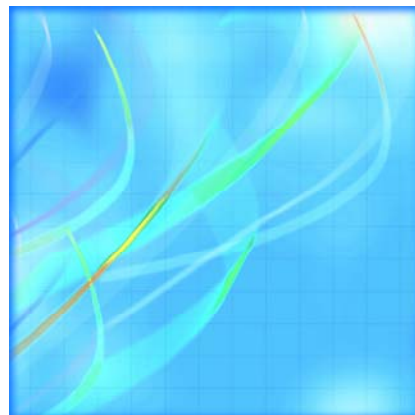


Catalogue no. 23-222-X

Aquaculture Statistics

2012



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Agriculture Division
Livestock Section

Aquaculture Statistics

2012

Published by authority of the Minister responsible for Statistics Canada

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<http://www.statcan.gc.ca/reference/licence-eng.html>

November 2013

Catalogue no. 23-222-X

ISSN 1703-4531

Frequency: Annual

Ottawa

Cette publication est également disponible en français.

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

User information

Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

Acknowledgements

Special thanks are extended to Fisheries and Oceans Canada for its contribution to the realization of this publication.

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Note to users

Aquaculture is defined as the managed production of fish. In Canada, the industry is dominated by the production of finfish, primarily salmon off the coasts of British Columbia and New Brunswick. Production of shellfish is smaller with Prince Edward Island and British Columbia being the major producing provinces.

The annual publication, Aquaculture Statistics 23-222-X, presents an overview of this sector using data collected from the Survey of Aquaculture Industry. The survey is designed to provide economic variables that result in the aquaculture value added account, which measures the economic production (value added) of goods and services from aquaculture establishments.

The data presented are used by aquaculture industry analysts and producers as they make production and marketing decisions and by government analysts or special interest groups to monitor the industry or develop policies related to aquaculture in Canada. The data are also used in the Canadian System of National Accounts to develop provincial and national level accounts.

Highlights

- Operating revenues amounted to \$830.2 million in 2012, a decrease of 0.2 % from 2011.
- Finfish sales, which accounted for 89.2% of total operating revenue in 2012, decreased 1.8% to \$740.3 million.
- The gross value added to the economy by the aquaculture industry dropped to \$230.8 million, down 23.1% from 2011.
- The value of total exports of farmed salmon including fillets increased 4.0% in 2012, while the value of farmed mussel exports increased 9.9% compared to 2011.

