

Section 20

FORESTS, FISHERIES, AND MINING

This section presents data on forests and forest products, commercial fishing, and mining and mineral products. Other statistics on forest products appear in Section 19.

The most recent available statistics show 1.2 million acres of forest and water reserve and 948,000 acres of commercial forest in the State, most of it on the Big Island. More than 49,000 acres had been planted in eucalyptus and other species of trees by mid-1979. Forest products harvested in 1977 had a value of \$3.5 million, including \$2.3 million from logs for fiber. More than 370 forest and brushland fires burned 2,017 acres in 1979. According to a 1974 compilation, the tallest tree in the State is a 203-foot eucalyptus saligna.

The commercial fish catch in calendar year 1978 amounted to 13.3 million pounds and had a value of \$12.2 million. Aku (Skipjack) accounted for 36 percent of the total value. Other important species are ahi, ahipalala, akule, opelu and opakapaka. Commercial fishermen numbered 2,409; they operated 1,377 fishing vessels, serving 35 fishery wholesaling and processing establishments.

The value of mineral production reached \$55 million in 1979, most of it in cement (\$32 million) and stone (\$20 million). The 1979 total, an all-time high, was double the level of the early 1970's.

Important sources of data on these subjects are the United States Census of Agriculture, United States Census of Mineral Industries, and reports and records of the U.S. Bureau of Mines, National Marine Fisheries Service, and Hawaii State Department of Land and Natural Resources, Fish and Game Division and Forestry Division. Historical Statistics of Hawaii, Section 14, summarizes the data for earlier periods. Comparable Mainland statistics are reported in the Statistical Abstract of the United States: 1979, Sections 25, 26 and 27.

Table 399.-- FOREST ACREAGE AND FIRES, BY ISLANDS: 1970-1979

Island	Forest and water reserve, 1979 <u>1/</u> (acres)	Forest land, 1970 (acres)	
		Total <u>4/</u>	Commercial <u>5/</u>
State total	1,186,462	1,986,400	947,800
Hawaii	697,361	1,152,500	569,400
Maui	155,247	239,800	67,500
Kahoolawe	-	15,800	-
Lanai	6,150	43,900	4,500
Molokai	46,445	78,100	34,000
Oahu	119,319	205,300	126,500
Kauai	161,970	219,900	145,900
Niihau	-	31,100	-
Northwestern Hawaiian Isl.	-	-	-

Island	Planted forest 1979 <u>2/</u> (acres)		Forest and brushland fires, 1979 <u>3/</u>	
	Latest year	Cumulative	Number	Acres burned
State total	169	49,497	378	2,017
Hawaii	98	22,891	178	831
Maui	-	10,677		
Kahoolawe	-	-	93	956
Lanai	-	512		
Molokai	11	2,865		
Oahu	50	7,274	87	196
Kauai	10	5,278	20	34
Niihau	-	-		
Northwestern Hawaiian Isl.	-	-	-	-

1/ Forest and water reserve within conservation district, as of June 30.

2/ Annual and cumulative totals to June 30.

3/ Calendar year.

4/ Includes commercial, unproductive, and productive-reserved acreage.

5/ Includes federal military, state, miscellaneous corporate, and miscellaneous individual forest land.

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

Table 400.-- FOREST PRODUCTS HARVESTED: 1977

Forest product	Output		Unit price (dollars)	Total value (dollars)
	Unit	Amount		
All products	3,465,233
Logs for lumber	MBF <u>1/</u>	2,750	209	574,833
Logs for craftwood	Cords <u>2/</u>	299	224	51,330
Logs for fiber	BDT <u>3/</u>	55,502	41	2,310,500
Tree fern	Cubic feet	95,000	1.42	135,000
Fuelwood from trees	Cords <u>2/</u>	4,191	47	194,563
Fuelwood for charcoal	Cords <u>2/</u>	800	34	26,820
Fuel from mill residue ...	Tons	5,000	10.50	52,500
Round posts	Posts	32,700	3.14	102,604
Split posts	Posts	3,525	2.93	10,321
Driftwood	Cords <u>2/</u>	2	300	600
Pallets	Number	20	20	400
Bamboo	Lineal feet	18,844	0.04	742
Kukui nuts	Tons	13.86	362	5,020

1/ Thousand board feet.

2/ One cord equals 128 cubic feet.

3/ Bone dry ton, equal to 2,000 lbs. of wood at 0% moisture content.

Source: Hawaii State Department of Land and Natural Resources, Division of Forestry, Hawaiian Forest Products 1977, table II.

