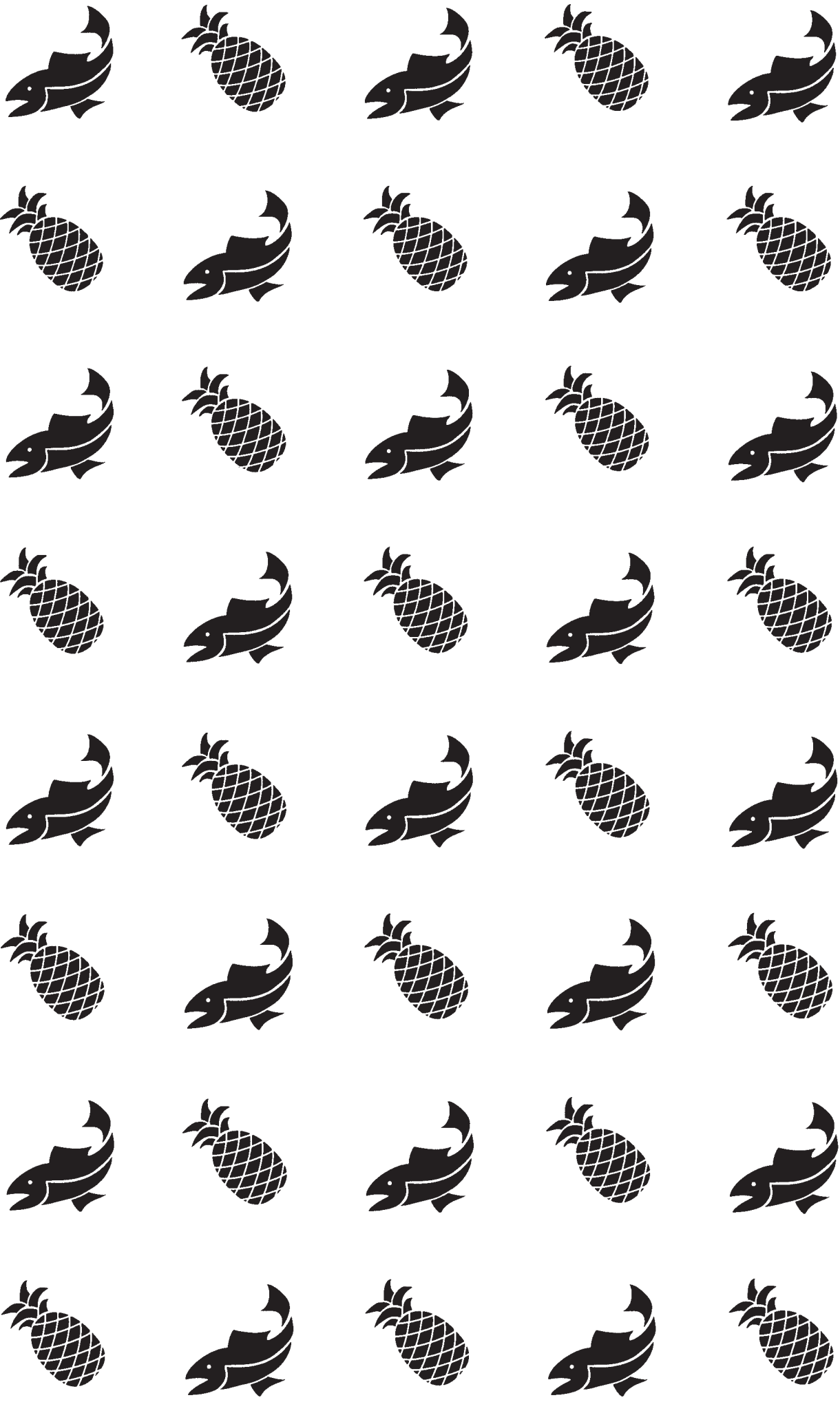


Agriculture & Aquaculture



Section 5

AGRICULTURE & AQUACULTURE

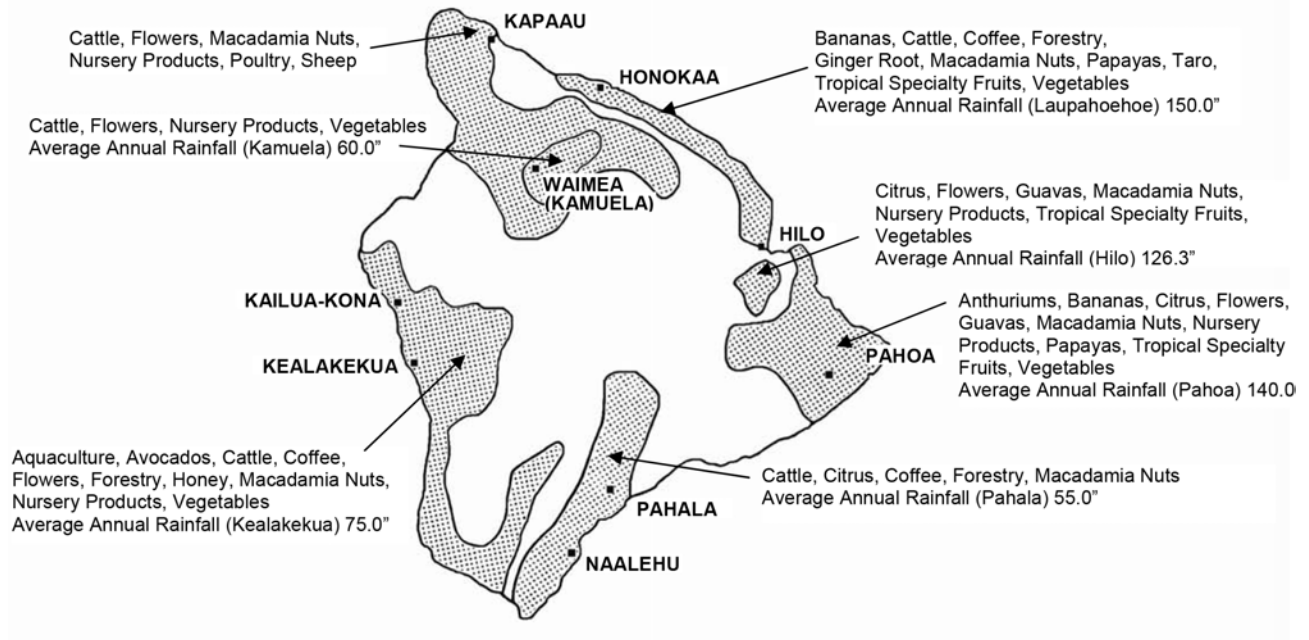
This section includes statistics on agriculture and aquaculture. Statistics about farms are presented along with the value and distribution of farm and other land based horticulture production. Fish catches and other aquaculture statistics are also given in this section.

Agriculture remains an important element in Hawai'i County's economy and land use patterns. Macadamia nuts, coffee and papayas remain the largest crops, though the trend toward diversification of agriculture continues.

The data in this section comes mainly from the 2012 U.S. Census of Agriculture, the Hawai'i Agriculture Statistics Service, specific crop producers, and the Hawai'i State Department of Land and Natural Resources.

5.1.1

AGRICULTURAL AREAS HAWAI'I COUNTY



SOURCE: HAWAI'I DEPARTMENT OF AGRICULTURE, AGRICULTURAL DEVELOPMENT DIVISION, AND U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE. STATISTICS OF HAWAI'I AGRICULTURE, 2011.

