	3	55
Fuel oil, residual .....	5		3
Gasoline .....	26	3	1
Other and unclassified .....			5
Miscellaneous .....	6	2	.....
All other and unclassified .....	6	2	.....
Total .....	83	8	64
<b>WEST INDIES TO HAWAII:</b>			
Petroleum and products .....	87	.....	115
Jet fuel .....	87	.....	61
Residual fuel oil .....	.....	.....	54
Total .....	87	.....	115
<b>WEST INDIES TO OCEANIA:</b>			
Minerals, miscellaneous .....	20	49	26
Salt .....	20	49	26
Petroleum and products .....	3	20	57
Gasoline .....		20	29
Lubricating oil .....	2		5
Other and unclassified .....	1		23
Miscellaneous .....	5	8	.....
All other and unclassified .....	5	8	.....
Total .....	28	77	83
<b>WEST INDIES TO ASIA:</b>			
Canned and refrigerated foods .....	24	18	14
Fish, refrigerated .....	16	17	10
Other and unclassified .....	8	1	4
Chemicals and petroleum chemicals, miscellaneous .....	94	48	71
Ores and metals .....	30	13	46
Ores .....	28	10	46
Alumina/bauxite .....	28	10	43
Other and unclassified .....			3
Metals, miscellaneous .....	2	3	.....
Other agricultural commodities .....	953	1,117	1,264
Sugar .....	953	1,115	1,264
Other and unclassified .....		2	.....
Petroleum and products .....	192	73	54
Crude oil .....			10
Gasoline .....	94	24	.....
Jet fuel .....	68	49	.....
Lubricating oil .....	6		44
Petroleum products, miscellaneous .....	24		.....

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST INDIES TO ASIA—Continued</b>			
Miscellaneous .....	311	304	164
All other and unclassified .....	311	304	164
Total .....	<u>1,604</u>	<u>1,573</u>	<u>1,613</u>
<b>EUROPE TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	78	57	64
Chemicals and petroleum chemicals .....	51	54	99
Caustic soda .....	16	5	10
Chemicals, unclassified .....	35	49	89
Lumber and products, miscellaneous .....	20	19	21
Machinery and equipment .....	224	233	246
Automobiles, trucks, accessories and parts .....	217	212	226
Construction machinery and equipment .....	1	11	8
Electrical machinery and apparatus .....	2	2	5
Other and unclassified .....	4	8	7
Manufactures of iron and steel .....	568	784	729
Angles, shapes, and sections .....	38	103	69
Plates, sheets, and coils .....	312	362	389
Tubes, pipes, and fittings .....	19	57	48
Wires, bars, and rods .....	77	93	63
Other and unclassified .....	122	169	160
Nitrates, phosphates, and potash .....	345	334	358
Ammonium compounds .....	119	117	119
Fertilizers, unclassified .....	194	192	210
Nitrate of soda .....	23	21	28
Other and unclassified .....	9	4	1
Ores and metals .....	123	27	82
Ores, miscellaneous .....	115	2	56
Metals .....	8	25	26
Iron .....	.....	15	20
Other and unclassified .....	8	10	6
Petroleum and products .....	236	270	252
Diesel oil .....	19	.....	.....
Fuel oil, residual .....	52	.....	.....
Gasoline .....	63	235	248
Jet fuel .....	66	.....	.....
Other and unclassified .....	36	35	4
Miscellaneous .....	1,799	1,617	1,623
Bricks and tile .....	4	15	25
Cement .....	227	137	207
Glass and glassware .....	1	1	1
Liquors and wines .....	8	19	6
Marble and stone .....	1	7	7
Paper and paper products .....	130	149	181
Rubber, manufactured .....	.....	2	1
All other and unclassified .....	1,428	1,287	1,195
Total .....	<u>3,444</u>	<u>3,395</u>	<u>3,474</u>
<b>EUROPE TO WEST COAST CANADA:</b>			
Canned and refrigerated foods, miscellaneous .....	12	8	6
Machinery and equipment .....	13	22	16
Automobiles, trucks, accessories and parts .....	13	20	15
Other and unclassified .....	.....	2	1

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EUROPE TO WEST COAST CANADA—Continued</b>			
Manufactures of iron and steel.....	135	135	193
Angles, shapes, and sections.....	5	10	15
Plates, sheets, and coils.....	40	44	84
Tubes, pipes, and fittings.....	6	16	25
Wire, bars, and rods.....	38	24	26
Other and unclassified.....	46	41	43
Nitrates, phosphates, and potash.....	.....	.....	8
Fertilizers, unclassified.....	.....	.....	8
Ores and metals, miscellaneous.....	48	94	11
Miscellaneous.....	168	163	166
Bricks and tile.....	1	3	3
Liquors and wines.....	.....	2	2
All other and unclassified.....	167	158	161
Total.....	<u>376</u>	<u>422</u>	<u>400</u>
<b>EUROPE TO WEST COAST CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous.....	32	26	17
Chemicals and petroleum chemicals, miscellaneous.....	54	48	29
Grains.....	73	97	128
Corn.....	1	6	5
Rice.....	9	24	55
Wheat.....	42	60	51
Other and unclassified.....	21	7	17
Machinery and equipment.....	48	44	55
Automobiles, trucks, accessories and parts.....	20	20	22
Other and unclassified.....	28	24	33
Manufactures of iron and steel.....	142	120	90
Angles, shapes, and sections.....	12	19	24
Plates, sheets, and coils.....	65	43	30
Tubes, pipes, and fittings.....	2	2	4
Wire, bars, and rods.....	58	44	23
Other and unclassified.....	5	12	9
Nitrates, phosphates, and potash.....	567	437	327
Ammonium compounds.....	95	45	47
Fertilizers, unclassified.....	470	378	262
Potash.....	2	14	18
Ores and metals.....	11	15	28
Metals, miscellaneous.....	11	15	28
Petroleum and products.....	607	638	415
Crude petroleum.....	416	492	342
Other and unclassified.....	191	146	73
Other agricultural commodities.....	.....	1	.....
Sugar.....	.....	1	.....
Miscellaneous.....	155	159	143
Cement.....	1	1	1
Glass and glassware.....	1	3	1
Paper and paper products.....	18	19	17
All other and unclassified.....	135	136	124
Total.....	<u>1,689</u>	<u>1,585</u>	<u>1,232</u>
<b>EUROPE TO WEST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods.....	42	27	26
Canned foods.....	24	15	17

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EUROPE TO WEST COAST SOUTH AMERICA—</b>			
<b>Continued</b>			
Canned and refrigerated foods—Continued			
Milk .....	22	12	.....
Other and unclassified .....	2	3	17
Refrigerated foods .....	18	12	9
Dairy products .....	6	1	3
Other and unclassified .....	12	11	6
Chemicals and petroleum chemicals .....	29	46	59
Caustic soda .....	9	12	10
Chemicals, unclassified .....	18	33	48
Petroleum chemicals, miscellaneous .....	2	1	1
Grains .....	122	40	41
Barley .....	14	.....	5
Oats .....	3	18	4
Wheat .....	65	5	17
Rice .....	7	.....	.....
Other and unclassified .....	33	17	15
Lumber and products .....	1	.....	.....
Pulpwood .....	1	.....	.....
Machinery and equipment .....	61	57	71
Agricultural machinery and implements .....	14	10	13
Automobiles, trucks, accessories and parts .....	20	15	19
Construction machinery and equipment .....	12	20	19
Electrical machinery and apparatus .....	8	7	12
Other and unclassified .....	7	5	8
Manufactures of iron and steel .....	276	200	149
Angles, shapes, and sections .....	34	31	31
Plates, sheets, and coils .....	123	45	60
Tubes, pipes, and fittings .....	12	9	11
Wire, bars, and rods .....	82	78	36
Other and unclassified .....	25	37	11
Minerals, miscellaneous .....	24	23	43
Soda and sodium compounds .....	21	20	39
Other and unclassified .....	3	3	4
Nitrates, phosphates, and potash .....	435	237	116
Ammonium compounds .....	77	28	26
Fertilizers, unclassified .....	287	197	57
Phosphates .....	30	9	7
Potash .....	41	2	25
Other and unclassified .....	.....	1	1
Ores and metals .....	50	119	132
Ores, miscellaneous .....	39	89	120
Metals .....	11	30	12
Iron .....	.....	19	1
Tin, including tinplate .....	4	4	1
Other and unclassified .....	7	7	10
Other agricultural commodities .....	156	7	10
Sugar .....	148	3	2
Other and unclassified .....	8	4	8
Petroleum and products .....	127	182	119
Diesel oil .....	3	52	76
Gasoline .....	5	24	.....
Jet fuel .....	11	.....	.....
Kerosene .....	25	.....	.....

