Pacific Maritime Association

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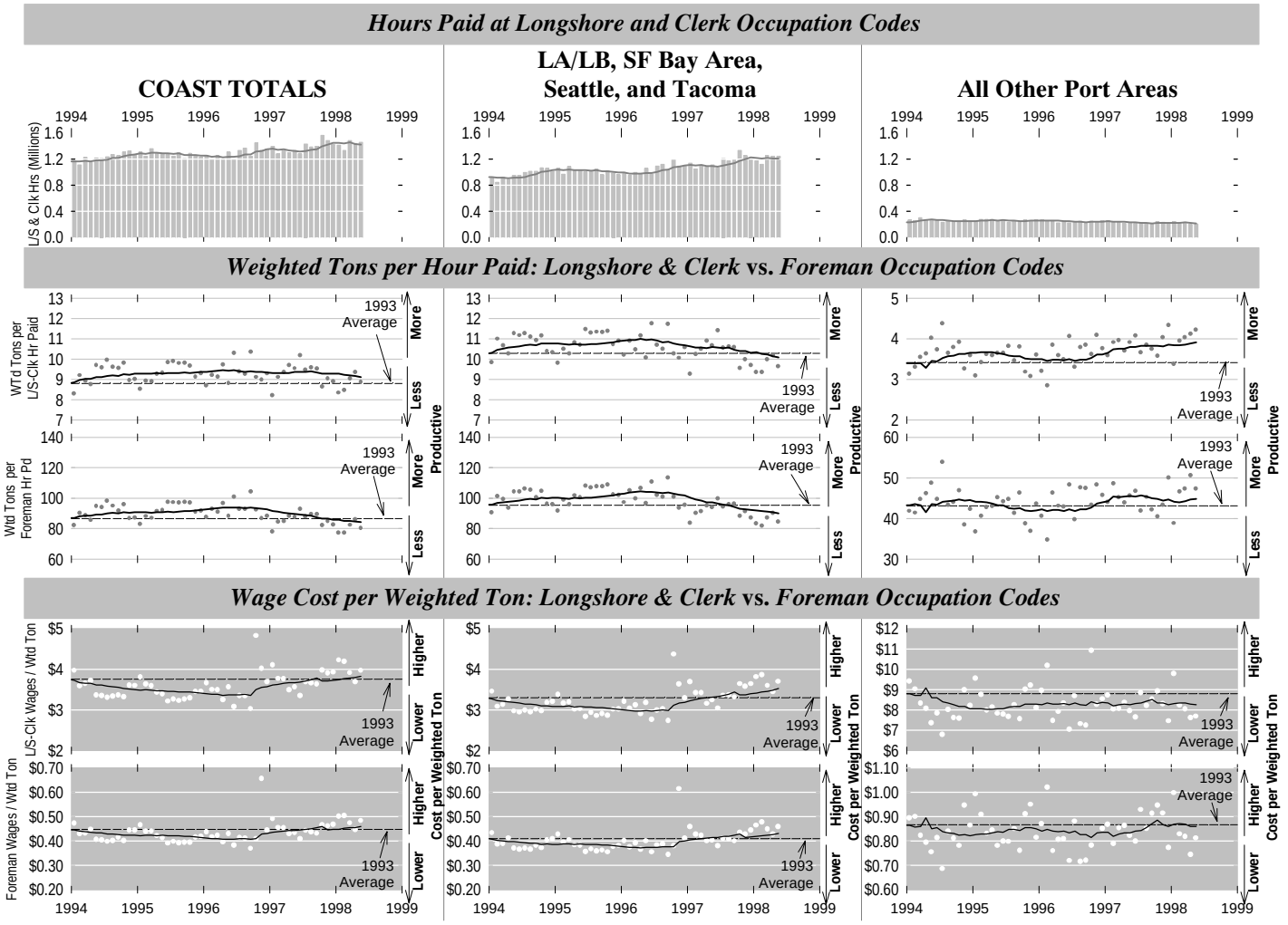
Productivity Measures by Month, 1994 to May 1998: Tonnage per Hour Paid and Wages Paid per Ton



CONSUMER PRICE INDEX
U.S. CITY AVERAGE - ALL ITEMS
(1982-84 = 100)

Urban Wage Earners & Clerical Workers

Month	1996	1997	1998	12 Mo.
JAN	151.7	156.3	**158.4**	**1.34%**
FEB	152.2	156.8	**158.5**	**1.08**
MAR	152.9	157.0	**158.7**	**1.08**
APR	153.6	157.2	**159.1**	**1.21**
MAY	154.0	157.2	**159.5**	**1.46**
JUN	154.1	157.4	**159.7**	**1.46**
JUL	154.3	157.5		2.07
AUG	154.5	157.8		2.14
SEP	155.1	158.3		2.06
OCT	155.5	158.5		1.93
NOV	155.9	158.5		1.67
DEC	155.9	158.2		3.31

Marine cargo handling productivity is described by various measures. The most common measure, which facilitates comparisons at both the macro and micro operational levels, is the amount of cargo moved per hour of labor paid for its movement.

Other methods have been developed to measure productivity in the movement of specific types of commodities. Two such oft-quoted examples include the number of containers moved per hour on and off a vessel and the number of containers moved per unit of terminal land area for a given period of time. These measures are usually only meaningful when discussing terminal operations on the micro level.

The productivity measures represented in the graphs in this study are based on the tonnage reported to PMA and the hours and wages paid to employees. Weighted tons per hour paid and wage cost per weighted ton handled provide gross measures of cargo handling productivity at the macro level across all types of cargo operations. In this study, separate analyses are shown for hours paid at longshore and clerk occupation codes (occs) and for hours paid at walking boss/foreman occs.

