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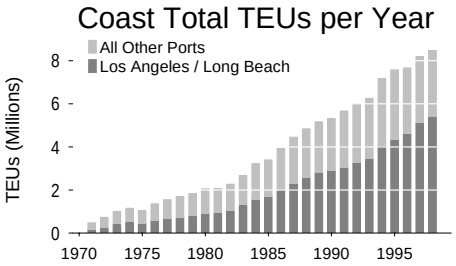
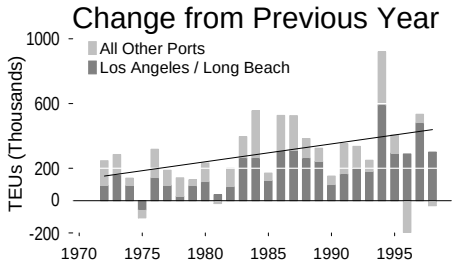
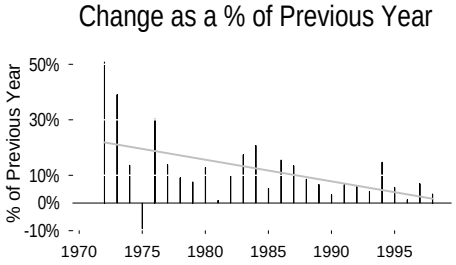
Containers Heading South: Annual TEU Counts Since 1971

The West Coast container revolution began in 1958 when Matson Navigation Company configured its first C-3 freighter to carry deck-stowed containers. By April 1960, the *S.S. Hawaiian Citizen* had entered service as the first all-container vessel to sail the Pacific. Others soon followed, and by the end of 1971, the annual number of West Coast container TEUs (twenty-foot equivalent units) reached 484,542.







Over the next 27 years the annual container TEU count grew to its 1998 level of nearly 8,500,000. The data for Los Angeles/Long Beach will be discussed separately from the container-handling activity for all other ports on the West Coast because much of this growth occurred in the Los Angeles and Long Beach port complex. The TEU count for the ports of Los Angeles and Long Beach ranks the combined port complex as the third largest container-handling operation in the world.

This categorization, however, in no way diminishes the very important roles that the Ports of Oakland, Seattle, Tacoma, Portland, and other ports played in the development of the West Coast container trade.

The growth in total West Coast container traffic and for the two port groupings, LA/LB and "all other ports," is discussed in this article from three perspectives:

1) the total number of TEUs handled each year,

2) the magnitude of the annual change in the number of TEUs handled from one year to the next, and

3) the percentage change in the number of container TEUs handled from one year to the next.

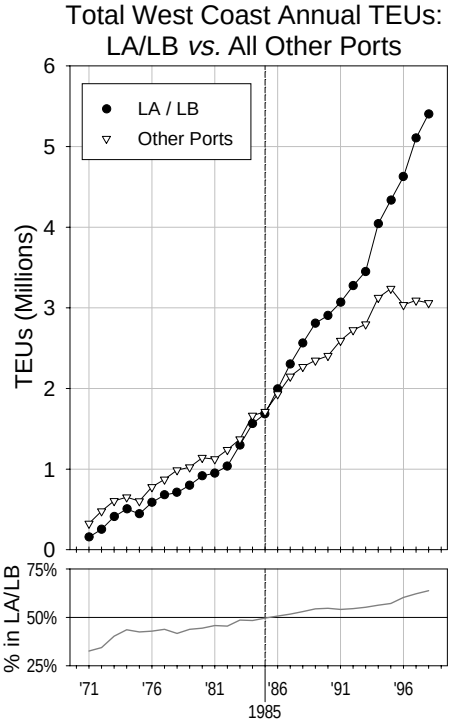
Despite the paradoxical nature of the statement, this study illustrates the fact that although total TEU counts continue to grow annually, the annual percentage change in TEU counts has decreased over the same time period.

Total Coast TEUs

The charts in the column to the left show annual TEU counts for the coast and two different representations of annual changes.