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>EUROPE TO WEST COAST SOUTH AMERICA—</b>			
Continued			
Petroleum and products—Continued			
Lubricating oil .....	37	36	1
Liquefied gas .....	33	27	.....
Residual fuel oil .....	13	43	37
Other and unclassified .....	.....	.....	5
Miscellaneous .....	<u>804</u>	<u>636</u>	<u>613</u>
Ammunition and explosives .....	2	3	1
Bricks and tile .....	3	4	.....
Cement .....	4	40	.....
Flour, wheat .....	31	17	23
Glass and glassware .....	3	6	6
Groceries, miscellaneous .....	5	9	7
Liquors and wines .....	.....	1	.....
Oil, vegetable .....	1	.....	3
Paper and paper products .....	51	32	49
Resin .....	3	2	6
Rubber, manufactured .....	2	2	1
Textiles .....	3	5	3
Wax, paraffin .....	5	2	3
All other and unclassified .....	<u>691</u>	<u>513</u>	<u>511</u>
Total .....	<u><u>2,079</u></u>	<u><u>1,574</u></u>	<u><u>1,379</u></u>
<b>EUROPE TO OCEANIA:</b>			
Canned and refrigerated foods, miscellaneous .....	15	11	13
Chemicals and petroleum chemicals .....	<u>135</u>	<u>120</u>	<u>139</u>
Caustic soda .....	56	34	33
Chemicals, unclassified .....	68	79	96
Petroleum chemicals, miscellaneous .....	11	7	10
Lumber and products, miscellaneous .....	9	32	3
Machinery and equipment .....	<u>32</u>	<u>27</u>	<u>22</u>
Agricultural machinery and implements .....	3	2	1
Automobiles, trucks, accessories and parts .....	22	15	16
Construction machinery and equipment .....	4	8	2
Electrical machinery and apparatus .....	3	2	1
Other and unclassified .....	.....	.....	2
Manufactures of iron and steel .....	<u>41</u>	<u>30</u>	<u>22</u>
Angles, shapes, and sections .....	10	3	.....
Plates, sheets, and coils .....	15	7	7
Tubes, pipes, and fittings .....	5	7	5
Wire, bars, and rods .....	9	8	6
Other and unclassified .....	2	5	4
Minerals, miscellaneous .....	<u>6</u>	<u>7</u>	<u>9</u>
Salt .....	4	5	6
Soda and sodium compounds .....	2	2	3
Nitrates, phosphates, and potash .....	<u>57</u>	<u>38</u>	<u>82</u>
Ammonium compounds .....	35	19	26
Fertilizers, unclassified .....	8	6	33
Phosphates .....	.....	1	1
Potash .....	14	12	22
Ores and metals, miscellaneous .....	2	16	2
Other agricultural commodities, miscellaneous .....	3	4	4
Petroleum and products .....	<u>86</u>	<u>36</u>	<u>19</u>
Lubricating oil .....	11	9	9
Gasoline .....	71	1	1



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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>EUROPE TO OCEANIA—Continued</b>			
Petroleum and products—Continued			
Other and unclassified .....	4	26	9
Miscellaneous .....	634	464	465
Bricks and tile .....	3	1	2
Cement .....	10	14	13
Flour, wheat .....	14	11	8
Glass and glassware .....	4	2	2
Groceries, miscellaneous .....	1	1	1
Liquors and wines .....	1	1	2
Oil, vegetable .....	11	14	16
Paper and paper products .....	12	19	5
Rubber, manufactured .....	.....	1	1
Textiles .....	1	.....	1
All other and unclassified .....	577	400	414
Total .....	<u>1,020</u>	<u>785</u>	<u>780</u>
<b>EUROPE TO ASIA:</b>			
Canned and refrigerated foods .....	17	15	26
Refrigerated foods, miscellaneous .....	17	15	26
Chemicals and petroleum chemicals .....	301	177	218
Caustic soda .....	4	7	21
Chemicals, unclassified .....	261	139	161
Benzene .....	11	1	.....
Petroleum chemicals, miscellaneous .....	25	30	36
Lumber and products, miscellaneous .....	8	.....	.....
Machinery and equipment .....	14	30	10
Automobiles, trucks, accessories and parts .....	13	22	7
Other and unclassified .....	1	8	3
Manufactures of iron and steel, miscellaneous .....	29	.....	56
Nitrates, phosphates, and potash .....	25	2	.....
Potash .....	25	2	.....
Ores and metals, miscellaneous .....	32	.....	14
Petroleum and products, miscellaneous .....	12	34	34
Miscellaneous .....	98	29	69
Paper and paper products .....	5	.....	2
All other and unclassified .....	93	29	67
Total .....	<u>536</u>	<u>287</u>	<u>427</u>
<b>AFRICA TO WEST COAST UNITED STATES:</b>			
Canned and refrigerated foods, miscellaneous .....	.....	2	3
Manufactures of iron and steel, miscellaneous .....	146	155	82
Ores and metals .....	18	34	35
Metals .....	3	10	14
Other and unclassified .....	3	10	14
Ores .....	15	24	21
Manganese ore .....	6	5	16
Other and unclassified .....	9	19	5
Petroleum and products .....	31	207	37
Crude oil .....	.....	207	.....
Gasoline .....	4	.....	37
Jet fuel .....	27	.....	.....

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>AFRICA TO WEST COAST UNITED STATES—</b>			
Continued			
Miscellaneous .....	11	14	16
All other and unclassified .....	11	14	16
Total .....	<u>206</u>	<u>412</u>	<u>173</u>
<b>AFRICA TO WEST COAST CANADA:</b>			
Manufactures of iron and steel, miscellaneous .....		1	4
Nitrates, phosphates, and potash .....	195	78	35
Phosphates .....	195	78	35
Miscellaneous .....	2	14	4
All other and unclassified .....	2	14	4
Total .....	<u>197</u>	<u>93</u>	<u>43</u>
<b>AFRICA TO WEST COAST SOUTH AMERICA:</b>			
Manufactures of iron and steel, miscellaneous .....		11	
Nitrates, phosphates, and potash .....	80		
Fertilizers, unclassified .....	70		
Phosphates .....	10		
Petroleum and products, miscellaneous .....	5	50	4
Miscellaneous .....	7	7	4
All other and unclassified .....	7	7	4
Total .....	<u>92</u>	<u>68</u>	<u>8</u>
<b>AFRICA TO ASIA:</b>			
Canned and refrigerated foods .....	34	40	38
Fish, refrigerated .....	34	39	38
Other and unclassified .....		1	
Miscellaneous .....	16		
All other and unclassified .....	16		
Total .....	<u>50</u>	<u>40</u>	<u>38</u>
<b>ASIA (MIDDLE EAST) TO WEST COAST UNITED STATES:</b>			
Chemicals and petroleum chemicals .....			1
Grains .....			54
Soybeans .....			54
Petroleum and products .....	230	328	26
Gasoline .....	230	328	26
Miscellaneous .....	40	46	47
All other and unclassified .....	40	46	47
Total .....	<u>270</u>	<u>374</u>	<u>128</u>

