SPR-821: DEVELOP NEW METHODS TO USE ODOT WEIGH-IN-MOTION DATA FOR PREDICTING FREIGHT FLOW AND/OR COMMODITY PATTERNS

Monthly Truck Volume and Total Observed Weight Percentages

by

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MONTHLY VOLUME PERCENTAGES

The following tables summarize the monthly percentages of the total number of trucks by WIM station. Also included is a comparison across years consisting of the maximum number of trucks, minimum number of trucks, range (difference between maximum and minimum values), and average.

Table 1: Total Number of Trucks at Ashland WIM Stations by Month

December

Total

84,812

1,153,847

90,082

1,143,551

84,234

1,128,104

86,003

1,144,427

				N	orthboun	d						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	86,051	88,653	87,966	92,914	7.37%	7.24%	6.89%	7.34%	7.37%	6.89%	0.48%	7.21%
February	82,036	87,943	90,338	90,792	7.02%	7.19%	7.08%	7.17%	7.19%	7.02%	0.16%	7.11%
March	99,485	103,024	107,617	108,459	8.52%	8.42%	8.43%	8.57%	8.57%	8.42%	0.15%	8.48%
April	100,916	101,337	108,301	108,291	8.64%	8.28%	8.48%	8.55%	8.64%	8.28%	0.36%	8.49%
May	103,799	105,125	113,249	118,150	8.89%	8.59%	8.87%	9.33%	9.33%	8.59%	0.74%	8.92%
June	109,174	110,855	118,019	115,177	9.35%	9.06%	9.25%	9.10%	9.35%	9.06%	0.29%	9.19%
July	109,922	108,640	120,519	118,141	9.41%	8.88%	9.44%	9.33%	9.44%	8.88%	0.57%	9.27%
August	104,405	111,153	121,157	116,831	8.94%	9.08%	9.49%	9.23%	9.49%	8.94%	0.55%	9.18%
September	93,296	106,184	105,617	103,739	7.99%	8.68%	8.27%	8.19%	8.68%	7.99%	0.69%	8.28%
October	98,683	100,913	107,199	107,687	8.45%	8.25%	8.40%	8.51%	8.51%	8.25%	0.26%	8.40%
November	89,969	101,030	101,187	91,449	7.70%	8.25%	7.93%	7.22%	8.25%	7.22%	1.03%	7.78%
December	90,350	99,031	95,269	94,444	7.73%	8.09%	7.46%	7.46%	8.09%	7.46%	0.63%	7.69%
Total	1,168,086	1,223,888	1,276,438	1,266,074								
				S	outhboun	d						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	85,628	82,230	80,643	82,086	7.42%	7.19%	7.15%	7.17%	7.42%	7.15%	0.27%	7.23%
February	81,513	80,289	77,149	78,575	7.06%	7.02%	6.84%	6.87%	7.06%	6.84%	0.23%	6.95%
March	96,239	90,666	91,850	91,075	8.34%	7.93%	8.14%	7.96%	8.34%	7.93%	0.41%	8.09%
April	98,350	92,857	90,099	91,148	8.52%	8.12%	7.99%	7.96%	8.52%	7.96%	0.56%	8.15%
May	104,851	102,403	99,663	104,181	9.09%	8.95%	8.83%	9.10%	9.10%	8.83%	0.27%	8.99%
June	113,453	108,543	108,718	108,791	9.83%	9.49%	9.64%	9.51%	9.83%	9.49%	0.34%	9.62%
July	108,748	109,402	107,000	108,769	9.42%	9.57%	9.48%	9.50%	9.57%	9.42%	0.14%	9.50%
August	103,546	106,367	106,975	107,251	8.97%	9.30%	9.48%	9.37%	9.48%	8.97%	0.51%	9.28%
September	93,808	96,470	95,205	95,507	8.13%	8.44%	8.44%	8.35%	8.44%	8.13%	0.31%	8.34%
October	96,396	93,156	97,518	100,206	8.35%	8.15%	8.64%	8.76%	8.76%	8.15%	0.61%	8.48%
November	86,503	91,086	89,050	90,835	7.50%	7.97%	7.89%	7.94%	7.97%	7.50%	0.47%	7.82%
NOVCIIIOCI	00,000	- ,	,	, ,,,,,,								