Chart 1
Canadian finfish production

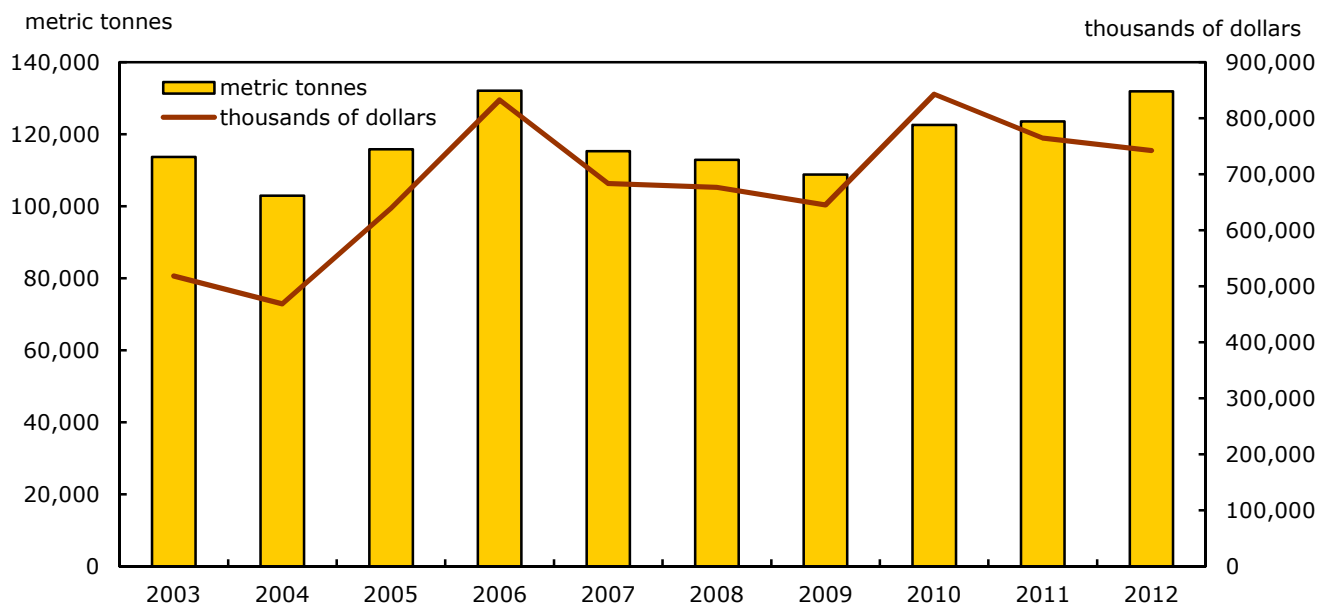


Chart 2
Canadian shellfish production

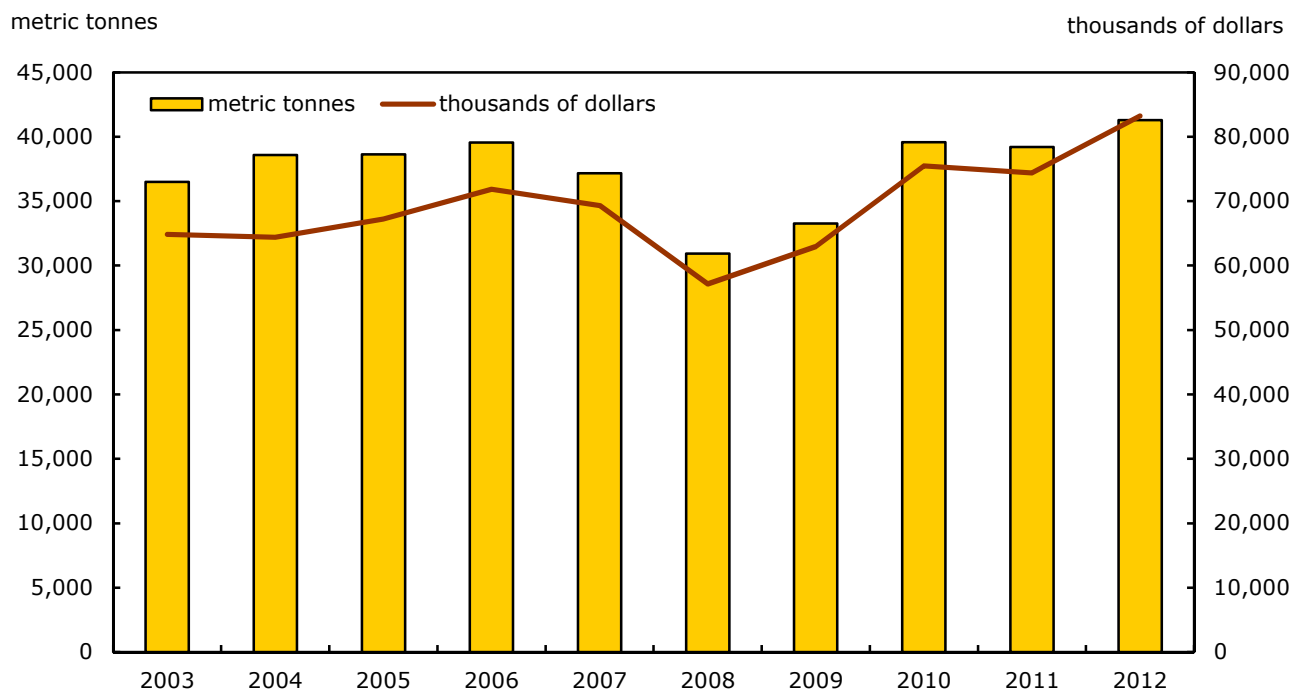


Chart 3
Canadian exports of atlantic salmon and atlantic salmon fillets

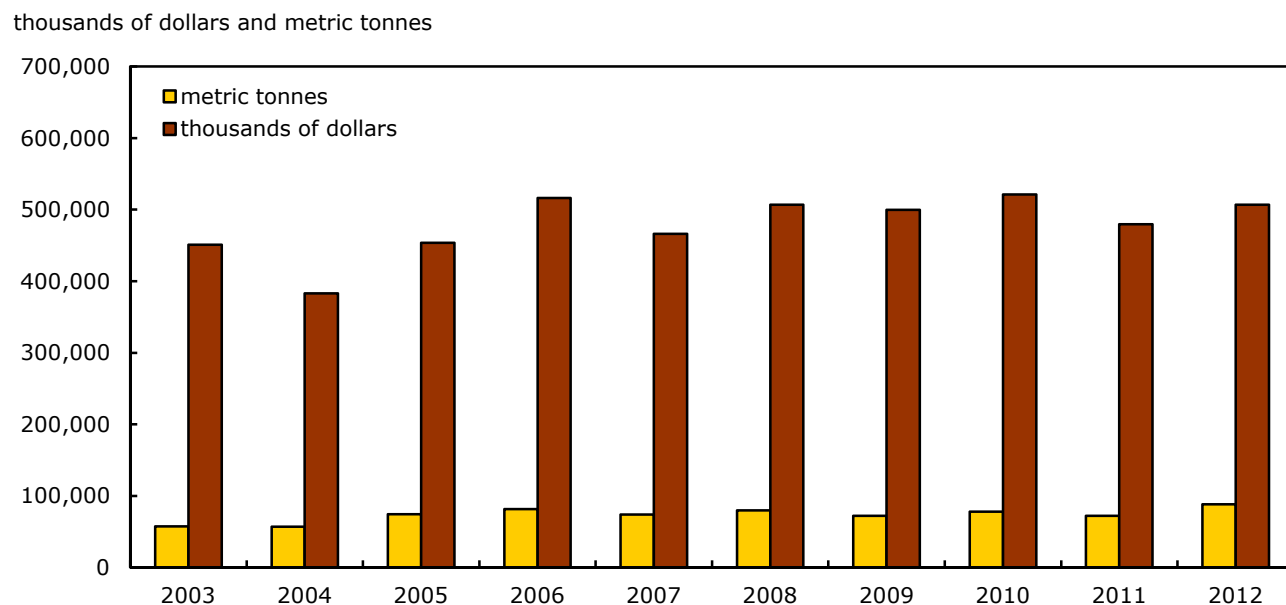
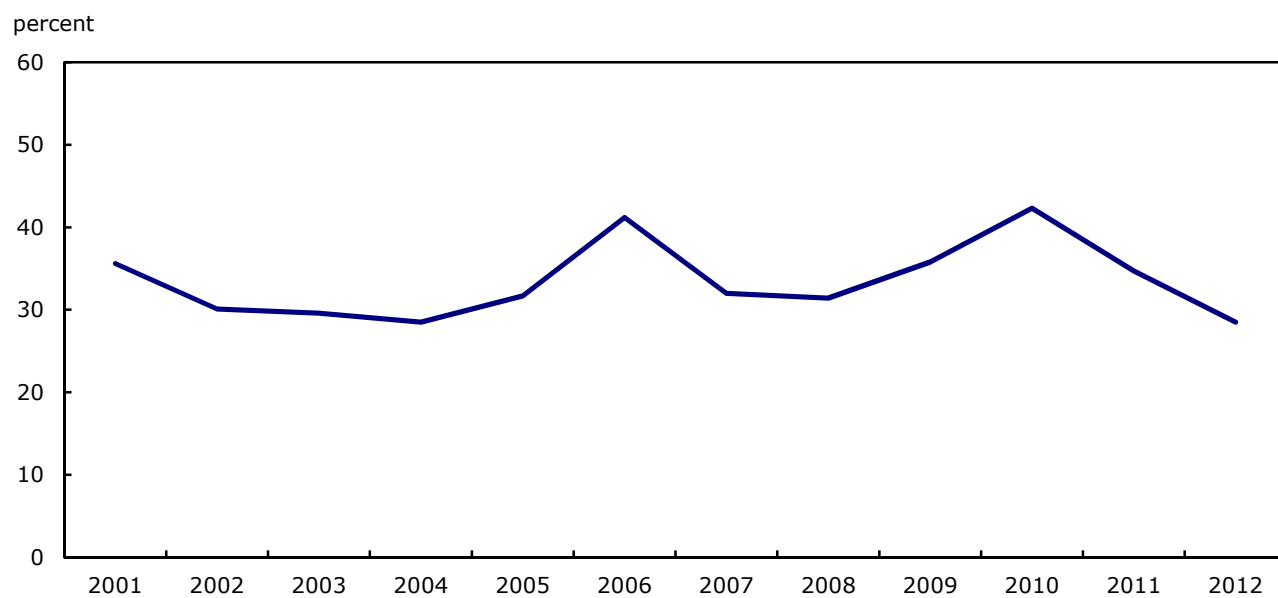


Chart 4
Gross value-added (at factor cost) compared to the value of production



Related products

Selected publications from Statistics Canada

21-207-X	Statistics on income of farm families
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Selected CANSIM tables from Statistics Canada

003-0001	Aquaculture, production and value
003-0003	Aquaculture economic statistics, value added account

