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Aquaculture Statistics

2010



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Aquaculture Statistics

2010

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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 two survey programs in particular.

The annual Aquaculture production and value report collects data on estimated aquaculture production and value for Canada and the provinces each year beginning in 1997. The administrative data are provided from each of the provincial ministries responsible for aquaculture. Producers must report their production and value as part of their provincial licensing agreements. The data are supplemented through consultation with industry specialists and with data provided by Fisheries and Oceans Canada. Prior to 1997 the data were collected and provided by Fisheries and Oceans Canada.

The Survey of the Aquaculture Industry 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 \$1,029.9 million in 2010, an increase of 15.8% from 2009, the second consecutive annual increase. This increase was largely due to growth in sales of finfish.
- Finfish sales, which accounted for 92.4% of total operating revenue in 2010, increased 18.8% to \$951.2 million.
- The gross value added to the economy by the aquaculture industry rose to \$489.4 million, up 59.9% from 2009.
- Total exports of farmed salmon increased 7.3% in 2010, while farmed mussel exports increased 19.9% compared to 2009.

Chart 1
Canadian finfish production

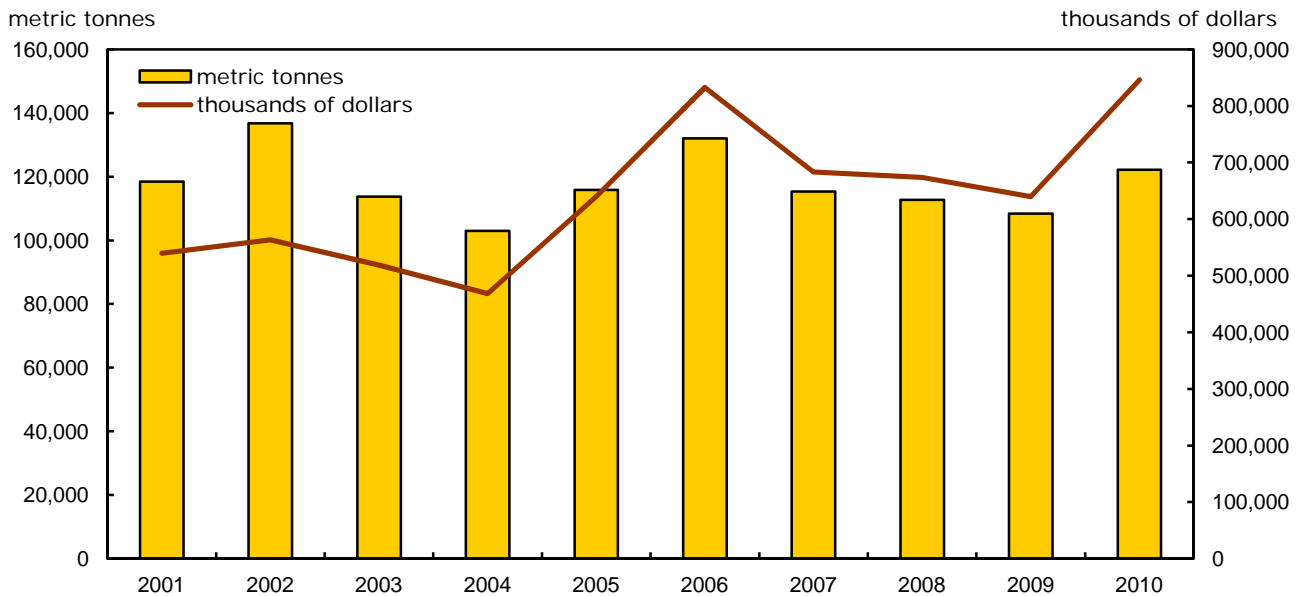


Chart 2
Canadian shellfish production

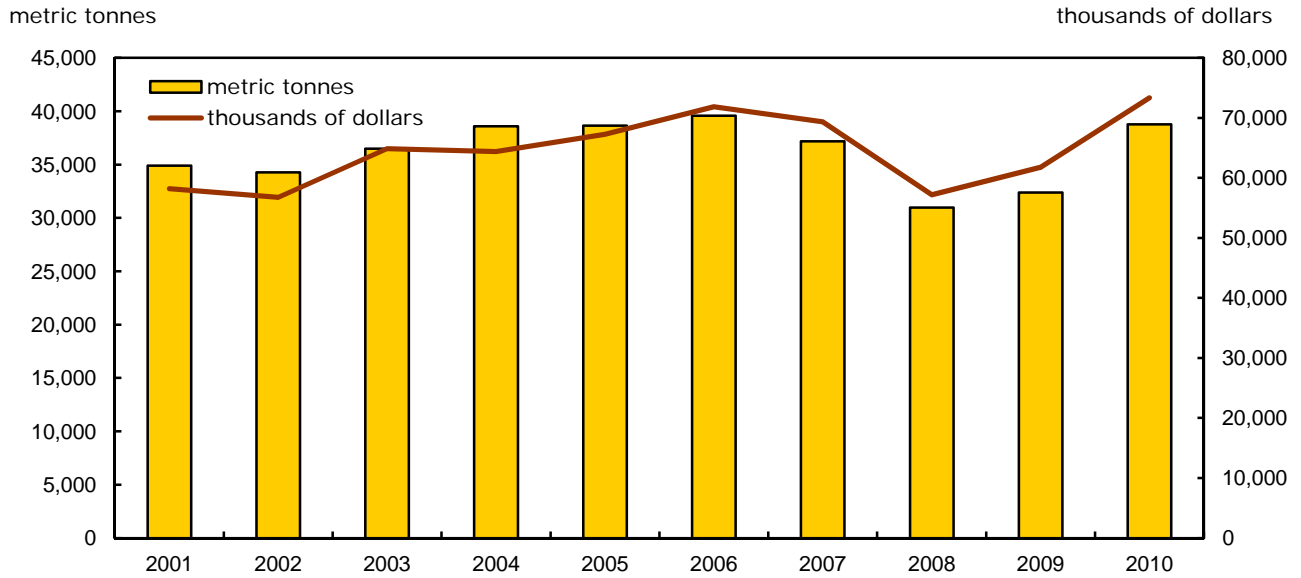


Chart 3
Canadian exports of Atlantic salmon and Atlantic salmon fillets

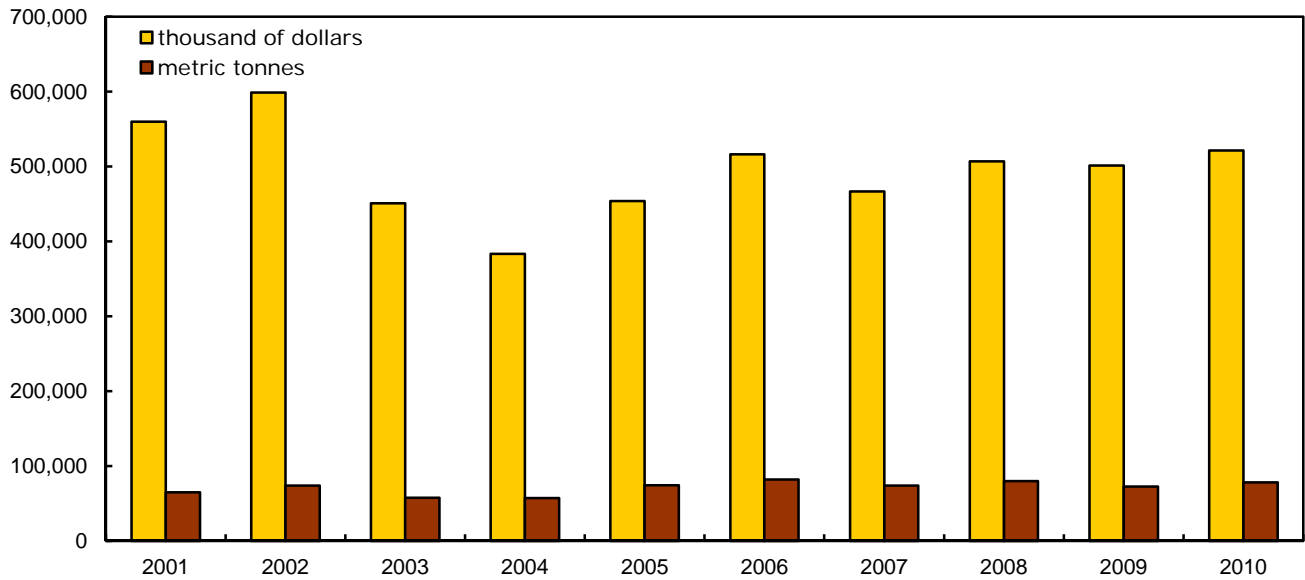


Chart 4
Sales of aquaculture products & services

thousands of dollars

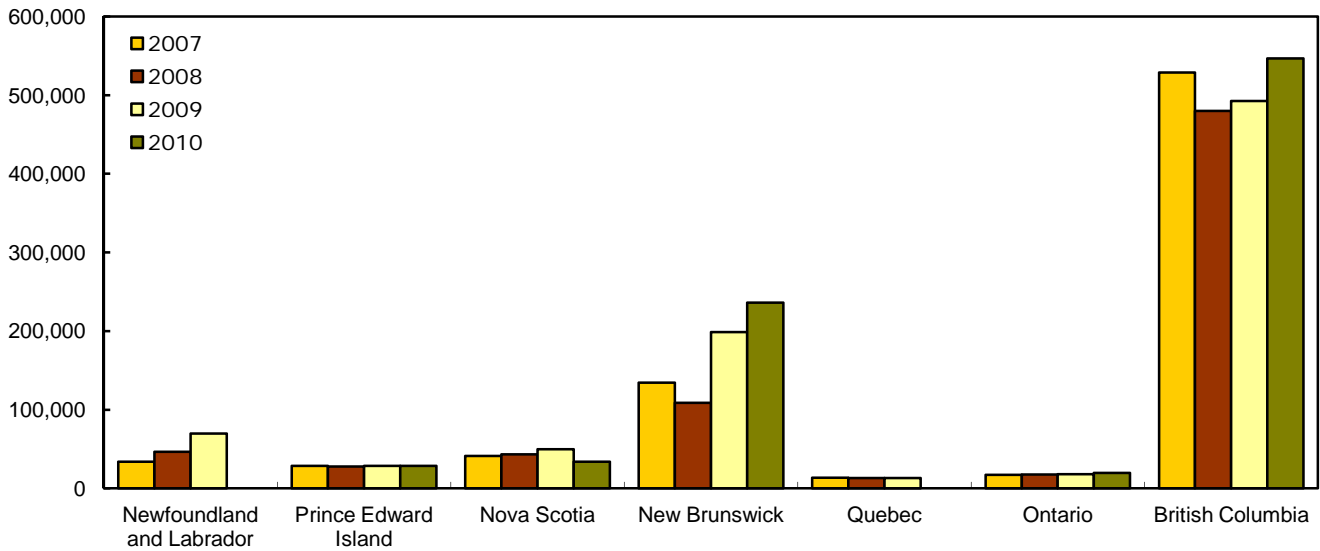
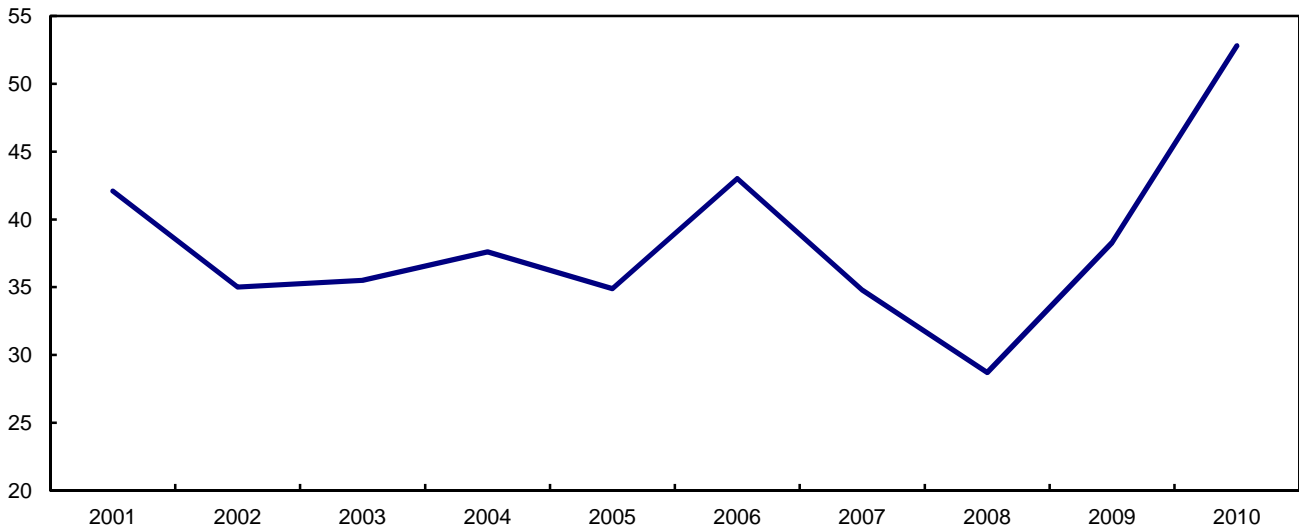


Chart 5
Percentage of gross value-added* compared to the value of production

percent



* Gross value added at factor cost

Related products

Selected publications from Statistics Canada

21-206-X Statistics on income of farm operators

21-207-X Statistics on income of farm families

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

2927 Canadian Aquaculture Industry Survey

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 — 2006**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
tonnes											
Production											
Salmon	x	x	x	x	0	0	0	0	0	70,181	118,061
Trout	0	x	0	x	..	3,800	x	x	x	274	4,374
Steelhead	x	0	x	0	0	0	0	0	0	0	0