7.35% 7.88% 7.47% 7.51%

7.88%

7.35%

0.53%

7.55%

Table 2: Total Number of Trucks at Woodburn WIM Stations by Month and Year

September

November

December

Total

October

302,017

299,053

271,622

272,453

2,434,193

185,088

170,627

170,585

162,758

3,176,212

173,869

174,347

164,371

159,267

2,077,191

208,842

218,954

194,405

183,362

2,235,196

					Northbour	nd						
		Total Numb	er of Trucks		11011110011	Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	220,048	235,956	229,238	201,892	7.21%	7.30%	8.73%	7.45%	8.73%	7.21%	1.52%	7.67%
February	220,251	247,008	230,542	200,917	7.22%	7.64%	8.78%	7.41%	8.78%	7.22%	1.56%	7.76%
March	261,395	282,274	293,602	238,621	8.56%	8.73%	11.18%	8.80%	11.18%	8.56%	2.61%	9.32%
April	252,870	276,675	258,409	229,471	8.29%	8.56%	9.84%	8.46%	9.84%	8.29%	1.55%	8.79%
May	231,705	279,532	291,436	252,238	7.59%	8.65%	11.09%	9.30%	11.09%	7.59%	3.50%	9.16%
June	276,000	299,865	265,946	242,770	9.04%	9.27%	10.12%	8.95%	10.12%	8.95%	1.17%	9.35%
July	292,872	269,584	12,210	256,066	9.60%	8.34%	0.46%	9.45%	9.60%	0.46%	9.13%	6.96%
August	282,825	311,614	191,859	251,589	9.27%	9.64%	7.30%	9.28%	9.64%	7.30%	2.34%	8.87%
September	272,603	280,937	229,546	216,508	8.93%	8.69%	8.74%	7.99%	8.93%	7.99%	0.95%	8.59%
October	269,665	255,307	211,091	232,821	8.84%	7.90%	8.04%	8.59%	8.84%	7.90%	0.94%	8.34%
November	240,184	250,860	214,803	203,670	7.87%	7.76%	8.18%	7.51%	8.18%	7.51%	0.66%	7.83%
December	231,623	243,469	198,425	184,472	7.59%	7.53%	7.55%	6.80%	7.59%	6.80%	0.78%	7.37%
Total	3,052,041	3,233,081	2,627,107	2,711,035								
					Southbour	nd						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	135,880	252,925	146,191	162,458	5.58%	7.96%	7.04%	7.27%	7.96%	5.58%	2.38%	6.96%
February	128,958	277,335	150,701	157,112	5.30%	8.73%	7.26%	7.03%	8.73%	5.30%	3.43%	7.08%
March	155,483	312,387	181,103	182,854	6.39%	9.84%	8.72%	8.18%	9.84%	6.39%	3.45%	8.28%
April	152,917	324,026	164,135	160,469	6.28%	10.20%	7.90%	7.18%	10.20%	6.28%	3.92%	7.89%
May	161,382	345,648	187,733	193,916	6.63%	10.88%	9.04%	8.68%	10.88%	6.63%	4.25%	8.81%
June	166,821	354,089	187,581	193,429	6.85%	11.15%	9.03%	8.65%	11.15%	6.85%	4.29%	8.92%
July	177,104	377,606	192,003	159,858	7.28%	11.89%	9.24%	7.15%	11.89%	7.15%	4.74%	8.89%
August	210,503	243,138	195,890	219,537	8.65%	7.65%	9.43%	9.82%	9.82%	7.65%	2.17%	8.89%

12.41%

12.29%

11.16%

11.19%

5.83%

5.37%

5.37%

5.12%

8.37%

8.39%

7.91%

7.67%

9.34%

9.80%

8.70%

8.20%

12.41%

12.29%

11.16%

11.19%

5.83%

5.37%

5.37%

5.12%

6.58%

6.91%

5.79%

6.07%

8.99%

8.96%

8.28%

8.05%

Table 3: Total Number of Trucks at Cascade Locks (EB) and Wyeth (WB) WIM Stations by Month and Year

				Eastbour	nd (Cascad	de Locks)						
		Total Number	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	65,457	74,954	54,064	73,000	6.85%	7.06%	5.60%	6.79%	7.06%	5.60%	1.46%	6.57%
February	62,790	74,725	66,697	71,462	6.57%	7.04%	6.91%	6.65%	7.04%	6.57%	0.47%	6.79%
March	79,838	86,992	90,656	87,778	8.35%	8.19%	9.39%	8.16%	9.39%	8.16%	1.22%	8.52%
April	83,019	92,892	89,657	85,060	8.69%	8.75%	9.28%	7.91%	9.28%	7.91%	1.37%	8.66%
May	89,221	94,118	93,376	96,660	9.33%	8.87%	9.67%	8.99%	9.67%	8.87%	0.80%	9.21%
June	88,600	94,299	100,598	81,844	9.27%	8.88%	10.42%	7.61%	10.42%	7.61%	2.80%	9.05%
July	86,331	99,607	101,542	101,808	9.03%	9.38%	10.51%	9.47%	10.51%	9.03%	1.48%	9.60%
August	84,300	101,651	101,427	106,829	8.82%	9.58%	10.50%	9.94%	10.50%	8.82%	1.68%	9.71%
September	83,706	101,287	33,976	98,545	8.76%	9.54%	3.52%	9.17%	9.54%	3.52%	6.02%	7.75%
October	84,968	88,243	91,611	100,408	8.89%	8.31%	9.49%	9.34%	9.49%	8.31%	1.17%	9.01%
November	71,648	81,942	80,523	90,091	7.50%	7.72%	8.34%	8.38%	8.38%	7.50%	0.88%	7.98%
December	75,988	70,896	61,692	81,590	7.95%	6.68%	6.39%	7.59%	7.95%	6.39%	1.56%	7.15%
Total	955,866	1,061,606	965,819	1,075,075								
				West	bound (W	yeth)						
		Total Number	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	70,498	72,795	56,902	79,853	6.72%	6.57%	5.51%	7.65%	7.65%	5.51%	2.14%	6.61%
February	67,528	76,007	70,069	69,397	6.44%	6.86%	6.78%	6.64%	6.86%	6.44%	0.42%	6.68%
March	86,036	87,102	96,825	84,993	8.21%	7.86%	9.37%	8.14%	9.37%	7.86%	1.51%	8.39%
April	90,011	96,221	90,595	85,770	8.59%	8.68%	8.77%	8.21%	8.77%	8.21%	0.56%	8.56%
May	95,104	98,225	98,504	97,824	9.07%	8.86%	9.54%	9.37%	9.54%	8.86%	0.67%	9.21%
June	100,176	111,065	96,754	91,305	9.56%	10.02%	9.37%	8.74%	10.02%	8.74%	1.28%	9.42%
July	103,598	106,376	99,820	97,750	9.88%	9.60%	9.66%	9.36%	9.88%	9.36%	0.52%	9.63%
A .	100 106	100 460	101 611	100 202	0.500/	0.0501	10 100/	0.500/	10 100/	0.060/	4 050	0.5001

