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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's newly released *2017 Economic Census*, U.S. Census Bureau *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.

**Table 20.01-- FOREST AND NATURAL AREA ACREAGE, BY ISLAND:
JUNE 30, 2020**

Island	Conservation district forest land		Natural areas	
	Forest reserve land 1/	Private forest land 2/	Number of areas	Acres
State total	683,964	194,941	21	123,810
Hawaii	479,097	97,185	8	94,954
Maui	67,761	30,705	5	18,543
Kahoolawe	-	-	-	-
Lanai	-	6,950	-	-
Molokai	11,690	-	2	2,950
Oahu	39,242	20,213	4	2,148
Kauai	86,174	39,888	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. Starting in 2018, alien forest classification was not included (Maui Island removed alien forest classification in 2020.) Therefore data after 2018 may not be comparable to previous years.

Source: Hawaii State Department of Land and Natural Resources, Division of Forestry and Wildlife record;

Table 20.02-- WOODLAND ON FARMS, 2007, 2012 AND 2017, AND BY COUNTY, 2017

[Acres]

Use	2007	2012	2017				
			State total	Hawaii	Honolulu	Kauai	Maui
Total	79,041	92,734	88,813	55,880	6,750	8,306	17,877
Pastured	22,570	23,766	18,797	12,290	2,257	404	3,846
Not pastured	56,471	68,968	70,016	43,590	4,493	7,902	14,031

Source: U.S. Department of Agriculture, *2007 Census of Agriculture, Hawaii*, (February 2009), p. 240. *2012 Census of Agriculture, Hawaii*, (February 2014) p. 217. *2017 Census of Agriculture, Hawaii*, (April 2019) p. 229 <<https://www.nass.usda.gov/Publications/AgCensus/2017/index.php>> accessed April 27, 2020.

**Table 20.03-- FOREST AND BRUHLAND FIRES, BY CAUSE OF FIRE:
2017 TO 2020**

Cause of fire	Number of fires				Acres burned			
	2017 1/	2018	2019	2020	2017 1/	2018	2019	2020
State total	524	13	31	7	7,697	30,593	32,124	5,275
Lightning	2	2	-	-	2	817	-	-
Campfire	1	-	1	2	1	-	228	4,303
Smoking	-	-	-	-	-	-	-	-
Debris burning	2	-	-	-	2,950	-	-	-
Arson	1	-	-	-	11	-	-	-
Equipment	2	1	1	-	560	3,760	9,805	-
Railroads	-	-	-	-	-	-	-	-
Children	-	-	-	-	-	-	-	-
Miscellaneous	516	10	29	5	4,173	26,016	22,091	972

1/ 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, records.

Table 20.04-- COMMERCIAL FISHING: 2003 TO 2020

[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 2/	3,714	36,233,907	(1/)	(1/)
2018 2/	3,561	37,490,697	(1/)	(1/)
2019	3,484	34,593,443	(1/)	(1/)
2020	3,135	30,451,624	(1/)	(1/)

1/ Information is collected from a fish dealer reporting system. Only total landings reported by commercial fishers is available.

2/ Revised from previous *Data Book* .

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: 2017 TO 2020

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

Species	2017 1/	2018 1/	2019	2020
Total catch	36,233,907	37,490,697	34,593,443	30,451,624
Tunas	23,743,139	25,647,509	23,059,305	21,576,468
Aku (Skipjack)	723,463	549,703	676,427	651,490
Tombo	311,119	170,852	268,477	227,510
Bigeye (Ahi)	16,882,836	16,406,473	16,271,503	15,977,921
Yellowfin (Ahi)	5,813,466	8,508,046	5,831,575	4,707,680
Billfishes	5,924,496	5,344,304	4,990,240	4,043,725
Blue marlin	1,680,728	1,883,522	1,994,198	1,881,405
Shortnose spearfish	731,072	582,294	495,576	312,941
Striped marlin	834,821	1,040,227	1,122,006	997,903
Swordfish	2,634,125	1,791,450	1,346,441	803,646
Miscellaneous pelagic species	5,179,684	5,203,779	5,419,312	3,821,069
Mahimahi	1,007,847	1,037,393	1,026,220	685,922
Monchong	918,951	883,216	751,599	563,143
Ono	908,715	1,110,822	1,341,966	1,071,162
Opah	1,977,962	1,860,144	2,009,458	1,267,425
Walu	360,117	304,877	282,834	229,065
Deep bottom fishes	417,375	397,361	300,607	270,808
Ehu	25,878	21,830	23,051	26,576
Hapuupuu	8,338	9,518	5,762	6,572
Opakapaka	135,308	119,326	70,069	63,886
Uku	119,076	104,072	80,907	63,419
Ulaula (Onaga)	47,240	66,458	58,700	42,840
Akule/Opelu	477,161	419,179	384,974	343,251
Akule	338,467	266,614	268,127	235,683
Opelu	120,490	141,242	111,113	104,958
Jacks	39,231	43,622	29,154	21,601
Inshore fishes	244,945	266,161	236,141	240,303
Sharks	138,133	103,506	105,711	62,909
Mako	122,949	91,978	95,770	55,458
Lobsters	3,949	5,916	5,324	4,608
Crabs	20,689	16,151	17,576	25,934
Shells	(NA)	(NA)	(NA)	(NA)
Shrimps	(2/)	3,582	16,031	8,526
Seaweeds	5,244	5,011	3,220	2,613
Unclassified / miscellaneous	29,672	34,471	25,828	28,668

NA Not available.

1/ Revised from previous *Data Book*.

2/ Withheld to preserve confidentiality; low level of fishermen reporting.