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST UNITED STATES TO EAST COAST UNITED STATES:</b>			
Chemicals and petroleum chemicals .....	48	44	94
Chemicals, unclassified .....	48	40	85
Petroleum chemicals, miscellaneous .....	.....	4	9
Lumber and products .....	.....	1	.....
Petroleum and products .....	<u>1,317</u>	<u>2,996</u>	<u>2,271</u>
Crude oil .....	984	1,847	1,766
Diesel oil .....	40	259	91
Fuel oil, residual .....	103	539	79
Gasoline .....	5	102	144
Lubricating oil .....	139	179	142
Other and unclassified .....	46	70	49
Miscellaneous .....	<u>106</u>	<u>391</u>	<u>513</u>
All other and unclassified .....	106	391	513
Total .....	<u><u>1,471</u></u>	<u><u>3,432</u></u>	<u><u>2,950</u></u>
<b>WEST COAST UNITED STATES TO EAST COAST CANADA:</b>			
Petroleum and products .....	<u>101</u>	<u>273</u>	<u>269</u>
Residual fuel oil .....	.....	13	36
Diesel oil .....	.....	99	80
Jet fuel .....	.....	26	.....
Lubricating oil .....	11	.....	.....
Petroleum coke .....	90	135	153
Miscellaneous .....	<u>1</u>	<u>2</u>	<u>2</u>
All other and unclassified .....	1	2	2
Total .....	<u><u>102</u></u>	<u><u>275</u></u>	<u><u>271</u></u>
<b>WEST COAST UNITED STATES TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	<u>8</u>	<u>1</u>	<u>3</u>
Canned foods, miscellaneous .....	4	.....	3
Refrigerated foods .....	<u>4</u>	<u>1</u>	<u>.....</u>
Other and unclassified .....	4	1	.....
Chemicals and petroleum chemicals, miscellaneous .....	1	.....	.....
Coke, coal type .....	10	.....	.....
Grains .....	<u>.....</u>	<u>28</u>	<u>.....</u>
Other and unclassified .....	.....	28	.....
Lumber and products .....	<u>57</u>	<u>20</u>	<u>24</u>
Pulpwood .....	57	20	24
Machinery and equipment, miscellaneous .....	2	.....	.....
Minerals, miscellaneous .....	<u>40</u>	<u>65</u>	<u>40</u>
Borax .....	.....	5	2
Salt .....	3	3	.....
Soda and sodium compounds .....	37	56	38
Infusorial earth .....	.....	1	.....
Nitrates, phosphates, and potash .....	<u>5</u>	<u>16</u>	<u>.....</u>
Nitrate of soda .....	.....	15	.....
Ammonium compounds .....	.....	1	.....
Fertilizers, unclassified .....	5	.....	.....
Ores and metals .....	<u>2</u>	<u>.....</u>	<u>.....</u>
Metals, miscellaneous .....	2	.....	.....

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST UNITED STATES TO EAST COAST SOUTH AMERICA—Continued</b>			
Other agricultural commodities .....	3	5	10
Beans, edible .....	.....	3	6
Cotton .....	1	.....	.....
Peas, dried .....	1	2	4
Petroleum and products .....	58	99	15
Petroleum coke .....	58	71	15
Diesel oil .....	.....	28	.....
Miscellaneous .....	97	71	62
Clay, fire and china .....	6	.....	5
Tallow .....	6	7	.....
Oil, vegetable .....	.....	.....	3
Paper and paper products .....	14	16	12
All other and unclassified .....	71	48	42
Total .....	283	305	154
<b>WEST COAST UNITED STATES TO WEST INDIES:</b>			
Canned and refrigerated foods, miscellaneous .....	1	.....	3
Grains .....	70	127	67
Rice .....	70	127	67
Petroleum and products .....	865	996	883
Diesel oil .....	51	181	277
Gasoline .....	.....	20	.....
Jet fuel .....	32	3	12
Residual fuel oil .....	782	792	594
Miscellaneous .....	3	.....	4
All other and unclassified .....	3	.....	4
Total .....	939	1,123	957
<b>WEST COAST UNITED STATES TO EUROPE:</b>			
Canned and refrigerated foods .....	145	128	121
Canned foods, miscellaneous .....	.....	.....	1
Refrigerated foods .....	145	128	120
Fish .....	54	64	54
Fruit, excluding bananas .....	7	2	11
Other and unclassified .....	84	62	55
Chemicals and petroleum chemicals, miscellaneous .....	83	62	66
Coal and coke .....	195	368	56
Grains .....	125	39	137
Barley .....	26	.....	.....
Rice .....	99	14	119
Wheat .....	.....	25	18
Lumber and products .....	781	376	395
Boards and planks .....	212	158	141
Plywood, veneers, composition board .....	92	49	38
Pulpwood .....	214	157	201
Other and unclassified .....	263	12	15
Manufactures of iron and steel, miscellaneous .....	.....	1	.....
Minerals, miscellaneous .....	405	437	477
Borax .....	339	385	410
Soda and sodium compound .....	34	10	.....
Sulfur .....	32	42	67

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST UNITED STATES TO EUROPE—</b>			
Continued			
Nitrates, phosphates, and potash .....	44	13	9
Fishmeal .....	18	13	9
Fertilizers, miscellaneous .....	26		
Ores and metals .....	283	49	48
Ores .....	225	26	3
Copper .....	10		
Lead .....	76	5	
Zinc .....	130	15	
Other and unclassified .....	9	6	3
Metals .....	58	23	44
Aluminum .....			27
Copper .....			11
Lead .....	12	2	
Scrap .....	23		
Zinc .....	23		1
Other and unclassified .....		21	6
Other agricultural commodities .....	4	4	21
Beans, edible .....		1	
Cotton, raw .....	4	3	21
Petroleum and products .....	2,306	2,672	1,502
Diesel oil .....	41	212	99
Lubricating oil .....	52		
Petroleum coke .....	1,817	2,100	1,279
Residual fuel oil .....	336	270	123
Gasoline .....		38	
Other and unclassified .....	60	52	1
Miscellaneous .....	1,018	817	770
Clay, fire and china .....	7	12	11
Groceries, miscellaneous .....	5	25	
Oil, vegetable .....	14	8	15
Paper and paper products .....	54	45	26
Slag .....			15
All other and unclassified .....	938	727	703
Total .....	<u>5,389</u>	<u>4,966</u>	<u>3,602</u>
<b>WEST COAST UNITED STATES TO AFRICA:</b>			
Grains .....	806	178	576
Rice .....	32	11	185
Wheat .....	774	167	391
Lumber and products, miscellaneous .....	3	22	
Minerals, miscellaneous .....	230	183	112
Sulfur .....	206	183	47
Soda and sodium compound .....	24		65
Nitrates, phosphates, and potash .....	13	12	
Petroleum and products, miscellaneous .....	52		
Miscellaneous .....	17	36	58
Cotton, raw .....	7	31	27
Textiles .....	9		
All other and unclassified .....	1	5	31
Total .....	<u>1,121</u>	<u>431</u>	<u>746</u>

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST CANADA TO EAST COAST UNITED STATES:</b>			
Chemicals and petroleum chemicals, miscellaneous . . . . .	200	149	257
Coal and coke, coal type . . . . .	42	.....	74
Grains . . . . .	29	.....	.....
Oats . . . . .	29	.....	.....
Lumber and products . . . . .	<u>1,839</u>	<u>1,750</u>	<u>1,605</u>
Boards and planks . . . . .	1,839	1,750	1,520
Pulpwood . . . . .	.....	.....	35
Other and unclassified . . . . .	.....	33	50
Nitrates, phosphates, potash . . . . .	<u>34</u>	<u>20</u>	<u>280</u>
Potash . . . . .	.....	20	280
Fertilizers, unclassified . . . . .	34	.....	.....
Ores and metals . . . . .	.....	.....	<u>1</u>
Other and unclassified . . . . .	.....	.....	1
Petroleum and products . . . . .	<u>270</u>	<u>495</u>	<u>100</u>
Crude oil . . . . .	270	402	56
Diesel oil . . . . .	.....	27	44
Gasoline . . . . .	.....	11	.....
Residual fuel oil . . . . .	.....	6	.....
Others and unclassified . . . . .	.....	49	.....
Miscellaneous . . . . .	<u>4</u>	<u>7</u>	<u>21</u>
All other and unclassified . . . . .	4	7	21
Total . . . . .	<u>2,418</u>	<u>2,421</u>	<u>2,338</u>
<b>WEST COAST CANADA TO EAST COAST SOUTH AMERICA:</b>			
Coal . . . . .	.....	146	194
Grains . . . . .	<u>136</u>	<u>277</u>	<u>285</u>
Barley . . . . .	87	.....	.....
Wheat . . . . .	49	277	285
Lumber and products . . . . .	<u>66</u>	<u>55</u>	<u>61</u>
Pulpwood . . . . .	66	55	61
Minerals, miscellaneous . . . . .	<u>204</u>	<u>250</u>	<u>265</u>
Sulfur . . . . .	203	250	250
Other and unclassified . . . . .	1	.....	15
Nitrates, phosphates, and potash . . . . .	<u>1</u>	<u>110</u>	<u>19</u>
Fertilizers, unclassified . . . . .	.....	23	.....
Potash . . . . .	.....	87	18
Other and unclassified . . . . .	1	.....	1
Ores and metals, miscellaneous . . . . .	6	.....	17
Miscellaneous . . . . .	<u>40</u>	<u>57</u>	<u>44</u>
Paper and paper products . . . . .	34	45	38
All other and unclassified . . . . .	6	12	6
Total . . . . .	<u>453</u>	<u>895</u>	<u>885</u>
<b>WEST COAST CANADA TO WEST INDIES:</b>			
Chemicals and petroleum chemicals, miscellaneous . . . . .	.....	20	2
Lumber and products . . . . .	<u>43</u>	<u>36</u>	<u>36</u>
Boards and planks . . . . .	43	36	36
Minerals, miscellaneous . . . . .	<u>33</u>	<u>111</u>	<u>136</u>
Sulfur . . . . .	33	111	136