The value of weighted tonnage used for this study is the sum of container TEUs X 17, Lumber & Logs tonnage, 1/6 of Automobiles & Truck tonnage, General Cargo tonnage,

Continued, bottom right of Page 2

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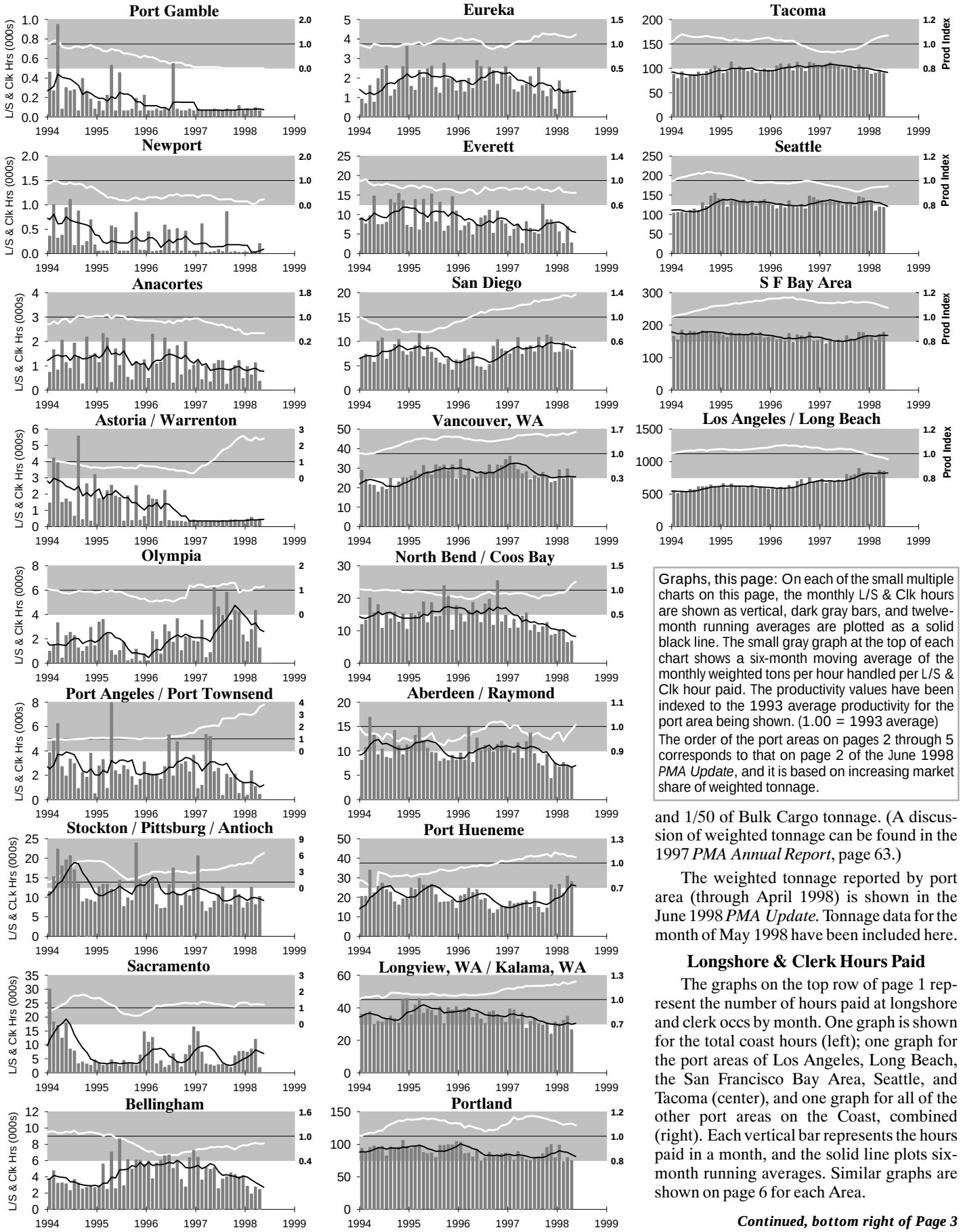
Weighted Tons per Hour Paid: *Longshore & Clerk Occupation Codes*



Graphs, this page: On each of the small multiple charts on this page, the monthly L/S & Clk hours are shown as vertical, dark gray bars, and twelve-month running averages are plotted as a solid black line. The small gray graph at the top of each chart shows a six-month moving average of the monthly weighted tons per hour handled per L/S & Clk hour paid. The productivity values have been indexed to the 1993 average productivity for the port area being shown. (1.00 = 1993 average)

The order of the port areas on pages 2 through 5 corresponds to that on page 2 of the June 1998 *PMA Update*, and it is based on increasing market share of weighted tonnage.

and 1/50 of Bulk Cargo tonnage. (A discussion of weighted tonnage can be found in the 1997 *PMA Annual Report*, page 63.)

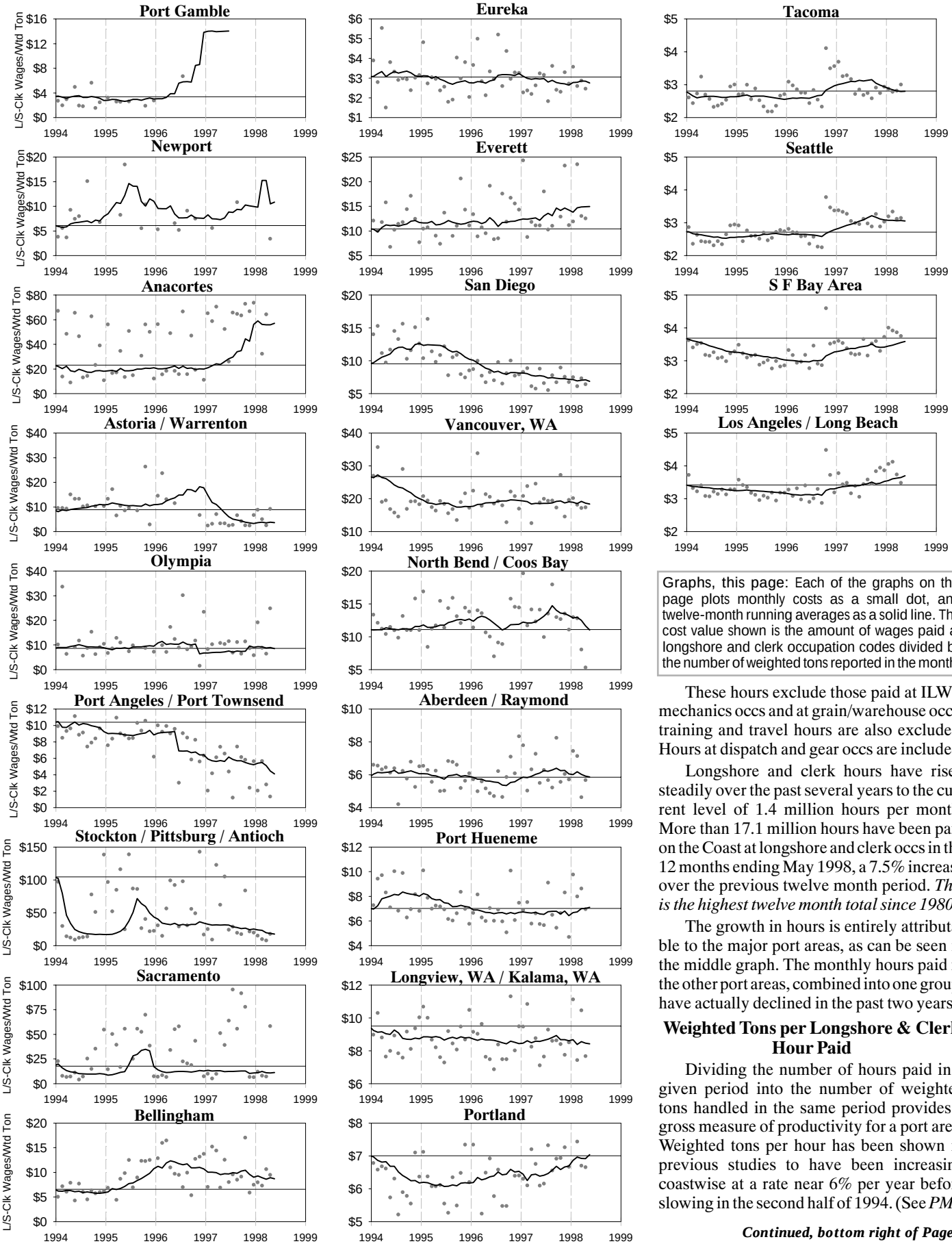
The weighted tonnage reported by port area (through April 1998) is shown in the June 1998 *PMA Update*. Tonnage data for the month of May 1998 have been included here.