August 100,496 100,463 104,644 100,203 9.59% 9.06% 10.13% 9.59% 10.13% 9.06% 1.07% 9.59% September 96,968 109,102 62,561 84,719 9.25% 9.84% 6.06% 8.11% 9.84% 6.06% 3.79% 8.32% October 94,439 97,395 92,065 90,305 9.01% 8.79% 8.91% 8.65% 9.01% 8.65% 0.36% 8.84% November 80,751 80,865 85,109 81,468 7.70% 7.30% 8.24% 7.80% 8.24% 7.30% 0.94% 7.76% December 62,705 72,721 79,088 80,841 5.98% 7.66% 7.74% 7.74% 5.98% 1.76% 6.98% 6.56% 1,108,337 1,032,936 Total 1,048,310 1,044,428

Table 4: Total Number of Trucks at Olds Ferry (EB) and Farewell Bend (WB) WIM Stations by Month and Year

				Eastbo	und (Olds	Ferry)						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	52,649	53,321	53,516	62,828	7.75%	7.37%	8.14%	6.90%	8.14%	6.90%	1.23%	7.54%
February	50,105	54,610	43,196	62,880	7.37%	7.55%	6.57%	6.91%	7.55%	6.57%	0.98%	7.10%
March	60,040	64,927	76,604	80,053	8.84%	8.97%	11.65%	8.80%	11.65%	8.80%	2.85%	9.56%
April	59,615	63,422	73,454	74,047	8.77%	8.76%	11.17%	8.14%	11.17%	8.14%	3.03%	9.21%
May	57,932	62,813	71,690	81,689	8.53%	8.68%	10.90%	8.98%	10.90%	8.53%	2.37%	9.27%
June	58,143	65,011	49,389	83,219	8.56%	8.98%	7.51%	9.14%	9.14%	7.51%	1.64%	8.55%
July	57,495	61,207	16,929	84,038	8.46%	8.46%	2.57%	9.23%	9.23%	2.57%	6.66%	7.18%
August	58,106	58,552	5,838	86,838	8.55%	8.09%	0.89%	9.54%	9.54%	0.89%	8.65%	6.77%
September	57,745	47,495	51,405	78,379	8.50%	6.56%	7.81%	8.61%	8.61%	6.56%	2.05%	7.87%
October	63,670	62,539	82,883	81,879	9.37%	8.64%	12.60%	9.00%	12.60%	8.64%	3.96%	9.90%
November	53,737	71,036	70,850	72,051	7.91%	9.81%	10.77%	7.92%	10.77%	7.91%	2.86%	9.10%
December	50,241	58,852	62,045	62,238	7.39%	8.13%	9.43%	6.84%	9.43%	6.84%	2.59%	7.95%
Total	679,478	723,785	657,799	910,139								
				Westbou	nd (Farewe	ell Bend)						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	52,974	54,148	47,233	58,671	6.94%	7.07%	5.93%	7.16%	7.16%	5.93%	1.23%	6.78%
February	51,658	54,492	53,127	60,137	6.77%	7.11%	6.68%	7.34%	7.34%	6.68%	0.67%	6.97%
March	64,181	62,729	68,812	76,415	8.41%	8.19%	8.65%	9.33%	9.33%	8.19%	1.14%	8.64%
April	62,942	65,144	67,957	76,004	8.24%	8.50%	8.54%	9.28%	9.28%	8.24%	1.04%	8.64%
May	59,273	71,258	72,310	80,103	7.76%	9.30%	9.09%	9.78%	9.78%	7.76%	2.02%	8.98%
June	68,249	72,378	74,056	73,154	8.94%	9.45%	9.31%	8.93%	9.45%	8.93%	0.51%	9.16%
July	68,033	67,643	73,454	71,683	8.91%	8.83%	9.23%	8.75%	9.23%	8.75%	0.48%	8.93%
August	67,210	72,713	75,029	71,017	8.80%	9.49%	9.43%	8.67%	9.49%	8.67%	0.82%	9.10%
September	84,532	66,995	66,090	63,557	11.07%	8.74%	8.30%	7.76%	11.07%	7.76%	3.31%	8.97%