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST CANADA TO WEST INDIES—</b>			
Continued			
Nitrates, phosphates, and potash, miscellaneous . . . . .	28	8	17
Petroleum and products . . . . .	.....	21	10
Diesel oil . . . . .	.....	21	10
Miscellaneous . . . . .	7	17	24
Paper and paper products . . . . .	4	5	17
All other and unclassified . . . . .	3	12	7
Total . . . . .	<u>111</u>	<u>213</u>	<u>225</u>
<b>WEST COAST CANADA TO EUROPE:</b>			
Canned and refrigerated foods, miscellaneous . . . . .	25	42	24
Chemicals and petroleum chemicals, miscellaneous . . . . .	17	92	198
Coal and coke . . . . .	1,116	1,800	2,103
Grains . . . . .	<u>574</u>	<u>974</u>	<u>664</u>
Barley . . . . .	308	385	354
Wheat . . . . .	221	509	310
Other and unclassified . . . . .	45	80	.....
Lumber and products . . . . .	<u>2,904</u>	<u>2,530</u>	<u>1,926</u>
Boards and planks . . . . .	1,326	1,030	642
Plywood, veneers, composition board . . . . .	130	155	192
Pulpwood . . . . .	1,223	1,146	968
Other and unclassified . . . . .	225	199	124
Minerals, miscellaneous . . . . .	<u>734</u>	<u>1,492</u>	<u>1,281</u>
Asbestos . . . . .	1	3	1
Sulfur . . . . .	733	1,481	1,280
Borax . . . . .	.....	8	.....
Nitrates, phosphates, and potash . . . . .	<u>76</u>	<u>56</u>	<u>.....</u>
Potash . . . . .	69	14	.....
Fishmeal . . . . .	.....	4	.....
Fertilizer, unclassified . . . . .	7	38	.....
Ores and metals . . . . .	<u>86</u>	<u>53</u>	<u>49</u>
Ores . . . . .	<u>50</u>	<u>15</u>	<u>21</u>
Copper . . . . .	38	.....	.....
Zinc . . . . .	.....	.....	4
Lead . . . . .	5	12	12
Other and unclassified . . . . .	7	3	5
Metals . . . . .	<u>36</u>	<u>38</u>	<u>28</u>
Aluminum . . . . .	1	2	.....
Lead . . . . .	11	15	14
Zinc . . . . .	24	21	14
Other agricultural commodities . . . . .	<u>156</u>	<u>56</u>	<u>80</u>
Oilseeds . . . . .	149	47	68
Other and unclassified . . . . .	7	9	12
Petroleum and products . . . . .	<u>80</u>	<u>92</u>	<u>86</u>
Petroleum coke . . . . .	79	92	66
Other and unclassified . . . . .	1	.....	20
Miscellaneous . . . . .	<u>585</u>	<u>609</u>	<u>547</u>
Paper and paper products . . . . .	241	252	305
Seeds . . . . .	30	50	6
Tallow . . . . .	11	3	1
All other and unclassified . . . . .	303	304	235
Total . . . . .	<u>6,353</u>	<u>7,796</u>	<u>6,958</u>

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST CANADA TO AFRICA:</b>			
Grains .....	292	379	547
Wheat .....	292	379	547
Lumber and products .....	36	1	264
Boards and planks .....	32	.....	253
Pulpwood .....	.....	1	11
Other and unclassified .....	4	.....	.....
Minerals, miscellaneous .....	1,855	1,257	1,189
Soda and sodium compounds .....	9	.....	.....
Sulfur .....	1,846	1,257	1,189
Nitrates, phosphates, and potash .....	10	18	15
Potash .....	10	18	15
Miscellaneous .....	13	9	55
All other and unclassified .....	13	9	55
Total .....	<u>2,206</u>	<u>1,664</u>	<u>2,070</u>
<b>WEST COAST CANADA TO ASIA (MIDDLE EAST):</b>			
Grains .....	150	154	172
Barley .....	135	129	67
Wheat .....	15	25	105
Lumber and products .....	46	.....	13
Other and unclassified .....	46	.....	13
Minerals, miscellaneous .....	172	41	82
Sulfur .....	172	41	82
Total .....	<u>369</u>	<u>195</u>	<u>267</u>
<b>WEST COAST CENTRAL AMERICA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	35	31	34
Refrigerated foods .....	35	31	34
Bananas .....	33	31	32
Other and unclassified .....	2	.....	2
Chemicals and petroleum chemicals, miscellaneous .....	12	23	23
Manufactures of iron and steel .....	10	8	9
Minerals, miscellaneous .....	421	313	58
Salt .....	421	313	58
Nitrates, phosphates, and potash .....	18	14	26
Fishmeal .....	18	14	26
Other agricultural commodities .....	405	490	558
Coffee .....	7	11	27
Molasses .....	205	159	188
Sugar .....	193	320	341
Other and unclassified .....	.....	.....	2
Petroleum and products .....	5	29	46
Miscellaneous .....	1	4	30
All other and unclassified .....	1	4	30
Total .....	<u>907</u>	<u>912</u>	<u>761</u>
<b>WEST COAST CENTRAL AMERICA TO EAST COAST CENTRAL AMERICA</b>			
Chemicals, miscellaneous .....	56	.....	.....
Grains, miscellaneous .....	6	33	.....



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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST CENTRAL AMERICA TO EAST COAST</b>			
<b>CENTRAL AMERICA—Continued</b>			
Nitrates, phosphates, and potash .....	253	351	310
Phosphates .....	342	338	302
Fertilizer, unclassified .....	11	13	8
Petroleum and products .....	6	101	7
Diesel oil .....	2	30	5
Gasoline .....	3	70	1
Kerosene .....	1	1	1
Miscellaneous .....	3	13	7
All other and unclassified .....	3	13	7
Total .....	<u>324</u>	<u>498</u>	<u>324</u>
<b>WEST COAST CENTRAL AMERICA TO EAST COAST</b>			
<b>SOUTH AMERICA:</b>			
Canned and refrigerated foods .....	22	33	26
Refrigerated foods .....	22	33	26
Fish .....	22	33	26
Chemicals and petroleum chemicals, miscellaneous .....	6	.....	.....
Grains .....	.....	34	9
Corn .....	.....	9	9
Sorghum .....	.....	25	.....
Ores and metals .....	11	10	.....
Metals .....	11	.....	.....
Aluminum .....	1	.....	.....
Copper .....	10	.....	.....
Ores .....	.....	10	.....
Copper .....	.....	10	.....
Minerals, miscellaneous .....	129	65	.....
Salt .....	129	65	.....
Miscellaneous .....	2	9	23
All other and unclassified .....	2	9	23
Total .....	<u>170</u>	<u>151</u>	<u>58</u>
<b>WEST COAST CENTRAL AMERICA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	149	132	78
Refrigerated foods, miscellaneous .....	149	132	78
Chemicals and petroleum chemicals, miscellaneous .....	10	11	2
Lumber and products .....	23	17	23
Boards and planks .....	19	17	23
Other and unclassified .....	4	.....	.....
Other agricultural commodities .....	33	46	26
Molasses .....	7	.....	6
Sugar, raw .....	20	46	13
Other and unclassified .....	6	.....	7
Petroleum and products, miscellaneous .....	13	.....	29
Miscellaneous .....	12	44	20
Rice .....	.....	17	.....
All other and unclassified .....	12	27	20
Total .....	<u>240</u>	<u>250</u>	<u>178</u>

