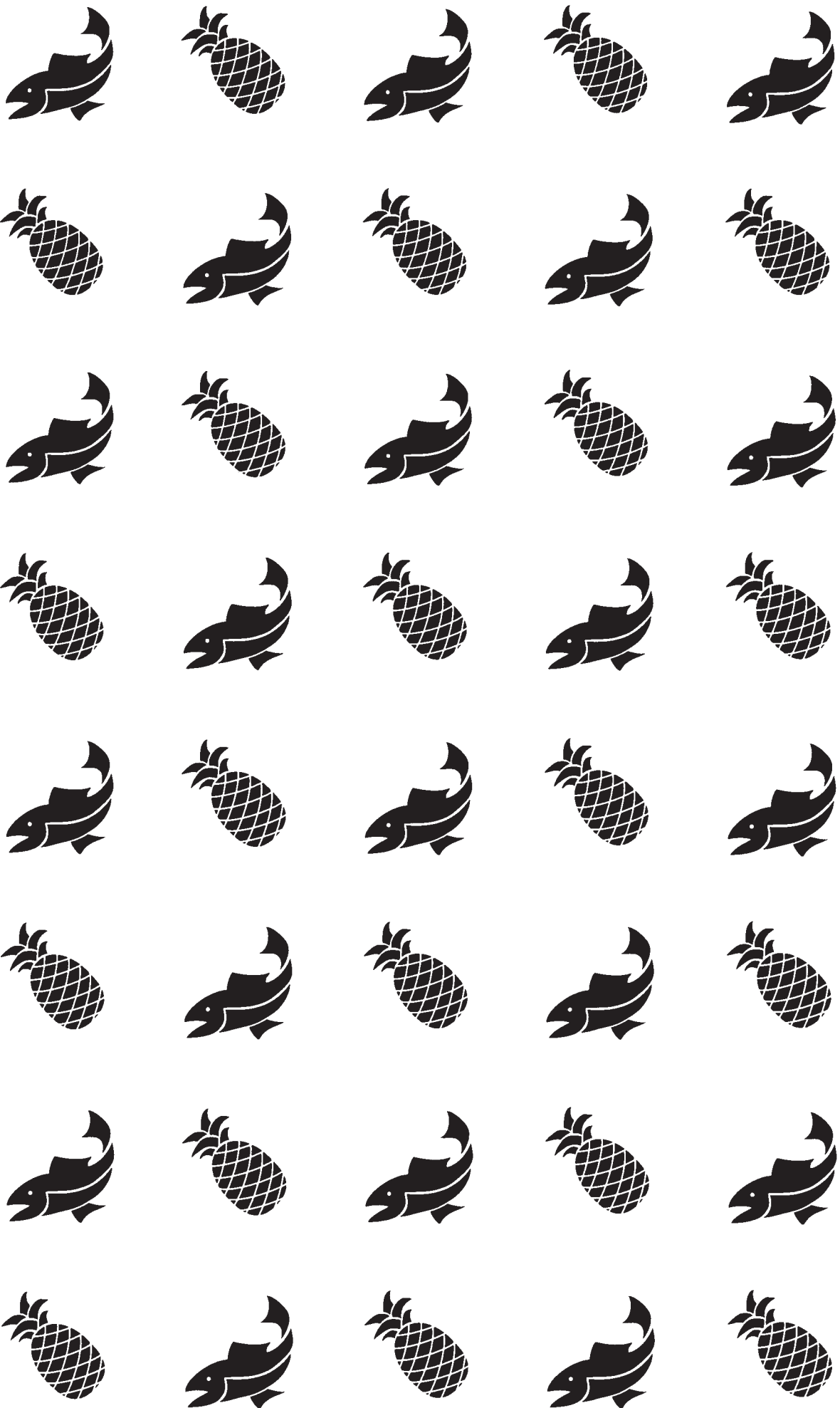


Agriculture & Aquaculture



Section 5

AGRICULTURE & AQUACULTURE

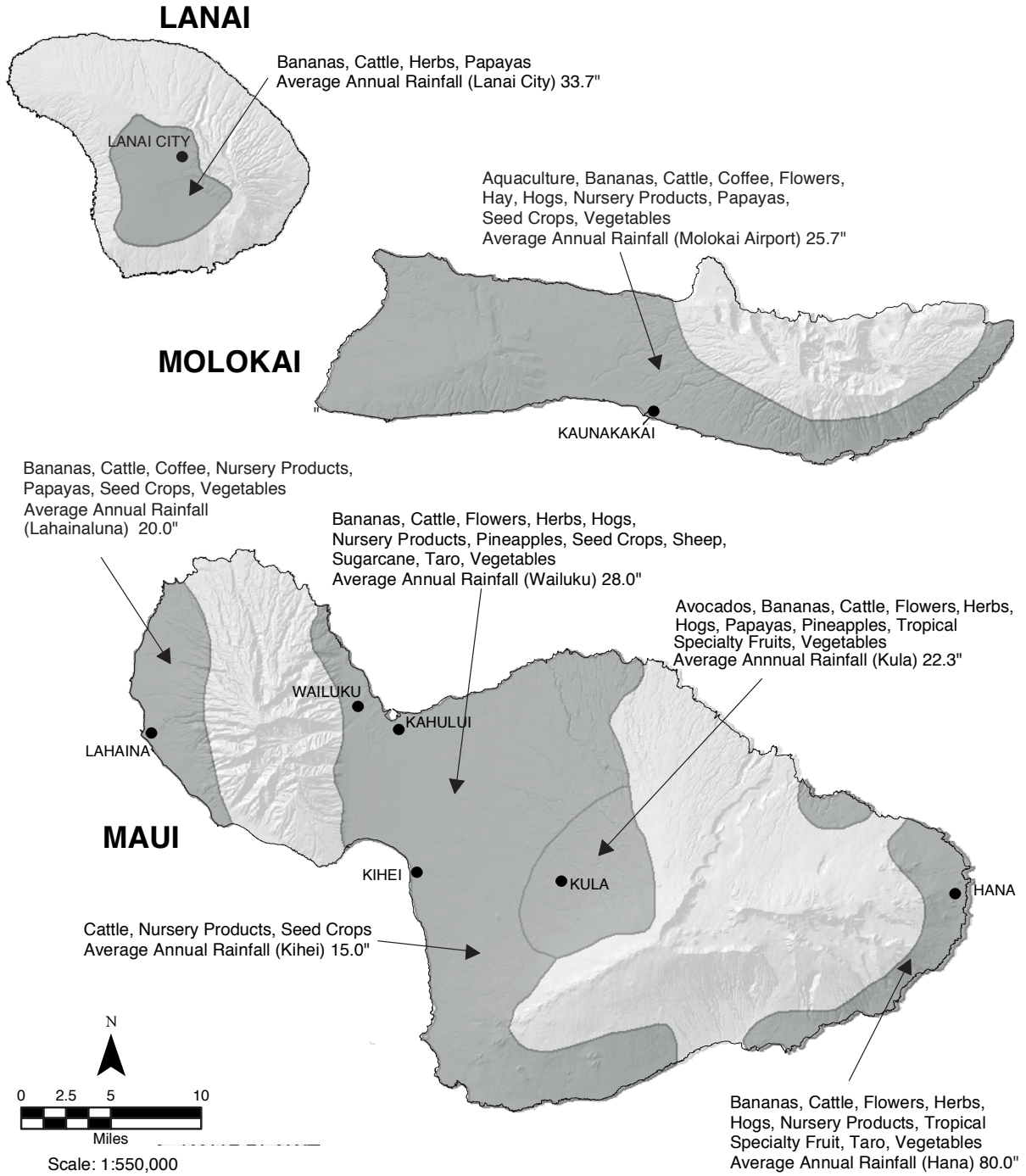
This section includes statistics on agriculture and aquaculture. Statistics about farms are presented along with the value and distribution of farm and other land based her-baculture production. Fish catches and other aquaculture statistics are given.

Agriculture remains an important element in Maui County's economy and land use patterns. Sugar and pineapple remain the largest crops, though the trend toward di-versification 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
MAUI COUNTY**



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

5.1.2

**TENURE AND CHARACTERISTICS OF FARM OPERATORS
AND TYPES OF FARM ORGANIZATION
MAUI COUNTY**

	1997	2002	2007	2012
Tenure of Operator				
Full Owners				
Farms	460	529	827	774
Acres	81,616	82,274	62,325	94,317
Part Owners				
Farms	137	115	138	151
Acres	188,649	135,661	141,052	108,528
Owned land in farms (acres)	140,909	102,342	105,762	75,931
Rented land in farms (acres)	47,740	33,319	35,290	32,597
Tenants				
Farms	209	179	191	203
Acres	21,825	38,755	22,191	26,321
Operator Characteristics				
Place of Residence				
On farm operated	536	623	929	840
Not on farm operated	215	200	227	288
Not reported	55	NA	NA	NA
Principal Occupation				
Farming	372	434	515	609
Other	434	389	641	519
Days of Work Off Farm¹				
None	290	413	229	406
Any	455	410	927	722
1 to 49 days	59	47	155	100
50 to 99 days	33	36	151	125
100 to 199 days	86	63	166	144
200 days or more	277	264	455	353
Not reported	61	NA	NA	NA
Years on Present Farm				
2 years or less	42	46	51	36
3 or 4 years	47	66	68	89
5 to 9 years	171	189	284	201
10 years or more	406	522	753	802
Average years on present farm	14.3	15.3	16.7	19.1
Not reported	140	NA	NA	NA