5.1.2

**TENURE AND CHARACTERISTICS OF FARM OPERATORS AND
TYPES OF FARM ORGANIZATION
HAWAI'I COUNTY**

	1997	2002	2007	2012
Tenure of Operator				
Full Owners				
Farms	1,859	1,946	3,279	2,972
Acres	68,306	98,905	168,160	104,069
Part Owners				
Farms	445	338	456	378
Acres	638,486	520,822	403,671	465,940
Owned land in farms (acres)	326,689	308,400	173,118	200,871
Rented land in farms (acres)	311,797	212,422	230,553	265,069
Tenants				
Farms	1,015	932	915	932
Acres	163,220	201,549	111,988	116,847
Operator Characteristics				
Place of Residence				
On farm operated	1,930	2,058	3,325	2,881
Not on farm operated	1,077	1,158	1,325	1,401
Principal Occupation				
Farming	1,830	1,830	2,261	2,062
Other	1,489	1,386	2,389	2,220
Days of Work Off Farm¹				
None	1,231	1,579	1,140	1,257
Any	1,771	1,637	3,510	3,025
1 to 49 days	252	215	664	476
50 to 99 days	171	150	559	357
100 to 199 days	NA	254	590	621
200 days or more	940	1,018	1,697	1,571
Years on Present Farm				
2 years or less	272	207	301	163
3 or 4 years	298	356	518	250
5 to 9 years	647	711	1,054	855
10 years or more	1,419	1,942	2,777	3,014
Average years on present farm	13.8	15.2	15.6	18.2

NA: NOT AVAILABLE.

1. NUMBER OF DAYS OF WORK OFF FARM REVISED 2002.

5.1.2
CONTINUED

	1997	2002	2007	2012
Age Group				
Under 25 years	20	5	9	4
25 to 34 years	144	83	145	93
35 to 44 years	641	439	361	282
45 to 54 years	975	1029	1210	889
55 to 59 years	319	481	895	670
60 to 64 years	306	280	728	916
65 to 69 years	304	281	429	577
70 years and over	610	618	873	851
Average age	55.0	56.7	58.5	60.5
Male				
Farms	2,752	2,598	3,554	3,341
Acres	838,602	780,379	637,561	598,035
Female				
Farms	567	618	1,096	941
Acres	31,410	40,897	46,258	88,821
Type of Organization				
Individual or Family (sole prop.)				
Farms	2,827	2,795	3,977	3,563
Acres	166,133	D	209,118	228,047
Partnership				
Farms	202	132	278	232
Acres	52,113	101,935	72,903	64,531
Corporation (family held)				
Farms	198	217	282	266
Acres	D	172,679	213,173	150,114
Corporation (other than family held)				
Farms	55	39	55	86
Acres	325,406	242,755	D	73,443
Other (cooperative, estate or trust, institutional, etc.)				
Farms	37	33	58	135
Acres	D	D	D	170,721

D: WITHHELD TO AVOID DISCLOSING DATA FOR INDIVIDUAL FARMS

NA: NOT AVAILABLE

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.3

FARMS AND LAND IN FARMS HAWAI'I COUNTY

	1997	2002	2007	2012
Farms	3,319	3,216	4,650	4,282
Land in Farms	870,012	821,276	683,819	686,856
Average size of farms (acres)	262	255	147	160
Median size of farms (acres)	6	6	6	6
Estimated Market Value of Land & Buildings¹				
Average per farm (\$)	574,464	724,308	1,022,976	1,280,898
Average per acre (\$)	2,192	2,822	6,956	7,985
Estimated Market Value of Machinery & Equipment¹				
Average per farm (\$)	21,997	23,981	31,981	36,698
Farms by Size				
1 to 9 acres	2,062	2,009	2,865	2,610
10 to 49 acres	893	818	1,314	1,141
50 to 179 acres	207	207	289	326
180 to 499 acres	71	90	95	106
500 to 999 acres	32	38	27	37
1,000 acres or more	54	54	60	62
Total Cropland				
Farms	3,035	2,908	3,909	3,398
Acres	102,991	90,778	81,837	72,028
Harvested Cropland				
Farms	2,897	2,791	3,762	3,229
Acres	32,410	55,529	56,310	57,807
Irrigated Land				
Farms	857	908	1,166	1,026
Acres	7,425	9,041	8,097	6,966
Value of Agricultural Products Sold (\$1,000)	168,111	187,736	202,572	247,245
Crops, including greenhouse & nursery crops	129,018	143,924	150,251	156,384
Livestock, poultry, and their products	39,094	43,812	52,322	90,860
Value of Agricultural Products Sold per Farm (\$)	50,651	58,375	43,564	57,741