Selected surveys from Statistics Canada

3479	Aquaculture, production and value, Annual
4701	Survey of the Aquaculture Industry

Selected summary tables from Statistics Canada

- *Canadian Statistics - Aquaculture industry, by selected provinces*

Statistical tables

Table 1-1
Aquaculture, production and value, by province and Canada — 2008

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	4,810	26,000	0	0	0	0	0	73,265	104,075
Trout	x	500	379	4,335	x	x	x	635	7,932
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish	x	0	79	0	x	0	x	437	868
Total finfish	..	14	5,045	26,500	459	4,335	x	x	x	74,337	112,890
Clams	..	0	329	0	0	0	0	0	0	1,305	1,634
Oysters	..	2,565	151	598	0	0	0	0	0	5,670	8,984
Mussels	..	16,920	1,677	500	453	0	0	0	0	285	19,835
Scallops	..	0	9	0	0	0	0	0	0	276	285
Other shellfish	..	0	126	0	65	0	0	0	0	0	191
Total shellfish	..	19,484	2,292	1,098	518	0	0	0	0	7,536	30,928
Total aquaculture	11,545	19,498	7,337	27,598	977	4,335	x	x	x	81,873	155,362
Re-stocking ²	868	.	.	.	.	.	868
Total aquaculture (including re-stocking) ²	11,545	19,498	7,337	27,598	1,844	4,335	x	x	x	81,873	156,230
thousands of dollars											
Value											
Salmon	23,175	192,140	0	0	0	0	0	409,267	624,582
Trout	x	5,000	2,040	17,620	x	x	x	2,958	41,358
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish	x	0	533	0	x	0	x	4,634	8,874
Total finfish	..	1,624	25,200	197,140	2,573	17,620	x	x	x	416,859	676,438
Clams	..	0	1,424	0	0	0	0	0	0	7,211	8,635
Oysters	..	5,654	652	628	0	0	0	0	0	6,542	13,476
Mussels	..	22,381	2,430	545	589	0	0	0	0	1,281	27,227
Scallops	..	0	160	0	0	0	0	0	0	1,167	1,327
Other shellfish	..	0	6,326	0	171	0	0	0	0	0	6,497
Total shellfish	..	28,035	10,992	1,173	760	0	0	0	0	16,201	57,162
Total aquaculture	63,120	29,659	36,192	198,313	3,333	17,620	x	x	x	433,060	796,719
Re-stocking ²	9,004	.	.	.	.	.	9,004
Total aquaculture (including re-stocking) ²	63,120	29,659	36,192	198,313	12,337	17,620	x	x	x	433,060	805,724

1. Provinces with data not available are not included in the Canada totals.

2. Sales to outfitters: operations offering lodging and services for hunting, fishing and trapping.

Note(s): The production and value of aquaculture includes the amount and value produced on sites and excludes hatcheries or processing. Shellfish also includes some wild production. The data are collected from each of the provincial departments responsible for aquaculture.

Table 1-2
Aquaculture, production and value, by province and Canada — 2009

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	7,550	24,000	0	0	0	0	0	68,662	100,212
Trout	133	150	380	4,375	x	x	x	523	7,198
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish	93	0	104	0	x	0	x	839	1,429
Total finfish	..	4	7,777	24,150	484	4,375	x	x	x	70,024	108,843
Clams	..	0	539	0	0	0	0	0	0	1,359	1,898
Oysters	..	2,281	159	638	0	0	0	0	0	5,735	8,813
Mussels	..	18,639	1,893	95	522	0	0	0	0	312	21,461
Scallops	..	0	3	0	0	0	0	0	0	385	388
Other shellfish	..	0	147	0	27	0	0	0	0	530	704
Total shellfish	..	20,920	2,741	733	549	0	0	0	0	8,321	33,264
Total aquaculture	13,625	20,924	10,518	24,883	1,033	4,375	x	x	x	78,345	155,732
Re-stocking ²	805	.	.	.	.	.	805
Total aquaculture (including re-stocking) ²	13,625	20,924	10,518	24,883	1,838	4,375	x	x	x	78,345	156,537
thousands of dollars											
Value											
Salmon	45,774	159,000	0	0	0	0	0	394,151	598,925
Trout	1,330	670	2,094	17,820	x	x	x	2,944	32,899
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish	543	0	798	0	x	0	x	7,576	11,687
Total finfish	..	1,828	47,646	159,670	2,892	17,820	x	x	x	404,671	645,338
Clams	..	0	2,057	0	0	0	0	0	0	7,407	9,464
Oysters	..	5,075	676	4,000	0	0	0	0	0	7,043	16,794
Mussels	..	24,655	2,629	120	679	0	0	0	0	1,389	29,472
Scallops	..	0	23	0	0	0	0	0	0	1,649	1,672
Other shellfish	..	0	4,847	0	93	0	0	0	0	593	5,533
Total shellfish	..	29,730	10,231	4,120	772	0	0	0	0	18,081	62,935
Total aquaculture	92,100	31,558	57,878	163,790	3,665	17,820	x	x	x	422,752	800,373
Re-stocking ²	8,623	.	.	.	.	.	8,623
Total aquaculture (including re-stocking) ²	92,100	31,558	57,878	163,790	12,287	17,820	x	x	x	422,752	808,995

1. Provinces with data not available are not included in the Canada totals.

2. Sales to outfitters: operations offering lodging and services for hunting, fishing and trapping.

Note(s): The production and value of aquaculture includes the amount and value produced on sites and excludes hatcheries or processing. Shellfish also includes some wild production. The data are collected from each of the provincial departments responsible for aquaculture.

Table 1-3
Aquaculture, production and value, by province and Canada — 2010

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	..	..	5,088	25,625	0	0	0	0	0	70,831	101,544
Trout	..	..	91	150	337	4,060	x	x	x	600	6,844
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish	..	..	62	0	71	0	x	0	x	884	1,291
Total finfish	12,899	..	5,241	25,775	408	4,060	x	x	x	72,315	122,577
Clams	0	0	438	0	0	0	0	0	0	1,485	1,923
Oysters	0	2,478	205	881	0	0	0	0	0	7,550	11,113
Mussels	2,461	20,112	2,121	95	523	0	0	0	0	364	25,675
Scallops	0	0	2	0	0	0	0	0	0	695	697
Other shellfish	0	0	110	0	23	0	0	0	0	26	159
Total shellfish	2,461	22,589	2,876	976	546	0	0	0	0	10,120	39,569
Total aquaculture	15,360	22,589	8,117	26,751	954	4,060	x	x	x	82,435	162,146
Re-stocking ²	.	.	.	.	874	.	.	.	.	.	874
Total aquaculture (including re-stocking) ²	15,360	22,589	8,117	26,751	1,828	4,060	x	x	x	82,435	163,020
thousands of dollars											
Value											
Salmon	..	..	32,040	162,000	0	0	0	0	0	499,608	693,648
Trout	..	..	891	700	1,813	17,100	x	x	x	4,852	33,269
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish	..	..	375	0	482	0	x	0	x	10,800	13,637
Total finfish	100,301	2,200	33,307	162,700	2,295	17,100	x	x	x	515,260	843,055
Clams	..	0	1,736	0	0	0	0	0	0	8,159	9,895
Oysters	..	5,844	720	3,355	0	0	0	0	0	8,957	18,876
Mussels	6,009	26,603	2,548	100	680	0	0	0	0	1,809	37,748
Scallops	..	0	15	0	0	0	0	0	0	2,904	2,919
Other shellfish	..	0	4,521	0	90	0	0	0	0	1,401	6,012
Total shellfish	6,009	32,447	9,540	3,455	769	0	0	0	0	23,230	75,451
Total aquaculture	106,310	34,647	42,847	166,155	3,065	17,100	x	x	x	538,490	918,506
Re-stocking ²	.	.	.	.	8,852	.	.	.	.	.	8,852
Total aquaculture (including re-stocking) ²	106,310	34,647	42,847	166,155	11,917	17,100	x	x	x	538,490	927,358

1. Provinces with data not available are not included in the Canada totals.

2. Sales to outfitters: operations offering lodging and services for hunting, fishing and trapping.

Note(s): The production and value of aquaculture includes the amount and value produced on sites and excludes hatcheries or processing. Shellfish also includes some wild production. The data are collected from each of the provincial departments responsible for aquaculture.