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST CENTRAL AMERICA TO EUROPE:</b>			
Canned and refrigerated foods .....	155	156	89
Canned foods, miscellaneous .....	2	.....	.....
Refrigerated foods .....	153	156	89
Bananas .....	82	99	43
Other and unclassified .....	71	57	46
Chemicals and petroleum chemicals, miscellaneous .....	.....	.....	6
Lumber and products .....	12	10	9
Boards and planks .....	12	10	9
Manufactures of iron and steel, miscellaneous .....	1	.....	.....
Nitrates, phosphates, and potash .....	1	5	.....
Fishmeal .....	1	5	.....
Ores and metals .....	230	175	141
Ores .....	168	174	140
Copper .....	159	166	135
Other and unclassified .....	9	8	5
Metals .....	62	1	1
Copper .....	58	.....	.....
Other and unclassified .....	4	1	1
Other agricultural commodities .....	420	316	340
Coffee .....	95	90	123
Cotton, raw .....	24	22	69
Molasses .....	59	10	59
Oilseeds .....	3	2	7
Peas, dried .....	31	21	37
Sugar .....	208	171	45
Miscellaneous .....	66	68	75
Clay, fire and china .....	11	.....	.....
Seeds, excluding oilseeds .....	1	7	2
Textiles .....	.....	1	1
Tobacco and manufactures .....	.....	1	1
All other and unclassified .....	54	59	71
Total .....	885	730	660
<b>WEST COAST SOUTH AMERICA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	807	787	737
Canned foods, miscellaneous .....	10	14	18
Refrigerated foods .....	797	773	719
Bananas .....	416	470	435
Fish .....	37	25	31
Fruit, excluding bananas .....	315	264	243
Refrigerated, miscellaneous .....	29	14	10
Chemicals and petroleum chemicals, miscellaneous .....	12	40	11
Chemicals, miscellaneous .....	11	17	5
Benzene .....	.....	15	2
Toulene .....	.....	4	.....
Petrochemicals, miscellaneous .....	1	4	4
Lumber and products .....	39	44	57
Boards and planks .....	11	21	24
Pulpwood .....	14	9	11
Other and unclassified .....	14	14	22
Manufactures of iron and steel, miscellaneous .....	62	10	26

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST SOUTH AMERICA TO EAST COAST UNITED STATES—Continued</b>			
Minerals, miscellaneous .....	559	332	467
Salt .....	556	331	462
Soda and sodium compounds .....			5
Other and unclassified .....	3	1	
Nitrates, phosphates, and potash .....	212	229	255
Fishmeal .....	96	109	114
Nitrate of soda .....	113	97	141
Fertilizers, miscellaneous .....		23	
All other and unclassified .....	3		
Ores and metals .....	642	581	630
Ores .....	387	275	399
Copper .....	30	15	26
Iron .....	328	181	217
Lead .....		2	20
Tin .....	9	4	3
Zinc .....	19	44	29
Other and unclassified .....	1	29	104
Metals .....	255	306	231
Copper .....	192	225	178
Iron .....	20	19	
Lead .....		6	10
Zinc .....	23	46	31
Other and unclassified .....	20	10	12
Other agricultural commodities .....	331	501	647
Beans, edible .....	1		1
Cocoa and cacao beans .....	30	30	61
Coffee .....	104	139	143
Cotton, raw .....	1	4	3
Molasses .....	60	109	172
Sugar .....	135	219	267
Petroleum and products .....	4,367	5,874	4,596
Crude oil .....	2,330	4,294	2,686
Fuel oil, residual .....	1,942	1,481	1,743
Diesel oil .....		28	49
Gasoline .....	94	25	118
Other and unclassified .....	1	46	
Miscellaneous .....	379	250	234
Fibers, plant .....	2	3	4
Groceries, miscellaneous .....	9	6	6
Oil, vegetable .....	21	13	5
Paper and products .....	3	14	9
Textiles .....	8	10	8
All other and unclassified .....	336	204	202
Total .....	<u>7,410</u>	<u>8,648</u>	<u>7,660</u>
<b>WEST COAST SOUTH AMERICA TO EAST COAST CANADA:</b>			
Nitrates, phosphates, and potash .....	8	4	4
Nitrate of soda .....	8	4	4
Ores and metals, miscellaneous .....	77	81	97
Petroleum and products .....	47		
Residual fuel oil .....	47		
Miscellaneous .....	5	5	6
All other and unclassified .....	5	5	6
Total .....	<u>137</u>	<u>90</u>	<u>107</u>

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST SOUTH AMERICA TO EAST COAST CENTRAL AMERICA:</b>			
Manufactures of iron and steel, miscellaneous . . . . .			2
Ores and metals . . . . .	24	3	8
Ores, miscellaneous . . . . .	19	3	3
Metals, miscellaneous . . . . .	5		5
Other agricultural commodities . . . . .	29	27	38
Beans, edible . . . . .	29	27	38
Petroleum and products . . . . .	565	763	662
Crude oil . . . . .	565	760	629
Other and unclassified . . . . .		3	33
Miscellaneous . . . . .	6	8	3
All other and unclassified . . . . .	6	8	3
Total . . . . .	624	801	713
<b>WEST COAST SOUTH AMERICA TO EAST COAST SOUTH AMERICA:</b>			
Canned and refrigerated foods . . . . .	13	2	7
Canned foods, miscellaneous . . . . .	6		2
Refrigerated foods, miscellaneous . . . . .	7	2	5
Chemicals and petroleum chemicals, miscellaneous . . . . .	16	9	11
Lumber and products, miscellaneous . . . . .	59	46	28
Manufactures of iron and steel, miscellaneous . . . . .		1	
Minerals, miscellaneous . . . . .	7	40	3
Ores and metals, miscellaneous . . . . .	48	90	82
Other agricultural commodities . . . . .	21	27	110
Beans, edible . . . . .	10	24	2
Sugar . . . . .	10	2	80
Other and unclassified . . . . .	1	1	28
Petroleum and products . . . . .	77	543	995
Crude oil . . . . .	66	512	905
Gasoline . . . . .	11	31	90
Miscellaneous . . . . .	82	74	85
Oil, fish . . . . .	1		1
Oil, vegetable . . . . .	10	36	16
Paper and paper products . . . . .	18	23	17
All other and unclassified . . . . .	53	15	51
Total . . . . .	323	832	1,321
<b>WEST COAST SOUTH AMERICA TO WEST INDIES:</b>			
Canned and refrigerated foods . . . . .	37	31	54
Canned foods, miscellaneous . . . . .			1
Fish, refrigerated . . . . .	35	31	53
Other and unclassified . . . . .	2		
Lumber and products . . . . .	102	60	61
Boards and planks . . . . .	83	59	57
Pulpwood . . . . .	10		
Other and unclassified . . . . .	9	1	4
Nitrates, phosphates, and potash . . . . .	18	15	72
Fishmeal . . . . .	18	15	20
Phosphates . . . . .			52
Other agricultural products . . . . .	36		
Molasses . . . . .	25		

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>WEST COAST SOUTH AMERICA TO WEST INDIES—</b>			
Continued			
Other agricultural products—Continued			
Sugar .....	10		
Other and unclassified .....	1		
Petroleum and products .....	<u>1,887</u>	<u>3,098</u>	<u>3,818</u>
Crude oil .....	1,224	1,960	2,875
Diesel oil .....	56		44
Fuel oil, residual .....	605	1,138	899
Other and unclassified .....	2		
Miscellaneous .....	<u>15</u>	<u>16</u>	<u>10</u>
All other and unclassified .....	15	16	10
Total .....	<u><u>2,095</u></u>	<u><u>3,220</u></u>	<u><u>4,015</u></u>
<b>WEST COAST SOUTH AMERICA TO EUROPE:</b>			
Canned and refrigerated foods .....	1,091	941	1,018
Canned foods, miscellaneous .....	9	9	15
Refrigerated foods .....	<u>1,082</u>	<u>932</u>	<u>1,003</u>
Bananas .....	388	370	307
Fish, refrigerated .....	378	281	506
Fruit, excluding bananas .....	251	218	140
Other and unclassified .....	65	63	50
Chemicals and petroleum chemicals, miscellaneous .....	6	21	5
Coke, coal type .....	2	12	
Grains, miscellaneous .....	12	18	
Lumber and products .....	<u>523</u>	<u>214</u>	<u>123</u>
Boards and planks .....	110	39	22
Pulpwood .....	145	167	96
Other and unclassified .....	268	8	5
Manufactures of iron and steel .....		10	
Nitrates, phosphates, and potash .....	<u>1,205</u>	<u>1,277</u>	<u>1,171</u>
Fertilizers, unclassified .....		1	
Fishmeal .....	1,073	1,159	1,073
Nitrate of soda .....	132	117	95
Potash .....			3
Ores and metals .....	<u>1,610</u>	<u>1,768</u>	<u>1,664</u>
Ores .....	<u>959</u>	<u>955</u>	<u>918</u>
Copper .....	218	296	176
Iron .....	136	3	112
Lead .....	81	101	100
Tin .....	6	26	22
Zinc .....	469	498	420
Other and unclassified .....	49	31	88
Metals .....	<u>651</u>	<u>813</u>	<u>746</u>
Copper .....	555	672	581
Lead .....	18	43	52
Zinc .....	58	90	92
Other and unclassified .....	20	8	21
Other agricultural commodities .....	<u>195</u>	<u>203</u>	<u>149</u>
Cocoa and cacao beans .....	12	26	11
Coffee .....	138	133	111
Cotton, raw .....	9	15	21
Molasses .....	22	6	
Oilseeds .....	8	9	
Wool, raw .....	2	6	6