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

Table 20.06-- COMMERCIAL SEA LANDINGS, BY ISLAND: 2017 TO 2020

[Fiscal year ending June 30. Measured in pounds landed]

Island	2017 1/	2018 1/	2019	2020
State total	36,233,907	37,490,697	34,593,443	30,451,624
Hawaii	2,046,479	2,409,755	2,261,854	1,735,744
Maui	659,745	649,368	622,906	477,164
Lanai	8,719	10,558	9,912	5,432
Molokai	21,462	21,553	19,387	10,171
Oahu	32,913,103	33,697,434	31,028,880	27,610,130
Kauai and Niihau	584,400	702,029	650,505	612,983

1/ Revised from previous *Data Book*.

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

**Table 20.07-- COMMERCIAL SEA LANDINGS, BY FISHING METHOD:
2017 TO 2020**

[Fiscal year ending June 30. Measured in pounds landed]

Fishing method	2017 1/	2018 1/	2019	2020
All methods	36,233,907	37,490,697	34,593,443	30,451,624
Aku pole and line	(2/)	(2/)	(2/)	(2/)
Longline	31,400,333	32,440,745	29,676,689	26,449,143
Handline	1,729,193	1,918,131	1,678,717	1,442,885
Trolling	2,357,039	2,460,145	2,638,684	1,982,956
Net	487,911	375,805	319,026	303,846
Trap	49,839	39,927	43,671	42,581
All other methods	209,592	255,943	236,656	230,214

1/ Revised from previous *Data Book*.

2/ Due to low level of fishermen reporting and to preserve confidentiality, data are combined with "All other methods."

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources records and calculations by the Department of Business, Economic Development & Tourism.

Table 20.08-- MINERAL INDUSTRIES (NAICS 21): 1992 TO 2017

[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	1992	1997	2002	2007	2012	2017
Number of establishments	7	7	8	8	7	(D)
With 20 employees or more	4	2	1	4	1	(D)
All employees						
Number (1,000) 1/	0.2	0.1	0.1	0.2	(2/)	(2/)
Annual payroll (million dollars)	9.4	5.6	7.3	9.6	(D)	(D)
Production, development, and exploration workers						
Number (1,000) 1/	0.2	0.1	0.1	0.1	(D)	(D)
Annual hours (millions)	0.4	0.2	0.2	0.3	(D)	(D)
Annual wages (million dollars)	8.1	4.7	5.1	7.9	(D)	(D)
Value added (million dollars)	27.3	22.0	20.7	49.0	(D)	(D)
Total cost of supplies (million dollars)	11.3	(D)	6.6	12.9	(D)	(D)
Total value of shipments and receipts for services (million dollars)	33.7	33.3	25.6	55.4	(D)	(D)
Capital expenditures (million dollars)	4.8	(D)	1.7	6.4	(NA)	(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*; 2017 Economic Census, Table ECNTYPE2017 <<https://data.census.gov/>> accessed October 21, 2020.

Table 20.09-- NONFUEL MINERAL PRODUCTION: 2015 TO 2017

[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	2015 1/	2016	2017
Quantity (1,000 metric tons)			
Gemstones	(NA)	(NA)	(NA)
Sand and gravel (construction)	459	357	449
Stone (crushed)	5,150	1/ 5,260	5,090
Value (\$1,000)			
Total	112,000	1/ 113,000	120,000
Gemstones	103	69	12
Sand and gravel (construction)	10,300	7,720	9,170
Stone (crushed)	101,000	1/ 105,000	111,000

NA Not available.

1/ Revised from previous *Data Book*.

Source: U.S. Geological Survey, *2016 Minerals Yearbook*, Statistical Summary [Table-Release only] (May 2021) <<https://www.usgs.gov/centers/nmic/statistical-summary>> accessed June 8, 2021.

Table 20.10--CRUSHED STONE SOLD OR USED: 2013 TO 2015

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

Type	2013	2014	2015
Number of quarries	(X)	(X)	(X)
Traprock	15	(NA)	(NA)
Volcanic cinder and scoria	2	(NA)	(NA)
Miscellaneous stone	4	(NA)	(NA)
Quantity (1,000 metric tons)	5,420	2/ 4,500	4,460
Traprock	4,800	(NA)	(NA)
Volcanic cinder and scoria	28	(NA)	(NA)
Miscellaneous stone	350	(NA)	(NA)
Value (\$1,000)	92,300	2/ 88,200	88,000
Traprock	83,800	(NA)	(NA)
Volcanic cinder and scoria	522	(NA)	(NA)
Miscellaneous stone	5,310	(NA)	(NA)
Unit value (dollars)	17.03	2/ 19.60	19.73
Traprock	17.44	(NA)	(NA)
Volcanic cinder and scoria	18.64	(NA)	(NA)
Miscellaneous stone	15.17	(NA)	(NA)

X Not applicable.

NA Not available.

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

2/ Revised from previous *Data Book*.

Source: U.S. Geological Survey, *Minerals Yearbook, 2012-2013 Minerals Yearbook, Hawaii* [Advance Release] (July 2016) <<http://minerals.er.usgs.gov/minerals/pubs/state/hi.html>> accessed April 27, 2017; *USGS 2014 Minerals Yearbook, Hawaii* [Advance Release] (July 2019) <<https://www.usgs.gov/centers/nmic/mineral-industry-hawaii>> accessed April 15, 2020; *USGS 2015 Minerals Yearbook, Volume II, Hawaii* chapters [Table-Release only] (February 2021) <<https://www.usgs.gov/centers/nmic/mineral-industry-hawaii>> accessed June 23, 2021.