Other finfish ¹	x	x	x	x	..	x	x	x	x	x	9,632
Total finfish	7,300	10	x	x	461	3,800	x	x	x	70,455	132,067
Clams	0	0	0	0	0	0	0	0	0	1,707	1,707
Oysters	0	2,903	x	x	0	0	0	0	0	8,212	13,200
Mussels	3,200	17,234	x	x	331	0	0	0	0	252	23,876
Scallops	0	0	x	0	0	0	0	0	0	46	60
Other shellfish	0	0	x	0	25	0	0	0	0	0	719
Total shellfish	3,200	20,137	x	x	356	0	0	0	0	10,217	39,562
Total aquaculture	10,500	20,147	x	x	817	3,800	x	x	x	80,672	171,629
Re-stocking ²	.	.	.	.	808	.	.	.	.	.	808
Total aquaculture (including re-stocking) ²	10,500	20,147	x	x	1,625	3,800	x	x	x	80,672	172,437
thousands of dollars											
Value											
Salmon	x	x	x	x	0	0	0	0	0	407,405	748,246
Trout	0	x	0	x	..	15,700	x	x	x	1,043	19,743
Steelhead	x	0	x	0	0	0	0	0	0	0	0
Other finfish ¹	x	x	x	x	..	x	x	x	x	x	64,771
Total finfish	44,517	1,300	x	x	2,698	15,700	x	x	x	408,448	832,760
Clams	0	0	0	0	0	0	0	0	0	8,906	8,906
Oysters	0	7,800	x	x	0	0	0	0	0	8,641	19,063
Mussels	7,772	22,800	x	x	430	0	0	0	0	1,128	35,817
Scallops	0	0	x	0	0	0	0	0	0	407	519
Other shellfish	0	0	x	0	249	0	0	0	0	0	7,530
Total shellfish	7,772	30,600	x	x	679	0	0	0	0	19,082	71,835
Total aquaculture	52,289	31,900	x	x	3,377	15,700	x	x	x	427,530	904,595
Re-stocking ²	.	.	.	.	8,388	.	.	.	.	.	8,388
Total aquaculture (including re-stocking) ²	52,289	31,900	x	x	11,765	15,700	x	x	x	427,530	912,983

