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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, 2017**

Island	Conservation district forest land		Natural areas	
	Forest reserve land 1/	Private forest land 2/	Number of areas	Acres
State total	657,841	328,742	21	123,810
Hawaii	453,242	106,745	8	94,954
Maui	67,769	53,180	5	18,543
Kahoolawe	-	-	-	-
Lanai	-	6,150	-	-
Molokai	11,690	-	2	2,950
Oahu	38,966	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 and 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:
2014 TO 2017**

Cause of fire	Number of fires				Acres burned			
	2014	2015 1/	2016	2017 2/	2014	2015 1/	2016	2017 2/
State total	8	306	16	524	634	5,594	18,124	7,697
Lightning	1	-	1	2	2	-	1,787	2
Campfire	-	-	-	1	-	-	-	1
Smoking	-	-	-	-	-	-	-	-
Debris burning	-	1	1	2	-	20	75	2,950
Arson	-	-	2	1	-	-	5,801	11
Equipment	-	-	2	2	-	-	4,701	560
Railroads	-	-	-	-	-	-	-	-
Children	1	1	-	-	550	-	-	-
Miscellaneous	6	304	10	516	82	5,574	5,760	4,173

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

2/ In 2017, data from the counties 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 2017

[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/)
2016	3,805	37,356,054	(1/)	(1/)
2017	3,714	36,152,719	(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: 2015 TO 2017

[Fiscal year ending June 30, pounds landed, excludes pond catches]

Species	2015	2016	2017
Total catch	36,828,996	37,356,054	36,152,719
Tunas	23,166,066	24,596,840	23,701,646
Aku (skipjack)	615,342	552,955	725,108
Tombo	699,106	656,335	311,781
Bigeye (ahi)	18,361,496	19,123,205	16,866,477
Yellowfin (ahi)	3,442,190	4,242,043	5,786,360
Billfishes	5,173,349	4,970,409	5,907,222
Blue marlin	1,436,469	1,349,369	1,662,184
Shortnose spearfish	540,003	727,588	731,200
Striped marlin	1,027,346	1,293,065	835,502
Swordfish	2,106,059	1,549,415	2,634,648
Miscellaneous pelagic species	6,805,423	6,163,522	5,171,189
Mahimahi	1,878,826	1,342,183	1,002,334
Monchong	1,369,821	1,190,483	918,855
Ono	1,244,753	1,185,412	905,596
Opah	1,803,555	1,951,558	1,978,256
Walu	484,327	476,807	360,052
Deep bottom fishes	471,580	431,234	412,615
Ehu	31,660	31,519	25,708
Hapuupuu	9,121	10,268	8,300
Opakapaka	153,969	137,862	135,116
Uku	112,705	110,817	118,544
Ulaula (onaga)	79,777	62,217	47,132
Akule/opelu	595,211	646,358	477,071
Akule	347,265	419,958	331,287
Opelu	207,691	218,034	118,622
Jacks	36,599	33,359	38,486
Inshore fishes	336,022	299,468	234,964
Sharks	113,408	107,501	137,253
Mako	100,619	98,667	122,444
Lobsters	9,224	5,914	3,885
Crabs	29,191	20,596	20,486
Shells	(NA)	(NA)	(NA)
Shrimps	27,305	27,041	(1/)
Seaweeds	5,500	3,528	5,244
Unclassified / miscellaneous	60,118	50,284	17,192

NA Not available.

1/ Withheld due to low level of fishermen reporting and to preserve confidentiality.

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings, State of Hawaii--Fiscal Years 2015-2017* and records.

Table 20.06-- COMMERCIAL SEA LANDINGS, BY ISLAND: 2015 TO 2017

[Fiscal year ending June 30, pounds landed]

Island	2015	2016	2017
State total	36,828,996	37,356,054	36,152,719
Hawaii	3,165,245	2,533,304	1,930,624
Maui	893,616	765,185	648,428
Lanai	7,095	8,614	8,719
Molokai	37,727	30,353	21,389
Oahu	31,983,066	33,246,769	32,956,903
Kauai and Niihau	742,247	771,829	586,656

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

**Table 20.07-- COMMERCIAL SEA LANDINGS, BY FISHING METHOD:
2015 TO 2017**

[Fiscal year ending June 30, pounds landed]

Fishing method	2015	2016	2017
All methods	36,828,996	37,356,054	36,152,719
Aku pole and line	(1/)	(1/)	(1/)
Longline	30,041,517	31,642,861	31,398,569
Handline	2,109,885	2,022,837	1,685,893
Trolling	3,207,164	2,687,445	2,331,685
Net	537,716	606,129	480,575
Trap	87,822	65,047	42,006
All other methods	844,892	331,735	213,992

1/ Due to low level of fishermen reporting and to preserve confidentiality, data for these methods 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 2015-2017* 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.

NA Not available.

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: 2012 TO 2014

[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	2012	2013 1/	2014
Quantity (1,000 metric tons)			
Gemstones	(NA)	(NA)	(NA)
Sand and gravel (construction)	786	658	492
Stone (crushed)	4,990	5,420	5,650
Value (\$1,000)			
Total	108,000	102,000	115,000
Gemstones	151	139	136
Sand and gravel (construction)	15,000	10,100	7,830
Stone (crushed)	93,100	92,300	107,000

NA Not available.

1/ Revised from previous *Data Book*.

Source: U.S. Geological Survey, Minerals Information, *2014 Minerals Yearbook, Hawaii [Advance Release]* (April 2018) <https://minerals.usgs.gov/minerals/pubs/commodity/statistical_summary/myb1-2014-stati.pdf> accessed May 22, 2018.

Table 20.10-- CRUSHED STONE SOLD OR USED: 2011 TO 2013

[Due to rounding, components may not add to totals shown]

Type	2011	2012	2013
Number of quarries	(X)	(X)	(X)
Limestone 1/	2	-	-
Traprock	16	16	15
Volcanic cinder and scoria	3	3	2
Miscellaneous stone	6	5	4
Quantity (1,000 metric tons)	4,490	4,990	5,180
Limestone 1/	23	-	-
Traprock	3,860	4,440	4,800
Volcanic cinder and scoria	365	212	28
Miscellaneous stone	240	338	350
Value (\$1,000)	86,000	93,100	89,600
Limestone 1/	442	-	-
Traprock	77,700	85,100	83,800
Volcanic cinder and scoria	2,990	1,410	522
Miscellaneous stone	4,880	6,600	5,310
Unit value (dollars) 2/	19.18	18.66	17.29
Limestone 1/	19.33	-	-
Traprock	20.14	19.17	17.44
Volcanic cinder and scoria	8.19	6.67	18.64
Miscellaneous stone	20.35	19.51	15.17

X Not applicable.

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

2/ Average.

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 and *2012-2013 Minerals Yearbook, Hawaii [Advance Release]* (July 2016) <https://minerals.usgs.gov/minerals/pubs/state/2012_13/myb2-2012_13-hi.pdf> accessed April 27, 2017.