8.57%

7.50%

6.91%

9.96%

8.27%

7.23%

8.48%

7.39%

6.81%

1.48%

0.89%

0.42%

9.09%

7.78%

6.96%

9.96%

7.39%

6.81%

8.48%

7.97%

6.88%

9.35%

8.27%

7.23%

October

November

December

Total

76,020

56,383

51,984

763,439

64,976

61,041

52,684

766,201

74,419

65,848

57,526

795,861

70,193

61,412

56,592

818,938

Table 5: Total Number of Trucks at Klamath Falls WIM Stations by Month and Year

					Northbou	nd						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	21,132	15,120	17,323	23,206	6.61%	3.82%	5.05%	5.95%	6.61%	3.82%	2.79%	5.36%
February	21,810	20,277	21,313	23,526	6.83%	5.12%	6.22%	6.03%	6.83%	5.12%	1.70%	6.05%
March	27,606	33,929	30,015	29,012	8.64%	8.58%	8.76%	7.44%	8.76%	7.44%	1.32%	8.35%
April	28,393	36,370	30,624	34,362	8.89%	9.19%	8.94%	8.81%	9.19%	8.81%	0.39%	8.95%
May	30,596	39,140	36,948	39,625	9.58%	9.89%	10.78%	10.15%	10.78%	9.58%	1.21%	10.10%
June	34,475	42,963	34,056	41,871	10.79%	10.86%	9.94%	10.73%	10.86%	9.94%	0.92%	10.58%
July	33,678	44,744	28,233	42,457	10.54%	11.31%	8.24%	10.88%	11.31%	8.24%	3.07%	10.24%
August	31,291	45,134	28,812	38,288	9.79%	11.41%	8.41%	9.81%	11.41%	8.41%	3.00%	9.85%
September	26,933	39,113	29,767	33,656	8.43%	9.89%	8.69%	8.63%	9.89%	8.43%	1.46%	8.91%
October	27,450	29,831	33,747	32,840	8.59%	7.54%	9.85%	8.42%	9.85%	7.54%	2.31%	8.60%
November	21,045	28,483	27,984	28,225	6.59%	7.20%	8.16%	7.23%	8.16%	6.59%	1.58%	7.30%
December	15,129	20,551	23,913	23,138	4.73%	5.19%	6.98%	5.93%	6.98%	4.73%	2.24%	5.71%
Total	319,538	395,655	342,735	390,206								
					Southbou	nd						
		Total Numb	er of Trucks			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	36,986	28,663	25,726	37,539	7.21%	5.73%	4.25%	6.47%	7.21%	4.25%	2.96%	5.92%
February	37,334	32,466	26,437	37,575	7.28%	6.49%	4.37%	6.48%	7.28%	4.37%	2.91%	6.15%
March	43,454	42,785	43,083	45,436	8.47%	8.55%	7.12%	7.84%	8.55%	7.12%	1.44%	7.99%
April	43,870	46,591	55,890	45,820	8.55%	9.31%	9.23%	7.90%	9.31%	7.90%	1.41%	8.75%
May	47,952	50,129	67,716	50,062	9.35%	10.02%	11.18%	8.63%	11.18%	8.63%	2.55%	9.80%
June	53,504	50,623	68,975	54,751	10.43%	10.12%	11.39%	9.44%	11.39%	9.44%	1.95%	10.35%
July	48,629	50,674	73,857	59,778	9.48%	10.13%	12.20%	10.31%	12.20%	9.48%	2.72%	10.53%
August	52,990	50,551	67,147	59,147	10.33%	10.10%	11.09%	10.20%	11.09%	10.10%	0.99%	10.43%
September	43,201	44,381	53,831	53,900	8.42%	8.87%	8.89%	9.30%	9.30%	8.42%	0.87%	8.87%
October	44,370	40,310	50,320	52,109	8.65%	8.06%	8.31%	8.99%	8.99%	8.06%	0.93%	8.50%
November	34,670	35,937	39,204	44,948	6.76%	7.18%	6.47%	7.75%	7.75%	6.47%	1.28%	7.04%
December	26,020	27,173	33,282	38,806	5.07%	5.43%	5.50%	6.69%	6.69%	5.07%	1.62%	5.67%
Total	512,980	500,283	605,468	579,871								

MONTHLY OBSERVED WEIGHT PERCENTAGES

The following tables summarize the monthly percentages of the total observed weight by WIM station (recorded weight includes both truck weight and commodity weight). Also included is a comparison across years consisting of the maximum number of trucks, minimum number of trucks, range (difference between maximum and minimum values), and average.

