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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, *2002 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: 2009*, Sections 18.

**Table 20.01-- FOREST AND NATURAL AREA ACREAGE, BY ISLAND:
JUNE 30, 2008**

Island	Conservation district forest land		Natural areas 3/	
	Forest reserve land 1/	Private forest land 2/	Number of areas	Acres
State total	637,000	328,742	19	109,164
Hawaii	448,000	106,745	8	82,535
Maui	4/ 83,000	53,180	4	17,123
Kahoolawe	-	-	-	-
Lanai	-	6,150	-	-
Molokai	(4/)	-	2	2,950
Oahu	31,000	88,817	3	1,770
Kauai	76,000	73,850	2	4,786
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.

3/ Includes Waimanu Research Reserve (3,600 acres) and Alakai Wilderness Preserve (9,939 acres).

4/ Includes both Maui and Molokai.

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

Table 20.02-- WOODLAND ON FARMS, 1997, 2002, AND 2007, AND BY COUNTY, 2007

[Acres]

Use	1997	2002	2007				
			State total	Hawaii	Honolulu	Kauai	Maui
Total	108,704	117,685	79,041	46,137	5,646	5,660	21,598
Pastured	31,844	41,467	22,570	12,791	(D)	103	(D)
Not pastured	76,860	76,218	56,471	33,346	(D)	5,557	(D)

D Withheld to avoid disclosing data for individual farms.

Source: U.S. Department of Agriculture, 2002 Census of Agriculture, Hawaii, (June 2004), p. 195.
 2007 Census of Agriculture, Hawaii, (February 2009), p. 240.

**Table 20.03-- FOREST AND BRUSHLAND FIRES, BY CAUSE OF FIRE:
2005 TO 2007**

Cause of Fire	Number of Fires			Acres burned		
	2005	2006	2007	2005	2006	2007
State total	109	205	147	26,492.6	14,584.8	29,591.5
Lightning	3	7	1	4.1	3,596.3	0.1
Campfire	8	4	5	801.7	783.1	40.1
Smoking	-	-	1	-	-	2,291.0
Debris burning	5	12	11	1.6	37.9	53.9
Arson	12	27	21	218.2	3,104.3	6,728.5
Equipment	6	15	9	135.9	679.9	255.6
Railroads	-	-	-	-	-	-
Children	-	-	-	-	-	-
Miscellaneous	75	140	99	25,331.1	6,383.3	20,222.3

Source: Hawaii State Department of Land and Natural Resources, Division of Forestry and Wildlife, Fire Management Program, *Annual Wildfire Summary Report* <<http://www.state.hi.us/dlnr/dofaw/fmp/firedata.htm>> accessed June 3, 2009.

Table 20.04-- COMMERCIAL FISHING: 2003 TO 2008

[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	2/ 26,563,127	(1/)	(1/)
2008	3,196	33,310,542	(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.

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: 2006 TO 2008

[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	2006	2007 1/	2008
Total catch	24,636,892	26,563,127	33,310,542
Tunas	14,361,338	14,613,016	19,985,859
Aku (skipjack)	811,535	1,207,357	636,190
Tombo	764,747	620,324	1,014,455
Bigeye (ahi)	9,805,946	10,064,751	14,199,122
Yellowfin (ahi)	2,950,509	2,701,159	4,120,986
Billfishes	3,763,115	5,649,300	5,989,668
Blue marlin	762,605	913,889	787,524
Shortnose spearfish	347,772	239,763	577,794
Striped marlin	708,898	1,147,064	820,105
Swordfish	1,923,964	3,318,223	3,771,529
Miscellaneous pelagic species	4,503,826	4,088,145	5,240,266
Mahimahi	1,544,162	1,162,164	1,791,321
Monchong	573,664	548,693	659,001
Ono	925,735	816,292	992,558
Opah	1,058,108	1,134,802	1,283,863
Walu	376,391	399,729	481,862
Deep bottom fishes	503,638	474,387	439,182
Ehu	29,821	25,038	23,089
Hapuupuu	42,047	29,680	24,060
Opakapaka	92,695	116,966	112,136
Uku	175,757	151,778	157,147
Ulaula (onaga)	99,814	121,272	82,476
Akule/opelu	843,567	1,034,554	792,269
Akule	462,485	678,621	489,538
Opelu	292,432	355,933	302,731
Jacks	46,285	50,526	53,012
Inshore fishes	248,436	305,484	324,841
Sharks	176,295	266,860	374,942
Mako	137,173	191,951	273,945
Lobsters	10,140	8,838	9,059
Crabs	32,227	31,492	47,893
Shrimps	103,857	2/	2/
Seaweeds	7,521	5,072	10,021
Unclassified / miscellaneous	36,647	35,453	43,530

1/ Revised from previous *Data Book*.