Table 1-4
Aquaculture, production and value, by province and Canada — 2011

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	..	..	5,624	21,560	0	0	0	0	0	74,880	102,064
Trout	..	..	124	80	349	3,738	x	x	x	630	6,511
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish	..	..	69	0	71	0	x	0	x	360	728
Total finfish	14,264	..	5,817	21,640	420	3,738	x	x	x	75,870	123,567
Clams	0	0	341	0	0	0	0	0	0	1,300	1,641
Oysters	0	2,682	246	609	0	0	0	0	0	7,500	11,037
Mussels	3,000	20,894	1,374	25	316	0	0	0	0	300	25,909
Scallops	0	0	1	0	0	0	0	0	0	300	301
Other shellfish	0	0	237	0	78	0	0	0	0	0	315
Total shellfish	3,000	23,576	2,199	634	394	0	0	0	0	9,400	39,203
Total aquaculture	17,264	23,576	8,017	22,274	814	3,738	x	x	x	85,270	162,770
Re-stocking ²	.	.	.	.	824	.	.	.	.	.	824
Total aquaculture (including re-stocking) ²	17,264	23,576	8,017	22,274	1,639	3,738	x	x	x	85,270	163,594
thousands of dollars											
Value											
Salmon	..	..	31,234	140,241	0	0	0	0	0	435,300	606,775
Trout	..	..	1,796	400	1,875	17,700	x	x	x	5,700	35,326
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish	..	..	367	0	469	0	x	0	x	4,400	6,863
Total finfish	111,829	3,700	33,397	140,641	2,344	17,700	x	x	x	445,400	764,493
Clams	..	0	1,396	0	0	0	0	0	0	7,200	8,596
Oysters	..	6,622	894	2,645	0	0	0	0	0	9,200	19,361
Mussels	8,221	26,716	1,584	28	411	0	0	0	0	1,500	38,460
Scallops	..	0	11	0	0	0	0	0	0	1,700	1,711
Other shellfish	..	0	6,005	0	249	0	0	0	0	0	6,254
Total shellfish	8,221	33,338	9,890	2,673	661	0	0	0	0	19,600	74,383
Total aquaculture	120,050	37,038	43,287	143,314	3,005	17,700	x	x	x	465,000	838,876
Re-stocking ²	.	.	.	.	8,469	.	.	.	.	.	8,469
Total aquaculture (including re-stocking) ²	120,050	37,038	43,287	143,314	11,474	17,700	x	x	x	465,000	847,345

1. Provinces with data not available are not included in the Canada totals.

2. Sales to outfitters: operations offering lodging and services for hunting, fishing and trapping.

Note(s): The production and value of aquaculture includes the amount and value produced on sites and excludes hatcheries or processing. Shellfish also includes some wild production. The data are collected from each of the provincial departments responsible for aquaculture.

Table 1-5
Aquaculture, production and value, by province and Canada — 2012

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	0	0	5,903	30,217	0	0	0	0	0	71,998	108,118
Trout	0	0	113	142	361	3,700	x	x	x	572	6,503
Steelhead	0	0	0	0	0	0	0	0	0	0	0
Other finfish	0	0	71	0	61	0	x	0	x	147	499
Total finfish	16,831	0	6,087	30,359	422	3,700	x	x	x	72,717	131,951
Clams	0	0	406	0	0	0	0	0	0	1,113	1,519
Oysters	0	2,803	105	1,118	0	0	0	0	0	7,165	11,191
Mussels	4,397	21,834	1,396	4	256	0	0	0	0	237	28,124
Scallops	0	0	2	0	0	0	0	0	0	163	165
Other shellfish	0	0	242	0	60	0	0	0	0	0	302
Total shellfish	4,397	24,637	2,151	1,122	316	0	0	0	0	8,678	41,301
Total aquaculture	21,228	24,637	8,238	31,481	739	3,700	x	x	x	81,395	173,252
Re-stocking ²	.	.	.	.	805	.	.	.	.	.	805
Total aquaculture (including re-stocking) ²	21,228	24,637	8,238	31,481	1,544	3,700	x	x	x	81,395	174,057
thousands of dollars											
Value											
Salmon	0	0	40,124	184,966	0	0	0	0	0	373,755	598,845
Trout	0	0	1,412	1,420	1,951	18,300	x	x	x	5,662	36,691
Steelhead	0	0	0	0	0	0	0	0	0	0	0
Other finfish	0	0	369	0	416	0	x	0	x	1,385	3,753
Total finfish	99,286	3,656	41,905	186,386	2,367	18,300	x	x	x	380,802	742,231
Clams	0	0	1,258	0	0	0	0	0	0	6,446	7,704
Oysters	0	6,920	1,140	5,220	0	0	0	0	0	10,200	23,480
Mussels	13,518	27,918	1,876	9	333	0	0	0	0	855	44,509
Scallops	0	0	13	0	0	0	0	0	0	1,310	1,323
Other shellfish	0	0	6,042	0	156	0	0	0	0	12	6,210
Total shellfish	13,518	34,838	10,329	5,229	489	0	0	0	0	18,823	83,226
Total aquaculture	112,804	38,494	52,234	191,615	2,856	18,300	x	x	x	399,625	825,457
Re-stocking ²	.	.	.	.	8,365	.	.	.	.	.	8,365
Total aquaculture (including re-stocking) ²	112,804	38,494	52,234	191,615	11,221	18,300	x	x	x	399,625	833,822

1. Provinces with data not available are not included in the Canada totals.

2. Sales to outfitters: operations offering lodging and services for hunting, fishing and trapping.

Note(s): The production and value of aquaculture includes the amount and value produced on sites and excludes hatcheries or processing. Shellfish also includes some wild production. The data are collected from each of the provincial departments responsible for aquaculture.

Table 2-1
Exports of selected Canadian aquaculture products, by country of destination — 2008 and 2009

Destination	2008				2009			
	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets
tonnes								
United States	9,620	1,532	70,481	5,399	10,571	1,513	66,615	4,563
California	47	359	20,296	242	23	646	25,781	191
Maine	2,286	0	808	154	2,331	0	2,944	225
Massachusetts	5,432	146	9,219	1,423	6,332	105	8,244	885
New York	916	125	10,743	446	1,046	224	9,103	683
Washington	35	763	18,508	651	85	425	10,927	272
Other	904	139	10,906	2,483	754	112	9,615	2,308
France	0	22	46	3	0	20	8	0
Japan	0	356	2,229	172	0	290	578	44
Taiwan	0	0	871	110	0	0	253	67
Other	117	0	586	20	38	2	237	1
Total	9,738	1,911	74,213	5,704	10,608	1,826	67,691	4,675
thousands of dollars								
United States	26,762	14,806	414,921	65,307	29,883	12,495	430,723	60,541
California	181	3,737	120,419	2,462	60	5,206	168,235	1,953
Maine	5,378	0	4,461	1,964	5,727	0	17,892	3,206
Massachusetts	16,117	1,854	50,770	17,537	18,957	1,259	52,951	11,663
New York	2,624	1,370	62,136	5,523	2,866	1,782	58,651	9,187
Washington	112	6,689	112,272	6,429	282	3,336	69,028	2,810
Other	2,350	1,157	64,864	31,392	1,991	912	63,967	31,723
France	0	161	223	27	0	150	71	5
Japan	2	4,861	16,264	854	0	4,465	4,159	729
Taiwan	0	4	4,929	608	0	2	1,722	423
Other	527	0	3,615	116	217	23	1,383	6
Total	27,291	19,832	439,953	66,912	30,101	17,135	438,059	61,704