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>WEST COAST SOUTH AMERICA TO EUROPE—</b>			
Continued			
Other agricultural commodities—Continued			
Other and unclassified .....	4	8	.....
Petroleum and products .....	.....	.....	106
Fuel oil, residual .....	.....	.....	86
Other and unclassified .....	.....	.....	20
Miscellaneous .....	628	622	490
Groceries, miscellaneous .....	12	7	6
Oil, fish .....	77	157	106
Paper and paper products .....	18	5	1
Seeds, excluding oilseeds .....	.....	.....	1
Textiles .....	5	9	7
All other and unclassified .....	516	444	369
Total .....	<u>5,272</u>	<u>5,086</u>	<u>4,726</u>
<b>HAWAII TO EAST COAST UNITED STATES:</b>			
Other agricultural commodities .....	422	286	168
Sugar .....	422	286	168
Miscellaneous .....	1	13	7
All other and unclassified .....	1	13	7
Total .....	<u>423</u>	<u>299</u>	<u>175</u>
<b>OCEANIA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods .....	381	356	324
Refrigerated foods .....	381	356	324
Dairy products .....	.....	1	.....
Fruit, refrigerated .....	28	19	20
Meat .....	51	29	14
Other and unclassified .....	302	307	290
Chemicals and petroleum chemicals, miscellaneous .....	140	60	1
Coal and coke .....	206	.....	.....
Manufactures of iron and steel, miscellaneous .....	25	68	22
Nitrates, phosphates, and potash .....	60	47	31
Ores and metals .....	1,122	1,316	1,492
Ores .....	1,082	1,254	1,488
Alumina/bauxite .....	544	646	894
Lead .....	87	10	5
Manganese .....	2	92	57
Other and unclassified .....	449	506	532
Metals .....	40	62	4
Aluminum metal .....	34	54	.....
Lead metal .....	.....	.....	4
Zinc .....	.....	3	.....
Other and unclassified .....	6	5	.....
Other agricultural commodities .....	292	329	400
Molasses .....	166	177	273
Sugar .....	126	150	127
Wool, raw .....	.....	2	.....
Petroleum and products .....	270	277	112
Crude oil .....	.....	177	.....
Fuel oil, residual .....	111	39	32
Liquefied gas .....	127	47	2

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>OCEANIA TO EAST COAST UNITED STATES—</b>			
Continued			
Petroleum and products—Continued			
Lubricating oil . . . . .	32	14	30
Other and unclassified . . . . .			48
Miscellaneous . . . . .	342	314	379
All Other and unclassified . . . . .	342	314	379
Total . . . . .	<u>2,838</u>	<u>2,720</u>	<u>2,730</u>
<b>OCEANIA TO EAST COAST CANADA:</b>			
Canned and refrigerated foods . . . . .	70	61	40
Refrigerated foods . . . . .	70	61	40
Other and unclassified . . . . .	70	61	40
Ores and metals . . . . .	22	48	24
Ores, miscellaneous . . . . .	22	48	24
Other agricultural commodities . . . . .	397	266	298
Sugar . . . . .	397	266	298
Miscellaneous . . . . .	66	42	56
All other and unclassified . . . . .	66	42	56
Total . . . . .	<u>555</u>	<u>417</u>	<u>418</u>
<b>OCEANIA TO EAST COAST CENTRAL AMERICA:</b>			
Canned and refrigerated foods, miscellaneous . . . . .	13	18	37
Ores and metals . . . . .	81	120	136
Manganese ore . . . . .	64	87	93
Ores, miscellaneous . . . . .	17	33	43
Other agricultural commodities . . . . .	23		
Oilseeds . . . . .	23		
Miscellaneous . . . . .		1	
All other and unclassified . . . . .		1	
Total . . . . .	<u>117</u>	<u>139</u>	<u>173</u>
<b>OCEANIA TO WEST INDIES:</b>			
Canned and refrigerated foods . . . . .	53	73	93
Canned foods, miscellaneous . . . . .	8	16	8
Refrigerated foods . . . . .	45	57	85
Dairy products . . . . .	8	12	14
Fish, refrigerated . . . . .	20	27	56
Other and unclassified . . . . .	17	18	15
Petroleum and products . . . . .			47
Miscellaneous . . . . .	19	18	13
All other and unclassified . . . . .	19	18	13
Total . . . . .	<u>72</u>	<u>91</u>	<u>153</u>
<b>OCEANIA TO EUROPE:</b>			
Canned and refrigerated foods . . . . .	244	190	160
Canned foods, miscellaneous . . . . .	1		5
Refrigerated foods . . . . .	243	190	155
Dairy products . . . . .	9		2
Fruit, excluding bananas . . . . .	218	148	123
Meat . . . . .	6	3	20
Other and unclassified . . . . .	10	39	10

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

[Thousands of long tons]

	Fiscal year		
	1987	1986	1985
<b>OCEANIA TO EUROPE—Continued</b>			
Chemicals and petroleum chemicals, miscellaneous . . . . .	90	113	227
Grains, miscellaneous . . . . .	11	.....	.....
Ores and metals . . . . .	259	131	37
<u>Ores . . . . .</u>	<u>227</u>	<u>116</u>	<u>29</u>
Copper . . . . .	174	93	.....
Other and unclassified . . . . .	53	23	29
Metals . . . . .	32	15	8
Other and unclassified . . . . .	32	15	8
Other agricultural commodities . . . . .	161	186	224
Copra . . . . .	6	8	.....
Molasses . . . . .	27	28	30
Oilseeds . . . . .	.....	1	.....
Sugar . . . . .	127	147	184
Wool, raw . . . . .	.....	2	10
Other and unclassified . . . . .	1	.....	.....
Miscellaneous . . . . .	264	266	247
Oil, coconut . . . . .	4	2	4
Oil, vegetable . . . . .	3	.....	7
Tallow . . . . .	.....	23	16
All other and unclassified . . . . .	257	241	220
<u>Total . . . . .</u>	<u>1,029</u>	<u>886</u>	<u>895</u>
<b>ASIA TO EAST COAST UNITED STATES:</b>			
Canned and refrigerated foods . . . . .	139	115	135
Canned foods . . . . .	10	19	50
Fruit . . . . .	10	19	45
Other and unclassified . . . . .	.....	.....	5
Refrigerated foods . . . . .	129	96	85
Fruit, refrigerated . . . . .	.....	12	.....
Other and unclassified . . . . .	129	84	85
Chemicals and petroleum chemicals, miscellaneous . . . . .	210	210	206
Chemicals, miscellaneous . . . . .	145	143	93
Benzene . . . . .	59	48	61
Toulene . . . . .	.....	16	44
Petrochemicals, miscellaneous . . . . .	6	3	8
Coal and coke . . . . .	380	229	447
Lumber and products . . . . .	897	686	745
Boards and planks . . . . .	67	81	150
Plywood, veneers, composition board . . . . .	759	545	541
Other and unclassified . . . . .	71	60	54
Machinery and equipment . . . . .	2,157	2,021	1,519
Agricultural machinery . . . . .	16	9	17
Automobiles, trucks, accessories and parts . . . . .	1,943	1,840	1,369
Construction machinery and equipment . . . . .	133	116	88
Electrical machinery and apparatus . . . . .	12	8	9
Other and unclassified . . . . .	53	48	36
Manufactures of iron and steel . . . . .	3,255	3,650	4,596
Angles, shapes, and sections . . . . .	278	213	399
Nails, tacks, and spikes . . . . .	42	51	64
Plates, sheets, and coils . . . . .	1,337	1,520	1,624
Tubes, pipes, and fittings . . . . .	205	615	741
Wire, bars, and rods . . . . .	188	258	221
Other and unclassified . . . . .	1,205	993	1,547