Table 6: Total Observed Weight at Ashland WIM Stations by Month and Year

				Nortl	nbound							
		Total Observed	l Weight (tons)			Percent	of Total		Co	mparison .	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,927,686	1,980,808	2,026,908	2,086,150	7.61%	7.60%	7.45%	7.63%	7.63%	7.45%	0.18%	7.57%
February	1,819,546	1,931,413	2,033,084	2,032,647	7.18%	7.41%	7.47%	7.43%	7.47%	7.18%	0.29%	7.37%
March	2,170,274	2,227,964	2,352,764	2,369,086	8.56%	8.55%	8.64%	8.66%	8.66%	8.55%	0.11%	8.60%
April	2,215,640	2,173,519	2,278,430	2,313,821	8.74%	8.34%	8.37%	8.46%	8.74%	8.34%	0.40%	8.48%
May	2,224,686	2,248,494	2,379,574	2,554,455	8.78%	8.63%	8.74%	9.34%	9.34%	8.63%	0.71%	8.87%
June	2,327,824	2,355,481	2,481,683	2,426,302	9.19%	9.04%	9.12%	8.87%	9.19%	8.87%	0.32%	9.05%
July	2,348,460	2,202,639	2,421,027	2,450,916	9.27%	8.45%	8.89%	8.96%	9.27%	8.45%	0.82%	8.89%
August	2,231,829	2,326,793	2,534,933	2,514,327	8.81%	8.93%	9.31%	9.19%	9.31%	8.81%	0.51%	9.06%
September	2,020,291	2,199,861	2,190,788	2,230,543	7.97%	8.44%	8.05%	8.15%	8.44%	7.97%	0.47%	8.15%
October	2,119,247	2,122,873	2,278,514	2,345,962	8.36%	8.15%	8.37%	8.58%	8.58%	8.15%	0.43%	8.36%
November	1,929,980	2,133,080	2,198,844	1,965,159	7.62%	8.18%	8.08%	7.18%	8.18%	7.18%	1.00%	7.77%
December	2,006,482	2,159,567	2,042,646	2,067,617	7.92%	8.29%	7.50%	7.56%	8.29%	7.50%	0.78%	7.82%
Total	25,341,945	26,062,491	27,219,195	27,356,984								
				South	nbound							
		Total Observed	l Weight (tons)			Percent	of Total		Co	mparison.	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,809,423	1,747,054	1,673,390	1,710,312	7.48%	7.43%	7.33%	7.29%	7.48%	7.29%	0.18%	7.38%
February	1,741,046	1,707,859	1,590,842	1,649,919	7.19%	7.26%	6.97%	7.03%	7.26%	6.97%	0.30%	7.11%
March	2,030,664	1,916,469	1,873,982	1,914,507	8.39%	8.15%	8.21%	8.16%	8.39%	8.15%	0.24%	8.23%
April	2,067,550	1,930,957	1,798,925	1,892,132	8.54%	8.21%	7.88%	8.07%	8.54%	7.88%	0.66%	8.18%
May	2,170,362	2,128,691	2,021,076	2,135,843	8.97%	9.05%	8.85%	9.11%	9.11%	8.85%	0.25%	8.99%
June	2,322,017	2,214,361	2,139,661	2,187,404	9.59%	9.42%	9.37%	9.33%	9.59%	9.33%	0.27%	9.43%
July	2,246,638	2,131,069	2,094,799	2,149,563	9.28%	9.06%	9.18%	9.16%	9.28%	9.06%	0.22%	9.17%
August	2,180,315	2,226,811	2,197,103	2,232,391	9.01%	9.47%	9.62%	9.52%	9.62%	9.01%	0.62%	9.41%
September	1,986,724	1,992,387	1,932,094	1,971,582	8.21%	8.47%	8.46%	8.41%	8.47%	8.21%	0.27%	8.39%
October	2,041,744	1,862,972	1,974,829	2,043,531	8.44%	7.92%	8.65%	8.71%	8.71%	7.92%	0.79%	8.43%
November	1,818,259	1,827,123	1,820,739	1,842,402	7.51%	7.77%	7.98%	7.85%	7.98%	7.51%	0.46%	7.78%
December	1,788,916	1,825,679	1,712,681	1,726,129	7.39%	7.77%	7.50%	7.36%	7.77%	7.36%	0.41%	7.50%
Total	24,203,659	23,511,431	22,830,122	23,455,716								

