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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 *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, 2022**

Island	Conservation district forest land		Natural areas	
	Forest reserve land 1/	Private forest land 2/	Number of areas	Acres
State total	694,720	212,617	23	126,454
Hawaii	483,563	97,455	9	97,232
Maui	68,118	30,096	5	18,543
Kahoolawe	-	-	-	-
Lanai	-	6,950	-	-
Molokai	11,595	20,449	2	2,950
Oahu	45,305	17,780	5	2,514
Kauai	86,139	39,887	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. The alien forest classification was excluded starting in 2018. Maui Island removed the 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 records.

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 BRUSHLAND FIRES, BY CAUSE OF FIRE:
2019 TO 2022**

Cause of fire	Number of fires				Acres burned			
	2019	2020	2021	2022	2019	2020	2021 1/	2022 1/
State total	31	7	13	19	32,124	5,275	46,045	19,533
Lightning	-	-	1	1	-	-	(2/)	1
Campfire	1	2	2	2	228	4,303	5	3
Smoking	-	-	1	-	-	-	250	-
Debris burning	-	-	-	1	-	-	-	(2/)
Arson	-	-	-	2	-	-	-	(2/)
Equipment	1	-	1	2	9,805	-	43,026	16,802
Railroads	-	-	-	-	-	-	-	-
Children	-	-	-	-	-	-	-	-
Miscellaneous	29	5	8	11	22,091	972	2,763	2,728

1/ Components may not sum to total due to rounding.

2/ Rounds down to zero.

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 2022

[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. Data from are revised from previous *Data Book*]

Year	Number of commercial fishermen	Commercial fish catch		
		Pounds landed	Pounds sold	Value to primary producers (dollars)
2003	3,310	24,758,321	(1/)	(1/)
2004	3,244	23,301,663	(1/)	(1/)
2005	3,062	30,580,972	(1/)	(1/)
2006	3,187	28,904,852	(1/)	(1/)
2007	3,090	29,529,632	(1/)	(1/)
2008	3,177	34,503,241	(1/)	(1/)
2009	3,179	28,961,235	(1/)	(1/)
2010	3,486	29,791,203	(1/)	(1/)
2011	3,337	32,418,627	(1/)	(1/)
2012	3,662	31,179,261	(1/)	(1/)
2013	3,972	32,518,856	(1/)	(1/)
2014	3,921	34,736,450	(1/)	(1/)
2015	3,885	37,048,277	(1/)	(1/)
2016	3,759	37,530,672	(1/)	(1/)
2017	3,720	36,246,622	(1/)	(1/)
2018	3,685	37,499,036	(1/)	(1/)
2019	3,500	34,594,544	(1/)	(1/)
2020	3,429	30,460,726	(1/)	(1/)
2021	3,146	29,107,943	(1/)	(1/)
2022	3,175	28,638,516	(1/)	(1/)

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

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: 2019 TO 2022

[Fiscal year ending June 30. Measured in pounds landed, excludes pond catches. Data are revised from previous *Data Book*]

Species	2019	2020	2021	2022
Total catch	34,594,544	30,460,726	29,107,943	28,638,516
Tunas	23,059,997	21,584,863	21,848,027	21,535,574
Aku (Skipjack)	676,657	651,626	624,206	412,244
Tombo	268,499	227,369	205,066	415,454
Bigeye (Ahi)	16,271,371	15,983,126	15,053,213	14,388,688
Yellowfin (Ahi)	5,832,104	4,710,863	5,959,697	6,312,790
Billfishes	4,990,391	4,044,686	3,456,027	3,694,639
Blue marlin	1,994,288	1,882,107	1,184,603	1,209,473
Shortnose spearfish	495,553	313,108	289,288	278,138
Striped marlin	1,122,039	997,958	656,221	523,288
Swordfish	1,346,505	803,669	1,301,237	1,649,654
Miscellaneous pelagic species	5,419,929	3,821,495	2,856,523	2,512,976
Mahimahi	1,026,212	685,906	678,538	679,621
Monchong	751,758	563,459	419,259	397,207
Ono	1,342,153	1,070,973	1,015,147	857,816
Opah	2,009,692	1,267,671	609,683	406,864
Walu	282,873	229,120	130,463	167,206
Deep bottom fishes	300,795	271,216	272,729	297,003
Ehu	23,066	26,621	28,418	30,588
Hapuupuu	5,793	6,582	4,045	4,193
Opakapaka	70,069	63,964	57,160	81,950
Uku	80,949	63,431	54,655	55,572
Ulaula (Onaga)	58,755	43,040	43,255	47,687
Akule/Opelu	385,059	343,467	357,070	326,612
Akule	268,127	235,683	279,387	231,854
Opelu	111,198	105,174	71,841	85,216
Jacks	29,209	21,609	20,261	14,834
Inshore fishes	236,170	240,102	239,227	197,769
Sharks	104,915	62,637	4,989	5,290
Mako	95,767	55,464	1,656	2,540
Lobsters	5,324	4,611	2,308	1,862
Crabs	17,576	25,934	11,591	18,247
Shells	(NA)	(NA)	(NA)	(NA)
Shrimps	16,031	8,526	(1/)	3,741
Seaweeds	3,220	2,654	1,137	2,500
Unclassified / miscellaneous	25,928	28,927	28,025	27,470