2/ Due to low level of fishermen reporting and to preserve confidentiality, data for these species are pooled under miscellaneous.

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings, State of Hawaii--Fiscal Years 2006-2008* and records.

Table 20.06-- COMMERCIAL SEA LANDINGS, BY ISLAND: 2006 TO 2008

[Fiscal year ending June 30, pounds landed]

Island	2006	2007 1/	2008
State total	24,636,892	26,563,127	33,310,542
Hawaii	3,582,672	3,311,346	3,073,342
Maui	503,888	520,093	658,024
Lanai	18,412	18,782	14,441
Molokai	28,764	17,390	22,652
Oahu	19,928,957	22,039,272	28,829,479
Kauai and Niihau	574,201	656,244	712,604

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:
2006 TO 2008**

[Fiscal year ending June 30, pounds landed]

Fishing method	2006	2007 1/	2008
All methods	24,636,892	26,563,127	33,310,542
Aku pole and line	579,056	968,191	346,461
Longline	17,927,928	19,239,785	26,928,332
Handline	1,881,475	1,949,821	1,812,335
Trolling	2,604,873	2,751,699	2,926,225
Net	827,617	930,172	751,172
Trap	139,588	55,026	74,864
All other methods	676,356	668,433	471,153

1/ Revised from previous *Data Book* .

Source: Hawaii State Department of Land and Natural Resources, Division of Aquatic Resources, *Commercial Fish Landings, State of Hawaii--Fiscal Years 2006-2008* and records.

Table 20.08-- MINERAL INDUSTRIES (NAICS 21): 1977 TO 2002

[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	1977	1982	1987	1992	1997	2002
Number of establishments	7	12	9	7	7	8
With 20 employees or more	2	4	4	4	2	1
All employees:						
Number (1,000) 1/	.1	.2	.2	.2	.1	.1
Annual payroll (million dollars)	1.9	3.8	7.4	9.4	5.6	7.3
Production, development, and exploration workers:						
Number (1,000) 1/	.1	.1	.2	.2	.1	.1
Annual hours (millions)	.2	.2	.4	.4	.2	.2
Annual wages (million dollars)	1.5	2.6	5.7	8.1	4.7	5.1
Value added (million dollars)	8.1	9.7	23.5	27.3	22.0	20.7
Total cost of supplies (million dollars)	2.9	5.9	10.4	11.3	(D)	6.6
Total value of shipments and receipts for services (million dollars)	9.7	12.8	31.1	33.7	33.3	25.6
Capital expenditures (million dollars)	1.3	2.7	2.8	4.8	(D)	1.7

D Withheld to avoid disclosing data for individual companies.

1/ For pay period including March 12.

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.

Table 20.09-- NONFUEL MINERAL PRODUCTION: 2003 TO 2005

[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	2003	2004	2005
QUANTITY (1,000 METRIC TONS)			
Cement, masonry	(D)	-	-
Gemstones	(NA)	(NA)	(NA)
Sand and gravel (construction)	808	1,260	1,390
Stone (crushed)	5,620	1/ 5,470	6,170
VALUE (\$1,000)			
Total	75,100	1/ 73,700	100,000
Cement, masonry	1/ (D)	-	-
Gemstones	119	262	217
Sand and gravel (construction)	9,560	12,100	17,500
Stone (crushed)	65,400	1/ 61,300	82,300

NA Not available.

D Value withheld to avoid disclosing company proprietary data.

1/ Revised from previous *Data Book*.

Source: U.S. Geological Survey, Minerals Information, "*The Mineral Industry of Hawaii*," *Hawaii 2005*, <<http://minerals.er.usgs.gov/minerals/pubs/state/hi.html>> accessed June 19, 2007.