Longshore & Clerk Hours Paid

The graphs on the top row of page 1 represent the number of hours paid at longshore and clerk occs by month. One graph is shown for the total coast hours (left); one graph for the port areas of Los Angeles, Long Beach, the San Francisco Bay Area, Seattle, and Tacoma (center), and one graph for all of the other port areas on the Coast, combined (right). Each vertical bar represents the hours paid in a month, and the solid line plots six-month running averages. Similar graphs are shown on page 6 for each Area.

Continued, bottom right of Page 3

Wages Paid per Weighted Ton: *Longshore & Clerk Occupation Codes*



Graphs, this page: Each of the graphs on this page plots monthly costs as a small dot, and twelve-month running averages as a solid line. The cost value shown is the amount of wages paid at longshore and clerk occupation codes divided by the number of weighted tons reported in the month.

These hours exclude those paid at ILWU mechanics occs and at grain/warehouse occs; training and travel hours are also excluded. Hours at dispatch and gear occs are included.

Longshore and clerk hours have risen steadily over the past several years to the current level of 1.4 million hours per month. More than 17.1 million hours have been paid on the Coast at longshore and clerk occs in the 12 months ending May 1998, a 7.5% increase over the previous twelve month period. *This is the highest twelve month total since 1980.*

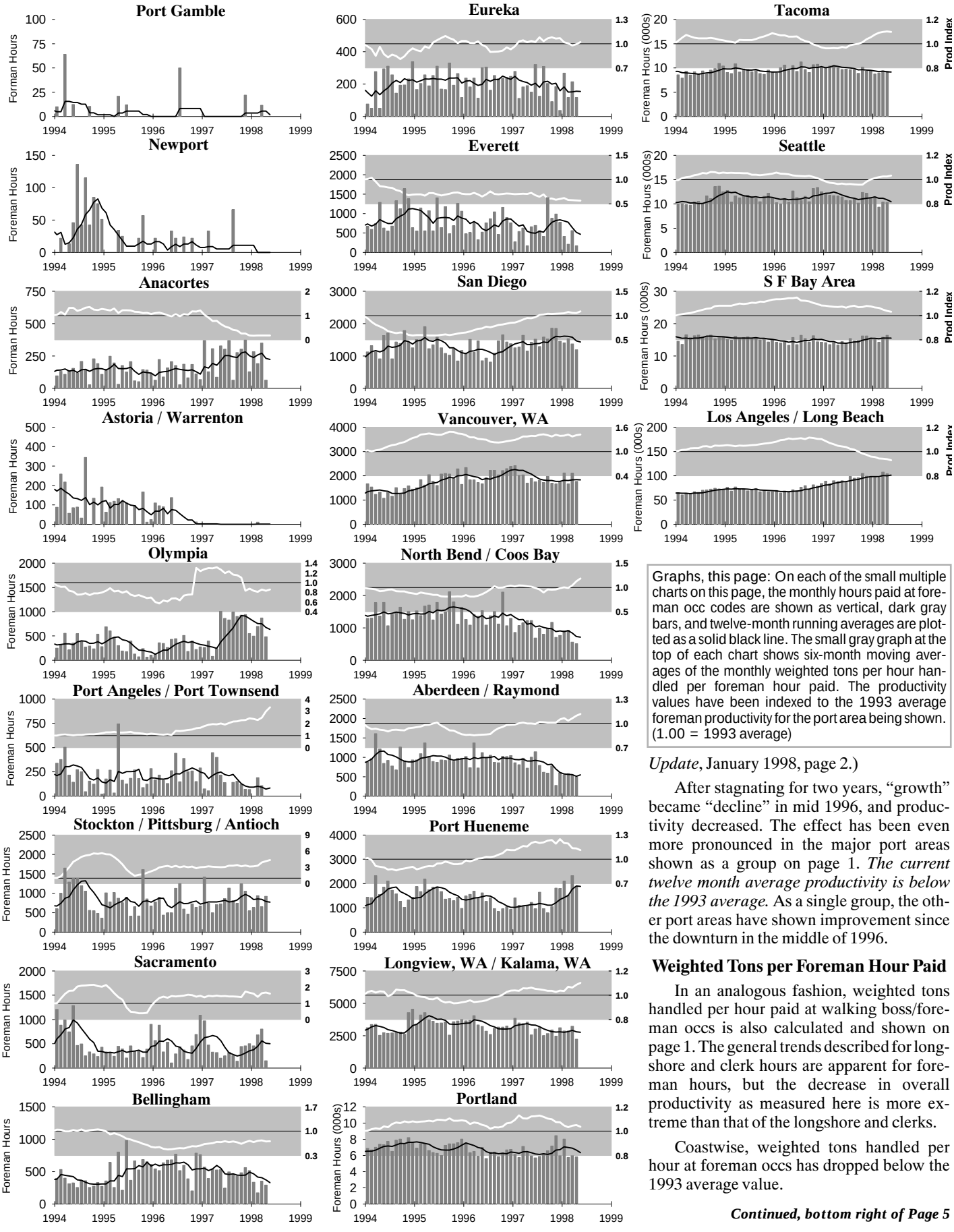
The growth in hours is entirely attributable to the major port areas, as can be seen in the middle graph. The monthly hours paid in the other port areas, combined into one group, have actually declined in the past two years.