5.1.2
CONTINUED

	1997	2002	2007	2012
Age Group				
Under 25 years	7	4	4	4
25 to 34 years	24	26	32	37
35 to 44 years	182	108	89	78
45 to 54 years	270	310	314	227
55 to 59 years	107	117	242	212
60 to 64 years	59	82	197	215
65 to 69 years	45	54	129	145
70 years and over	112	122	149	210
Average age	53.0	55.0	57.7	59.0
Male				
Farms	681	659	856	873
Acres	275,346	241,920	217,574	201,222
Female				
Farms	125	164	300	255
Acres	16,744	14,770	7,994	27,944
Type of Organization				
Individual or Family (sole proprietorship)				
Farms	679	701	975	904
Acres	31,942	D	34,647	65,110
Partnership				
Farms	44	37	66	96
Acres	34,620	11,357	11,751	32,275
Corporation (family held)				
Farms	56	58	69	64
Acres	101,236	76,424	114,456	113,188
Corporation (other than family held)				
Farms	13	17	33	27
Acres	123,312	99,056	60,646	D
Other (cooperative, estate or trust, institutional, etc.)				
Farms	14	10	13	37
Acres	980	D	4,068	D

D: Withheld to avoid disclosing data for individual farms

NA: Not available

1. Number of days of work off farm revised 2002.

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

5.1.3

FARMS AND LAND IN FARMS MAUI COUNTY

	1997	2002	2007	2012
Farms	806	823	1,156	1,128
Land in Farms	292,090	256,690	225,568	229,166
Average size of farms (acres)	362	312	195	203
Median size of farms (acres)	6	5	5	5
Estimated Market Value of Land & Buildings¹				
Average per farm (\$)	818,342	1,251,598	1,601,950	1,998,208
Average per acre (\$)	2,258	4,112	8,210	9,836
Estimated Market Value of Machinery & Equipment¹				
Average per farm (\$)	88,989	58,849	52,480	53,228
Farms by Size				
1 to 9 acres	468	505	766	711
10 to 49 acres	233	212	289	293
50 to 179 acres	48	56	48	61
180 to 499 acres	29	20	21	24
500 to 999 acres	5	7	11	10
1,000 acres or more	23	23	21	29
Total Cropland				
Farms	684	692	975	902
Acres	D	60,729	54,557	49,578
Harvested Cropland				
Farms	605	649	928	852
Acres	32,243	28,404	26,528	D
Irrigated Land				
Farms	480	462	650	603
Acres	35,031	26,855	28,027	41,548
Value of Agricultural Products Sold (\$1,000)	128,385	124,511	139,326	188,100
Crops, including greenhouse & nursery crops	116,084	116,645	132,058	181,480
Livestock, poultry, and their products	12,301	7,866	7,268	6,620
Value of Agricultural Products Sold per Farm (\$)	159,287	151,289	120,524	166,755

1. Data based on a sample of farms.

D: Withheld to avoid disclosing data for individual farms

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

5.1.4

FARM EMPLOYMENT MAUI COUNTY

	1997	2002	2007	2012
Number of farms hiring	234	267	245	328
Number of farms hiring migrant workers	NA	5	17	6
Hired workers	2,573	2,804	2,051	2,311
Worked 150 days or more	1,685	1,856	1,386	1,655
Migrant workers	NA	NA	NA	26
Payroll (\$1,000)	42,470	52,542	47,311	99,270

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, MAUI COUNTY

	1997	2002	2007	2012
Number of Livestock Operations, December 31				
Cattle	179	145	190	204
Hogs	63	54	57	81
Goats*	13	12	86	131
Sheep and lambs	10	9	33	24
Horses*	145	107	175	112
Poultry	54	48	119	119
Bees	6	8	41	50
Aquaculture*	2	8	2	18
Value of Livestock Sales (\$1,000)				
Cattle	5,420	4,670	5,689	5,231
Hogs	D	946	724	D
Goats*	D	NA	NA	210
Sheep and lambs	7	NA	NA	21
Horses*	102	NA	NA	51
Poultry	D	NA	NA	NA
Bees	D	NA	NA	96
Aquaculture	D	D	D	D

* Revised data.