1. Other finfish data is only available at the Canada level and includes confidential data from the provinces.

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 — 2007

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
tonnes											
Production											
Salmon	x	x	6,936	24,575	0	0	0	0	0	70,998	102,509
Trout	0	x	118	300	..	4,100	21	x	x	505	5,044
Steelhead	x	0	x	0	0	0	0	0	0	0	0
Other finfish ¹	x	x	x	x	..	x	x	x	x	x	7,745
Total finfish	5,770	14	7,053	24,875	543	4,100	21	x	x	71,503	115,297
Clams	0	0	211	0	0	0	0	0	0	1,658	1,869
Oysters	0	2,812	199	571	0	0	0	0	0	7,483	11,065
Mussels	2,600	17,052	2,476	550	614	0	0	0	0	543	23,835
Scallops	0	0	11	0	0	0	0	0	0	157	168
Other shellfish	0	0	230	0	11	0	0	0	0	0	241
Total shellfish	2,600	19,864	3,127	1,121	625	0	0	0	0	9,841	37,178
Total aquaculture	8,370	19,878	10,181	25,996	1,168	4,100	21	x	x	81,344	152,475
Re-stocking ²	.	.	.	.	585	.	.	.	.	.	585
Total aquaculture (including re-stocking) ²	8,370	19,878	10,181	25,996	1,753	4,100	21	x	x	81,344	153,060
thousands of dollars											
Value											
Salmon	x	x	39,209	181,609	0	0	0	0	0	384,099	604,917
Trout	0	x	1,084	3,000	..	17,000	87	x	x	2,399	23,570
Steelhead	x	0	x	0	0	0	0	0	0	0	0
Other finfish ¹	x	x	x	x	..	x	x	x	x	x	54,877
Total finfish	35,200	1,700	40,293	184,609	3,173	17,000	87	x	x	386,498	683,364
Clams	0	0	408	0	0	0	0	0	0	9,305	9,713
Oysters	0	6,700	821	600	0	0	0	0	0	8,605	16,726
Mussels	4,800	21,800	3,461	600	798	0	0	0	0	2,481	33,940
Scallops	0	0	197	0	0	0	0	0	0	877	1,074
Other shellfish	0	0	7,808	0	64	0	0	0	0	0	7,872
Total shellfish	4,800	28,500	12,696	1,200	862	0	0	0	0	21,268	69,326
Total aquaculture	40,000	30,200	52,989	185,809	4,035	17,000	87	x	x	407,766	752,690
Re-stocking ²	.	.	.	.	8,880	.	.	.	.	.	8,880
Total aquaculture (including re-stocking) ²	40,000	30,200	52,989	185,809	12,915	17,000	87	x	x	407,766	761,570

1. Other finfish data is only available at the Canada level and includes confidential data from the provinces.

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 — 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	325	4,260	x	x	x	635	7,803
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish ²	x	0	0	x	x	x	x	437	864
Total finfish	..	4	5,045	26,500	325	4,260	x	x	x	74,337	112,742
Clams	..	0	329	0	0	0	0	0	0	1,305	1,634
Oysters	..	2,586	151	598	0	0	0	0	0	5,670	9,005
Mussels	..	16,919	1,677	500	546	0	0	0	0	285	19,927
Scallops	..	0	9	0	0	0	0	0	0	276	285
Other shellfish	..	0	126	0	5	0	0	0	0	0	131
Total shellfish	..	19,505	2,292	1,098	551	0	0	0	0	7,536	30,982
Total aquaculture	11,545	19,509	7,337	27,598	876	4,260	x	x	x	81,873	155,198
Re-stocking ³	385	.	.	.	.	.	385
Total aquaculture (including re-stocking) ³	11,545	19,509	7,337	27,598	1,261	4,260	x	x	x	81,873	155,583
thousands of dollars											
Value											
Salmon	23,175	192,140	0	0	0	0	0	409,267	624,582
Trout	x	5,000	1,574	17,200	x	x	x	2,958	40,472
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish ²	x	0	0	x	x	x	x	4,634	8,761
Total finfish	..	1,600	25,200	197,140	1,574	17,200	x	x	x	416,859	673,815
Clams	..	0	1,424	0	0	0	0	0	0	7,211	8,635
Oysters	..	5,700	652	628	0	0	0	0	0	6,542	13,522
Mussels	..	22,300	2,430	545	766	0	0	0	0	1,281	27,322
Scallops	..	0	160	0	0	0	0	0	0	1,167	1,327
Other shellfish	..	0	6,326	0	50	0	0	0	0	0	6,376
Total shellfish	..	28,000	10,992	1,173	816	0	0	0	0	16,201	57,182
Total aquaculture	63,120	29,600	36,192	198,313	2,390	17,200	x	x	x	433,060	795,297
Re-stocking ³	7,273	.	.	.	.	.	7,273
Total aquaculture (including re-stocking) ³	63,120	29,600	36,192	198,313	9,663	17,200	x	x	x	433,060	802,570