Weighted Tons per Longshore & Clerk Hour Paid

Dividing the number of hours paid in a given period into the number of weighted tons handled in the same period provides a gross measure of productivity for a port area. Weighted tons per hour has been shown in previous studies to have been increasing coastwise at a rate near 6% per year before slowing in the second half of 1994. (See *PMA*

Continued, bottom right of Page 4

Weighted Tons per Hour Paid: *Foreman Occupation Codes*



Graphs, this page: On each of the small multiple charts on this page, the monthly hours paid at foreman occ codes are shown as vertical, dark gray bars, and twelve-month running averages are plotted as a solid black line. The small gray graph at the top of each chart shows six-month moving averages of the monthly weighted tons per hour handled per foreman hour paid. The productivity values have been indexed to the 1993 average foreman productivity for the port area being shown. (1.00 = 1993 average)

Update, January 1998, page 2.)

After stagnating for two years, "growth" became "decline" in mid 1996, and productivity decreased. The effect has been even more pronounced in the major port areas shown as a group on page 1. *The current twelve month average productivity is below the 1993 average.* As a single group, the other port areas have shown improvement since the downturn in the middle of 1996.

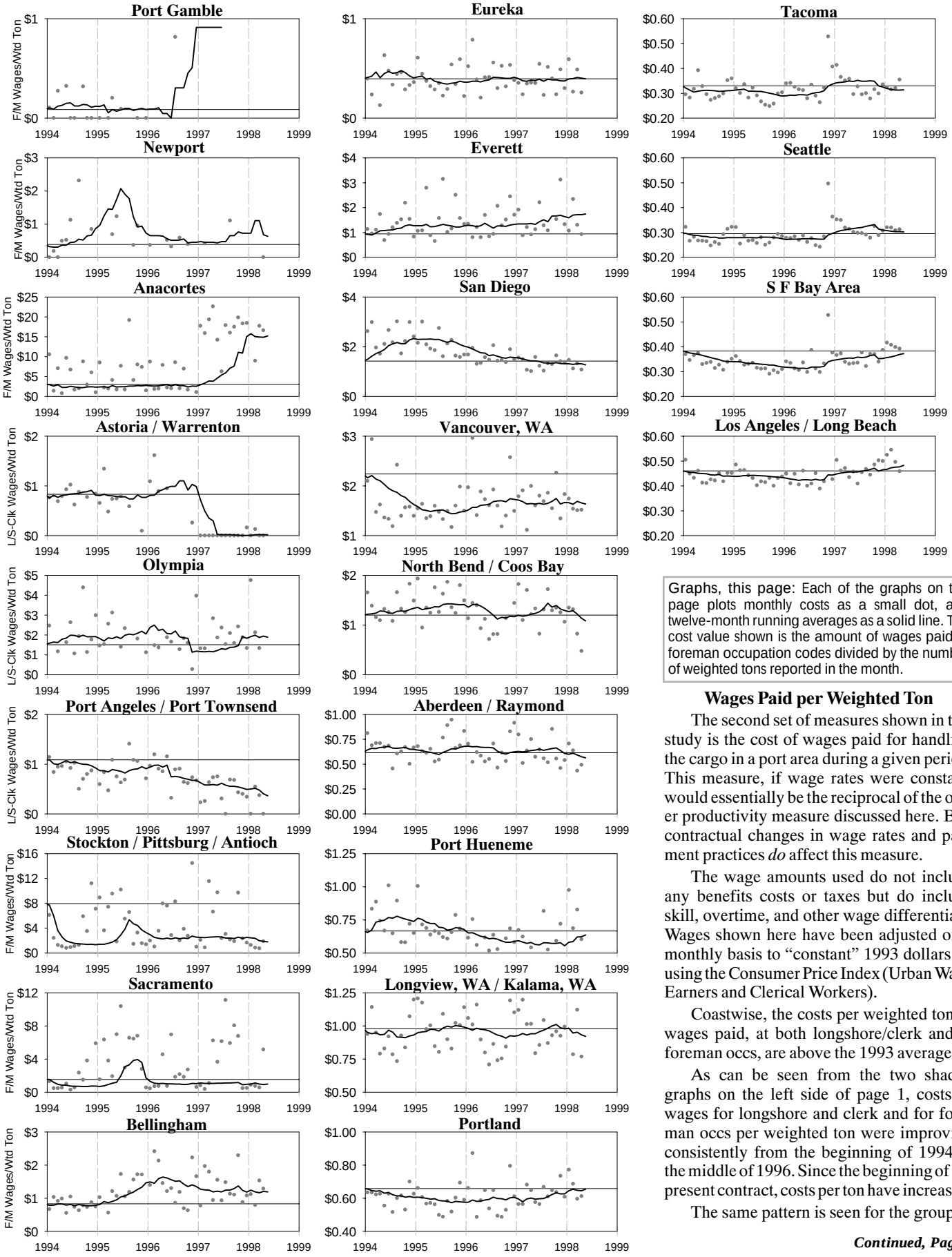
Weighted Tons per Foreman Hour Paid

In an analogous fashion, weighted tons handled per hour paid at walking boss/foreman occs is also calculated and shown on page 1. The general trends described for longshore and clerk hours are apparent for foreman hours, but the decrease in overall productivity as measured here is more extreme than that of the longshore and clerks.

Coastwise, weighted tons handled per hour at foreman occs has dropped below the 1993 average value.

Continued, bottom right of Page 5

Wages Paid per Weighted Ton: *Foreman Occupation Codes*



Graphs, this page: Each of the graphs on this page plots monthly costs as a small dot, and twelve-month running averages as a solid line. The cost value shown is the amount of wages paid at foreman occupation codes divided by the number of weighted tons reported in the month.

Wages Paid per Weighted Ton

The second set of measures shown in this study is the cost of wages paid for handling the cargo in a port area during a given period. This measure, if wage rates were constant, would essentially be the reciprocal of the other productivity measure discussed here. But, contractual changes in wage rates and payment practices *do* affect this measure.