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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>ASIA TO EAST COAST UNITED STATES—Continued</b>			
Nitrates, phosphates, and potash .....	50	20	2
Fertilizers, unclassified .....	50	20	2
Ores and metals .....	771	839	1,418
Ores .....	757	780	1,344
Alumina/bauxite .....	155	164	168
Chrome .....	5	13	49
Iron .....	62	.....	.....
Manganese .....	14	10	.....
Other and unclassified .....	521	593	1,127
Metals .....	14	59	74
Aluminum .....	10	35	43
Copper .....	.....	.....	2
Iron .....	.....	19	1
Other and unclassified .....	4	5	28
Other and unclassified .....	200	310	348
Coffee .....	1	4	3
Copra .....	2	.....	2
Rubber, raw .....	43	66	94
Sugar .....	150	240	248
Other and unclassified .....	4	.....	1
Petroleum and products .....	374	353	235
Crude petroleum .....	92	52	.....
Diesel oil .....	.....	17	.....
Fuel oil, redidual .....	104	.....	.....
Gasoline .....	53	174	164
Liquefied gas .....	15	18	.....
Lubricating oil .....	19	75	23
Petroleum coke .....	59	11	40
Other and unclassified .....	32	6	8
Miscellaneous .....	5,408	5,777	5,241
Bricks and tile .....	2	1	8
Cement .....	1	20	.....
Clay, fire and china .....	3	.....	25
Glass and glassware .....	1	.....	.....
Groceries, miscellaneous .....	7	.....	6
Oil, coconut .....	18	26	32
Oil, vegetable .....	21	78	37
Porcelainware .....	1	.....	.....
Rubber, manufactured .....	6	1	26
Textiles .....	1	1	5
All other and unclassified .....	5,347	5,650	5,102
Total .....	<u>13,841</u>	<u>14,210</u>	<u>14,892</u>
<b>ASIA TO EAST COAST CANADA:</b>			
Canned and refrigerated foods, miscellaneous .....	7	4	4
Machinery and equipment .....	14	10	1
Other and unclassified .....	14	10	1
Manufactures of iron and steel .....	11	20	26
Plates, sheets, and coils .....	7	1	15
Tubes, pipes, and fittings .....	.....	4	4
Other and unclassified .....	4	15	7
Ores and metals .....	42	70	97
Ores .....	42	70	89
Alumina/bauxite .....	20	42	76

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>ASIA TO EAST COAST CANADA—Continued</b>			
Ores and metals—Continued			
Other and unclassified .....	22	28	13
Metals .....	.....	.....	8
Other and unclassified .....	.....	.....	8
Other agricultural commodities .....	11	38	.....
Cotton .....	11	38	.....
Miscellaneous .....	346	267	296
All other and unclassified .....	346	267	296
Total .....	<u>431</u>	<u>409</u>	<u>424</u>
<b>ASIA TO EAST COAST SOUTH AMERICA:</b>			
Chemicals and petroleum chemicals, miscellaneous .....	18	.....	.....
Coal and coke .....	61	19	33
Grains, miscellaneous .....	.....	.....	48
Machinery and equipment .....	32	46	39
Automobiles, trucks, accessories and parts .....	16	19	14
Construction machinery and equipment .....	4	2	5
Electrical machinery and apparatus .....	7	8	12
Other and unclassified .....	5	17	8
Manufactures of iron and steel .....	79	130	223
Plates, sheets, and coils .....	48	44	62
Tubes, pipes, and fittings .....	5	51	128
Wires, bars, and rods .....	19	18	14
Other and unclassified .....	7	17	19
Nitrates, phosphates, and potash .....	.....	22	4
Fertilizers, unclassified .....	.....	22	4
Ores and metals .....	21	66	26
Ores .....	14	65	20
Alumina/bauxite .....	.....	9	.....
Other and unclassified .....	14	56	20
Metals .....	7	1	6
Tin, including tinplate .....	3	1	1
Other and unclassified .....	4	.....	5
Other agricultural commodities .....	16	2	2
Cotton .....	4	.....	.....
Oilseeds .....	8	.....	.....
Rubber, raw .....	4	2	2
Miscellaneous .....	181	160	176
Resin .....	1	1	1
Rubber, manufactured .....	5	8	3
Textiles .....	1	2	1
All other and unclassified .....	174	149	171
Total .....	<u>408</u>	<u>445</u>	<u>551</u>
<b>ASIA TO CRISTOBAL, R.P.:</b>			
Machinery and equipment .....	8	6	7
Electrical machinery and apparatus .....	2	1	1
Other and unclassified .....	6	5	6
Manufactures of iron and steel, miscellaneous .....	28	32	26
Miscellaneous .....	176	110	100
Textiles .....	1	.....	.....
All other and unclassified .....	175	110	100
Total .....	<u>212</u>	<u>148</u>	<u>133</u>

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	1987	1986	1985
<b>ASIA TO WEST INDIES:</b>			
Canned and refrigerated foods .....	20	37	51
Canned foods, miscellaneous .....	10	21	33
Refrigerated foods .....	10	16	18
Fish, refrigerated .....	9	15	16
Other and unclassified .....	1	1	2
Chemicals and petroleum chemicals, miscellaneous .....	18	.....	13
Coal and coke .....	5	11	18
Grains .....	117	134	118
Corn .....	.....	.....	1
Rice .....	107	126	104
Soybeans .....	10	7	10
Grains, miscellaneous .....	.....	1	3
Lumber and products .....	266	233	196
Boards and planks .....	240	204	165
Plywood veneers .....	10	14	13
Pulpwood .....	6	15	10
Other and unclassified .....	10	.....	8
Machinery and equipment .....	157	233	232
Automobiles, trucks, accessories and parts .....	147	206	193
Electrical machinery and apparatus .....	3	6	15
Other and unclassified .....	7	21	24
Manufactures of iron and steel .....	137	196	118
Angles, shapes and sections .....	15	5	11
Plates, sheets, and coils .....	65	66	63
Tubes, pipes, and fittings .....	15	29	24
Wires, bars, and rods .....	24	66	13
Other and unclassified .....	18	30	7
Nitrates, phosphates and potash .....	6	35	2
Fertilizers, unclassified .....	6	26	1
Fishmeal .....	.....	9	1
Ores and metals .....	10	22	54
Metals, miscellaneous .....	7	11	23
Ores, miscellaneous .....	3	11	31
Petroleum and products .....	73	80	119
Diesel oil .....	9	1	.....
Gasoline .....	63	72	119
Kerosene .....	.....	7	.....
Other and unclassified .....	1	.....	.....
Miscellaneous .....	495	478	400
Bricks and tile .....	2	1	2
Glass and glassware .....	3	4	3
Groceries, miscellaneous .....	2	1	2
Paper and paper products .....	11	5	12
Porcelainware .....	2	1	1
Resin .....	.....	1	1
Rubber, manufactured .....	3	6	4
Textiles .....	5	8	11
All other and unclassified .....	467	451	364
Total .....	<u>1,304</u>	<u>1,459</u>	<u>1,321</u>
<b>ASIA TO EUROPE:</b>			
Canned and refrigerated foods .....	8	5	16
Chemicals and petroleum chemicals, miscellaneous .....	36	19	10

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

[Thousands of long tons]

	<i>Fiscal year</i>		
	<i>1987</i>	<i>1986</i>	<i>1985</i>
<b>ASIA TO EUROPE—Continued</b>			
Machinery and equipment .....	6	1	2
Automobiles, trucks, accessories and parts .....	3	.....	2
Other and unclassified .....	3	1	.....
Ores and metals, miscellaneous .....	.....	.....	3
Other agricultural commodities .....	10	6	.....
Cotton .....	7	6	.....
Oilseeds .....	3	.....	.....
Petroleum and products, miscellaneous .....	30	6	1
Miscellaneous .....	102	169	101
Oil, coconut .....	10	14	4
Oil, fish .....	44	39	44
Oil, vegetable .....	13	1	5
All other and unclassified .....	35	115	48
Total .....	192	206	133