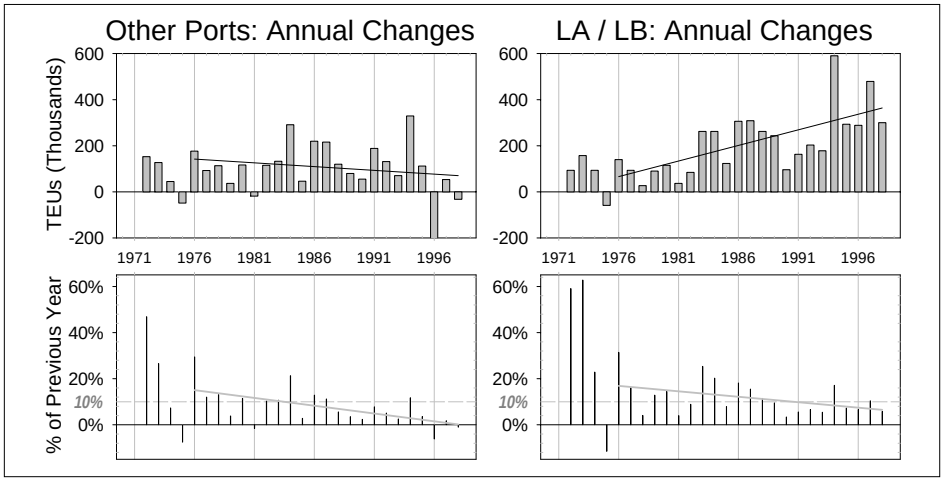
The top chart shows the total TEU counts divided between the Ports of Los Angeles and Long Beach (dark shaded region of each bar) and those reported in all of the other West Coast ports (light regions).

The chart labeled *Change from Previous Year* shows the increase in the number of TEUs each year, or in some years, decrease from the previous year. Changes are shown separately for LA/LB and for the rest of the coast. (In 1996 and 1998, when LA/LB had an increase in TEUs and the rest of the coast recorded a loss, the *net change* for the coast is, of course, lower than the top of the LA/LB portion of the bar.)



The the third chart, *Change as a % of Previous Year*, shows the change in TEU counts from the previous year as a percentage of that previous year's count. Each "needle" bar represents the data for the Coast total counts.

A linear regression trend line has been superimposed on each of these charts. These trend lines illustrate that despite the fact that annual increases in TEUs continue



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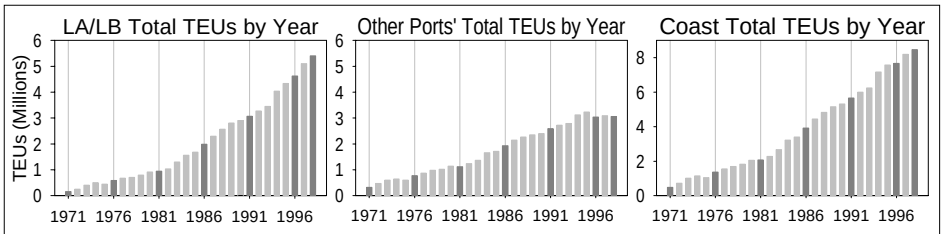


	Total TEUs Handled in Year			Avg. Monthly Increase Between Years		
Year	LA/LB	All Other Ports	Total	LA/LB	All Other Ports	Total
1971	158,370	326,172	484,542			
1976	586,257	779,725	1,365,981	623	629	1,252
1981	952,096	1,123,541	2,075,637	497	462	959
1986	1,993,009	1,931,603	3,924,612	1,542	1,189	2,730
1991	3,068,887	2,594,238	5,663,125	1,490	893	2,383
1996	4,625,583	3,038,317	7,663,900	2,230	589	2,819
1998	5,405,404	3,060,926	8,466,330	2,850	(73)	2,777

to grow in magnitude, these increases represent a smaller *percentage* of the previous year's total during the period studied.

Los Angeles/Long Beach Compared With All Other Ports

The set of charts at the bottom of page 1 show annual changes for LA/LB and for all Other Ports. The trend lines superimposed describe the downward trend seen in the Other Ports category since 1976 not only in the percent change from the previous year, but also in the magnitude of those annual changes.