1. Includes Coho and Spring (Chinook).

2. Includes fresh, chilled and frozen.

Table 2-2
Exports of selected Canadian aquaculture products, by country of destination — 2010 and 2011

Destination	2010				2011			
	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets
tonnes								
United States	12,689	1,697	70,036	6,357	13,741	1,392	66,141	4,379
California	52	846	24,694	122	41	593	26,649	205
Maine	2,661	0	4,837	199	2,741	0	3,695	171
Massachusetts	7,863	169	8,662	1,180	8,503	301	7,349	578
New York	947	147	11,808	823	943	149	10,597	308
Washington	50	433	10,506	668	39	225	9,562	401
Other	1,116	102	9,529	3,365	1,474	124	8,289	2,716
France	0	0	1	1	0	0	9	5
Japan	0	213	437	397	0	445	187	501
Taiwan	0	1	166	70	0	69	8	122
Other	30	4	513	2	73	43	388	186
Total	12,719	1,915	71,153	6,827	13,814	1,949	66,733	5,193
thousands of dollars								
United States	33,142	12,055	432,283	78,407	35,573	13,159	414,411	55,820
California	274	5,696	152,917	1,345	181	5,619	158,025	2,199
Maine	5,979	0	26,549	2,508	5,872	0	22,359	2,262
Massachusetts	21,562	2,512	51,283	14,580	23,241	3,218	44,743	7,691
New York	2,392	1,080	69,758	10,304	2,406	1,331	71,933	3,500
Washington	158	2,008	71,557	6,384	167	1,898	61,359	3,505
Other	2,777	759	60,219	43,286	3,706	1,093	55,992	36,663
France	0	1	10	17	0	0	93	61
Japan	0	3,115	2,708	2,263	0	5,886	1,439	2,831
Taiwan	0	6	1,222	410	1	559	47	760
Other	152	32	3,825	16	321	388	2,693	1,233
Total	33,294	15,209	440,048	81,113	35,895	19,992	418,683	60,705

1. Includes Coho and Spring (Chinook).

2. Includes fresh, chilled and frozen.

Table 2-3
Exports of selected Canadian aquaculture products, by country of destination — 2012

Destination	2012			
	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets
	tonnes			
United States	14,941	1,169	82,121	4,394
California	28	511	32,476	3
Maine	3,053	0	1,924	1,209
Massachusetts	9,755	222	12,913	398
New York	516	94	15,109	286
Washington	5	281	9,586	64
Other	1,584	61	10,113	2,434
France	0	6	0	0
Japan	0	99	406	509
Taiwan	0	3	340	81
Other	60	1	557	1
Total	15,001	1,278	83,424	4,985
	thousands of dollars			
United States	39,147	11,248	456,850	38,754
California	108	5,045	180,215	27
Maine	6,620	0	10,440	6,121
Massachusetts	27,244	2,460	69,092	4,102
New York	1,248	1,003	86,507	2,150
Washington	29	2,118	51,255	680
Other	3,898	622	59,341	25,674
France	0	67	2	3
Japan	0	1,126	2,881	2,808
Taiwan	0	19	1,934	448
Other	289	8	3,280	13
Total	39,436	12,468	464,947	42,026

1. Includes Coho and Spring (Chinook).

2. Includes fresh, chilled and frozen.

Table 3-1

Value added account - Aquaculture industry, by province and Canada — 2008

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada ¹
thousands of dollars								
Sources of output								
Sales of aqua products and services	46,415	27,997	43,405	108,905	13,235	17,520	479,920	737,397
Whole fish dressed, fresh or chilled	..	..	x	94,200	x	3,550	441,700	571,450
Fish eggs and live fish for grow-out	..	..	4,200	10,500	x	2,740	x	21,740
Whole fish live except for grow-out	..	..	x	x	7,750	10,800	0	20,395
Whole fish, dressed and frozen	..	..	10	0	0	0	x	x
Fish fillets, fresh or frozen	..	..	75	x	x	x	x	2,985
Fish, dried, smoked or in brine	..	..	20	0	x	x	x	x
Total finfish	x	x	35,250	106,850	12,100	17,500	449,120	664,320
Total molluscs	3,700	26,700	8,000	2,000	900	0	15,900	57,200
Other goods and services, not elsewhere specified	x	x	155	55	235	20	14,900	15,877
Subsidies	x	0	x	65	370	140	x	x
Other operating revenue	x	140	x	2,325	495	270	x	x
Total operating revenue	54,565	28,137	44,495	111,295	14,100	17,930	481,575	752,097
Change in inventory value, goods	12,000	-1,270	2,600	20,000	-1,380	-1,170	-19,200	11,580
Gross output	66,565	26,867	47,095	131,295	12,720	16,760	462,375	763,677
Product inputs								
Product expenses	41,890	8,355	30,330	97,885	6,315	7,690	336,350	528,815
Feed	x	x	x	44,700	2,160	5,000	158,000	246,435
Therapeutants	x	x	1,100	3,700	60	70	5,000	10,535
Purchases, eggs and fish for grow-out	x	2,500	x	16,500	340	840	x	70,580
Purchases, fish for processing and resale	1,500	x	x	1,000	90	x	7,600	10,400
Insurance premiums	x	300	1,000	3,100	310	x	6,600	12,900
Energy (electricity, fuel, et cetera)	1,400	1,100	1,500	5,000	1,210	810	9,700	20,720
Goods transportation and storage	900	200	250	1,900	210	90	37,700	41,250
Processing services	x	100	400	2,700	30	35	28,200	31,815
Rental and leasing expenses	x	350	x	800	65	200	3,840	5,915
Maintenance and repairs, buildings	50	315	180	x	190	30	x	2,015
Maintenance and repairs, machinery	x	1,600	x	8,900	560	80	19,100	36,515
Professional services	275	205	1,505	x	195	x	5,260	12,735
Other operating expenses, not elsewhere specified	1,765	1,545	1,510	4,145	895	240	16,900	27,000
Change in inventory value, raw materials	2,000	0	-5,000	-8	500	140	-2,200	-4,568
Total of product inputs	39,890	8,355	35,330	97,893	5,815	7,550	338,550	533,383
Gross value added (factor cost)	26,675	18,512	11,765	33,402	6,905	9,210	123,825	230,294
Selected primary inputs								
Salaries and wages	8,200	8,700	5,200	20,000	2,200	2,800	58,900	106,000
Employer portion of employee benefits	900	775	625	2,000	320	280	10,100	15,000
Depreciation	2,900	2,000	2,500	6,700	1,600	600	30,200	46,500
Interest paid	x	860	x	2,400	345	250	7,000	13,865

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

Note(s): Data and account structure are subject to revision.