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

2. Other finfish data is only available at the Canada level and includes confidential data from the provinces.

3. 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 — 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	68,659	100,209
Trout	x	150	330	4,300	x	x	x	464	7,014
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish ²	x	0	0	x	x	0	x	655	1,216
Total finfish	7,777	24,150	330	4,300	x	x	x	69,778	108,439
Clams	..	0	539	0	0	0	0	0	0	1,330	1,869
Oysters	..	2,281	159	638	0	0	0	0	0	5,688	8,766
Mussels	..	18,085	1,893	95	540	0	0	0	0	311	20,924
Scallops	..	0	3	0	0	0	0	0	0	385	388
Other shellfish	..	0	147	0	5	0	0	0	0	266	418
Total shellfish	..	20,366	2,741	733	545	0	0	0	0	7,980	32,365
Total aquaculture	13,625	20,366	10,518	24,883	875	4,300	x	x	x	77,758	154,354
Re-stocking³	385	.	.	.	.	.	385
Total aquaculture (including re-stocking)³	13,625	20,366	10,518	24,883	1,260	4,300	x	x	x	77,758	154,739
thousands of dollars											
Value											
Salmon	45,774	159,000	0	0	0	0	0	394,151	598,925
Trout	x	670	1,475	17,400	x	x	x	2,597	31,513
Steelhead	0	0	0	0	0	0	0	0	0
Other finfish ²	x	0	0	x	x	0	x	5,336	9,069
Total finfish	47,647	159,670	1,475	17,400	x	x	x	402,084	639,507
Clams	..	0	2,057	0	0	0	0	0	0	7,188	9,245
Oysters	..	5,075	676	4,000	0	0	0	0	0	7,094	16,845
Mussels	..	23,960	2,629	120	750	0	0	0	0	1,388	28,847
Scallops	..	0	23	0	0	0	0	0	0	1,637	1,660
Other shellfish	..	0	4,847	0	45	0	0	0	0	304	5,196
Total shellfish	..	29,035	10,232	4,120	795	0	0	0	0	17,611	61,793
Total aquaculture	92,100	29,035	57,879	163,790	2,270	17,400	x	x	x	419,695	792,980
Re-stocking³	6,810	.	.	.	.	.	6,810
Total aquaculture (including re-stocking)³	92,100	29,035	57,879	163,790	9,080	17,400	x	x	x	419,695	799,790

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

2. Other finfish data is only available at the Canada level and includes confidential data from the provinces.

3. 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 — 2010**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada ¹
tonnes											
Production											
Salmon	..	..	4,960	25,625	0	0	0	0	0	70,800	101,385
Trout	..	..	128	150	344	4,060	x	x	x	600	6,883
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish ²	..	..	91	0	0	0	x	0	x	600	993
Total finfish	12,899	..	5,179	25,775	344	4,060	x	x	x	72,000	122,160
Clams	0	0	438	0	0	0	0	0	0	1,500	1,938
Oysters	0	2,377	205	881	0	0	0	0	0	7,400	10,862
Mussels	2,461	18,845	2,121	95	563	0	0	0	0	400	24,484
Scallops	0	0	2	0	0	0	0	0	0	700	702
Other shellfish	0	0	172	0	5	0	0	0	0	600	777
Total shellfish	2,461	21,221	2,939	976	568	0	0	0	0	10,600	38,765
Total aquaculture	15,360	21,221	8,117	26,751	912	4,060	x	x	x	82,600	160,924
Re-stocking ³	.	.	.	.	401	.	.	.	.	.	401
Total aquaculture (including re-stocking)³	28,259	21,221	13,296	52,526	1,256	8,120	x	x	x	154,600	281,181
thousands of dollars											
Value											
Salmon	..	..	29,314	162,000	0	0	0	0	0	499,600	690,914
Trout	..	..	891	700	1,537	17,100	x	x	x	4,500	32,623
Steelhead	..	..	0	0	0	0	0	0	0	0	0
Other finfish ²	..	..	2,727	0	0	0	x	0	x	7,400	12,264
Total finfish	110,301	..	32,932	162,700	1,537	17,100	x	x	x	511,500	846,101
Clams	..	0	190	0	0	0	0	0	0	8,100	8,290
Oysters	..	5,288	720	5,500	0	0	0	0	0	8,800	20,308
Mussels	6,009	24,966	2,548	100	782	0	0	0	0	1,800	36,205
Scallops	..	0	15	0	0	0	0	0	0	2,900	2,915
Other shellfish	..	0	4,896	0	47	0	0	0	0	700	5,643
Total shellfish	6,009	30,254	8,369	5,600	828	0	0	0	0	22,300	73,361
Total aquaculture	116,310	30,254	41,301	168,300	2,365	17,100	x	x	x	533,800	919,463
Re-stocking ³	.	.	.	.	7,042	.	.	.	.	.	7,042
Total aquaculture (including re-stocking)³	116,310	30,254	41,301	168,300	9,407	17,100	x	x	x	533,800	926,504