Los Angeles/Long Beach, on the other hand, shows a decidedly upward trend in the magnitude of annual changes in TEU counts, but as a percent of the previous year, the trend is also declining.

Percent Change Declines While Growth May Continue

Not too many years ago, container growth was not considered normal unless it was in the double-digit percentage range. Those days are gone. Except for 1994, which is discussed below, 1987 was the last year that the annual increase in TEUs exceeded 10%. Each year, the "base" number of container TEUs continues to increase but since 1986, the amount of the annual increase has remained relatively steady. This means that the annual percentage of increase is decreasing. This is apparent from the downward slope of the trend lines for LA/LB and the Other Ports category.

As long as the number of TEUs added each year remains relatively constant, the percentage change in the container TEUs will continue to decline slowly. As seen in the earlier data and reflected in the percentage numbers, the yearly change in the number of container TEUs moving through West Coast ports varies considerably.

Total TEUs Handled: LA/LB *vs.* All Other Ports

The chart labeled *Total West Coast Annual TEUs: LA/LB* vs. *All Other Ports* on page 1 presents yet another view of the data. Again, LA/LB and "All Other Ports" are charted. In 1972, LA/LB moved about 250,000 TEUs and the other ports moved about 480,000.

By 1985 a total of nearly 3,400,000 TEUs were moving across the West Coast split evenly between the two groups. LA/LB continued to gather momentum, and by the end of 1998, it was approaching 5.5 million container TEUs per year. The "Other Ports" group stalled out after peaking in 1995 and have since handled a relatively constant number of TEUs.

1994 Was an "Outstanding" Year

In the charts showing the changes from the previous year, the number of container TEUs shown for 1994 stands out because the increase recorded over 1993 was the largest since containerization began. In fact, it is the only year in which the total one year increase in West Coast container TEUs approached the one million mark.

The unprecedented increase of 1994 had a dark side, however. It brought about serious labor shortages, equipment shortages, and port area congestion. The labor shortages resulted in employers' bidding against each other in the effort to secure a commitment of availability from the more productive workers, and it signaled the beginning of a period of declining productivity and necessitated large additions to the work force.

There were no obvious advance indicators that might have forecasted what turned out to be a huge and disruptive increase in container traffic. In LA/LB alone, the increased volume was at least three times what it had been in each of the previous four years.

Monthly Increases: High Growth & Low

The table to the left shows the TEUs moved across the Coast in each of the years shown in the left column (also shown as dark bars in the charts above the table). The three columns show the total, those moved through LA/LB and those through all other ports. The years are five years apart, except for 1998, representing a two-year period of time.

The three columns labeled *Average Monthly Increase Between Years* give yet another representation of the growth rates for each of the two port groupings. For example, the value 2,230 (in the column for LA/LB in the row for 1996) is the number of TEUs that would need to be added to the monthly average TEUs in 1991 each month of the next five years to bring the 1996 total TEUs to its recorded level. In extended periods of overall growth, this average monthly value will become larger as one moves down through a column.

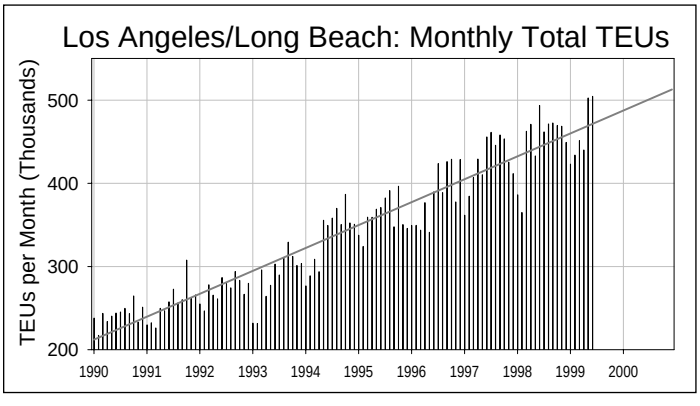
Each period since 1991 has produced growth in the LA/LB port complex. The period between 1981 and 1986 shows the greatest growth for the port complex. The last two years show a growth rate equivalent to 2,850 additional TEUs each month.

