

APPENDIX 21-A
Fisheries and Oceans Canada Crab Licence
and Harvest Data

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Appendix 21-A: Fisheries and Oceans Canada Crab Licence and Harvest Data

Table 21-A1 Crab Licenses for Crab Management Areas I and J

Area		2000	2001 – 2002	2003 – 2005	2006	2007 – 2008	2009	2010 – 2012	2013-2015
Area I	Number	36	36	36	41	41	42	51	32
	Percentage of Total B.C. Licences	16.2%	16.2%	16.2%	18.5%	18.5%	18.9%	23.1%	14.5%
Area J	Number	19	19	19	22	22	21	18	20
	Percentage of Total B.C. Licences	8.6%	8.6%	8.6%	9.9%	9.9%	9.5%	8.1%	9.0%

Source: DFO 2014b.

Table 21-A2 Crab Harvest by Sub-area (kg)

Study Area	Sub-area	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
LAA	6	69,874	202,080	160,621	491,547	512,623	400,355	387,471	201,243	222,019	180,432	112,035	2,940,300
	7	29,589	*	11,076	15,330	*	0	16,200	5,639	6,882	6,945	29,075	120,736
	9	38,879	19,756	48,775	78,693	104,813	65,572	69,501	25,006	*	12,705	5,638	469,338
Other RAA	3	88,282	94,537	104,119	160,457	186,090	207,029	310,426	241,075	155,955	133,397	109,780	1,791,147
	4	22,087	49,800	39,815	119,313	106,884	*	72,202	39,962	21,303	26,150	27,071	524,587
	8	237,510	247,930	240,577	326,715	228,289	269,037	220,125	214,776	278,495	271,193	252,765	2,787,412
	10	17,564	32,077	7,980	52,825	42,283	43,061	72,444	54,131	22,195	53,095	46,746	444,401
Total PFMA 29		503,785	658,489	612,963	1,260,748	1,181,856	1,018,847	1,180,282	817,468	754,626	693,287	591,829	9,274,180

Source: DFO 2014c.

* fewer than 3 vessels reporting

Table 21-A3 Crab Vessel Count by Sub-area

Study Area	Sub-area	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
LAA	6	9	15	14	19	20	20	20	28	27	21	14
	7	4	2	4	3	1	0	3	3	3	6	5
	9	6	4	5	6	7	7	7	13	2	10	5
Other RAA	3	12	11	14	10	19	20	24	29	31	31	14
	4	4	9	4	7	9	2	8	8	6	7	6
	8	19	18	18	21	22	22	22	18	19	18	21
	10	6	7	3	5	5	6	11	14	9	18	9

Source: DFO 2014c.

Table 21-A4 Crab Value by Sub-area for PFMA 29 (\$)

	Sub-area	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
LAA	6	-	-	-	\$1,217,156	\$1,267,158	\$705,650	\$439,610	\$642,352	\$809,026	\$727,094	\$976,873	\$6,784,922
	7	-	\$229,379	\$301,753	\$136,369	\$585,763	\$394,536	\$626,719	\$310,446	-	-	\$2,884,885	\$5,469,852
	9	\$906,528	\$843,951	\$763,017	\$1,244,507	\$813,738	\$473,014	\$625,893	\$221,607	\$231,850	\$399,841	-	\$6,523,948
Other RAA	3	-	-	-	-	-	-	-	\$ 79,294	-	-	-	\$79,294
	4	-	-	-	-	-	-	-	\$ 94,614	-	-	-	\$94,614
	8	\$730,276	\$802,959	\$885,168	\$943,245	\$958,270	\$1,250,742	\$1,003,648	\$1,390,596	\$1,827,614	\$2,196,392	\$379,065	\$12,367,978
	10	-	-	\$217,968	\$358,204	\$612,634	\$143,910	\$157,884	\$339,359	\$434,523	\$599,030	-	\$2,863,515
Total PFMA 29		\$3,128,647	\$3,815,354	\$3,749,936	\$6,610,500	\$6,539,871	\$6,346,531	\$7,329,577	\$6,186,134	\$6,739,735	\$6,589,915	\$6,095,236	\$63,131,441

Source: DFO 2014d.
 - No data reported.