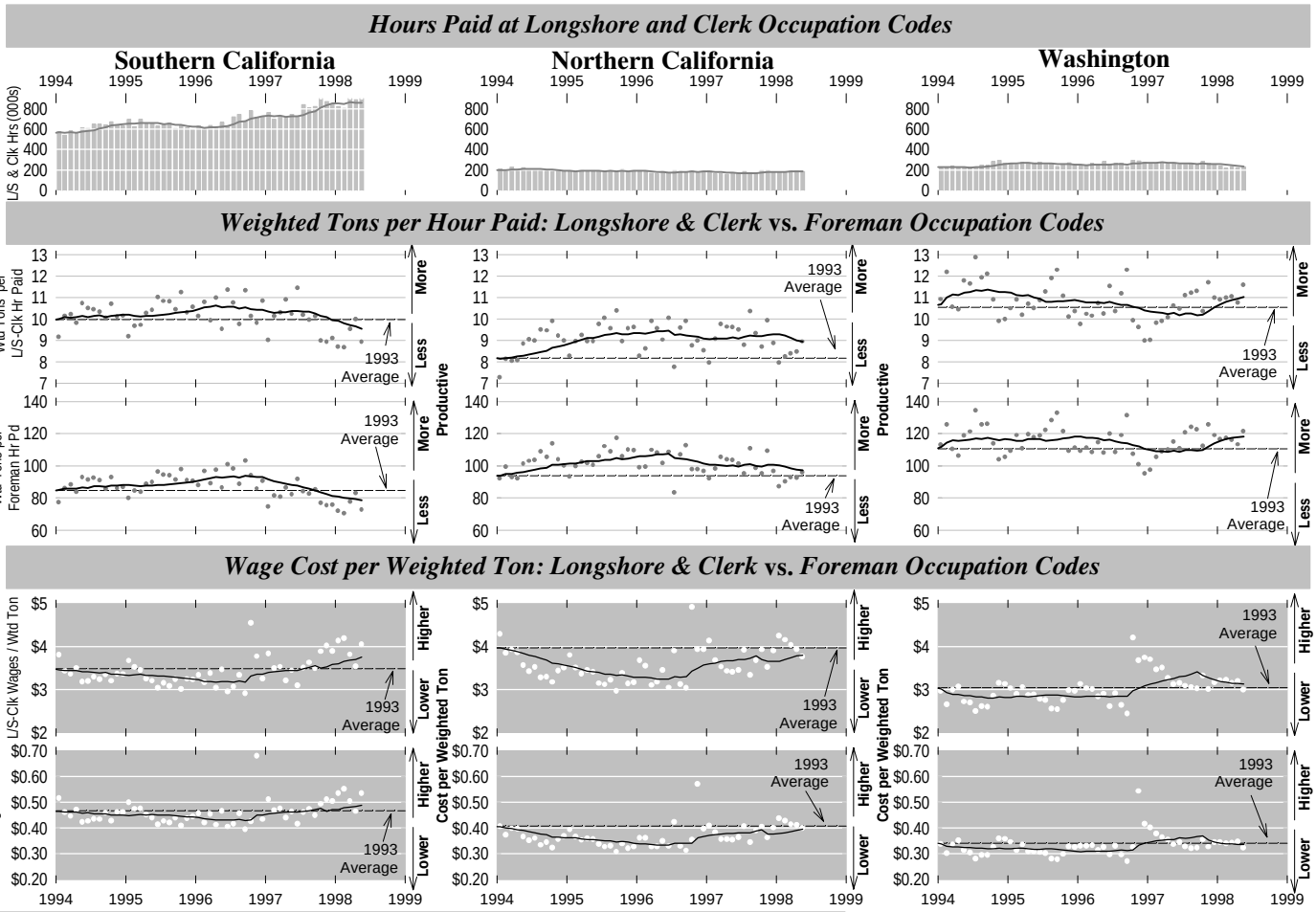
The wage amounts used do not include any benefits costs or taxes but do include skill, overtime, and other wage differentials. Wages shown here have been adjusted on a monthly basis to "constant" 1993 dollars by using the Consumer Price Index (Urban Wage Earners and Clerical Workers).

Coastwise, the costs per weighted ton of wages paid, at both longshore/clerk and at foreman occs, are above the 1993 average.

As can be seen from the two shaded graphs on the left side of page 1, costs of wages for longshore and clerk and for foreman occs per weighted ton were improving consistently from the beginning of 1994 to the middle of 1996. Since the beginning of the present contract, costs per ton have increased.

The same pattern is seen for the group of

Continued, Page 6



Graphs, this page: The charts shown on this page represent data for all of the port areas in each of the four PMA Administrative Areas. The top graph in each set of five graphs shows longshore and clerk hours paid per month in the Area as vertical bars. Six-month running averages are plotted as a solid line near the tops of the bars. Graphs are shown for weighted tons per hour paid at longshore and clerk occ codes and for wage costs at longshore and clerk occ codes per weighted ton. A set of these graphs is also shown for hours and wages paid at foreman occ codes.

major port areas. The other port areas, as a group, have not experienced the same rate of increase in longshore and clerk wages per ton as the major ports, but they have seen foreman occupation code wage costs increase significantly since mid 1996.

Productivity Index by Port Area: Weighted Tons per Hour Paid

The charts on pages 2 and 4 include, for each port area, a small graph showing twelve-month running averages of a productivity index, plotted as a solid white line on a gray background. This index has been calculated independently for each port area by dividing each monthly average by the 1993 average for that port area. Thus, a value of 1.00 represents a twelve-month average value exactly equal to the 1993 average weighted tons per hour for that port area.

The indexed values allow easy comparisons of relative changes in weighted tons per hour paid among port areas based on a "standard" measure. *As this index increases above 1.00, productivity is improving above the 1993 level, and conversely, as it decreases toward a value of 0, productivity is declining for the port area.*

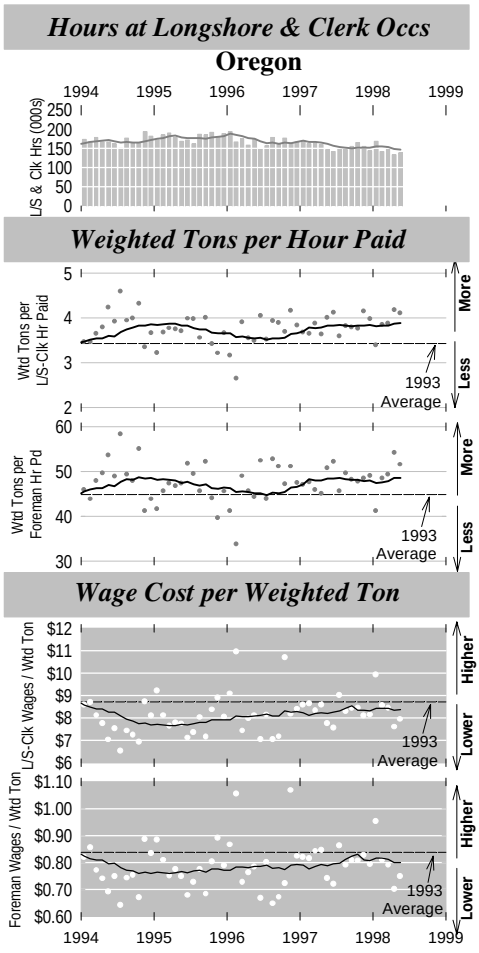
The graphs on page 2 show that Seattle and Los Angeles/Long Beach, among the major ports, both have longshore and clerk productivity levels below their respective 1993 averages. Tacoma and the SF Bay Area both currently have productivity index values greater than 1.00, but each is no higher than the peak value reached prior to 1996.