1. DATA ARE BASED ON A SAMPLE OF FARMS.

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.4

FARM EMPLOYMENT, HAWAI'I COUNTY

	1997	2002	2007	2012
Number of Farms hiring	1,054	891	1,128	1,173
Number of Farms hiring migrant workers	NA	156	128	93
Hired Workers	5,703	5,740	5,894	5,876
Worked 150 days or more	2,156	2,656	2,703	2,482
Migrant workers	NA	NA	NA	625
Payroll (\$1,000)	40,918	47,453	62,285	68,254

NA: NOT AVAILABLE

SOURCE: U. S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.5

LIVESTOCK: NUMBER OF OPERATIONS AND VALUE OF SALES, HAWAI'I COUNTY

	1997	2002	2007	2012
Number of Livestock Operations, December 31				
Cattle	484	436	762	917
Hogs	88	55	89	70
Sheep and lambs	82	83	325	296
Goats	13	16	164	173
Horses	288	266	510	401
Poultry	107	97	351	363
Aquaculture	17	29	25	33
Value of Livestock Sales (\$1,000)				
Cattle	20,120	23,535	30,476	26,824
Hogs	677	D	137	127
Sheep and lambs	127	NA	NA	D
Goats	150	NA	NA	123
Horses	258	NA	NA	NA
Poultry	1,729	NA	NA	NA
Aquaculture	D	NA	D	D

D: WITHHELD TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS

NA: NOT AVAILABLE

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.6

VEGETABLES ACREAGE AND NUMBER OF FARMS HAWAI'I COUNTY

	2007		2012	
	Farms	Acres	Farms	Acres
Asparagus	5	D	8	D
Beans, Green Lima	0	0	5	2
Beans, Snap	34	19	64	69
Beets	12	5	25	11
Broccoli	11	34	8	D
Cabbage, Chinese	23	149	16	132
Cabbage, Head	8	D	19	D
Cabbage, Mustard	17	9	6	48
Carrots	17	5	18	14
Celery	4	D	3	5
Collards	2	D	13	6
Cucumbers and pickles	4	5	25	D
Daikon	6	D	15	102
Eggplant	21	6	62	26
Herbs	28	9	39	25
Honeydew Melons	0	0	4	Z
Kale	13	2	26	10
Lettuce, all	58	240	67	312
Mustard greens	0	0	3	D
Onions, Green	2	D	6	1
Parsley	1	D	14	4
Peas, Chinese	2	D	3	2
Peppers, Bell	6	2	7	D
Peppers, Other than Bell	1	D	6	5
Potatoes	4	D	14	10
Pumpkins	1	D	10	4
Radishes	7	5	7	2
Spinach	7	D	4	3
Squash, All	36	15	21	D
Sweet Corn	14	D	17	11
Sweet Potatoes	49	171	69	395
Tomatoes	43	D	55	33
Turnips	2	D	13	2
Watercress	4	5	2	D
Watermelons	0	0	7	3
Other Vegetables	110	166	114	302
Total	294	1,148	323	1,662

D: WITHHELD TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS

Z: LESS THAN HALF OF THE UNIT SHOWN

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.7

**COFFEE
HAWAI'I COUNTY AND STATEWIDE**

Crop year	Number of farms	Acreage (1,000 acres)		Yield per acre (1,000 pounds)	Marketings (1,000 pounds)	Farm prices (cents per pound)			Value of sales (\$1,000)	Green production (1,000 pounds)
		In crop	Harvested			Cherry	Parchment	All		
Statewide										
2007-2008	830	7.8	6.4	1.2	7,500	NA	NA	425	31,875	6,000
2008-2009	830	7.8	6.3	1.4	8,700	NA	NA	340	29,580	7,000
2009-2010	830	8.0	6.3	1.4	8,700	NA	NA	360	31,320	7,000
2010-2011	830	8.0	6.3	1.4	8,800	NA	NA	380	33,440	7,100
2011-2012	830	8.0	6.3	1.2	7,600	NA	NA	415	31,540	6,100
Hawai'i County										
2007-2008	790	3.8	3.0	1.3	3,900	140	820	650	25,350	3,100
2008-2009	790	3.8	2.9	1.4	4,100	115	680	530	21,730	3,300
2009-2010 ¹										
2010-2011 ¹										
2011-2012 ¹										

1. (2009-2012) DATA NOT SHOWN SEPARATELY BY COUNTY TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS BUT COMBINED AND INCLUDED IN THE STATE TOTAL.