Since 1986 total container growth across the West Coast has been relatively consistent, adding, on average, in the range of about 2,400 to more than 2,800 TEUs per month, or the equivalent of a not very large container vessel.

Los Angeles/Long Beach by Month

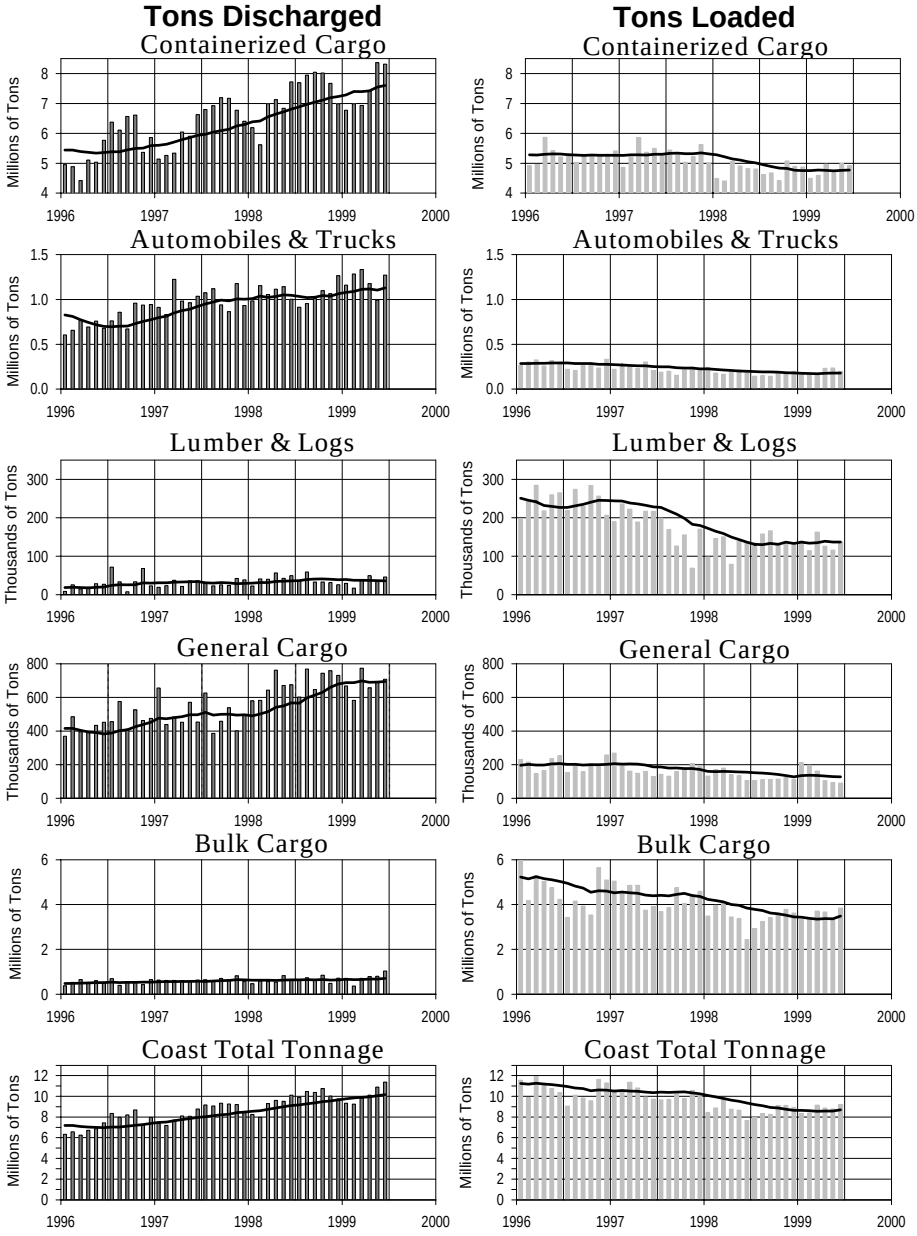
The chart below shows the total monthly container activity reported for the Ports of Los Angeles and Long Beach beginning January 1990. The trend line imposed on the bars representing monthly TEU counts illustrates the "straight line" increase in container activity. The seasonal changes in container traffic are also apparent from the chart. Extrapolating the trend line, by July 2000 the two ports will be *averaging* 500,000 container TEUs per month, equivalent to 6,000,000 TEUs per year.