Table 3-2
Value added account - Aquaculture industry, by province and Canada — 2009

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada ¹
thousands of dollars								
Sources of output								
Sales of aqua products and services	69,800	28,540	49,810	198,910	10,829	18,150	492,600	868,639
Whole fish dressed, fresh or chilled	65,400	0	x	157,720	2,174	x	412,000	675,294
Fish eggs and live fish for grow-out	x	0	7,900	x	3,853	3,370	7,000	43,723
Whole fish live except for grow-out	0	0	700	315	2,839	10,850	0	14,704
Whole fish, dressed and frozen	0	0	0	0	x	0	x	x
Fish fillets, fresh or frozen	x	0	x	x	x	x	x	x
Fish, dried, smoked or in brine	0	0	10	0	x	0	x	220
Total finfish	66,200	x	43,405	192,650	9,779	x	466,600	798,034
Total molluscs	x	26,300	6,330	x	800	0	12,200	53,480
Other goods and services, not elsewhere specified	x	x	75	x	250	x	13,800	17,125
Subsidies	x	50	x	x	170	x	x	x
Other operating revenue	x	100	x	x	570	x	x	x
Total operating revenue	72,275	28,690	52,545	207,290	11,569	19,570	495,255	887,194
Change in inventory value, goods	9,000	1,100	2,010	15,100	500	1,800	-32,015	-2,505
Gross output	81,275	29,790	54,555	222,390	12,069	21,370	463,240	884,689
Product inputs								
Product expenses	66,720	8,200	29,325	149,700	6,165	9,320	320,800	590,230
Feed	38,500	x	14,300	74,600	x	5,500	159,600	294,840
Therapeutants	x	0	1,200	6,100	x	150	9,600	17,640
Purchases, eggs and fish for grow-out	11,650	3,400	6,700	36,800	290	1,500	5,500	65,840
Purchases, fish for processing and resale	0	x	110	250	x	60	500	1,000
Insurance premiums	x	200	810	x	220	100	6,800	14,010
Energy (electricity, fuel, et cetera)	1,550	1,000	1,100	4,600	1,250	820	9,800	20,120
Goods transportation and storage	1,700	600	440	2,900	220	300	35,000	41,160
Processing services	x	120	440	x	75	5	31,700	35,100
Rental and leasing expenses	x	x	580	1,000	x	200	4,600	7,930
Maintenance and repairs, buildings	450	320	170	300	230	100	1,800	3,370
Maintenance and repairs, machinery	x	1,000	1,920	x	365	100	25,600	43,685
Professional services	570	245	130	2,160	145	145	7,400	10,795
Other operating expenses, not elsewhere specified	2,330	1,065	1,425	5,810	870	340	22,900	34,740
Change in inventory value, raw materials	-1,000	250	0	200	-500	200	10,000	9,150
Total of product inputs	67,720	7,950	29,325	149,500	6,665	9,120	310,800	581,080
Gross value added (factor cost)	13,555	21,840	25,230	72,890	5,404	12,250	152,440	303,609
Selected primary inputs								
Salaries and wages	8,400	7,800	5,500	21,000	2,300	2,850	66,500	114,350
Employer portion of employee benefits	1,100	675	700	2,200	330	285	11,500	16,790
Depreciation	x	1,500	x	11,700	1,300	700	33,000	54,500
Interest paid	x	500	x	6,900	380	200	6,200	18,930

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

Note(s): Data and account structure are subject to revision.

Table 3-3

Value added account - Aquaculture industry, by province and Canada — 2010

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada ¹
thousands of dollars								
Sources of output								
Sales of aqua products and services	x	25,115	36,195	233,165	x	18,295	534,300	966,080
Whole fish dressed, fresh or chilled	x	0	20,345	198,800	x	15,240	446,925	786,760
Fish eggs and live fish for grow-out	0	x	x	x	2,360	1,185	x	38,470
Whole fish live except for grow-out	0	x	15	0	5,155	1,700	x	x
Whole fish, dressed and frozen	0	0	0	0	5	0	x	x
Fish fillets, fresh or frozen	0	0	x	x	x	x	x	67,970
Fish, dried, smoked or in brine	0	0	0	0	x	55	x	335
Total finfish	x	x	31,175	227,290	10,270	x	514,925	906,830
Total molluscs	x	23,165	5,020	x	x	0	15,785	50,775
Other goods and services, not elsewhere specified	x	x	0	x	x	x	3,590	8,475
Subsidies	x	0	x	x	x	x	x	1,770
Other operating revenue	x	905	x	x	x	x	x	13,540
Total operating revenue	x	26,020	38,280	242,000	x	18,925	536,250	981,390
Change in inventory value, goods	4,675	355	1,260	21,040	-330	-1,000	15,015	41,015
Gross output	x	26,375	39,540	263,040	x	17,925	551,265	1,022,405
Product inputs								
Product expenses	x	7,060	21,690	139,475	x	10,465	338,900	596,885
Feed	42,595	x	9,800	82,140	x	6,900	164,500	308,020
Therapeutants	1,135	x	670	12,520	x	220	11,100	25,790
Purchases, eggs and fish for grow-out	12,870	2,120	x	18,140	x	800	5,115	45,435
Purchases, fish for processing and resale	x	0	x	x	x	x	x	900
Insurance premiums	x	580	750	6,200	x	135	7,270	17,665
Energy (electricity, fuel, et cetera)	x	795	930	4,880	x	620	10,050	20,780
Goods transportation and storage	1,780	x	x	3,155	x	x	34,270	40,315
Processing services	2,765	165	x	x	x	x	37,730	41,565
Rental and leasing expenses	x	120	480	950	x	320	5,140	8,415
Maintenance and repairs, buildings	530	370	340	515	x	30	x	3,100
Maintenance and repairs, machinery	x	1,100	325	4,300	x	110	26,530	35,095
Professional services	940	145	210	935	125	160	7,415	9,930
Other operating expenses, not elsewhere specified	x	1,130	935	5,315	x	860	28,030	39,875
Change in inventory value, raw materials	-110	315	5	-95	-810	-580	-1,480	-2,755
Total of product inputs	x	6,745	21,685	139,570	x	11,045	340,380	599,640
Gross value added (factor cost)	37,640	19,630	17,855	123,470	6,405	6,880	210,885	422,765
Selected primary inputs								
Salaries and wages	10,790	6,745	4,975	22,595	2,125	2,100	60,010	109,340
Employer portion of employee benefits	1,545	675	700	2,725	280	330	10,685	16,940
Depreciation	x	2,090	2,185	27,025	x	650	30,645	74,300
Interest paid	x	430	665	7,185	x	375	3,560	16,870

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

Note(s): Data and account structure are subject to revision.

