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Section 20

FORESTRY, FISHERIES, AND MINING

This section presents data on forests and forest reserves, commercial fishing and fish populations, and mining and mineral products.

Important sources of data on these subjects are the *United States Census of Mineral Industries* and *Mineral Industry Surveys*, U.S. Census Bureau, *2012 Economic Census, Geographic Area Series*, Mining, and reports and records of the Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources and Division of Forestry and Wildlife. *Historical Statistics of Hawaii*, Section 14, summarizes the data for earlier periods. Comparable national statistics are reported in the *Statistical Abstract of the United States: 2012*, Sections 18.

**Table 20.01-- FOREST AND NATURAL AREA ACREAGE, BY ISLAND:
JUNE 30, 2015**

Island	Conservation district forest land		Natural areas	
	Forest reserve land 1/	Private forest land 2/	Number of areas	Acres
State total	651,002	328,742	21	123,810
Hawaii	448,101	106,745	8	94,954
Maui	68,220	53,180	5	18,543
Kahoolawe	-	-	-	-
Lanai	-	6,150	-	-
Molokai	11,690	-	2	2,950
Oahu	36,817	88,817	4	2,148
Kauai	86,174	73,850	2	5,215
Niihau	-	-	-	-

1/ State-owned and privately-owned lands under surrender agreement in forest reserve system.

2/ Private forest land within conservation district. The majority of these lands were previously in the forest reserve system.

Source: Hawaii State Department of Land and Natural Resources, Division of Forestry and Wildlife, records.

Table 20.02-- WOODLAND ON FARMS, 2002, 2007 AND 2012, AND BY COUNTY, 2012

[Acres]

Use	2002	2007	2012				
			State total	Hawaii	Honolulu	Kauai	Maui
Total	117,685	79,041	92,734	57,747	(D)	6,972	(D)
Pastured	41,467	22,570	23,766	10,823	(D)	374	(D)
Not pastured	76,218	56,471	68,968	46,924	(D)	6,598	(D)

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Department of Agriculture, *2007 Census of Agriculture, Hawaii*, (February 2009), p. 240.
2012 Census of Agriculture, Hawaii, (February 2014) p. 217.

**Table 20.03-- FOREST AND BRUSHLAND FIRES, BY CAUSE OF FIRE:
2013 TO 2015**

Cause of fire	Number of fires			Acres burned		
	2013	2014	2015 1/	2013	2014	2015 1/
State total	6	8	306	782	634	5,594
Lightning	-	1	-	-	2	-
Campfire	3	-	-	3	-	-
Smoking	-	-	-	-	-	-
Debris burning	-	-	1	-	-	20
Arson	-	-	-	-	-	-
Equipment	-	-	-	-	-	-
Railroads	-	-	-	-	-	-
Children	-	1	1	-	550	-
Miscellaneous	3	6	304	779	82	5,574

1/ In 2015, Honolulu Fire Department data was included with the State reporting data.

Source: Hawaii State Department of Land and Natural Resources, Division of Forestry and Wildlife, Fire Management Program and records.

Table 20.04-- COMMERCIAL FISHING: 2003 TO 2015

[Fiscal year ending June 30. Represents the total sea catches of all licensed commercial fishers. Excludes pond catches, The Aquaculture and Development Program, Department of Agriculture, surveys pond harvest market information]

Year	Number of commercial fishermen	Commercial fish catch		
		Pounds landed	Pounds sold	Value to primary producers (dollars)
2003	3,434	24,054,939	(1/)	(1/)
2004	2,971	22,230,489	(1/)	(1/)
2005	3,248	24,876,316	(1/)	(1/)
2006	3,137	24,636,892	(1/)	(1/)
2007	3,220	26,563,127	(1/)	(1/)
2008	3,196	33,310,542	(1/)	(1/)
2009	3,557	28,065,282	(1/)	(1/)
2010	3,373	29,164,222	(1/)	(1/)
2011	3,691	33,032,579	(1/)	(1/)
2012	3,992	31,786,440	(1/)	(1/)
2013	3,970	33,761,150	(1/)	(1/)
2014	3,930	36,237,755	(1/)	(1/)
2015	3,800	36,828,996	(1/)	(1/)

1/ Due to revisions to the commercial fishing report forms in October 2002, licensed commercial fishers no longer report ex-vessel landing values. The latter information is collected from a fish dealer reporting system. The Division of Aquatic Resources is developing an application to integrate the fishing and fish dealer reporting systems to summarize landings with ex-vessel landing value information. Therefore, only total landings reported by commercial fishers are available at this time.