Similar results are seen for foreman productivity, but in this case, Seattle productivity is also currently above the 1993 level.

Note that foreman productivity index values are not shown for Port Gamble, Newport, and Astoria. The months when no hours were paid in these ports at foreman occupation codes cause the productivity measure to be meaningless.

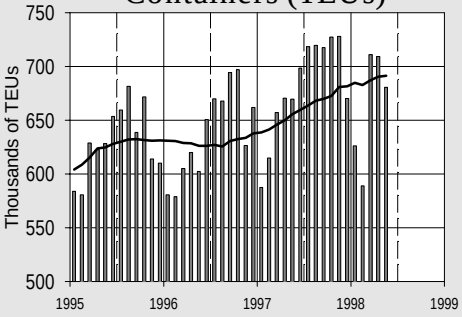
Wage Costs per Ton by Port Area

The graphs on page 3, for longshore & clerk occs, and page 5, for foreman occs, show wages paid in 1993 dollars per weighted ton in each port area. Each small dot represents a monthly value, and the solid line plots 12-month running averages. In each case, a horizontal line is shown to represent the 1993 average cost in wages paid per weighted ton.

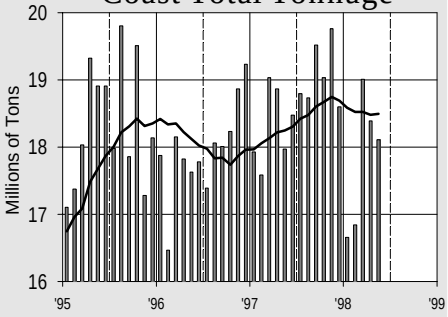


Monthly Tonnage by Reporting Category and Weekly Hours by Occupation Code Type

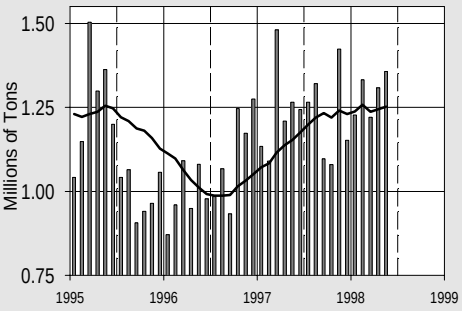
Containers (TEUs)



Coast Total Tonnage

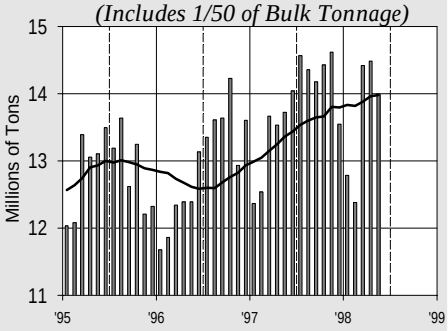


Automobiles & Trucks

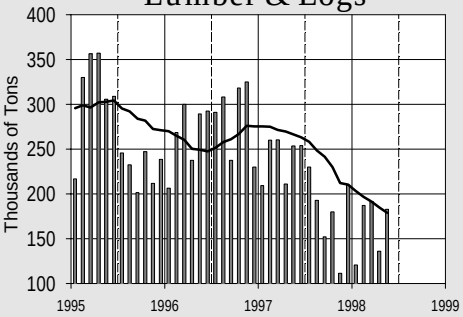


"Weighted" Total Tonnage

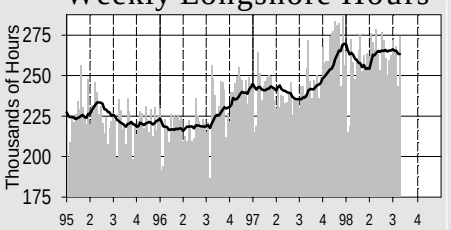
(Includes 1/50 of Bulk Tonnage)



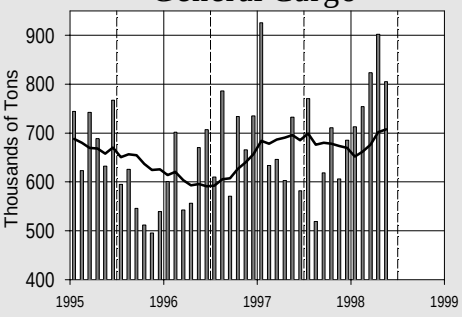
Lumber & Logs



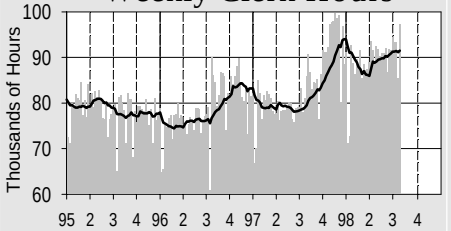
Weekly Longshore Hours



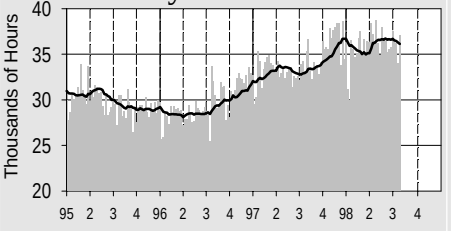
General Cargo



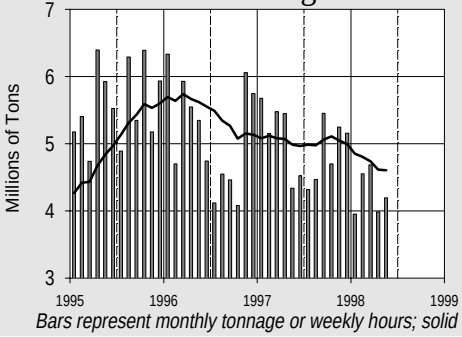
Weekly Clerk Hours



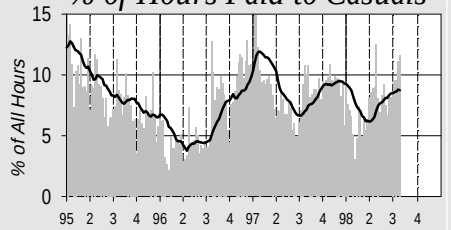
Weekly Foreman Hours



Bulk Cargo



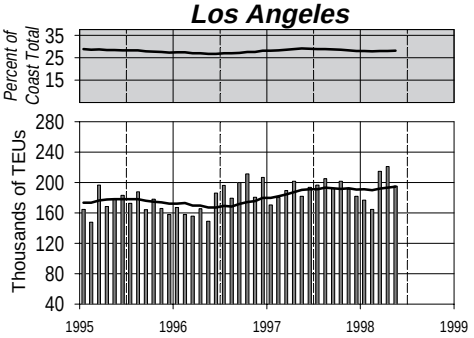
% of Hours Paid to Casuals



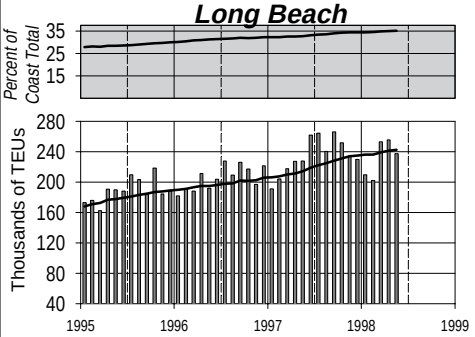
Bars represent monthly tonnage or weekly hours; solid lines represent 12-month or 13-week running averages.