NA Not available.

1/ 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: 2019 TO 2022

[Fiscal year ending June 30. Measured in pounds landed. Data from 2019 to 2021 is revised from previous *Data Book*]

Island	2019	2020	2021	2022
State total	34,594,544	30,460,726	29,107,943	28,638,516
Hawaii	2,261,956	1,734,222	1,790,675	1,875,266
Maui	622,576	477,347	386,085	473,665
Lanai	9,912	5,432	5,849	5,937
Molokai	19,387	10,171	11,281	14,708
Oahu	31,030,172	27,619,937	26,430,082	25,711,619
Kauai and Niihau	650,541	613,618	483,972	557,322

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

**Table 20.07-- COMMERCIAL SEA LANDINGS, BY FISHING METHOD:
2019 TO 2022**

[Fiscal year ending June 30. Measured in pounds landed. Data are revised from previous *Data Book*]

Fishing method	2019	2020	2021	2022
All methods	34,594,544	30,460,726	29,107,943	28,638,516
Aku pole and line	(1/)	(1/)	(1/)	(1/)
Longline	29,677,507	26,458,084	25,380,601	24,597,315
Handline	1,678,295	1,442,460	1,532,255	1,641,198
Trolling	2,638,425	1,982,179	1,593,846	1,882,386
Net	319,026	303,846	367,908	311,716
Trap	43,671	42,581	32,954	36,109
All other methods	237,620	231,576	200,380	169,794

1/ 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.

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

[Includes establishments with payroll. Statistics in 1992 are based on the Standard Industrial Classification (SIC) system used in the Economic Census. Statistics in 1997 and on are based on the North American Industry Classification System (NAICS) which replaced the SIC system]

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, *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 2018

[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	2016	2017	2018
Quantity (1,000 metric tons)				
Gemstones	(NA)	(NA)	(NA)	(NA)
Sand and gravel (construction)	459	357	449	378
Stone (crushed)	5,150	5,260	5,070	4,680
Value (\$1,000)				
Total	112,000	113,000	120,000	(NA)
Gemstones	103	69	12	(NA)
Sand and gravel (construction)	10,300	7,720	9,170	7,630
Stone (crushed)	101,000	105,000	111,000	107,000

NA Not available.

Source: U.S. Geological Survey, *2017 Minerals Yearbook*, Statistical Summary [Table-Release only] (May 2021) <<https://www.usgs.gov/centers/nmic/statistical-summary>> accessed June 21, 2022; and USGS, *Aggregates Time Series Data by State, Type, and End Use* (April 2021) <<https://www.usgs.gov/media/files/usgs-aggregates-time-series-data-state-type-and-end-use>> accessed June 9, 2022.

Table 20.10--CRUSHED STONE SOLD OR USED: 2015 TO 2018

[Quantity, value, and unit value totals are a result of calculations based on all crushed stone sold or used in the State. Components may not add to total because of rounding]

Type	2015	2016	2017	2018
Quantity (1,000 metric tons)	5,150	5,260	5,070	4,680
Traprock	4,760	4,780	4,600	4,210
Volcanic cinder and scoria	32	35	44	39
Miscellaneous stone	356	443	425	429
Value (\$1,000)	101,000	105,000	111,000	107,000
Traprock	93,800	95,800	101,000	97,400
Volcanic cinder and scoria	628	676	932	840
Miscellaneous stone	6,810	8,490	8,500	8,530
Unit value (dollars)	19.66	19.95	21.83	22.81
Traprock	19.71	20.03	22.00	23.12
Volcanic cinder and scoria	19.63	19.48	21.26	21.83
Miscellaneous stone	19.13	19.17	20.02	19.89

Source: USGS, *Aggregates Time Series Data by State, Type, and End Use* (April 2021)
 <<https://www.usgs.gov/media/files/usgs-aggregates-time-series-data-state-type-and-end-use>> accessed June 9, 2022