

Analysis and Spreadsheet Summary of BPC Annual Report Incident Data [Exh. ROYER-8], With Vessel Data [Exh. ROYER-19]

BPC Incident Analyses (2005-2018)

TOTAL ANNUAL INCIDENTS		AVERAGE INCIDENTS PER YEAR		
2005-2018	67	2005-2018	6.5	
2015-2018	21	2015-2018	5.25	

INCIDENTS BY VESSEL AGE

Avg Vessel Age (2005-2018)	10.2
Avg Vessel Age (2015-2018)	10.1

AGE	TOTAL (2005-2018)		TOTAL (2015-2018)		Rate of Incident by Age	Rate of Incident by Age	Rate of Change
	Incidents	%	Incidents	%	(2005-2014)	(2015-2018)	2015-18 v. 2005-14
	63		21				
0-5 years	16	25.4%	4	19.0%	1.2	1	-0.2
6-10 years	27	42.9%	9	42.9%	1.8	2.25	0.45
11-15 years	12	19.0%	7	33.3%	0.5	1.75	1.25
16-20 years	1	1.6%	0	0.0%	0.1	0	-0.1
21-25 years	2	3.2%	0	0.0%	0.2	0	-0.2
26+ years	5	7.9%	1	4.8%	0.4	0.25	-0.15

INCIDENTS BY LOCATION

	TOTAL (2005-2018)		TOTAL (2015-2018)		Rate of Incident by Location	Rate of Incident by Location	Rate of Change
	Incidents	%	Incidents	%	(2005-2014)	(2015-2018)	2015-18 v. 2005-14
Total Incidents	68		21				
Location w 1-3 Incidents ('05-'18)	48	70.6%	16	76.2%	3.2	4	0.8
Location w 4+ Incidents ('05-'18)	20		5				
Blair Waterway	10	14.7%	3	14.3%	0.7	0.75	0.05
Cherry Point	6	8.8%	1	4.8%	0.5	0.25	-0.25
Duwamish	4	5.9%	1	4.8%	0.3	0.25	-0.05

INCIDENTS BY VESSEL TYPE							
	TOTAL (2005-2018)		TOTAL (2015-2018)		Rate of Incident by Type	Rate of Incident by Type	Rate of Change
	Incidents	%	Incidents	%	(2005-2014)	(2015-2018)	2015-18 v. 2005-14
<u>Vessel TYPE</u>	63		21				
Anchor Handling Tug Supply	1	1.6%	1	4.8%	0	0.25	0.25
Bulk Carrier	15	23.8%	4	19.0%	1.1	1	-0.1
Container	21	33.3%	5	23.8%	1.6	1.25	-0.35
Cruise	1	1.6%	1	4.8%	0	0.25	0.25
General Cargo	3	4.8%	0	0.0%	0.3	0	-0.3
LPG Tanker	2	3.2%	1	4.8%	0.1	0.25	0.15
Open Hatch Cargo	2	3.2%	2	9.5%	0	0.5	0.5
Product Tanker	2	3.2%	0	0.0%	0.2	0	-0.2
Ro-Ro Cargo	3	4.8%	2	9.5%	0.1	0.5	0.4
Ro-Ro/Container Carrier	1	1.6%	0	0.0%	0.1	0	-0.1
Tanker	9	14.3%	2	9.5%	0.7	0.5	-0.2
Tug	1	1.6%	1	4.8%	0	0.25	0.25
Vehicle Carrier	2	3.2%	2	9.5%	0	0.5	0.5

INCIDENTS BY TONNAGE							
Avg Vessel Tonnage (2005-2018)	50,773						
Avg Vessel Tonnage (2015-2018)	49,629						
	TOTAL (2005-2018)		TOTAL (2015-2018)		Rate of Incident by Tonnage	Rate of Incident by Tonnage	Rate of Change
	Incidents	%	Incidents	%	(2005-2014)	(2015-2018)	2015-18 v. 2005-14
<u>Tonnage</u>	63		20				
0-20,000 GRT	12	19.0%	6	28.6%	0.6	1.5	0.9
20,000 - 40,000 GRT	17	27.0%	4	19.0%	1.3	1	-0.3
40,000 - 60,000 GRT	8	12.7%	3	14.3%	0.5	0.75	0.25
60,000 - 80,000 GRT	12	19.0%	3	14.3%	0.9	0.75	-0.15
80,000 - 100,000 GRT	10	15.9%	2	9.5%	0.8	0.5	-0.3
100,000+ GRT	4	6.3%	2	9.5%	0.2	0.5	0.3

INCIDENTS BY LOA

Avg Vessel LOA (2005-2018)	231.96
Avg Vessel LOA(2015-2018)	212.53

LOA	TOTAL (2005-2018)		TOTAL (2015-2018)		Rate of Incident by LOA (2005-2014)	Rate of Incident by LOA (2015-2018)	Rate of Change 2015-18 v. 2005-14
	Incidents	%	Incidents	%			
	62		21				
0 - 150m	4	6.3%	3	14.3%	0.1	0.75	0.65
150m - 199m	18	28.6%	9	42.9%	0.9	2.25	1.35
200m - 249m	12	19.0%	1	4.8%	1.1	0.25	-0.85
250m - 299m	20	31.7%	5	23.8%	1.5	1.25	-0.25
300m+	8	12.7%	3	14.3%	0.5	0.75	0.25

INCIDENTS PER PILOT

	TOTAL (2005-2018)		TOTAL (2015-2018)*		Rate of Incident by Pilot (2005-2014)	Rate of Incident by Pilot (2015-2018)	Rate of Change 2015-18 v. 2005-14
	Incidents	%	Incidents	%			
<u>Total Incidents</u>	68		21				
Pilots w 1-2 Incidents ('05-'18)*	49	72.1%	18	85.7%	3.1	4.5	1.4
Pilots w 3+ Incidents ('05-'18)*	19	27.9%	3	14.3%	1.6	0.75	-0.85

* 2017, 2018 Incident Summaries in BPC Annual Reports No Longer Include Pilot Identification