Table 7: Total Observed Weight at Woodburn WIM Stations by Month and Year

				Nor	thbound							
		Total Observed	l Weight (tons)			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	4,769,671	4,589,850	4,369,803	3,764,474	7.89%	7.48%	9.03%	7.61%	9.03%	7.48%	1.55%	8.00%
February	4,669,503	4,758,502	4,364,452	3,704,182	7.72%	7.75%	9.02%	7.49%	9.02%	7.49%	1.53%	8.00%
March	5,604,776	5,488,581	5,578,873	4,361,785	9.27%	8.94%	11.53%	8.82%	11.53%	8.82%	2.72%	9.64%
April	5,318,904	5,287,348	4,652,797	4,153,178	8.80%	8.62%	9.62%	8.40%	9.62%	8.40%	1.22%	8.86%
May	4,496,834	5,321,142	5,322,818	4,592,558	7.44%	8.67%	11.00%	9.28%	11.00%	7.44%	3.57%	9.10%
June	5,392,305	5,749,389	4,797,275	4,350,547	8.92%	9.37%	9.92%	8.79%	9.92%	8.79%	1.12%	9.25%
July	5,644,698	5,158,652	224,424	4,451,262	9.33%	8.41%	0.46%	9.00%	9.33%	0.46%	8.87%	6.80%
August	5,310,831	5,771,345	3,454,061	4,567,238	8.78%	9.40%	7.14%	9.23%	9.40%	7.14%	2.26%	8.64%
September	5,129,131	5,186,436	4,160,807	3,931,768	8.48%	8.45%	8.60%	7.95%	8.60%	7.95%	0.65%	8.37%
October	5,157,403	4,770,385	3,866,779	4,349,200	8.53%	7.77%	7.99%	8.79%	8.79%	7.77%	1.02%	8.27%
November	4,535,059	4,704,914	3,974,656	3,782,940	7.50%	7.67%	8.22%	7.65%	8.22%	7.50%	0.72%	7.76%
December	4,441,851	4,578,133	3,607,824	3,459,569	7.35%	7.46%	7.46%	6.99%	7.46%	6.99%	0.47%	7.31%
Total	60,470,967	61,364,679	48,374,569	49,468,701								
				Sou	thbound							
		Total Observed	l Weight (tons)			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	2,524,585	3,519,805	2,940,107	3,381,550	6.74%	7.34%	7.02%	7.33%	7.34%	6.74%	0.60%	7.11%
February	2,385,954	3,888,095	3,043,874	3,272,468	6.37%	8.11%	7.27%	7.09%	8.11%	6.37%	1.74%	7.21%
March	2,863,261	4,364,414	3,652,502	3,848,396	7.65%	9.11%	8.72%	8.34%	9.11%	7.65%	1.46%	8.45%
April	2,782,677	4,369,862	3,298,544	3,402,240	7.43%	9.12%	7.87%	7.38%	9.12%	7.38%	1.74%	7.95%
May	2,902,842	4,550,256	3,687,395	4,083,265	7.75%	9.49%	8.80%	8.85%	9.49%	7.75%	1.74%	8.73%
June	3,007,187	4,630,793	3,672,200	3,983,736	8.03%	9.66%	8.77%	8.64%	9.66%	8.03%	1.63%	8.77%
July	3,085,601	4,622,874	3,912,481	3,262,730	8.24%	9.65%	9.34%	7.07%	9.65%	7.07%	2.57%	8.58%
August	3,167,988	4,303,889	4,014,768	4,507,106	8.46%	8.98%	9.58%	9.77%	9.77%	8.46%	1.31%	9.20%
September	3,656,681	3,637,073	3,501,194	4,213,045	9.77%	7.59%	8.36%	9.13%	9.77%	7.59%	2.18%	8.71%
October	3,619,370	3,421,829	3,569,995	4,509,157	9.67%	7.14%	8.52%	9.78%	9.78%	7.14%	2.64%	8.78%
November	3,407,192	3,398,704	3,363,498	3,909,366	9.10%	7.09%	8.03%	8.48%	9.10%	7.09%	2.01%	8.17%
December	4,031,378	3,218,695	3,235,009	3,750,661	10.77%	6.72%	7.72%	8.13%	10.77%	6.72%	4.05%	8.33%
Total	37,434,716	47,926,289	41,891,567	46,123,721								

Table 8: Total Observed Weight at Cascade Locks (EB) and Wyeth (WB) WIM Stations by Month and Year

				Eastbound (C	Cascade L	ocks)						
		Total Observed	d Weight (tons)			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,571,029	1,782,116	1,315,964	1,761,837	7.29%	7.46%	6.03%	7.23%	7.46%	6.03%	1.43%	7.00%
February	1,511,760	1,765,030	1,657,466	1,723,659	7.01%	7.39%	7.60%	7.07%	7.60%	7.01%	0.59%	7.27%
March	1,941,639	2,088,169	2,200,702	2,089,774	9.01%	8.74%	10.09%	8.58%	10.09%	8.58%	1.51%	9.10%
April	1,978,204	2,133,905	2,038,385	1,954,782	9.18%	8.93%	9.35%	8.02%	9.35%	8.02%	1.32%	8.87%
May	1,981,222	2,101,340	2,146,484	2,181,358	9.19%	8.80%	9.84%	8.95%	9.84%	8.80%	1.04%	9.20%
June	1,946,951	2,098,692	2,161,376	1,802,029	9.03%	8.79%	9.91%	7.40%	9.91%	7.40%	2.51%	8.78%
July	1,866,202	2,104,123	2,096,896	2,167,888	8.66%	8.81%	9.61%	8.90%	9.61%	8.66%	0.96%	8.99%
August	1,819,405	2,211,019	2,154,221	2,329,727	8.44%	9.26%	9.88%	9.56%	9.88%	8.44%	1.44%	9.28%
September	1,788,298	2,138,166	685,161	2,135,384	8.30%	8.95%	3.14%	8.76%	8.95%	3.14%	5.81%	7.29%
October	1,817,520	1,950,979	2,061,443	2,282,768	8.43%	8.17%	9.45%	9.37%	9.45%	8.17%	1.28%	8.86%
November	1,555,473	1,849,943	1,841,683	2,060,847	7.22%	7.75%	8.44%	8.46%	8.46%	7.22%	1.24%	7.97%
December	1,778,661	1,662,034	1,449,167	1,873,982	8.25%	6.96%	6.64%	7.69%	8.25%	6.64%	1.61%	7.39%
Total	21,556,363	23,885,517	21,808,946	24,364,035								
				Westbou	nd (Wyetl	n)						
		Total Observed	d Weight (tons)			Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,635,966	1,659,564	1,280,196	1,722,011	7.64%	7.45%	5.82%	7.71%	7.71%	5.82%	1.89%	7.16%
February	1,526,939	1,681,775	1,576,630	1,665,272	7.13%	7.55%	7.16%	7.46%	7.55%	7.13%	0.42%	7.33%
March	1,855,216	1,843,370	2,083,246	1,983,264	8.67%	8.28%	9.46%	8.88%	9.46%	8.28%	1.19%	8.82%
April	1,843,227	1,936,827	1,875,277	1,934,446	8.61%	8.70%	8.52%	8.66%	8.70%	8.52%	0.18%	8.62%
May	1,844,361	1,855,284	2,071,418	2,141,181	8.62%	8.33%	9.41%	9.59%	9.59%	8.33%	1.25%	8.99%
June	1,907,433	2,062,421	2,067,774	1,859,430	8.91%	9.26%	9.39%	8.32%	9.39%	8.32%	1.07%	8.97%
July	1,970,782	2,025,107	2,146,156	1,839,127	9.21%	9.10%	9.75%	8.23%	9.75%	8.23%	1.52%	9.07%
August	1,894,298	2,011,771	2,269,242	2,051,405	8.85%	9.04%	10.31%	9.18%	10.31%	8.85%	1.46%	9.35%
September	1,916,025	1,998,019	1,229,854	1,738,581	8.95%	8.97%	5.59%	7.78%	8.97%	5.59%	3.39%	7.82%
October	1,918,854	1,909,089	1,936,459	1,904,107	8.97%	8.57%	8.80%	8.52%	8.97%	8.52%	0.44%	8.72%
November	1,703,161	1,688,419	1,812,756	1,743,566	7.96%	7.58%	8.24%	7.81%	8.24%	7.58%	0.65%	7.90%
December	1,386,842	1,593,362	1,661,303	1,753,428	6.48%	7.16%	7.55%	7.85%	7.85%	6.48%	1.37%	7.26%
Total	21,403,103	22,265,009	22,010,312	22,335,817								