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings for Fiscal Year* (annual) and records.

Table 20.05-- COMMERCIAL FISH CATCH, BY SPECIES: 2013 TO 2015

[Fiscal year ending June 30, pounds landed, excludes pond catches. Due to revisions to the commercial fishing report forms in 2002, data may not be comparable to previous years]

Species	2013	2014	2015
Total catch	33,761,150	36,237,755	36,828,996
Tunas	21,584,628	21,109,085	23,166,066
Aku (skipjack)	1,216,613	957,346	615,342
Tombo	1,681,901	528,047	699,106
Bigeye (ahi)	14,574,067	15,746,459	18,361,496
Yellowfin (ahi)	4,098,369	3,865,595	3,442,190
Billfishes	4,351,833	6,347,977	5,173,349
Blue marlin	1,106,797	1,521,208	1,436,469
Shortnose spearfish	401,949	608,121	540,003
Striped marlin	679,744	1,059,078	1,027,346
Swordfish	2,121,898	3,084,936	2,106,059
Miscellaneous pelagic species	6,052,506	7,075,191	6,805,423
Mahimahi	1,739,974	1,743,944	1,878,826
Monchong	959,152	1,320,373	1,369,821
Ono	860,507	1,144,577	1,244,753
Opah	1,824,841	2,240,878	1,803,555
Walu	647,528	598,857	484,327
Deep bottom fishes	423,551	443,697	471,580
Ehu	29,991	31,456	31,660
Hapuupuu	10,517	10,617	9,121
Opakapaka	95,929	160,834	153,969
Uku	138,833	90,814	112,705
Ulaula (onaga)	66,886	75,813	79,777
Akule/opelu	517,012	531,243	595,211
Akule	253,395	249,196	347,265
Opelu	252,269	263,839	207,691
Jacks	43,927	38,633	36,599
Inshore fishes	430,315	380,879	336,022
Sharks	192,359	124,199	113,408
Mako	136,469	104,447	100,619
Lobsters	11,083	10,128	9,224
Crabs	46,190	42,690	29,191
Shells	(NA)	(NA)	(NA)
Shrimps	12,972	48,691	27,305
Seaweeds	25,122	7,261	5,500
Unclassified / miscellaneous	69,652	78,082	60,118

NA Not available.

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings, State of Hawaii--Fiscal Years 2013-2015* and records.

Table 20.06-- COMMERCIAL SEA LANDINGS, BY ISLAND: 2013 TO 2015

[Fiscal year ending June 30, pounds landed]

Island	2013	2014	2015
State total	33,761,150	36,237,755	36,828,996
Hawaii	3,256,457	3,060,016	3,165,245
Maui	813,774	822,954	893,616
Lanai	6,418	10,031	7,095
Molokai	44,380	44,600	37,727
Oahu	28,668,562	31,471,367	31,983,066
Kauai and Niihau	971,558	828,788	742,247

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, and records.

**Table 20.07-- COMMERCIAL SEA LANDINGS, BY FISHING METHOD:
2013 TO 2015**

[Fiscal year ending June 30, pounds landed]

Fishing method	2013	2014	2015
All methods	33,761,150	36,237,755	36,828,996
Aku pole and line	(1/)	(1/)	(1/)
Longline	25,903,228	28,831,995	30,041,517
Handline	2,928,340	2,243,094	2,109,885
Trolling	3,374,156	3,469,169	3,207,164
Net	434,754	478,450	537,716
Trap	93,608	129,249	87,822
All other methods	1,027,065	1,085,798	844,892

1/ Due to low level of fishermen reporting and to preserve confidentiality, data for these species are pooled under all other methods.

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings, State of Hawaii--Fiscal Years 2013-2015* and records.