APPENDIX 21-B
**Fisheries and Oceans Canada Salmon Licence
and Harvest Data**

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Appendix 21-B

Fisheries and Oceans Canada Salmon License and Harvest Data

Table 21-B1 Salmon Management Areas

Area	Sub-areas	Number of Licenses	Percentage of Total B.C. Licenses
Salmon Seine Management Area B	PFMAs 11 to 29 and 121	168	60.9%
Salmon Gillnet Management Area E	PFMAs 16 to 22, 28, 29 and 121	392	28.0%
Salmon Troll Management Area H	PFMAs 12 to 19, 28 and 29	77	17.5%

Source: DFO 2013d, e, f.

Table 21-B2 Salmon Harvest by Subspecies for PFMA 29 (pieces)

	Total Salmon	Sockeye	Pink	Chum	Chinook	Coho
2002	1,033,407	92.6%	0.0%	6.5%	0.9%	0.0%
2003	318,405	73.3%	5.6%	17.6%	3.5%	0.0%
2004	383,687	73.9%	0.0%	22.7%	3.3%	0.0%
2005	98,455	17.7%	5.4%	71.3%	5.6%	0.0%
2006	981,505	80.8%	0.0%	18.5%	0.6%	0.0%
2007	44,318	5.7%	3.3%	84.8%	6.2%	0.0%
2008	57,469	8.6%	0.0%	84.4%	7.0%	0.0%
2009	152,686	2.9%	61.2%	33.7%	2.2%	0.0%
2010	3,414,524	99.4%	0.0%	0.3%	0.3%	0.0%
2011	1,026,397	16.7%	78.5%	3.9%	0.9%	0.0%
2012	18,612	18.4%	0.0%	73.0%	8.6%	0.0%
Total PFMA 29	10794597	80.9%	10.3%	7.6%	1.3%	0.0%

Source: DFO 2014c.

Table 21-B3 Sockeye Harvest by Gear Type for PFMA 29 (pieces)

Year	Total	Gillnet	Seine Net	Troll
2002	919,540	100%	0%	0%
2003	214,420	100%	0%	0%
2004	273,204	100%	0%	*
2005	3,375	100%	0%	*
2006	782,469	100%	0%	0%
2007	0	-	-	*
2008	0	-	-	-
2009	1	100%	0%	*
2010	3,377,034	63%	34%	3%
2011	161,642	99%	1%	1%
2012	0	-	-	-
Total PFMA 29	5,731,685	78%	20%	2%

Source: DFO 2014c.

* fewer than three vessels reporting

- No data reported.

Table 21-B4 Pink Harvest by Gear Type for PFMA 29 (pieces)

Year	Total	Gillnet	Seine Net	Toll
2002	40	100%	0%	0%
2003	14,392	100%	0%	0%
2004	17	100%	0%	*
2005	1,082	100%	0%	*
2006	250	100%	0%	0%
2007	0	0%	0%	*
2008	0	0%	0%	*
2009	88,178	0%	100%	*
2010	127	45%	46%	9%
2011	798,350	10%	90%	0%
2012	0	0%	0%	0%
Total PFMA 29	902,436	11%	89%	0%

Source: DFO 2014c.

* fewer than three vessels reporting

Table 21-B5 Chum Harvest by Gear Type for PFMA 29 (pieces)

Year	Total	Gillnet	Seine Net	Troll
2002	49,728	98%	0%	2%
2003	45,366	100%	0%	0%
2004	70,819	100%	0%	*
2005	56,898	100%	0%	*
2006	163,757	100%	0%	0%
2007	29,879	0%	0%	*
2008	38,000	0%	0%	*
2009	42,115	100%	0%	*
2010	209	79%	19%	2%
2011	36,059	99%	1%	0%
2012	104	0%	0%	0%
Total PFMA 29	532,934	100%	0%	0%

Source: DFO 2014c.