Table 9: Total Observed Weight at Olds Ferry (EB) and Farewell Bend (WB) WIM Stations by Month and Year

				Eastbour	nd (Olds F	erry)						
		Total Observed	d Weight (tons)			Percent	t of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,291,035	1,173,316	1,480,051	1,624,057	8.00%	7.21%	8.78%	7.47%	8.78%	7.21%	1.57%	7.86%
February	1,253,085	1,202,956	1,214,648	1,593,602	7.77%	7.39%	7.20%	7.33%	7.77%	7.20%	0.56%	7.42%
March	1,514,283	1,437,647	2,117,371	2,056,323	9.38%	8.83%	12.55%	9.46%	12.55%	8.83%	3.72%	10.06%
April	1,522,305	1,402,249	1,996,616	1,849,363	9.43%	8.62%	11.84%	8.50%	11.84%	8.50%	3.33%	9.60%
May	1,415,697	1,329,763	1,859,844	1,975,066	8.77%	8.17%	11.03%	9.08%	11.03%	8.17%	2.86%	9.26%
June	1,375,482	1,349,793	1,210,521	1,921,864	8.52%	8.29%	7.18%	8.84%	8.84%	7.18%	1.66%	8.21%
July	1,315,625	1,252,021	394,339	1,922,976	8.15%	7.69%	2.34%	8.84%	8.84%	2.34%	6.51%	6.76%
August	1,334,669	1,251,197	134,460	2,041,252	8.27%	7.69%	0.80%	9.39%	9.39%	0.80%	8.59%	6.54%
September	1,323,696	1,067,759	1,213,565	1,762,030	8.20%	6.56%	7.20%	8.10%	8.20%	6.56%	1.64%	7.52%
October	1,479,785	1,383,088	1,967,042	1,874,682	9.17%	8.50%	11.66%	8.62%	11.66%	8.50%	3.16%	9.49%
November	1,222,173	1,880,969	1,732,068	1,685,247	7.57%	11.56%	10.27%	7.75%	11.56%	7.57%	3.98%	9.29%
December	1,089,591	1,544,257	1,545,355	1,438,086	6.75%	9.49%	9.16%	6.61%	9.49%	6.61%	2.87%	8.00%
Total	16,137,426	16,275,014	16,865,880	21,744,549								
				Westbound	(Farewel	l Bend)						
		Total Observed	d Weight (tons)			Percen	t of Total		Co	ears		
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	1,285,538	1,298,839	1,123,595	1,521,107	7.72%	7.35%	6.09%	8.02%	8.02%	6.09%	1.93%	7.29%
February	1,262,509	1,305,720	1,277,328	1,563,088	7.58%	7.39%	6.92%	8.24%	8.24%	6.92%	1.32%	7.53%
March	1,518,260	1,484,291	1,625,580	1,929,010	9.11%	8.40%	8.81%	10.17%	10.17%	8.40%	1.77%	9.12%
April	1,456,122	1,506,439	1,562,482	1,836,697	8.74%	8.52%	8.47%	9.68%	9.68%	8.47%	1.21%	8.85%
May	1,367,739	1,647,791	1,638,714	1,895,277	8.21%	9.32%	8.88%	9.99%	9.99%	8.21%	1.78%	9.10%
June	1,594,555	1,641,331	1,646,673	1,620,870	9.57%	9.29%	8.92%	8.54%	9.57%	8.54%	1.03%	9.08%
July	1,563,766	1,503,944	1,626,358	1,555,294	9.39%	8.51%	8.81%	8.20%	9.39%	8.20%	1.19%	8.73%
August	1,484,820	1,651,850	1,697,937	1,542,052	8.91%	9.35%	9.20%	8.13%	9.35%	8.13%	1.22%	8.90%
September	1,352,723	1,502,157	1,466,643	1,388,694	8.12%	8.50%	7.95%	7.32%	8.50%	7.32%	1.18%	7.97%
October	1,239,186	1,477,709	1,756,909	1,532,933	7.44%	8.36%	9.52%	8.08%	9.52%	7.44%	2.08%	8.35%
November	1,314,064	1,415,912	1,610,354	1,347,601	7.89%	8.01%	8.73%	7.10%	8.73%	7.10%	1.62%	7.93%
December	1,220,808	1,238,238	1,423,317	1,243,264	7.33%	7.01%	7.71%	6.55%	7.71%	6.55%	1.16%	7.15%
Total	16,660,091	17,674,223	18,455,891	18,975,888								