NOTE: YIELD AND PRICES MAY NOT COMPUTE DUE TO ROUNDING.

SOURCE: HAWAI'I AGRICULTURAL STATISTICS SERVICE, STATISTICS OF HAWAI'I AGRICULTURE (ANNUAL).

5.1.8

FRUITS AND NUTS HAWAI'I COUNTY

	2007		2012	
	Farms	Acreage	Farms	Acreage
Noncitrus Fruits	2,665	10,675	2,171	10,702
Apples	6	4	8	3
Avocados	582	670	437	D
Bananas	549	1,207	466	559
Coffee	1,409	3,993	1,484	D
Grapes	1	D	1	D
Guavas	171	324	76	119
Mangoes	218	210	107	98
Papayas	289	1,877	159	1,686
Passion Fruit	57	13	47	11
Peaches	0	0	2	D
Pears	1	D	2	D
Persimmons	16	4	10	D
Plums and Prunes	0	0	4	D
Pomegranates	3	D	5	1
Other	723	2,368	380	D
Citrus Fruits	484	532	274	665
Grapefruit	102	18	39	20
Kumquats	0	0	2	D
Lemons	234	84	104	93
Limes	215	132	89	58
Oranges	294	177	127	303
Tangelos	110	53	42	D
Tangerines	150	41	98	83
Other	29	28	72	49
Nuts	930	17,376	772	17,440
Chestnuts	1	D	2	D
Macadamia Nuts	915	17,298	751	17,378
Other Nuts	15	D	24	D

D: WITHHELD TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS.

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.9
FLORICULTURE AND NURSERY PRODUCTS
HAWAI'I COUNTY

Number of farms and growing area

2012	Farms	Sq ft under glass	Open Acreage	Value of Sales (\$)
Aquatic plants	4	0	D	D
Bulbs and tubers	7	D	D	13,265
Cuttings and seedlings	46	115,194	27	D
Bedding & garden plants	56	D	40	D
Cut flowers	291	6,992,420	584	12,804,025
Foliage, indoor	84	6,561,448	632	16,093,572
Potted flowering plants	144	3,184,255	46	12,959,812
Nursery stock crops	258	490,133	439	5,462,655
Sod	11	NA	15	D
Vegetable transplants	10	0	D	D

D: WITHHELD TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS

NA: NOT APPLICABLE

SOURCE: U. S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.10
FARM MACHINERY AND EQUIPMENT, HAWAI'I COUNTY

	1997	2002*	2007	2012
Value of all Equipment (\$1000)	73,008	74,990	148,360	157,140
Average per Farm (\$)	21,997	23,981	31,981	36,698
Trucks				
Farms	3,101	NA	3,647	2,995
Number	4,913	NA	5,491	4,485
Tractors				
Farms	1,490	1,392	1,971	1,848
Number	2,240	2,182	2,923	2,896
Grain and Bean Combines				
Farms	8	1	11	3
Number	10	D	14	3
Forage Harvesters				
Farms	NA	1	11	18
Number	NA	D	11	22
Hay Balers				
Farms	12	11	3	6
Number	14	D	D	14

* 2002 DATA ARE BASED ON A SAMPLE OF FARMS.