* fewer than three vessels reporting

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Table 21-B6 Harvest Value by Sub-area for PFMA 29

		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
LAA	6	-	-	-	-	-	-	-	-	-	\$199,232	-	\$199,232
	7	-	-	-	-	-	-	-	-	-	\$421,547	-	\$421,547
	9	\$118,062	\$24,706	\$50,485	-	\$13,139	-	-	-	\$10,179	\$11,477	-	\$228,050
Other RAA	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	\$853	-	\$853
	11	-	-	-	-	-	-	-	-	-	\$12,641	-	\$12,641
	13	\$55,891	\$19,222	\$21,417	-	\$55,481	-	-	-	\$95,603	\$22,207	-	\$269,824
	14	\$60,147	-	-	-	\$20,804	-	-	-	\$10,209	\$36,160	-	\$127,322
	15	\$8,286	-	\$5,509	-	\$173,143	-	-	\$8,665	-	-	-	\$195,603
	16	\$76,157	-	-	-	\$361,099	-	-	\$214,211	\$236,313	\$352,415	\$121,943.93	\$1,362,142
17	\$18,696	\$16,044	\$51,618	\$10,602	-	-	-	-	-	\$4,230	-	\$101,191	
Total PFMA 29		\$7,244,392	\$1,943,342	\$2,920,813	\$555,466	\$4,948,003	\$255,995	\$445,216	\$370,979	\$18,171,014	\$3,259,706	\$482,574.99	\$40,597,506

Source: DFO 2014d.
 - No data reported.

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Table 21-B7 Salmon Gillnet Vessel Registration Number by Sub-area for PFMA 29

	Sub-area	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
LAA	6	-	1	-	-	1	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	1	-
	9	7	7	8	-	3	1	-	-	1	3	-
Other RAA	13	4	3	4	1	3	-	2	-	9	8	1
	14	10	1	2	1	4	2	-	-	4	11	1
No Reported Area		396	337	348	157	334	187	92	107	313	277	104
Total PFMA 29		417	352	364	159	345	190	94	107	329	301	106

Source: DFO 2014d.
 - No data reported.

Table 21-B8 Salmon Seine Net Vessel Registration Number by Sub-area for PFMA 29

	Sub-area	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
LAA	6	-	-	-	-	-	-	-	-	-	5	0
	7	-	-	-	-	-	-	-	-	-	6	0
No Reported Area		-	1	2	-	-	-	-	2	39	21	0
Total PFMA 29		-	1	2	-	-	-	-	3	39	32	0

Source: DFO 2014d.
 - No data reported.

Table 21-B9 Salmon Troll Vessel Registration Number by Sub-area for PFMA 29

	2002	2003	2004	2006	2010	2010	2010	2010	2010	2010	2011	2011	2012
No Reported Area	1	3		2	7	18	-	-	-	-	1	-	-
Total PFMA 29	1	3	2	2	7	18	2	2	1	1	1	1	-

Source: DFO 2014d.
 - No data reported.

APPENDIX 21-C
Tsawwassen Harvest
Agreement Harvest Data

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Appendix 21-C: Tsawwassen Harvest Agreement Harvest Data

Table 21-C1 Tsawwassen Treaty Harvest Agreement Reported Harvest

	2009	2010	2011	2012
Allocation	• 8,113 Chum	• 97,981 Sockeye	• 7,262 Sockeye • 64,780 Pink • 4,220 Chum	• 12,029 Chum
Harvest	• 3,416 Chum	• 98,315 Sockeye	• 5,337 Sockeye • 45,271 Pink • 2,243 Chum	• 1,720 Chum
Sold	-	• 71,464 Sockeye	• 1,590 Sockeye • 44,449 Pink • 2,194 Chum	• 171 Chum

Source: LGL Limited and Tsawwassen Fisheries Department 2010, 2011, 2012, 2013.