Table 12.—Principal Canal Commodities by Direction—Fiscal Year 1987

Commodity	[Long tons]		
	Atlantic to Pacific	Pacific to Atlantic	Total
Ammonium compounds	780,533	15,948	796,481
Asbestos	16,395	2,664	19,059
Asphalt	138,539	2,097	140,636
Automobiles, trucks, and accessories	341,985	2,119,771	2,461,756
Bananas	17,361	965,115	982,476
Barley	126,819	591,962	718,781
Beans, edible	29,531	49,485	79,016
Benzene	87,043	68,562	155,605
Borax	3,171	379,448	382,619
Bricks and tile	15,239	6,503	21,742
Canned food products	86,803	89,397	176,200
Carbon black	6,498	84,415	90,913
Caustic soda	893,281	4,446	897,727
Cement	249,183	2,864	252,047
Chemicals, petroleum various	853,757	78,417	932,174
Chemicals, various	2,810,900	818,479	3,629,379
Clay, fire and china	440,161	27,092	467,253
Coal and coke (excluding petroleum coke)	5,901,925	2,020,198	7,922,123
Cocoa and cacao beans	2,003	42,084	44,087
Coffee	13,454	355,034	368,488
Coke, petroleum	1,146,651	2,102,947	3,249,598
Copra and coconuts	1,630	7,539	9,169
Corn	15,882,551	106	15,882,657
Cotton, raw	8,523	76,818	85,341
Fertilizers, various	2,462,473	213,187	2,675,660
Fibers, plant	10,568	7,422	17,990
Fishmeal	2,144	1,296,189	1,298,333
Flour, wheat	190,615	602	191,217
Gasoline	2,428,014	256,739	2,684,753
Glass and glassware	18,155	4,841	22,996
Grains, various	294,460	71,106	365,566
Groceries, various	36,736	46,397	83,133
Infusorial earth	234	21,927	22,161
Jet fuel	1,000,624	32,192	1,032,816
Kerosene	98,093	5,641	103,734
Liquefied gas	1,123,429	150,979	1,274,408
Liquors	11,553	27,084	38,637
Lumber and products (excluding pulpwood)	74,291	5,986,750	6,061,041
Machinery, agricultural	46,820	17,989	64,809
Machinery, construction	65,521	155,562	221,083
Machinery, electrical	24,449	24,483	48,932
Machinery, various	61,643	69,120	130,763
Manufactures of iron and steel	3,346,009	3,626,065	6,972,074
Metal, aluminum	365,149	50,581	415,730
Metal, copper	15,447	827,467	842,914
Metal, iron	30,104	24,910	55,014
Metal, scrap	2,390,474	22,791	2,413,265
Metals, various (including tinplate)	50,930	290,455	341,385
Molasses	6,801	656,319	663,120
Nitrate of soda	27,302	265,136	292,438
Oats	8,073	38,332	46,405
Oil, coconut	5,068	38,478	43,546
Oil, crude	3,393,100	5,565,628	8,958,728
Oil, diesel	1,171,441	199,187	1,370,628
Oil, fish	42	125,467	125,509
Oil, lube	596,688	253,006	849,694
Oil, residual fuel	1,783,812	4,118,095	5,901,907
Oil, vegetable	166,786	114,113	280,899

Table 12.—Principal Canal Commodities by Direction—Fiscal Year 1987—  
Continued

[Long tons]

<i>Commodity</i>	<i>Atlantic to Pacific</i>	<i>Pacific to Atlantic</i>	<i>Total</i>
Oilseeds .....	48,702	237,741	286,443
Ore, alumina/bauxite .....	113,682	731,726	845,408
Ore, copper .....	35,478	725,497	760,975
Ore, iron .....	61,354	526,387	587,741
Ores, various .....	506,646	2,211,839	2,718,485
Paper and paper products .....	984,306	408,710	1,393,016
Peas, dry .....	73	43,738	43,811
Petroleum and products, various .....	212,734	153,457	366,191
Phosphates .....	6,269,275	242,413	6,511,688
Potash .....	346,584	81,497	428,081
Pulpwood .....	853,324	1,795,303	2,648,627
Refrigerated food products (excluding bananas) .....	592,372	2,458,651	3,051,023
Resin .....	165,585	1,691	167,276
Rice .....	76,221	344,028	420,249
Rubber, manufactured .....	16,238	14,340	30,578
Rubber, raw .....	2,844	48,078	50,922
Salt .....	117,643	1,109,614	1,227,257
Seeds, excluding oilseeds .....	291	33,030	33,321
Slag, clinkers, and dross .....	14,812	.....	14,812
Soda and sodium compounds .....	114,977	111,851	226,828
Sorghum .....	2,624,367	.....	2,624,367
Soybeans .....	7,757,762	31,133	7,788,895
Sugar .....	1,398,659	1,825,390	3,224,049
Sulfur .....	8,229	3,225,591	3,233,820
Tallow .....	76,757	22,584	99,341
Textiles .....	24,212	37,610	61,822
Tobacco and manufactures .....	3,366	1,542	4,908
Toluene .....	217,245	10,001	227,246
Wax, paraffin .....	6,931	6,644	13,575
Wheat .....	3,165,808	1,355,723	4,521,531
Wool, raw .....	1,244	2,950	4,194
All other .....	10,027,754	9,369,531	19,397,285
Total .....	<u>87,006,459</u>	<u>61,683,921</u>	<u>148,690,380</u>

## Other Statistics

**Table 13.—Water Supply and Usage**

	Fiscal year		Percent of usage fiscal year	
	1987	1986	1987	1986
(Acre-Feet)				
<b>MADDEN AND GATUN LAKE WATER SUPPLY:</b>				
Total runoff, Madden Lake Basin .....	2,416,059	2,010,239		
Evaporation from Madden Lake .....	<u>— 46,127</u>	<u>— 49,004</u>		
Available for Madden Lake usage .....	2,369,932	1,961,235		
Municipal water use Madden Lake .....	<u>—111,089</u>	<u>—106,648</u>		
Available for downstream usage .....	2,258,843	1,854,587		
Total runoff, Gatun Lake (area below Madden) ..	<u>2,388,222</u>	<u>1,699,672</u>		
Subtotal .....	4,647,065	3,554,259		
Evaporation from Gatun Lake .....	<u>—437,239</u>	<u>—436,190</u>		
Available for Gatun Lake watershed usage .....	<u>4,209,826</u>	<u>3,118,069</u>		
<b>MADDEN LAKE WATER USAGE:</b>				
Hydroelectric power .....	1,792,332	1,738,613	80	88
Leakage .....	14,479	14,479	1	1
Spillway discharge .....	305,992	115,657	14	6
Municipal .....	<u>111,089</u>	<u>106,648</u>	<u>5</u>	<u>5</u>
Total Madden Lake usage .....	<u>2,223,892</u>	<u>1,975,397</u>	<u>100</u>	<u>100</u>
<b>GATUN LAKE WATER USAGE:</b>				
Hydroelectric power .....	1,494,467	807,094	38	25
Lockages, Gatun and Pedro Miguel .....	2,013,223	2,009,160	51	63
Municipal and other usages .....	98,405	96,924	3	3
Spillway discharge .....	<u>333,999</u>	<u>302,365</u>	<u>8</u>	<u>9</u>
Total Gatun Lake usage .....	<u>3,940,094</u>	<u>3,215,543</u>	<u>100</u>	<u>100</u>

**Table 14.—Dredging Operations—Fiscal Year 1987**

	(Cubid yards)		
	Earth	Rock	Total
Pacific District .....	3,172,066	.....	3,172,066
Cucaracha Slide* .....	94,795	242,305	337,100
Central District .....	159,785	146,315	297,100
Atlantic District .....	.....	.....	.....
Grand Total .....	<u>3,426,646</u>	<u>388,620</u>	<u>3,806,266</u>

\* October 13-December 23, 1986

**Table 15.—Electrical Power Generated**(Gigawatt hours) <sup>1</sup>

	Fiscal year	
	1986	1987
Generation:		
Gatun hydro station.....	49	96
Madden hydro station.....	190	200
Thermal generating stations.....	251	230
Gross generated by Panama Canal Commission.....	490	526
Less station service usage.....	(10)	(8)
Net total generated by Panama Canal Commission.....	480	518
Power Purchases:		
Through interconnect from Panama.....	10	2
Net Energy received for Wheeling.....	2	3
Power Sales:		
Through interconnect to Panama.....	(13)	(26)
Net power generated and purchased for Canal area only.....	479	496
Other power generated by military for own use.....	1	1
Total Canal area requirements.....	480	497
Power distributed to Commission's customers.....	454	467
Distribution losses.....	26	29
Peak load (thousands of kilowatts).....	82	84
Date of peak load.....	May 28	Sept. 28
Canal area load factor <sup>2</sup> .....	67%	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**

	Fiscal year 1987		Fiscal year 1986	
	Num-ber of fires	Property loss	Num-ber of fires	Property loss
PCC.....	46	\$70,658	73	\$26,720
Armed Forces.....	207	19,112	256	19,057,309***
Private (including ships).....	46	279,351	51	215,713
R.P.*.....	225	4,982	162	121,506
Total.....	524	\$374,103	542	\$19,421,248
Value of Property involved in ship fires.....		\$20,742,589		\$515,971,836
Value of Property involved in other fires.....		49,798,902		137,894,808
Calls for Emergency Aid**.....		5,090		5,142
Total number of calls (all types) responded to...		5,748		5,804

\* Responses made to areas reverted to the Republic of Panama but responded to by Commission forces, such as grass fires, burning railroad ties, etc.

\*\* Includes responses by both ambulance and fire apparatuses.

\*\*\* \$19,000,000 of this amount represents the loss of a KC 135 U.S. Air Force aircraft that crashed at Rodman, U.S. Naval Military Base, Rodman, R.P.









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