On average the combined Ports of Los Angeles and Long Beach are moving almost 2,300 more containers every month than they moved in the previous month—this is the equivalent to about 330,000 more containers every year. If this rate of growth is maintained, the ports will handle more than 12,000,000 container TEUs per year by 2020.



Monthly Tonnage by Reporting Category: Discharged *vs.* Loaded

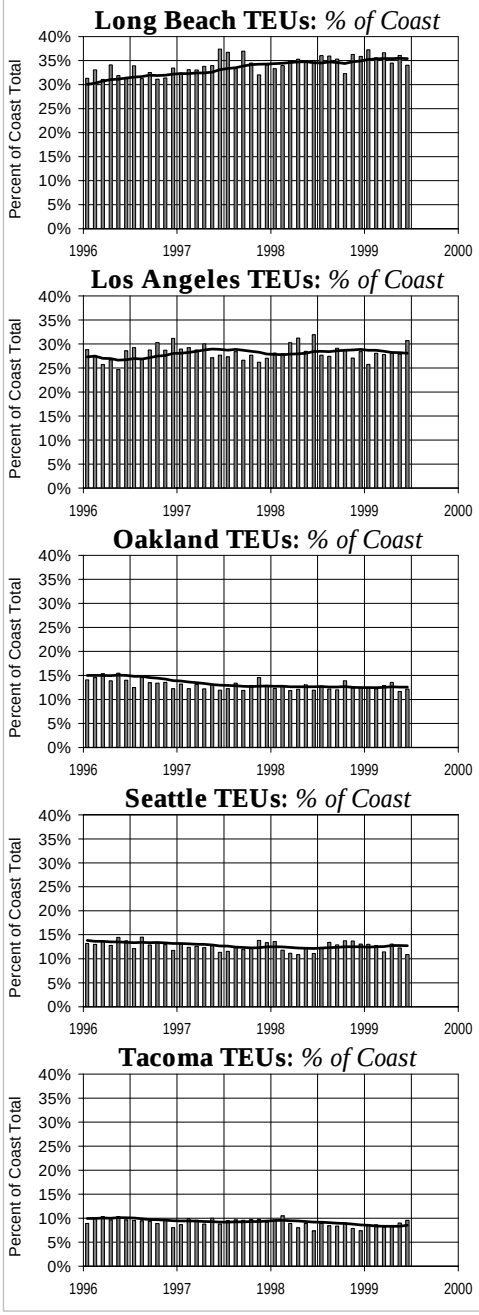
Actual Tons Reported by Month



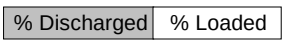
In the Tonnage graphs above, bars represent monthly totals, and the lines show 12-month moving averages.

Major Container Ports:

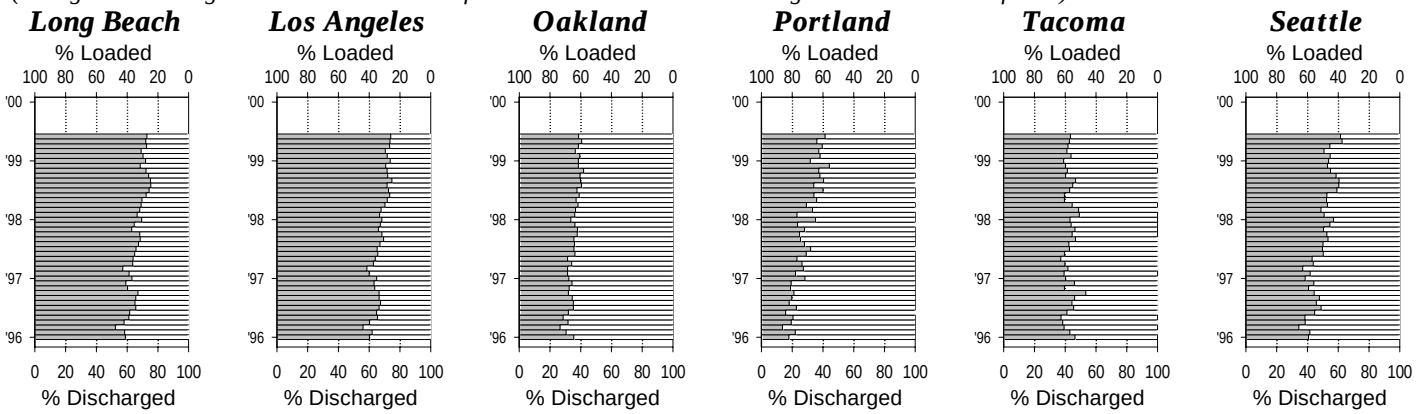
Percent of Coast Total TEUs



"Weighted" Tonnage: % Discharged *vs.* % Loaded



("Weighted" Tonnage = Containerized + 1/6 of Autos & Trucks + Lumber & Logs + General + 1/50 of Bulk)