- No data reported.

APPENDIX 21-D
Rationale for Inclusion / Exclusion of
Other Certain and Reasonably Foreseeable
Projects and Activities in the Cumulative
Effects Assessment of Marine Commercial Use

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Appendix 21-D: Rationale for Inclusion/Exclusion of Other Certain and Reasonably Foreseeable Projects and Activities in the Cumulative Effects Assessment of Marine Commercial Use

The assessment included consideration of the potential for an interaction between a potential Project-related residual effect on marine commercial use and the effects of other certain and reasonably foreseeable projects and activities on that VC. The rationale for inclusion or exclusion of each certain and reasonably foreseeable project and activity identified in **Section 8.0 Effects Assessment Methods, Cumulative Effects Assessment, Table 8-8 Project and Activity Inclusion List**, from the cumulative effects assessment is presented in **Table 21-D1**.

Table 21-D1 Rationale for Inclusion/Exclusion of Other Certain and Reasonably Foreseeable Projects in the Cumulative Effects Assessment of Marine Commercial Use

Other Certain and Reasonably Foreseeable Project /Activity	Included/ Excluded (I)/(E)	Rationale for Inclusion / Exclusion
Project		
BURNCO Aggregate Project, Gibsons, B.C.	E	Project is located in a low crab harvesting area, and not expected to contribute to a cumulative effect.
Centerm Terminal Expansion, Vancouver, B.C.	E	Project is located in area that is closed to commercial crab harvesting.
Fraser Surrey Docks Direct Transfer Coal Facility, Surrey, B.C.	E	Project is in-river, where crab harvesting does not occur.
Gateway Pacific Terminal at Cherry Point and associated BNSF Railway Company Rail Facilities Project, Blaine, Washington	E	Project is outside of Crab Management Areas I and J.
Gateway Program - North Fraser Perimeter Road Project, Coquitlam, B.C.	E	Project does not involve marine-based infrastructure.
George Massey Tunnel Replacement Project, Richmond and Delta, B.C.	E	Project is in-river and does not involve marine-based infrastructure.
Kinder Morgan Pipeline Expansion Project, Strathcona County, Alberta to Burnaby, B.C.	I	Project involves marine-based infrastructure in a sub-area used for commercial crab harvesting.
Lehigh Hanson Aggregate Facility, Richmond, B.C.	E	Project is in-river, where crab harvesting does not occur.
Lions Gate Wastewater Treatment Plant Project, District of North Vancouver, B.C.	E	Project is located in area that is closed to commercial crab harvesting, and does not involve a marine component.

Other Certain and Reasonably Foreseeable Project /Activity	Included/ Excluded (I)/(E)	Rationale for Inclusion / Exclusion
North Shore Trade Area Project - Western Lower Level Route Extension, West Vancouver, B.C.	E	Project is in-river, where crab harvesting does not occur.
Pattullo Bridge Replacement Project, New Westminster, B.C. and Surrey, B.C.	E	Project is in-river and does not involve marine-based infrastructure
Southlands Development, Delta, B.C.	E	Project does not involve marine-based infrastructure.
Vancouver Airport Fuel Delivery Project, Richmond, B.C.	E	Project is in-river, where crab harvesting does not occur.
Woodfibre LNG Project, Squamish, B.C.	E	Project is located adjacent to an area of low crab harvesting activity, and not expected to contribute to a cumulative effect.
Activity		
Incremental Road Traffic Associated with RBT2	E	Activity does not interact with either crab harvesting or crab vessels operating in Crab Management Areas I and J.
Incremental Train Traffic Associated with RBT2	E	Activity does not interact with either crab harvesting or crab vessels operating in Crab Management Areas I and J.
Incremental Marine Vessel Traffic Associated with RBT2	E	Incremental marine vessel traffic associated with RBT2 that is travelling outside of PMV's jurisdiction is not expected to interact with either crab harvesting or crab vessels operating in Crab Management Areas I and J.