D: WITHHELD TO AVOID DISCLOSURE OF INDIVIDUAL OPERATIONS

NA: NOT AVAILABLE

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.11

FERTILIZERS AND CHEMICALS APPLIED, HAWAI'I COUNTY

In Acres

	1997	2002	2007	2012
Commercial fertilizer	32,936	43,697	48,729	43,806
Manure	NA	2,136	2,121	3,301
Acres treated to control				
Insects	8,939	14,536	15,378	10,701
Weeds	30,378	29,117	45,872	43,662
Nematodes	1,540	879	400	1,566
Diseases in crops	4,868	16,290	3,152	3,531
Chemicals used to control growth, thin fruit, ripen or defoliate	916	1,396	759	D

D: DATA NOT PROVIDED TO AVOID DISCLOSING INDIVIDUAL INFORMATION

NA: NOT AVAILABLE

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.12

ORGANIC AGRICULTURE, STATE OF HAWAI'I

2012	State of Hawai'i	Hawai'i County	Honolulu County	Kaua'i County	Maui County
USDA Certified organic farms	129	89	8	5	27
USDA Exempt from certification organic farms ¹	97	46	11	5	35
Farms transitioning to organic	36	22	2	4	8
Value of Sales of Certified or Exempt Organically Produced Commodities					
Number of farms	184	114	15	9	46
Total organic product sales (\$1,000)	6,362	3,220	717	1,516	909
Farms by value of sales					
\$1 to \$4,999	103	59	11	4	29
\$5,000 or more	81	55	4	5	17

1. SMALL ORGANIC FARMS WITH GROSS AGRICULTURAL INCOME FROM ORGANIC SALES LESS THAN \$5,000 PER YEAR.

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.13

**AGRICULTURAL TOURISM
BY COUNTY**

	State of Hawai'i	Hawai'i County	Honolulu County	Kaua'i County	Maui County
2012					
Farms	233	106	36	39	52
Value (\$1,000)	17,768	1,029	6,449	3,874	6,416
2007					
Farms	121	58	24	9	30
Value (\$1,000)	22,911	D	6,647	D	8,464

Note: AG-TOURISM IS A COMMERCIAL ENTERPRISE ON A WORKING FARM CONDUCTED FOR THE ENJOYMENT, EDUCATION, AND/OR ACTIVE INVOLVEMENT OF THE VISITOR, GENERATING SUPPLEMENTAL INCOME FOR THE FARM. ACTIVITIES SUCH AS PRODUCING AND SELLING PRODUCTS DIRECTLY FROM THE FARM, OPERATING A BED AND BREAKFAST, CONDUCTING EDUCATIONAL FARM TOURS, OFFERING HORSEBACK RIDING, FESTIVALS, CONCERTS, AND MANY OTHER ON-FARM ACTIVITIES QUALIFY AS AG-TOURISM.

SOURCE: UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.1.14

**FARM INCOME AND EXPENSES
HAWAI'I COUNTY**

In \$1,000

	2007	2012
Income		
Total sales	202,572	247,245
Total income from farm-related sources, gross before tax and expenses	12,234	10,251
Customwork and other agricultural services	4,434	2,883
Gross cash rent or share payments	D	1,324
Sales of forest products	168	1,363
Agri-tourism and recreational services	D	1,029
Patronage dividends and refunds from cooperatives	D	47
Crop and livestock insurance payments	D	1,617
Amount from state and local government payments	252	372
Other farm-related income sources	D	1,615
Total federal government payments	1,232	4,153
Total farm production expenses	191,104	230,596
Fertilizer and lime purchased	11,242	11,299
Chemicals purchased	6,441	7,442
Seeds, plants, vines and trees purchased	8,315	4,674
Livestock purchased	1,907	2,277
Feed purchased	9,906	29,043
Petroleum products purchased	9,776	11,898
Utilities	8,078	12,977
Repairs, supplies and maintenance costs	16,585	15,990
Hired farm labor	62,285	68,254
Contract labor	8,017	13,586
Customwork and custom hauling	991	3,067
Cash rent for land, building and grazing fees	9,018	11,006
Rent and lease expenses	1,050	2,118
Interest expense	9,662	7,897
Property tax paid	5,764	5,993
All other production expenses	22,068	23,075
Net cash farm income of the operations	24,935	31,053

SOURCE: U.S. DEPARTMENT OF AGRICULTURE, NATIONAL AGRICULTURAL STATISTICS SERVICE, CENSUS OF AGRICULTURE.