ILWU LOCAL/PORT AREA	REGISTRATION (At 8/4/99) TOTAL	Class "B"	STATS (Ending 7/30/99) Number Working	Annual Hrs Pd	Wkly PGP	Hours Paid: Out of Port	Other Local	Casuals	Inactives	PORT HOURS (Year-to-date) P/R Wks 1-31, '99 Avg. Wkly	% Cst	Hours Paid at Occ Codes Clk	Frm	Exp. Rates*
Longshoremen	NO.	NO.	NO.	HRS	$	%	%	%	%	HRS	%	%	%	%
Southern California														
29 San Diego	55	20	52	2,265	< 1	7.7	6.1	33.1	0.1	3,428	0.9	9.0	12.4	29.6
13 Los Angeles/Long Beach	4,073	869	4,026	2,058	< 1	0.3	0.7	6.6	0.5	234,664	58.5	24.8	9.9	19.3
46 Port Hueneme	81	11	79	2,017	< 1	5.8	7.7	38.2	0.0	6,392	1.6	15.0	6.3	32.5
Southern California Total	**4,209**	**900**	**4,157**	**2,059**	**< 1**	**0.5**	**1.0**	**7.9**	**0.4**	**244,484**	**61.0**	**24.3**	**9.8**	**19.8**
Northern California														
10 San Francisco Bay Area	1,027	206	969	1,741	< 1	1.3	1.3	4.0	0.4	48,482	12.1	26.7	8.2	18.5
54 Stockton	57	23	57	1,627	47	6.1	5.9	14.1	0.5	2,415	0.6	19.4	7.4	7.0
18 Sacramento	23	2	23	1,634	147	11.0	17.1	21.5	1.9	1,958	0.5	22.2	7.0	16.8
14 Eureka	31	0	31	1,059	293	37.5	5.2	6.2	0.0	598	0.1	12.0	11.9	6.8
Northern California Total	**1,138**	**231**	**1,080**	**1,713**	**14**	**2.4**	**2.0**	**5.1**	**0.4**	**53,453**	**13.3**	**26.1**	**8.2**	**17.8**
Oregon														
12 North Bend/Coos Bay	92	16	89	1,165	198	48.1	0.4	1.3	0.1	1,170	0.3	10.5	9.2	0.5
53 Newport	8	1	8	770	394	76.6	25.1	0.4	0.3	53	0.0	3.3	1.7	3.6
50 Astoria	44	0	44	806	431	88.4	3.0	0.3	1.1	80	0.0	0.0	0.0	0.2
8 Portland	488	70	475	1,804	6	2.5	13.0	2.2	1.0	22,560	5.6	14.4	7.6	6.3
4 Vancouver, WA	153	44	149	1,734	12	12.8	12.0	6.7	1.2	6,408	1.6	13.7	6.7	9.9
21 Longview, WA	192	23	189	1,947	10	18.7	5.7	5.1	1.7	8,590	2.1	9.0	8.1	6.0
Oregon Total	**977**	**154**	**954**	**1,707**	**48**	**12.9**	**10.8**	**3.6**	**1.2**	**38,861**	**9.7**	**13.0**	**7.6**	**6.7**
Washington														
24 Aberdeen	69	0	69	1,383	161	24.6	9.0	3.9	0.0	1,772	0.4	6.5	6.1	1.3
27 Port Angeles	54	0	54	766	491	60.3	7.1	1.4	1.8	354	0.1	7.8	7.1	0.2
51 Port Gamble	12	0	11	504	655	84.5	0.0	0.0	0.0	17	0.0	0.0	0.0	0.0
47 Olympia	28	5	28	821	284	44.3	27.9	6.3	0.0	319	0.1	3.4	15.8	8.7
23 Tacoma	488	99	486	1,838	< 1	2.4	2.6	12.3	0.2	26,657	6.6	21.8	8.9	10.7
19 Seattle	583	125	580	1,852	< 1	1.5	4.8	10.6	0.1	32,539	8.1	25.3	7.9	8.2
32 Everett	55	0	53	1,146	226	17.3	11.9	6.1	0.0	1,278	0.3	6.1	8.1	3.1
25 Anacortes	13	0	13	1,012	243	39.1	27.7	1.5	0.0	237	0.1	8.7	12.2	3.2
7 Bellingham	32	0	31	993	221	17.6	9.1	6.2	3.5	884	0.2	9.5	10.8	9.0
Washington Total	**1,334**	**229**	**1,325**	**1,688**	**57**	**5.5**	**4.6**	**10.7**	**0.2**	**64,056**	**16.0**	**22.5**	**8.4**	**8.9**
Total/Average	**7,658**	**1,514**	**7,516**	**1,900**	**18**	**2.9**	**2.8**	**7.5**	**0.5**	**400,871**	**100.0**	**23.2**	**9.2**	**16.5**
% Change from Update *of 8/98*	*+9.2*	*+0.5*	*+9.1*	*-0.7*	*-14.3*	*+0.1*	*-0.9*	*-2.1*	*-0.2*	*+0.9*		*+0.5*	*+0.1*	*-3.3*
Clerks														
29 San Diego	4	0	4	***	***	11.1	33.6	9.7	0.5					
46 Port Hueneme	12	0	12	2,503	-	2.5	28.4	8.2	0.0					
63 Los Angeles/Long Beach	935	1	921	2,679	< 1	0.1	11.6	10.5	0.6					
14 Eureka	3	0	3	***	***	19.9	40.2	0.0	0.0					
34 SF Bay Area & Delta	283	11	278	2,363	1	2.6	9.1	2.0	0.3					
40 Portland	90	0	86	2,515	1	32.9	12.9	1.4	3.6					
23 Tacoma	70	0	70	2,513	-	1.1	38.3	1.1	0.9					
52 Seattle	171	0	170	2,540	-	12.9	12.4	3.6	0.4					
Total/Average	**1,568**	**12**	**1,544**	**2,585**	**< 1**	**3.8**	**13.2**	**7.5**	**0.7**					
Foremen/Walking Bosses														
29 San Diego	2	0	2	***	***	0.6	71.3	1.2	0.1					
46 Port Hueneme	5	-	5	2,405	3	0.2	38.2	0.7	0.0					
94 Los Angeles/Long Beach	354	-	348	3,421	< 1	0.1	3.5	0.0	0.4					
91 Northern Calif. Area	76	-	73	2,648	29	0.7	15.1	0.0	0.3					
92 Portland	47	-	47	2,519	13	13.4	18.5	0.0	4.5					
98 Seattle	98	-	96	2,573	13	9.7	12.3	0.0	0.0					
Total/Average	**582**		**571**	**3,096**	**7**	**2.4**	**8.5**	**0.0**	**0.6**					

* Longshore and Clerk hours only. *** "Annual Hrs Pd" and "Wkly PGP" for groups of less than five individuals are not shown, but the data are included in category averages.