Table 20.08-- MINERAL INDUSTRIES (NAICS 21): 1987 TO 2012

[Includes establishments with payroll. Statistics based on the North American Industry Classification System (NAICS) which replaced the Standard Industrial Classification (SIC) system used in Economic Censuses prior to the 1997 Economic Census]

Subject	1987	1992	1997	2002	2007	2012
Number of establishments	9	7	7	8	8	7
With 20 employees or more	4	4	2	1	4	1
All employees						
Number (1,000) 1/	0.2	0.2	0.1	0.1	0.2	(2/)
Annual payroll (million dollars)	7.4	9.4	5.6	7.3	9.6	(D)
Production, development, and exploration workers						
Number (1,000) 1/	0.2	0.2	0.1	0.1	0.1	(D)
Annual hours (millions)	0.4	0.4	0.2	0.2	0.3	(D)
Annual wages (million dollars)	5.7	8.1	4.7	5.1	7.9	(D)
Value added (million dollars)	23.5	27.3	22.0	20.7	49.0	(D)
Total cost of supplies (million dollars)	10.4	11.3	(D)	6.6	12.9	(D)
Total value of shipments and receipts for services (million dollars)	31.1	33.7	33.3	25.6	55.4	(D)
Capital expenditures (million dollars)	2.8	4.8	(D)	1.7	6.4	(NA)

D Withheld to avoid disclosing data for individual companies.

1/ For pay period including March 12.

2/ 100 to 249 employees.

Source: U.S. Census Bureau, *1987 Census of Mineral Industries, Geographic Area Series, Pacific States*, MIC87-A-9 (October 1990), Hawaii table 1; *1992 Census of Mineral Industries, Geographic Area Series, Pacific States*, MIC92-A-9 (May 1996), Hawaii table 1; *1997 Economic Census, Mining, Geographic Area Series, Hawaii*, EC97N21A-HI (May 2000), table 1; *2002 Economic Census, Mining, Geographic Area Series, Hawaii*, EC02-21A-HI (April 2005), table 1; 2007 Economic Census, Sector 21: EC0721A2: Mining: Geographic Area Series: Detailed Statistics for the State or Offshore Areas: 2007; 2012 Economic Census, Sector 21: EC1221A2: Mining: Geographic Area Series: Detailed Statistics for the State or Offshore Areas: 2012 <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_21A2&prodType=table> accessed April 6, 2016.

Table 20.09-- NONFUEL MINERAL PRODUCTION: 2009 TO 2011

[Production as measured by mine shipments, sales, or marketable production (including consumption by producers), Data are rounded to no more than three significant digits; may not add to totals shown]

Minerals	2009	2010	2011
Quantity (1,000 Metric Tons)			
Gemstones	(NA)	(NA)	(NA)
Sand and gravel (construction)	1,180	1,020	962
Stone (crushed)	5,800	4,740	4,490
Value (\$1,000)			
Total	116,000	108,000	101,000
Gemstones	151	151	151
Sand and gravel (construction)	15,000	15,500	15,100
Stone (crushed)	101,000	91,900	86,000

NA Not available.

Source: U.S. Geological Survey, Minerals Information, "2010-2011 Minerals Yearbook, Hawaii [Advance Release]" (April 2015) <<http://minerals.er.usgs.gov/minerals/pubs/state/hi.html>> accessed April 17, 2015.

Table 20.10--CRUSHED STONE SOLD OR USED: 2009 TO 2011

[Data are rounded to no more than three significant digits,
except in unit value; may not add to totals shown]

Type	2009	2010	2011
Number of quarries	(X)	(X)	(X)
Limestone 1/	-	2	2
Traprock	19	16	16
Volcanic cinder and scoria	3	2	3
Miscellaneous stone	8	5	6
Quantity (1,000 Metric Tons)	5,800	4,740	4,490
Limestone 1/	-	66	23
Traprock	5,050	4,180	3,860
Volcanic cinder and scoria	121	103	365
Miscellaneous stone	623	397	240
Value (\$1,000)	101,000	91,900	86,000
Limestone 1/	-	1,130	442
Traprock	87,600	81,000	77,700
Volcanic cinder and scoria	1,540	1,760	2,990
Miscellaneous stone	11,500	8,080	4,880
Unit value	17.41	19.39	19.18
Limestone 1/	-	17.08	19.33
Traprock	17.35	19.39	20.14
Volcanic cinder and scoria	12.74	17.08	8.19
Miscellaneous stone	18.46	20.36	20.35

X Not applicable.

1/ Includes limestone-dolomite reported with no distinction between the two kinds of stone.

Source: U.S. Geological Survey, Minerals Information, "2010-2011 Minerals Yearbook, Hawaii [Advance Release]" (April 2015) <<http://minerals.er.usgs.gov/minerals/pubs/state/hi.html>> accessed April 17, 2015.