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

2. Other finfish data is only available at the Canada level and includes confidential data from the provinces.

3. 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 — 2006 and 2007

Destination	2006				2007			
	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets
tonnes								
United States	8,763	3,684	69,982	5,880	9,868	2,714	67,628	3,906
California	158	1,921	24,290	1,045	177	1,103	23,908	408
Maine	2,718	0	1,726	631	2,679	0	813	104
Massachusetts	3,664	380	11,662	1,226	4,719	223	8,965	596
New York	715	306	9,934	542	913	175	8,919	342
Washington	15	691	11,873	300	129	1,076	16,793	549
Other	1,493	387	10,497	2,136	1,252	138	8,229	1,908
France	0	15	36	11	0	16	11	3
Japan	0	218	2,637	204	0	469	1,162	155
Taiwan	0	1	1,984	34	0	3	680	37
Other	123	29	842	109	209	6	265	74
Total	8,886	3,947	75,481	6,238	10,077	3,208	69,746	4,175
thousands of dollars								
United States	22,574	25,355	429,489	54,392	25,418	19,792	411,360	42,526
California	502	11,585	145,790	9,141	574	7,794	146,732	3,544
Maine	6,619	0	10,782	5,411	6,541	0	4,791	1,222
Massachusetts	9,624	3,411	72,530	11,397	12,484	2,159	53,526	6,883
New York	1,864	2,671	68,839	5,311	2,302	1,577	58,156	3,736
Washington	69	5,035	65,171	2,347	325	7,231	97,738	4,860
Other	3,896	2,653	66,378	20,785	3,192	1,030	50,418	22,282
France	0	60	264	91	0	121	72	33
Japan	0	3,240	16,400	1,171	0	7,188	6,712	695
Taiwan	0	10	9,774	154	0	17	3,117	163
Other	538	120	3,958	536	832	28	1,394	328
Total	23,112	28,784	459,885	56,345	26,250	27,147	422,656	43,745

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 — 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	294
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	4,925
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	1,928
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	62,904

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 — 2010

Destination	2010			
	Mussels	Other Salmon ¹	Atlantic Salmon ²	Atlantic Salmon fillets
	tonnes			
United States	12,689	1,697	70,036	6,357
California	52	846	24,694	122
Maine	2,661	0	4,837	199
Massachusetts	7,863	169	8,662	1,180
New York	947	147	11,808	823
Washington	50	433	10,506	668
Other	1,116	102	9,529	3,365
France	0	0	1	1
Japan	0	213	437	397
Taiwan	0	1	166	70
Other	30	4	512	2
Total	12,719	1,915	71,152	6,827
	thousands of dollars			
United States	33,142	14,651	432,283	78,407
California	274	6,951	152,917	1,345
Maine	5,979	0	26,549	2,508
Massachusetts	21,562	1,897	51,283	14,580
New York	2,392	1,276	69,758	10,304
Washington	158	3,580	71,557	6,384
Other	2,777	947	60,219	43,286
France	0	1	10	17
Japan	0	3,115	2,708	2,263
Taiwan	0	6	1,222	410
Other	152	32	3,825	16
Total	33,294	17,805	440,048	81,113

1. Includes Coho and Spring (Chinook).

2. Includes fresh, chilled and frozen.

Table 3-1
Value added account - Aquaculture industry, by province and Canada — 2006

	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	43,300	31,155	x	x	13,300	16,530	455,980	949,665
Whole fish dressed, fresh or chilled	..	..	x	x	x	..	389,000	551,500
Fish eggs and live fish for grow-out	..	..	x	x	4,400	..	3,700	38,100
Whole fish live except for grow-out	..	..	x	x	x	..	x	x
Whole fish, dressed and frozen	..	..	x	x	0	..	x	x
Fish fillets, fresh or frozen	..	..	x	x	x	..	x	x
Fish, dried, smoked or in brine	..	..	x	x	x	..	x	230
Total finfish	35,000	x	x	x	12,000	x	435,730	872,230
Total molluscs	x	30,000	x	x	x	0	18,550	71,650
Other goods and services, not elsewhere specified	x	x	x	x	x	x	1,700	5,785
Subsidies	x	x	x	x	300	x	x	2,110
Other operating revenue	x	x	x	x	265	x	x	16,888
Total operating revenue	44,653	31,640	x	x	13,865	17,785	460,340	968,663
Change in inventory value, goods	333	510	x	x	10	-490	1,160	10,023
Gross output	44,986	32,150	x	x	13,875	17,295	461,500	978,686
Product inputs								
Product expenses	22,042	7,335	x	x	5,400	9,905	299,450	590,432
Feed	11,200	x	x	x	1,850	5,700	155,000	301,980
Therapeutants	x	x	x	x	x	x	6,900	9,950
Purchases, eggs and fish for grow-out	2,500	2,350	x	x	350	1,400	6,000	33,600
Purchases, fish for processing and resale	900	0	x	x	150	450	x	36,150
Insurance premiums	x	x	x	x	x	x	8,100	19,670
Energy (electricity, fuel, et cetera)	860	x	x	x	x	x	9,100	19,385
Goods transportation and storage	1,500	420	x	x	125	220	30,000	40,765
Processing services	x	610	x	x	20	x	31,000	43,735
Rental and leasing expenses	380	x	x	x	40	290	2,800	9,160
Maintenance and repairs, buildings	280	410	x	x	210	x	x	8,595
Maintenance and repairs, machinery	510	600	x	x	350	180	x	x
Professional services	365	310	x	x	270	130	4,150	7,430
Other operating expenses, not elsewhere specified	1,832	1,275	x	x	525	425	x	x
Change in inventory value, raw materials	68	4,250	x	x	200	15	0	4,533
Total of product inputs	21,974	3,085	x	x	5,200	9,890	299,450	585,899
Gross value added (factor cost)	23,012	29,065	x	x	8,675	7,405	162,050	392,787
Selected primary inputs								
Salaries and wages	4,500	11,500	x	x	2,750	3,500	48,000	108,150
Employer portion of employee benefits	510	1,030	x	x	400	500	8,400	15,440
Depreciation	1,000	1,950	x	x	1,100	780	x	59,130
Interest paid	600	750	x	x	240	600	12,500	24,190