Table 3-4

Value added account - Aquaculture industry, by province and Canada — 2011

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada ¹
thousands of dollars								
Sources of output								
Sales of aqua products and services	x	x	42,185	195,495	9,700	17,250	472,190	817,295
Whole fish dressed, fresh or chilled	x	0	x	172,030	1,135	6,730	390,910	640,070
Fish eggs and live fish for grow-out	x	x	3,460	2,330	1,370	9,340	x	40,470
Whole fish live except for grow-out	0	0	x	x	4,705	670	x	7,810
Whole fish, dressed and frozen	0	0	0	0	0	0	0	0
Fish fillets, fresh or frozen	0	0	x	x	x	x	x	65,055
Fish, dried, smoked or in brine	0	0	0	0	x	x	0	255
Total finfish	x	x	37,560	189,240	8,060	x	451,135	753,660
Total molluscs	3,030	25,590	x	x	310	0	15,510	51,615
Other goods and services, not elsewhere specified	x	x	205	x	x	x	5,545	12,020
Subsidies	x	5	x	65	170	x	815	1,845
Other operating revenue	x	x	x	6,455	495	x	2,610	12,635
Total operating revenue	x	x	44,605	202,015	10,365	17,885	475,615	831,775
Change in inventory value, goods	x	x	-3,205	2,055	-490	795	-2,200	60,675
Gross output	117,260	27,750	41,400	204,070	9,875	18,680	473,415	892,450
Product inputs								
Product expenses	x	8,500	x	143,840	4,755	9,865	323,650	596,125
Feed	43,330	x	12,070	67,220	x	6,195	166,555	297,225
Therapeutants	1,550	75	900	5,735	80	130	9,280	17,750
Purchases, eggs and fish for grow-out	19,065	2,315	x	x	250	1,140	3,635	45,065
Purchases, fish for processing and resale	x	0	x	x	70	x	x	34,515
Insurance premiums	x	365	745	x	235	125	7,430	15,220
Energy (electricity, fuel, et cetera)	1,985	960	1,070	3,895	870	545	9,515	18,840
Goods transportation and storage	1,770	520	110	2,690	75	205	28,175	33,545
Processing services	3,030	x	120	5	x	x	32,245	35,725
Rental and leasing expenses	x	195	455	x	80	245	5,060	8,905
Maintenance and repairs, buildings	x	255	540	x	200	40	x	4,385
Maintenance and repairs, machinery	300	1,505	805	7,165	365	150	21,500	31,790
Professional services	1,135	710	385	2,500	155	315	8,075	13,275
Other operating expenses, not elsewhere specified	1,830	1,135	970	4,405	665	710	30,170	39,885
Change in inventory value, raw materials	x	105	x	-125	170	25	1,295	3,795
Total of product inputs	77,420	8,395	25,770	143,965	4,585	9,840	322,355	592,330
Gross value added (factor cost)	39,840	19,355	15,630	60,105	5,290	8,840	151,060	300,120
Selected primary inputs								
Salaries and wages	8,470	6,955	5,645	18,510	2,205	2,170	62,855	106,810
Employer portion of employee benefits	1,210	735	705	2,135	195	235	10,500	15,715
Depreciation	x	2,315	6,210	23,735	x	x	26,860	68,295
Interest paid	x	635	465	4,525	x	x	3,930	12,575

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

Note(s): Data and account structure are subject to revision.

Table 3-5

Value added account - Aquaculture industry, by province and Canada — 2012

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Canada ¹
thousands of dollars								
Sources of output								
Sales of aqua products and services	88,655	32,210	43,875	190,700	8,975	18,580	431,215	814,210
Whole fish dressed, fresh or chilled	82,890	0	26,645	160,645	1,755	14,580	361,625	648,140
Fish eggs and live fish for grow-out	15	x	4,575	7,220	x	1,980	14,465	30,065
Whole fish live except for grow-out	0	0	x	x	4,545	960	35	6,215
Whole fish, dressed and frozen	0	0	0	0	0	0	4,195	4,195
Fish fillets, fresh or frozen	0	0	x	x	x	x	27,695	51,405
Fish, dried, smoked or in brine	0	0	0	0	x	x	0	315
Total finfish	82,905	x	39,070	182,810	8,055	x	408,015	740,335
Total molluscs	4,390	30,465	x	x	295	0	18,295	62,975
Other goods and services, not elsewhere specified	1,360	x	x	x	625	15	4,905	10,900
Subsidies	x	5	80	235	185	x	3,240	4,135
Other operating revenue	x	200	2,375	4,950	75	x	3,455	11,840
Total operating revenue	88,945	32,415	46,330	195,885	9,235	19,465	437,910	830,185
Change in inventory value, goods	23,410	1,510	-300	2,325	425	-560	-20,080	6,730
Gross output	112,355	33,925	46,030	198,210	9,660	18,905	417,830	836,915
Product inputs								
Product expenses	98,080	10,530	27,770	143,090	4,755	10,765	315,115	610,105
Feed	59,660	245	12,435	60,895	x	x	159,950	301,590
Therapeutants	x	125	990	x	95	165	9,500	21,190
Purchases, eggs and fish for grow-out	16,090	3,655	x	12,480	155	x	5,975	42,510
Purchases, fish for processing and resale	x	0	x	x	x	x	825	43,610
Insurance premiums	x	320	1,025	x	185	155	8,500	18,555
Energy (electricity, fuel, et cetera)	1,775	1,250	1,460	3,640	920	720	12,960	22,725
Goods transportation and storage	2,875	585	x	x	70	145	23,505	30,565
Processing services	x	225	x	15	x	x	28,150	32,745
Rental and leasing expenses	720	415	450	765	95	475	5,995	8,915
Maintenance and repairs, buildings	x	250	515	x	185	50	5,410	8,685
Maintenance and repairs, machinery	200	1,325	1,240	7,980	220	315	18,380	29,660
Professional services	825	555	360	2,060	165	215	7,160	11,340
Other operating expenses, not elsewhere specified	1,370	1,580	820	4,085	760	595	28,805	38,015
Change in inventory value, raw materials	2,925	-40	35	805	-55	-205	480	3,945
Total of product inputs	95,155	10,570	27,735	142,285	4,810	10,970	314,635	606,160
Gross value added (factor cost)	17,200	23,355	18,295	55,925	4,850	7,935	103,195	230,755
Selected primary inputs								
Salaries and wages	10,190	7,595	5,430	16,735	2,160	2,755	60,515	105,380
Employer portion of employee benefits	1,745	905	525	1,910	215	290	9,890	15,480
Depreciation	x	2,680	x	18,170	945	895	30,820	64,975
Interest paid	x	705	x	9,655	155	295	3,770	27,090

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

Note(s): Data and account structure are subject to revision.

Concepts and methods

Aquaculture is the managed production of fish. The North American Industrial Classification System (NAICS) defines aquaculture as an industry comprised of establishments primarily engaged in farm-raising finfish, shellfish, and/or any other kind of aquatic animal. These establishments use some form of intervention in the rearing process to enhance production, such as keeping animals in captivity, regular stocking and feeding of animals, and protecting them from predators.

The aquaculture industry includes hatcheries and sales within the industry, for example, sales from a hatchery to a grow-out operation are included. The aquaculture industry does not include sport fishing or the wild fishery.

In Canada, the aquaculture industry is dominated by the production of finfish, primarily salmon, off the coasts of British Columbia and New Brunswick. Production of shellfish is smaller with Prince Edward Island and British Columbia being the major producing provinces.

Production and value of aquaculture

The aquaculture production and value data, produced by species and province, represent the quantity of production and the farm-gate value of that production.

The series begins in 1991. Until 1994, these data were collected and released by Fisheries and Oceans Canada. Statistics Canada first published the time series in 1996.

The administrative data are provided annually from each of the provincial ministries responsible for aquaculture. Producers must report their production and value as part of their provincial licensing agreements.