Table 10: Total Observed Weight at Klamath Falls WIM Stations by Month and Year

					Northbou	nd						
			Percent	of Total		Co	6.60% 4.07% 6.85% 5.20% 8.83% 7.39% 9.14% 8.80% 11.28% 9.63% 10.97% 10.03% 10.60% 8.07% 11.02% 8.20% 9.86% 8.52% 9.85% 7.95% 7.97% 6.58%		ears			
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	335,200	242,789	262,554	369,020	6.60%	4.07%	4.84%	6.15%	6.60%	4.07%	2.52%	5.41%
February	348,147	309,964	323,402	367,350	6.85%	5.20%	5.97%	6.12%	6.85%	5.20%	1.65%	6.03%
March	448,750	504,519	464,642	443,278	8.83%	8.46%	8.57%	7.39%	8.83%	7.39%	1.44%	8.31%
April	457,873	544,910	493,673	527,866	9.01%	9.14%	9.11%	8.80%	9.14%	8.80%	0.34%	9.01%
May	489,318	594,476	611,622	583,628	9.63%	9.97%	11.28%	9.73%	11.28%	9.63%	1.65%	10.15%
June	546,351	646,307	594,694	601,868	10.75%	10.84%	10.97%	10.03%	10.97%	10.03%	0.94%	10.65%
July	523,236	632,047	437,465	619,333	10.30%	10.60%	8.07%	10.32%	10.60%	8.07%	2.53%	9.82%
August	489,724	656,806	444,350	619,737	9.64%	11.02%	8.20%	10.33%	11.02%	8.20%	2.82%	9.79%
September	438,084	587,830	461,886	534,297	8.62%	9.86%	8.52%	8.90%	9.86%	8.52%	1.34%	8.98%
October	438,617	473,715	533,954	528,730	8.63%	7.95%	9.85%	8.81%	9.85%	7.95%	1.90%	8.81%
November	334,304	458,260	432,301	449,129	6.58%	7.69%	7.97%	7.48%	7.97%	6.58%	1.40%	7.43%
December	232,777	310,526	361,118	356,485	4.58%	5.21%	6.66%	5.94%	6.66%	4.58%	2.08%	5.60%
Total	5,082,383	5,962,150	5,421,663	6,000,722								
			•	•	Southbou	nd	•					

	7	Total Observed	d Weight (tons	5)		Percent	of Total		Co	mparison	Across Y	ears
Month	2015	2016	2017	2018	2015	2016	2017	2018	Max %	Min %	Range	Average
January	721,278	564,617	487,589	674,062	7.65%	6.34%	4.97%	7.17%	7.65%	4.97%	2.68%	6.53%
February	718,944	624,240	498,435	651,793	7.63%	7.01%	5.08%	6.93%	7.63%	5.08%	2.54%	6.66%
March	825,301	774,126	744,305	765,467	8.75%	8.70%	7.59%	8.14%	8.75%	7.59%	1.17%	8.30%
April	811,348	826,250	885,018	776,101	8.61%	9.28%	9.02%	8.26%	9.28%	8.26%	1.03%	8.79%
May	841,431	850,145	1,075,580	801,597	8.93%	9.55%	10.97%	8.53%	10.97%	8.53%	2.44%	9.49%
June	922,374	875,095	1,072,540	854,235	9.78%	9.83%	10.94%	9.09%	10.94%	9.09%	1.85%	9.91%
July	846,785	820,851	1,035,275	909,094	8.98%	9.22%	10.56%	9.67%	10.56%	8.98%	1.57%	9.61%
August	890,976	863,224	1,013,738	951,912	9.45%	9.70%	10.34%	10.13%	10.34%	9.45%	0.89%	9.90%
September	811,573	793,887	892,826	866,172	8.61%	8.92%	9.10%	9.22%	9.22%	8.61%	0.61%	8.96%
October	866,667	749,427	860,300	842,065	9.19%	8.42%	8.77%	8.96%	9.19%	8.42%	0.77%	8.84%
November	668,933	668,074	667,923	706,459	7.10%	7.51%	6.81%	7.52%	7.52%	6.81%	0.71%	7.23%
December	501,303	491,436	573,262	600,222	5.32%	5.52%	5.85%	6.39%	6.39%	5.32%	1.07%	5.77%
Total	9,426,914	8,901,372	9,806,792	9,399,178								