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 — 2007

	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	33,840	28,466	41,200	134,520	13,600	17,050	528,950	797,626
Whole fish dressed, fresh or chilled	..	..	15,000	114,000	1,400	..	440,000	570,400
Fish eggs and live fish for grow-out	..	..	10,000	x	x	..	x	23,700
Whole fish live except for grow-out	..	..	100	3,000	8,000	..	0	11,100
Whole fish, dressed and frozen	..	..	500	x	0	..	x	7,320
Fish fillets, fresh or frozen	..	..	x	x	x	..	x	67,420
Fish, dried, smoked or in brine	..	..	x	0	x	..	x	1,530
Total finfish	28,400	x	31,000	130,020	12,350	x	508,100	727,870
Total molluscs	x	27,300	x	3,400	1,000	0	19,300	65,640
Other goods and services, not elsewhere specified	x	x	x	1,100	250	x	1,550	4,116
Subsidies	x	x	x	x	400	x	x	2,510
Other operating revenue	x	x	x	x	300	x	x	9,925
Total operating revenue	34,000	28,791	41,740	142,320	14,300	17,690	531,220	810,061
Change in inventory value, goods	10,437	4,320	6,200	5,000	-570	-715	10,700	35,372
Gross output	44,437	33,111	47,940	147,320	13,730	16,975	541,920	845,433
Product inputs								
Product expenses	31,495	8,105	16,450	130,200	5,815	8,680	382,160	582,905
Feed	12,900	x	8,500	60,000	x	5,500	158,000	246,760
Therapeutants	120	x	x	4,000	55	65	7,700	12,355
Purchases, eggs and fish for grow-out	10,000	2,800	3,000	20,000	360	1,000	13,400	50,560
Purchases, fish for processing and resale	x	60	x	11,000	x	x	x	86,560
Insurance premiums	1,000	320	400	5,000	270	120	7,800	14,910
Energy (electricity, fuel, et cetera)	1,000	700	950	6,000	1,300	800	9,600	20,350
Goods transportation and storage	2,200	490	400	3,000	180	100	37,000	43,370
Processing services	x	x	x	3,000	40	x	x	30,390
Rental and leasing expenses	430	450	70	1,600	60	200	3,500	6,310
Maintenance and repairs, buildings	120	300	280	2,000	210	50	1,200	4,160
Maintenance and repairs, machinery	1,500	800	650	8,500	500	100	22,000	34,050
Professional services	385	310	400	1,200	275	310	5,800	8,680
Other operating expenses, not elsewhere specified	1,340	1,600	550	4,900	615	285	15,160	24,450
Change in inventory value, raw materials	726	-5	2,400	0	-500	-15	-200	2,406
Total of product inputs	30,769	8,110	14,050	130,200	6,315	8,695	382,360	580,499
Gross value added (factor cost)	13,668	25,001	33,890	17,120	7,415	8,280	159,560	264,934
Selected primary inputs								
Salaries and wages	5,000	10,200	6,000	22,000	2,100	3,000	53,000	101,300
Employer portion of employee benefits	550	800	600	2,500	300	300	10,000	15,050
Depreciation	1,700	2,400	1,500	7,500	1,200	720	31,500	46,520
Interest paid	1,300	900	1,000	4,000	1,000	1,000	13,600	22,800