5.2.1

SEA LANDINGS BY FISHING METHOD AND SPECIES GROUP STATE OF HAWAI'I

Pounds landed

	2010	2011	2012	2013	2014
Fishing Method					
Aku Pole & Line	1/	347,898	1/	1/	1/
Longline	24,019,214	25,710,602	25,858,879	26,946,146	23,807,814
Deep Bottom Handline	449,115	335,010	418,242	453,239	462,414
Tuna Handline	1,681,864	1,937,263	2,429,619	2,341,090	1,660,354
Trolling	2,866,646	2,987,387	3,677,653	3,117,723	3,417,836
All Other	1,694,227	1,252,373	1,324,155	1,430,017	1,274,772
Total	30,711,066	32,570,233	33,708,548	34,288,215	30,623,190
Species Group					
Tunas	17,607,486	19,990,624	21,407,164	21,578,691	18,309,846
Bill & Swordfish	5,190,083	5,602,336	4,497,917	4,514,726	4,052,962
Misc. Pelagic	5,643,817	5,168,115	6,002,848	6,501,895	6,617,202
Deep Bottomfish	445,140	358,441	406,750	442,574	455,028
Akule/Ōpelu	855,284	600,526	527,486	511,068	536,655
Inshore	471,102	424,772	437,384	395,832	370,713
All Other	498,154	425,419	428,999	343,429	280,784
Total	30,711,066	32,570,233	33,708,548	34,288,215	30,623,190

NOTE: DATA HAS BEEN REVISED FOR 2010 TO 2013.

1. DUE TO LOW LEVEL OF FISHERMEN REPORTING AND TO PRESERVE CONFIDENTIALITY, DATA FOR THESE METHODS ARE POOLED UNDER "ALL OTHER" GROUP.

SOURCE: STATE OF HAWAI'I, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF AQUATIC RESOURCES,
COMMERCIAL MARINE LANDINGS SUMMARY TREND REPORT, CALENDAR YEAR 2014.

5.2.2

SEA LANDINGS BY PORT OF LANDING

Pounds landed

Port of Landing	2010	2011	2012	2013	2014
O'ahu	26,412,864	28,218,747	28,573,124	29,877,658	25,882,328
Hawai'i	2,693,859	2,885,270	3,114,925	2,796,997	3,017,653
Kaua'i and Ni'ihau	799,710	716,187	1,000,510	821,473	771,573
Maui County	804,633	750,029	1,019,989	792,087	951,636
Maui	763,746	694,490	972,822	738,541	901,295
Moloka'i	30,581	43,004	40,308	46,423	40,506
Lāna'i	10,821	12,212	6,909	7,184	9,835
Total	30,711,066	32,570,233	33,708,548	34,288,215	30,623,190

NOTE: DATA HAS BEEN REVISED FOR 2010 TO 2013.

SOURCE: STATE OF HAWAII, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF AQUATIC RESOURCES, COMMERCIAL MARINE LANDINGS SUMMARY TREND REPORT, CALENDAR YEAR 2014.

5.2.3

SEA LANDINGS BY AREA FISHED HAWAII COUNTY

Pounds landed

Area Fished	2010	2011	2012	2013	2014
Miloli'i - South Pt.	172,471	147,387	305,830	276,890	256,357
Punalu'u - Kalapana	144,116	76,253	136,895	165,756	170,102
Kona Coast	813,624	1,097,531	1,475,292	1,107,367	1,269,619
Keahōle - Kawaihae	191,313	180,225	229,747	166,951	183,652
Kohala - Hāmākua Coast	37,614	40,987	44,804	59,878	30,401
Hilo	290,809	334,114	361,817	340,217	270,550
Puna - Kalapana	451,571	412,937	367,655	455,305	527,550

NOTE: DATA HAS BEEN REVISED FOR 2010 TO 2013.

SOURCE: STATE OF HAWAII, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF AQUATIC RESOURCES, COMMERCIAL MARINE LANDINGS SUMMARY TREND REPORT, CALENDAR YEAR REPORTS.