Major Container Ports: Monthly TEUs Reported & Percent of Coast Total TEUs

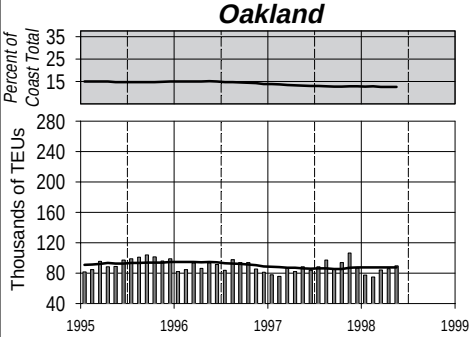
Los Angeles



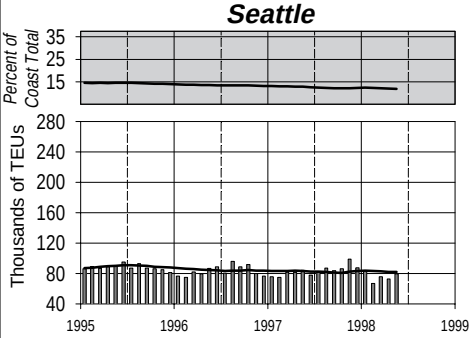
Long Beach



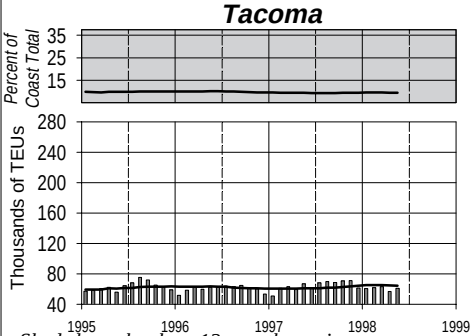
Oakland



Seattle



Tacoma



Shaded graphs show 12-month moving averages of TEUs reported in the port as a % of the coast total. Vertical bars represent TEUs reported in the port each month; lines are 12-month moving averages.

REGISTRATION — STATS (For 52 Payroll Weeks) — PORT HOURS (Year-to-date) — TONNAGE BY PORT AREA (For12 months-to-date & YTD)