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 — 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	x	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 3-4
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	13,290	18,150	492,600	871,100
Whole fish dressed, fresh or chilled	65,400	..	x	157,720	1,810	x	412,000	674,930
Fish eggs and live fish for grow-out	x	..	7,900	x	3,200	3,370	7,000	43,070
Whole fish live except for grow-out	..	..	700	315	6,200	10,850	0	18,065
Whole fish, dressed and frozen	..	..	0	0	x	0	x	x
Fish fillets, fresh or frozen	x	..	x	x	x	x	x	x
Fish, dried, smoked or in brine	..	..	10	0	x	0	x	225
Total finfish	66,200	x	43,405	192,650	12,140	x	466,600	800,395
Total molluscs	x	26,300	6,330	x	900	0	12,200	53,580
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	14,030	19,570	495,255	889,655
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	14,530	21,370	463,240	887,150
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	7,865	12,250	152,440	306,070
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 3-5
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	28,775	34,020	236,330	x	19,630	546,700	1,014,680
Whole fish dressed, fresh or chilled	x	..	19,800	198,800	x	16,000	454,500	824,100
Fish eggs and live fish for grow-out	..	x	x	x	3,300	1,500	x	42,200
Whole fish live except for grow-out	..	x	0	0	4,500	2,000	x	x
Whole fish, dressed and frozen	..	..	0	0	0	0	x	x
Fish fillets, fresh or frozen	..	..	x	x	x	x	x	71,660
Fish, dried, smoked or in brine	..	..	0	0	x	40	x	340
Total finfish	x	x	30,500	229,200	12,000	x	524,200	951,225
Total molluscs	x	24,800	3,520	x	x	0	18,000	54,580
Other goods and services, not elsewhere specified	x	x	0	x	x	x	4,500	8,875
Subsidies	x	0	x	x	x	x	x	1,595
Other operating revenue	x	850	x	x	x	x	x	13,610
Total operating revenue	x	29,625	36,125	245,145	x	20,400	548,480	1,029,885
Change in inventory value, goods	4,550	-700	1,775	21,200	-225	-1,000	22,100	47,700
Gross output	x	28,925	37,900	266,345	x	19,400	570,580	1,077,585
Product inputs								
Product expenses	x	6,960	19,800	135,550	x	10,465	334,300	585,375
Feed	42,500	x	9,000	80,500	x	6,900	162,000	302,730
Therapeutants	1,100	x	500	11,560	x	220	11,000	24,515
Purchases, eggs and fish for grow-out	12,800	2,200	x	18,500	x	800	5,000	44,900
Purchases, fish for processing and resale	x	0	x	x	x	x	x	795
Insurance premiums	x	350	700	6,200	x	135	7,200	17,265
Energy (electricity, fuel, et cetera)	x	850	900	4,500	x	620	9,600	19,770
Goods transportation and storage	1,800	x	x	2,900	x	x	33,800	39,630
Processing services	2,700	160	x	x	x	x	37,600	41,240
Rental and leasing expenses	x	125	400	850	x	320	5,200	8,300
Maintenance and repairs, buildings	500	360	500	500	x	30	x	3,200
Maintenance and repairs, machinery	x	1,100	200	4,300	x	110	26,000	34,385
Professional services	925	165	260	940	140	160	7,600	10,190
Other operating expenses, not elsewhere specified	x	1,110	875	4,530	x	860	27,650	38,455
Change in inventory value, raw materials	-100	300	0	-100	-600	-580	-1,700	-2,780
Total of product inputs	x	6,660	19,800	135,650	x	11,045	336,000	588,155
Gross value added (factor cost)	66,640	22,265	18,100	130,695	8,795	8,355	234,580	489,430
Selected primary inputs								
Salaries and wages	10,000	6,500	4,000	23,000	2,100	2,100	58,500	106,200
Employer portion of employee benefits	1,300	675	700	2,720	300	330	10,200	16,225
Depreciation	x	1,850	2,000	26,000	x	650	30,400	66,500
Interest paid	x	350	650	7,100	x	375	3,400	16,555

1. Canada total excludes Manitoba, Saskatchewan and Alberta.

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

Concepts and methods

Production and value of aquaculture

Statistics Canada defines aquaculture as an industry comprising establishments primarily engaged in farm-raising finfish, shellfish or any other kind of aquatic animal. 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. The data are supplemented through consultation with industry specialists and with data provided by Fisheries and Oceans Canada.

Generally, finfish production is reported as gutted head-on and the value is based on a farm-gate price. 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 Canadian exports to the United States and the imports from the United States into Canada. As of January 1, 1990, Canada and the United States have been using the other's import data to replace its own export data. Export data are presented by province of origin, which represents the province in which the product was grown or manufactured.

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 the exports under these categories are relatively small, the quantity of aquaculture products in the categories must also be small.

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 (mostly revenues and expenses except for the change in inventory values) on a calendar year basis. These data are displayed by province, except for 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.

Aquaculture is 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.

Under the North American Industrial Classification System (NAICS), this industry comprises establishments primarily engaged in farm-raising finfish, shellfish, 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.

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 used and cost and quantity of labour resources used to produce the output.

The population of interest

The population of interest is all establishments classified to aquaculture under NAICS 112510 and operating 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.

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

Other operating expenses include a long list of items such as: 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 in 1997 for the first time. The survey incorporates several annual business surveys into an integrated survey. 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 a 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 2010, the frame included 598 establishments classified to aquaculture.

Before a sample is taken, the records are stratified by province. Within each province, 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 (with all its 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 the establishments not selected in the "must-take" (greater than \$25,000,000) or "take none" (less than the cut-off), three 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 2010 was 156 establishments.

Data collection

In the spring, respondents selected in the questionnaire part of the sample were 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, during the passage of time since the sample was selected, the Business Register is updated further with more complete information.

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 things, the provincial administrative data are valuable in the analysis to assist in the reduction of error and in confirming the accuracy of the 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 coefficients of variation (CV), a measure of sampling error, are computed. The quality of the estimates are classified as Excellent (CV is 0.01 to 4.99%); Very good (CV is 5.00% to 9.99%); Good (CV is 10.00% to 14.99%); Acceptable (CV is 15.00% to 24.99%); Use with caution (CV is 25.00% to 34.99%); and Unreliable (> 35.00%).

Using these ratings at the national level, the 2010 estimates are judged to be very good, and at the provincial level, the 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 was 68.3%.

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.