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, MAUI COUNTY

	2007		2012	
	Farms	Acres	Farms	Acres
Artichokes	1	D	1	D
Asparagus	8	D	6	D
Beans, Green Lima	0	0	3	1
Beans, Snap	21	30	28	38
Beets	10	3	13	7
Broccoli	6	D	11	69
Cabbage, Chinese	11	30	20	52
Cabbage, Head	16	114	16	106
Cabbage, Mustard	4	1	9	15
Carrots	5	1	6	2
Celery	4	D	2	D
Cucumbers and pickles	15	196	18	236
Daikon	4	D	3	11
Eggplant	34	15	40	23
Garlic	0	0	1	D
Herbs	22	27	15	56
Kale	12	5	14	4
Lettuce, all	29	54	39	62
Mustard greens	13	2	4	1
Okra	4	4	11	2
Onions, Dry	25	D	23	D
Onions, Green	19	25	33	31
Parsley	12	D	15	36
Peas, Chinese	3	D	4	2
Peppers, Bell	1	D	6	D
Peppers, Other than Bell	9	D	2	D
Potatoes	4	4	13	4
Pumpkins	19	13	24	D
Radishes	8	5	9	19
Squash, All	18	91	20	131
Sweet Corn	27	49	40	95
Sweet Potatoes	17	98	32	D
Tomatoes	20	D	42	89
Turnips	3	D	3	1
Watercress	4	1	4	D
Other Vegetables	105	148	60	276
Total	210	1,118	221	1,798

D: Withheld to avoid disclosure of individual operations

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

5.1.7
SUGARCANE
MAUI COUNTY

	2007	2008	2009	2010	2011
Number of farms	1	1	1	1	1
Acreage (1,000 acres)					
In crop	32.4	34.5	34.4	34.5	34.3
Harvested for sugar	16.9	16.9	15.1	15.5	15.1
Yield per acre (tons)					
Sugarcane	70.40	65.80	64.50	77.10	85.20
Raw sugar 96°	9.74	8.55	8.40	11.10	12.10
Production of cane for sugar (1,000 tons)	1,190	1,112	974	1,195	1,287
Farm price (dollars per ton)	31.80	31.00	30.80	58.40	60.70
Value of cane for sugar (\$1 million)¹	37.8	34.5	30.0	69.8	78.1
Mill production (1,000 tons)					
Raw sugar 96°	165	145	127	172	183
Molasses	50	52	41	51	51
Average returns received (dollars per ton)					
Raw sugar 96°	342.0	355.0	352.0	606.0	638.0
Molasses	87.3	87.2	142.8	106.8	164.4
Value of production (\$1 million)					
Raw sugar 96°	56.4	51.5	44.7	104.2	116.8
Molasses	4.4	4.5	5.9	5.4	8.4
Total	60.8	56.0	50.6	109.6	125.2

1. Value of cane for sugar estimated by deducting processing and marketing costs from value of sugar and molasses.

Note: Primary data source: Hawai'i Agricultural Research Center. Yield and farm prices may not compute due to rounding.

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

5.1.8

FRUITS AND NUTS MAUI COUNTY

	2007		2012	
	Farms	Acreage	Farms	Acreage
Noncitrus Fruits	549	1,916	440	1,512
Apples	3	D	4	D
Avocados	232	154	193	D
Bananas	268	277	232	199
Coffee	76	D	77	D
Grapes	4	D	1	D
Guavas	50	43	28	20
Mangoes	66	D	59	36
Papayas	84	125	71	101
Passion Fruit	37	14	38	14
Peaches	5	D	6	D
Pears	2	D	0	0
Persimmons	32	50	19	39
Pomegranates	0	0	5	1
Other	185	D	120	182
Citrus Fruits	221	190	206	161
Grapefruit	51	10	34	11
Kumquats	0	0	2	D
Lemons	95	23	98	30
Limes	120	42	84	36
Oranges, All	131	86	78	41
Tangelos	41	D	21	D
Tangerines	72	19	57	19
Other	8	D	47	22
Nuts	77	242	71	592
Macadamia Nuts	58	236	58	574
Other Nuts	19	6	16	18

D: Withheld to avoid disclosure of individual operations

Note: Totals may not add due to rounding.