ILWU LOCAL/PORT AREA	TONNAGE BY PORT AREA (For 12 months-to-date & YTD) % of Category Coast Total (12 Months-to-Date) Cont'r RU's	Lmbr Logs	Autos Trucks	Other Gen'l	Bulk Cargo	TOTAL	1999 YTD (Jan-May) TONS	% of Coast Total	1999 YTD '99 as a % of '98	Cstwise Loaded TONS
Longshoremen	%	%	%	%	%	%	TONS	%	%	TONS
Southern California										
29 San Diego	< 0.1	4.3	12.9	1.7	2.6	1.6	2,015,332	1.8	139.8	0
13 Los Angeles/Long Beach	63.5	6.9	35.0	51.6	25.3	52.0	57,962,576	51.1	103.7	92,365
46 Port Hueneme	0.1	< 0.1	10.5	7.3	0.1	1.1	1,353,534	1.2	106.6	0
Southern California Total	**63.6**	**11.1**	**58.3**	**60.5**	**28.0**	**54.7**	**61,331,442**	**54.0**	**104.7**	**92,365**
Northern California										
10 San Francisco Bay Area	12.8	0.1	5.5	8.0	2.4	9.7	10,884,645	9.6	108.4	547
54 Stockton	-	-	-	1.8	3.2	0.8	842,604	0.7	158.0	0
18 Sacramento	-	0.1	-	1.9	1.2	0.4	522,080	0.5	106.8	0
14 Eureka	< 0.1	2.4	-	1.8	0.5	0.2	290,239	0.3	101.1	0
Northern California Total	**12.8**	**2.5**	**5.5**	**13.5**	**7.3**	**11.0**	**12,539,568**	**11.1**	**110.5**	**547**
Oregon										
12 North Bend/Coos Bay	< 0.1	7.3	-	0.2	4.4	1.1	1,355,779	1.2	97.8	19,698
53 Newport	-	0.4	-	-	-	< 0.1	6,350	0.0	181.1	0
50 Astoria	-	1.6	-	-	-	< 0.1	9,928	0.0	46.9	475
8 Portland	2.3	2.8	19.0	8.4	23.2	8.3	9,383,698	8.3	109.2	24,039
4 Vancouver, WA	< 0.1	0.1	2.9	3.8	8.7	2.3	2,554,749	2.3	107.1	0
21 Longview, WA	< 0.1	31.0	-	6.3	12.3	3.3	4,207,626	3.7	100.7	35,621
Oregon Total	**2.3**	**43.1**	**21.9**	**18.7**	**48.6**	**15.0**	**17,518,130**	**15.4**	**105.7**	**79,833**
Washington										
24 Aberdeen	< 0.1	14.4	-	0.5	-	0.2	197,331	0.2	113.6	61,445
27 Port Angeles	-	2.2	-	< 0.1	0.4	0.1	131,406	0.1	114.7	40,969
51 Port Gamble	-	-	-	-	-	-	0	0.0	-	0
47 Olympia	< 0.1	1.1	-	< 0.1	< 0.1	< 0.1	27,887	0.0	35.7	0
23 Tacoma	8.5	18.5	10.3	2.8	9.8	8.8	10,260,972	9.0	107.0	0
19 Seattle	12.7	0.4	3.9	3.1	3.2	9.5	10,724,083	9.5	111.6	32,407
32 Everett	< 0.1	5.5	-	0.1	0.7	0.2	240,250	0.2	99.1	6,364
25 Anacortes	< 0.1	1.2	-	-	0.4	0.1	102,124	0.1	62.9	0
7 Bellingham	-	-	-	0.7	1.4	0.4	401,990	0.4	108.8	1,440
Washington Total	**21.3**	**43.3**	**14.2**	**7.3**	**16.0**	**19.2**	**22,086,043**	**19.5**	**108.6**	**142,625**
Total/Average	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**113,475,183**	**100.0**	**106.2**	**315,370**
% Change from Update *of 8/98*	*4.6%*	*0.2%*	*4.8%*	*13.8%*	*-6.5%*	*2.2%*				*-41.9%*