ILWU LOCAL/PORT AREA	REGISTRATION (At 7/21/98) TOTAL	Class "B"	STATS (Ending 7/4/98) Number Working	Annual Hrs Pd	Wkly PGP	Hours Paid: Out of Port	Other Local	Casuals	Inactives	PORT HOURS P/R Wks 1-28, '98 Avg. Wkly HRS	% Cst	Hours Paid at Occ Codes Clk	Frm	Exp. Rates*	TONNAGE BY PORT AREA % of Category Coast Total (12 Months-to-Date) Cont'r RU's	Lmbr Logs	Autos Trucks	Other Gen'l	Bulk Cargo	TOTAL	1998 YTD (Jan-May) TONS	% of Coast Total	1998 YTD '98 as a % of '97	Cstwise Loaded TONS
Longshoremen	NO.	NO.	NO.	HRS	$	%	%	%	%	HRS	%	%	%	%	%	%	%	%	%	%	TONS	%	%	TONS
Southern California																								
29 San Diego	55	21	53	1,942	5	12.0	3.5	30.4	1.3	2,713	*0.7*	9.4	12.1	34.1	0.1	3.1	11.8	0.6	1.4	1.3	1,221,492	*1.4*	123.5	0
13 Los Angeles/Long Beach	3,515	856	3,475	2,161	< 1	0.2	1.8	10.6	0.6	240,239	*60.6*	23.4	9.9	25.4	63.2	7.5	34.4	53.2	24.0	50.6	45,924,804	*51.6*	106.9	64,549
46 Port Hueneme	83	12	81	2,058	3	8.6	5.6	38.5	0.5	6,545	*1.7*	14.5	6.5	35.4	0.1	< 0.1	10.0	8.1	-	1.1	1,077,268	*1.2*	130.7	0
Southern California Total	**3,653**	**889**	**3,609**	**2,156**	**< 1**	**0.5**	**2.0**	**11.6**	**0.6**	**249,498**	***63.0***	**23.1**	**9.8**	**25.7**	**63.4**	**10.6**	**56.2**	**61.9**	**25.4**	**52.9**	**48,223,564**	***54.2***	**107.7**	**64,549**
Northern California																								
10 San Francisco Bay Area	989	188	937	1,655	< 1	2.2	2.0	3.7	1.1	46,153	*11.6*	26.6	7.9	15.7	12.9	< 0.1	7.8	7.3	2.0	9.5	8,340,469	*9.4*	101.4	96,991
54 Stockton	55	19	54	1,534	71	4.2	7.9	18.0	0.5	2,296	*0.6*	12.7	7.4	8.5	< 0.1	-	-	2.3	2.4	0.7	504,618	*0.6*	74.3	0
18 Sacramento	25	6	25	1,502	151	8.6	18.5	18.5	0.0	1,597	*0.4*	23.0	6.5	13.0	-	0.3	-	2.0	1.3	0.4	408,806	*0.5*	98.2	0
14 Eureka	31	0	31	832	388	43.0	2.2	4.5	0.0	373	*0.1*	13.2	10.8	5.5	-	0.9	-	2.2	0.6	0.2	226,036	*0.3*	85.7	10,477
Northern California Total	**1,100**	**213**	**1,047**	**1,621**	**19**	**3.1**	**2.9**	**5.1**	**1.0**	**50,419**	***12.7***	**25.7**	**7.8**	**15.2**	**12.9**	**1.2**	**7.8**	**13.7**	**6.3**	**10.8**	**9,479,929**	***10.6***	**98.9**	**107,468**
Oregon																								
12 North Bend/Coos Bay	96	19	94	1,371	122	29.5	7.3	3.1	1.0	1,964	*0.5*	10.4	8.1	1.2	< 0.1	8.5	-	1.0	5.7	1.5	1,276,444	*1.4*	76.5	12,353
53 Newport	8	0	8	517	481	72.3	36.9	1.5	3.1	28	*0.0*	0.0	0.0	0.0	-	0.2	-	-	-	< 0.1	1,873	*0.0*	62.6	0
50 Astoria	50	0	50	507	499	79.2	0.0	2.1	2.5	123	*0.0*	0.4	0.4	2.6	-	1.7	-	< 0.1	-	< 0.1	16,693	*0.0*	116.9	0
8 Portland	470	75	459	1,748	15	3.5	9.2	2.8	1.5	20,291	*5.1*	14.8	7.3	3.1	2.5	4.2	16.9	3.7	21.1	8.2	7,278,022	*8.2*	98.2	13,491
4 Vancouver, WA	153	46	152	1,711	12	12.9	10.9	4.7	1.8	6,375	*1.6*	15.1	6.6	13.2	< 0.1	1.1	3.3	3.9	7.9	2.4	2,065,082	*2.3*	78.4	0
21 Longview, WA	197	22	194	1,810	23	13.9	4.0	4.1	1.2	7,567	*1.9*	9.1	8.1	4.9	-	30.1	-	6.1	14.8	4.2	3,686,827	*4.1*	72.0	33,604
Oregon Total	**974**	**162**	**957**	**1,643**	**56**	**10.9**	**8.2**	**3.4**	**1.5**	**36,348**	***9.2***	**13.4**	**7.4**	**5.2**	**2.5**	**45.8**	**20.2**	**14.6**	**49.6**	**16.3**	**14,324,941**	***16.1***	**85.0**	**59,448**
Washington																								
24 Aberdeen	71	0	71	1,407	169	24.6	8.6	4.8	0.5	1,744	*0.4*	6.7	6.9	0.7	< 0.1	15.9	-	0.8	-	0.2	144,090	*0.2*	60.0	126,384
27 Port Angeles	56	0	56	795	487	70.1	3.5	1.3	0.0	301	*0.1*	8.2	7.2	0.0	-	2.3	-	-	0.3	0.1	94,337	*0.1*	65.0	41,818
51 Port Gamble	13	0	12	432	679	83.8	4.5	0.0	0.0	18	*0.0*	0.0	2.3	0.0	-	-	-	-	-	-	0	*0.0*	-	0
47 Olympia	30	8	30	1,259	114	3.8	18.9	24.2	0.0	1,021	*0.3*	15.0	15.8	22.8	0.1	1.8	< 0.1	0.1	-	0.1	61,453	*0.1*	153.4	0
23 Tacoma	476	89	471	1,744	< 1	1.0	6.6	10.2	0.2	23,769	*6.0*	22.8	9.2	4.0	9.3	16.3	11.2	3.5	10.3	9.5	8,219,456	*9.2*	85.3	0
19 Seattle	586	146	573	1,798	< 1	2.1	5.9	8.5	0.5	30,775	*7.8*	26.5	7.9	8.2	11.8	0.5	4.7	3.3	5.5	9.3	7,829,899	*8.8*	84.6	49,173
32 Everett	55	0	53	1,316	172	11.8	15.4	5.3	0.2	1,444	*0.4*	5.1	8.0	3.5	< 0.1	5.6	-	0.3	0.6	0.2	192,592	*0.2*	89.1	3,924
25 Anacortes	13	0	13	1,097	236	28.1	3.9	0.1	0.0	258	*0.1*	10.5	22.6	0.2	-	0.1	-	-	0.6	0.2	135,496	*0.2*	98.0	0
7 Bellingham	37	5	37	1,129	188	26.1	10.1	5.4	0.0	682	*0.2*	10.9	10.4	4.6	-	-	-	1.7	1.4	0.4	310,068	*0.3*	60.5	0
Washington Total	**1,337**	**248**	**1,316**	**1,645**	**54**	**5.3**	**6.9**	**9.1**	**0.4**	**60,012**	***15.1***	**23.4**	**8.6**	**6.3**	**21.2**	**42.4**	**15.9**	**9.8**	**18.7**	**20.0**	**16,987,391**	***19.1***	**84.1**	**221,299**
Total/Average	**7,064**	**1,512**	**6,929**	**1,907**	**21**	**2.9**	**3.6**	**9.5**	**0.7**	**396,277**	***100.0***	**22.6**	**9.1**	**19.5**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**89,015,825**	***100.0***	**97.4**	**452,764**
% Change from Update *of 7/97*	*+5.6*	*+12.8*	*+5.8*	*+4.2*	*+31.3*	*-0.4*	*-0.7*	*-1.2*	*-0.2*	*+9.0*		*+0.8*	*-0.1*	*+4.1*	*5.4%*	*-32.8%*	*8.6%*	*1.7%*	*-7.7%*	*1.4%*				*-9.5%*
Clerks																								
29 San Diego	5	0	5	2,110	2	21.0	31.7	9.8	0.0															
46 Port Hueneme	12	0	12	2,249	-	2.6	34.5	9.8	0.0															
63 Los Angeles/Long Beach	920	2	890	2,573	< 1	0.1	10.8	12.2	0.6															
14 Eureka	3	0	3	***	***	20.0	35.3	0.0	0.0															
34 SF Bay Area & Delta	272	9	264	2,335	2	3.0	7.5	1.8	1.0															
40 Portland	98	0	95	2,424	1	33.0	8.5	1.3	0.9															
23 Tacoma	71	0	71	2,577	-	0.1	37.1	2.2	0.8															
52 Seattle	181	0	180	2,524	< 1	14.0	12.1	2.7	1.1															
Total/Average	**1,562**	**11**	**1,520**	**2,509**	**1**	**4.3**	**12.2**	**8.5**	**0.7**															
Foremen/Walking Bosses																								
29 San Diego	2	0	2	***	***	0.2	69.1	1.2	2.5															
46 Port Hueneme	5	-	5	2,246	14	0.2	41.0	0.4	0.0															
94 Los Angeles/Long Beach	348	-	344	3,476	< 1	0.2	5.5	0.0	0.9															
91 Northern Calif. Area	73	-	72	2,482	26	0.5	11.9	0.0	2.6															
92 Portland	49	-	48	2,517	14	10.5	12.7	0.0	3.5															
98 Seattle	97	-	97	2,609	6	9.9	12.5	0.0	0.5															
Total/Average	**574**		**568**	**3,107**	**6**	**2.3**	**8.8**	**0.0**	**1.2**															

* 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.