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

5.1.9

FLORICULTURE AND NURSERY PRODUCTS MAUI COUNTY

Number of farms and growing area

2012	Farms	Sq ft under glass	Open acreage	Value of sales (\$)
Aquatic plants	4	0	3	D
Bulbs and tubers	7	3,300	D	8,350
Cuttings and seedlings	11	D	D	D
Bedding & garden plants	26	D	D	450,777
Cut flowers	168	180,196	419	3,419,390
Foliage, indoor	7	D	D	68,874
Potted flowering plants	43	283,653	40	2,068,928
Nursery stock crops	83	190,880	121	D
Sod	6	0	22	D
Vegetable seeds	4	0	36	15,180
Vegetable transplants	4	3,400	D	D

D: Withheld to avoid disclosure of individual operations

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

5.1.10

FARM MACHINERY AND EQUIPMENT, MAUI COUNTY

	1997	2002*	2007	2012
Value of all equipment (\$1000)	71,547	44,843	60,352	60,042
Average per farm (\$)	88,989	58,849	52,480	53,228
Trucks				
Farms	NA	NA	862	774
Number	NA	NA	1,362	1,347
Tractors				
Farms	442	453	547	554
Number	914	881	974	1,032
Grain and bean combines				
Farms	3	1	1	6
Number	4	D	D	9
Forage harvesters				
Farms	NA	NA	13	5
Number	NA	NA	13	5
Hay balers				
Farms	1	2	3	1
Number	D	D	3	D

* 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 MAUI COUNTY

In acres

	1997	2002	2007	2012
Commercial fertilizer	52,334	51,645	42,248	40,923
Manure	NA	313	395	1,214
Acres treated to control				
Insects	7,945	9,901	5,566	4,424
Weeds	43,103	40,933	28,416	46,098
Nematodes	4,581	1,730	2,812	861
Diseases in crops	D	3,165	1,757	1,647
Chemicals used to control growth, thin fruit, ripen or defoliate	D	D	D	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 HAWAII

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

* Revised data.

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

5.1.14

**FARM INCOME AND EXPENSES
MAUI COUNTY**

In thousands of dollars

	2007	2012
Income		
Total sales	139,326	188,100
Total income from farm-related sources, gross before tax and expenses	14,642	8,761
Customwork and other agricultural services	306	448
Gross cash rent or share payments	D	1,533
Sales of forest products	D	D
Agri-tourism and recreational services	8,464	6,416
Patronage dividends and refunds from cooperatives	D	D
Crop and livestock insurance payments	D	146
Amount from state and local government payments	D	184
Other farm-related income sources	D	92
Total federal government payments	688	558
Total farm production expenses	129,617	195,907
Fertilizer and lime purchased	7,976	15,426
Chemicals purchased	4,008	12,092
Seeds, plants, vines and trees purchased	3,810	5,534
Livestock purchased	601	679
Feed purchased	3,669	3,261
Petroleum products purchased	7,316	11,492
Utilities	9,857	3,978
Repairs, supplies and maintenance costs	21,992	23,095
Hired farm labor	47,311	99,270
Contract labor	2,530	1,670
Customwork and custom hauling	138	341
Cash rent for land, building and grazing fees	3,409	2,037
Rent and lease expenses	996	593
Interest expense	2,019	1,988
Property tax paid	2,170	2,294
All other production expenses	11,815	12,157
Net cash farm income of the operations	25,039	1,512

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	*	347,898	*	*	*
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.

* 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 REPORTS.

5.2.2

SEA LANDINGS BY PORT OF LANDING

Pounds landed

Port of Landing	2010	2011	2012	2013	2014
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
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
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 REPORTS.

5.2.3

SEA LANDINGS BY AREA FISHED MAUI COUNTY

Pounds landed

Area Fished	2010	2011	2012	2013	2014
Kawai (Moloka'i Channel)	19,545	16,226	24,374	19,675	30,859
Penguin Bank	117,093	103,726	144,954	133,663	127,220
Kealaikahiki Channel	40,080	38,431	36,448	44,958	80,128
'Alenuihāhā Channel	70,742	86,559	120,913	88,649	162,585
'Au'au, Kalohi & Pailolo Channels	26,028	38,416	34,042	40,454	38,725
'Alalākeiki Channel	82,383	85,253	110,068	105,366	103,051
Moloka'i	58,042	41,815	41,987	43,523	39,838
Lāna'i	99,546	86,263	117,741	92,158	67,124
Kaho'olawe	20,980	31,701	127,785	18,526	9,368
Mākena - Hāna	34,694	40,113	23,339	32,199	23,506
Hāna - Kahului	287,049	210,469	242,300	177,724	215,436
Honolua - Lahaina	9,731	7,515	4,240	3,160	3,637
Lahaina - Mākena	73,810	65,645	71,801	71,056	67,769

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