Generally, finfish production is reported as gutted head-on and the value is based on a farm-gate value. Shellfish is reported as whole, again with a farm-gate value. Beginning in 1996, additional data for Quebec represents the sale of fish to outfitters offering lodging and services for hunting, fishing and trapping.

Exports of selected aquaculture products

Canadian import and export statistics are derived by the International Trade Division of Statistics Canada from administrative records collected by the Canada Customs and Revenue Agency. The one exception to this process is Canada-United States trade. As of January 1, 1990, Canada and the United States have been using one another's import data as its own export data. Export data are available by province of origin.

Exports for four categories of aquaculture products have been selected. All of these categories define the products as fresh, chilled or frozen and are based on the harmonised system of coding.

Mussels - code 3073110

Other salmon - includes coho and spring (chinook) salmon, codes 3021221, 3021231

Atlantic salmon - codes 3021211, 3021212, 3032200

Atlantic salmon fillets – code 3041031

Small quantities of fish fillets may be included in other categories that include products from the commercial fishery. However, as exports of these categories are relatively low, the number of individual aquaculture categories is limited.

Aquaculture value added

Concepts

The aquaculture value added account is designed to measure the economic production (value added) of goods and services from aquaculture establishments. Economic production can be defined as any process that creates value or adds value to existing goods. Consistent with this definition, the Canadian System of National Accounts defines economic production as the production of goods or services, which are exchanged for money in the marketplace.

Starting in 1997, the account displays the inputs and outputs (revenues and expenses excluding the change in inventory values) on a calendar year basis. These data are displayed by province, with the exception of the Prairie Provinces where aquaculture is a relatively small industry. Gross value added at factor cost is residually derived by subtracting product inputs, or purchases from other businesses, from the gross output of the sector.

The estimates also include the costs and revenues derived from processing where it is an integral part of the establishment but not the main activity or source of revenue.

Definitions

A business entity and an establishment

A business entity is an economic transactor having the responsibility and the authority to allocate resources in the production of goods and services.

A statistical establishment is one production entity or the smallest grouping of production entities: which produces as homogeneous a set of goods and/or services as possible; which does not cross provincial boundaries; and for which records provide data on the value of output together with the cost of principal intermediate inputs as well as the cost and quantity of labour resources used to produce the output.

The population of interest

The population of interest is comprised of establishments primarily engaged in farm-raising aquatic animals and plants classified to aquaculture under NAICS 112510 that operated for at least one day during the reference year.

Financial variables

Operating revenues are generated from the sale of: whole fish (fresh or chilled); fish eggs or live fish for grow-out; live fish; whole fish dressed and frozen; fish fillets; fish that are dried, smoked or in brine; molluscs (oysters, mussels, clams, scallops); and, seed or larvae for grow-out. Operating revenue may also include revenue from other sources such as real estate rental, consulting or government subsidies.

Non-operating revenues include income from interest or dividends.

Salaries and benefits include wages, salaries and benefits such as vacation pay, commissions or bonuses paid to employees as defined by the Canada Customs and Revenue Agency and requiring a T4 Supplementary Form. This item includes the employer portion of employee benefits for items such as health care insurance plans, Canada/Quebec Pension Plan contributions or Employment Insurance premiums.

Processing services are the costs incurred when another company provides services related to gutting, cleaning, slitting or shelling.

Other operating expenses include: energy (electricity, gasoline, diesel, propane); water; transportation; rental and leasing; maintenance and repair; legal; accounting; consulting; veterinary; financial services; insurance; advertising; travel; property taxes; licenses; permits; office; management; and depreciation.

Non-operating expenses relate to interest expenses on loans or the interest component of a capital lease.

Methods

These data are produced as part of Statistics Canada's Unified Enterprise Survey (UES) conducted for the first time in 1997. The survey integrates several annual business surveys. It aims to ensure Statistics Canada receives consistent and integrated data from many types of surveys and sizes of businesses, with enough detail to produce accurate provincial statistics.

Target population

The target population for this survey is all establishments classified to aquaculture under NAICS 112510 that operated for at least one day during the reference year.

Frame and sample design

Two sources of data are used to derive the estimates:

- A probability sample survey of aquaculture establishments with a gross business revenue greater than or equal to a cut-off that varied by province from \$30,000 to \$105,000.
- Taxation data are used to estimate for businesses with gross business revenue less than the cut-off.

The frame that is used for the selection of the probability sample is Statistics Canada's Business Register. This list frame is updated and verified prior to sample selection. For 2012, the frame included 553 establishments classified to aquaculture.

Before a sample is taken, the records are stratified by province. Within each province, in order to improve the efficiency of the sample design, strata are defined using the gross revenue variable on the Business Register.

The "must-take" stratum contains the enterprises (including their associated establishments) with revenue greater than or equal to \$25,000,000. All of these establishments are sent a questionnaire.

The "take-none" stratum contains the establishments with gross business revenue less than the cut-off. Data for these businesses are obtained from taxation data.

For those establishments not selected in either the "must-take" (greater than \$25,000,000) or the "take none" (less than the cut-off) strata, three additional strata are defined to improve the efficiency of the sample design. There is a "take-all" stratum (all establishments are sent a questionnaire) and there are two "take-some" strata (a sample of establishments are selected and sent a questionnaire).

The overall sample size for 2012 was 165 establishments.

Data collection

In the spring, respondents selected in the questionnaire part of the sample are asked to report their fiscal year transactions. The fiscal year data are subsequently aligned to produce calendar year data using provincial level industry indicators.

The survey is conducted by mail along with Computer Assisted Telephone Interviews. These data are examined for inconsistencies and errors using automated edits coupled with an analytical review. Data for non-respondents and no-contacts are imputed, partially with the assistance of tax data.

Estimation design

The sampling weights derived from the sample design are modified and improved, if necessary, using post stratification. This is possible because since the sample was initially selected, the Business Register is subjected to additional updates.

Analysis of the estimates

The last step of the process is analytical. The financial picture for aquaculture is assessed within the context of other related production statistics available from provincial regulatory sources. Although the two sources measure different indicators, the provincial administrative data are valuable in the analysis since they help confirm the production of accurate estimates.

Data quality

All surveys are subject to sampling and non-sampling errors. Statistics Canada uses a variety of methods to minimize all types of errors. Measures of sampling error along with other indicators of quality are provided.

The coefficient of variation (CV), a measure of sampling error, is computed. The quality of the estimates is classified as Excellent (CV of 0.01 to 4.99%); Very good (CV of 5.00% to 9.99%); Good (CV of 10.00% to 14.99%); Acceptable (CV of 15.00% to 24.99%); Use with caution (CV of 25.00% to 34.99%); and Unreliable (CV > 35.00%).

Using these ratings for 2012, the national level estimates are judged to be very good, and the provincial level estimates range from excellent to acceptable.

Every effort is made to minimize the non-sampling error of omission, duplication, reporting and processing. When necessary, some records are imputed using information from tax files where possible.

Of the sampled units contributing to the estimate, the weighted response rate for 2012 was 65.3%.

Finally, the aquaculture estimates were compared to, and found to be consistent with, administrative data sources obtained from the provinces; reinforcing confidence in the quality of the aquaculture statistics. All of the data are reviewed for accuracy and consistency and provide a reliable portrait of the aquaculture industry.