Table 401.-- FISHERY OPERATING UNITS AND LANDINGS: 1970 TO 1978

Year	Fisher- men <u>1/</u>	Vessels and boats <u>2/</u>		Fishery estab- lish- ments <u>3/</u>	Landings <u>4/</u>	
		Motor vessels	Boats		Quantity (1,000 lb.)	Value (\$1,000)
1970.....	1,436	80	686	37	11,051	3,900
1971.....	1,533	89	812	44	16,873	5,238
1972	1,732	101	839	40	14,443	5,743
1973	2,091	104	1,097	41	14,035	6,115
1974 <u>5/</u> .	1,992	97	1,066	42	10,990	6,028
1975	2,197	109	1,278	42	9,209	6,313
1976	2,367	101	1,336	44	14,761	8,879
1977 <u>6/</u> ..	2,574	189	(NA)	37	13,288	10,180
1978 <u>6/</u> ..	2,409	277	1,100	35	12,787	12,100

NA Not available.

1/ Persons licensed as commercial fishermen by the Hawaii State Department of Land and Natural Resources, Fish and Game Division. Data refer to June 30 of the following year.

2/ A vessel is defined as a craft with a capacity of 5 net tons or more; a boat, as a craft with a capacity of less than 5 net tons. Data on vessels and boats refer to June 30 of the following year.

3/ Fishery wholesaling and processing establishments, as of June 30 of the year indicated.

4/ Data may differ from corresponding totals reported by the State Fish and Game Division, which, unlike the NMFS series shown here, include unsold fish.

5/ Methods of collecting data on operating units were changed in 1974.

6/ Data for vessels and boats are preliminary. Data for fishery establishments may reflect lack of current data on small operations, such as processors who make poki, lomilomi salmon, etc.

Source: U.S. Department of Commerce, National Marine Fisheries Service, Fishery Statistics of the United States (annual, 1970-1975), and records.

Table 402.-- COMMERCIAL FISHING: 1968 TO 1979

(Years ended June 30.)

Year	Number of fisher- men <u>1/</u>	Commercial fish catch <u>2/</u>		
		Pounds caught	Pounds sold <u>2/</u>	Value (dollars)
1968	760	13,024,531	12,918,754	3,453,317.28
1969	1,028	8,687,172	8,576,737	2,917,377.91
1970	1,264	11,302,352	11,069,788	3,902,107.71
1971	1,373	17,175,766	16,886,931	5,241,752.52
1972	1,544	14,768,565	14,461,173	5,747,201.55
1973	1,677	14,400,131	14,052,994	6,115,899.73
1974	2,085	11,351,118	10,987,793	6,020,664.47
1975	1,991	9,745,759	9,220,069	6,308,191.44
1976	2,283	15,292,052	14,771,638	8,876,942.24
1977	2,367	13,797,455	13,300,174	10,178,186.47
1978	2,574	13,289,436	12,798,012	12,118,648.76
1979	2,497	(NA)	(NA)	(NA)

NA Not available.

1/ Number licensed during the year.2/ Includes both sea and pond catch. Revised from previously published totals.Source: Hawaii State Department of Land and Natural Resources, Commercial Fish Landings for Fiscal Year (annual), as revised and records.

Table 403.-- COMMERCIAL FISH CATCH, BY SPECIES: 1978

(Calendar year data.)

Species <u>1/</u>	Pounds caught	Pounds sold	Value (dollars)
Total catch	13,304,300	12,811,441	12,247,291
Sea catch, all species <u>2/</u>	13,281,007	12,788,148	12,214,553
Aku (Skipjack)	6,794,086	6,744,386	4,358,429
Ahi (Yellowfin)	2,122,225	2,010,648	2,471,847
Ahipalala	694,406	693,679	493,312
Pacific Blue Marlin	537,318	428,789	206,095
Ahi (Bigeye)	460,371	459,322	1,273,515
Akule	367,324	315,274	321,105
Opelu	298,603	292,687	331,181
Ono	194,978	167,351	225,262
Opakapaka	176,635	171,066	343,623
Striped Marlin	147,021	136,166	174,653
Mahimahi	130,762	110,118	217,453
Ulua	121,530	114,515	138,223
Uku	85,808	82,237	139,008
Hapuupuu	74,494	70,454	100,485
Onaga	62,377	60,530	165,495
Pond catch, total	23,293	23,293	32,738

1/ Shown separately for all species over 100,000 lb. or \$100,000.

2/ Including species not shown separately.

Source follows next table.

Table 404.-- COMMERCIAL FISH LANDINGS, BY ISLANDS: 1978

(Calendar year data.)

Island	Pounds caught	Value (dollars)
State total	13,304,300	12,247,291
Hawaii	2,620,889	2,746,836
Maui	687,698	483,980
Lanai	27,534	13,959
Molokai	26,705	25,069
Oahu	9,502,176	8,622,919
Kauai	439,298	354,528

Source: Hawaii State Department of Land and Natural Resources, Division of Fish and Game, Commercial Fish Landings for Calendar Year - 1978 (August 29, 1979).

Table 405.-- MINERAL OPERATIONS: 1972 AND 1977

(Excluding operations in manufactures.)

Subject	1972	1977
Establishments	15	7
With 20 or more employees	5	2
All employees (1,000)	0.3	0.1
Payroll (millions of dollars)	2.4	1.9
Production, development, and exploration workers (1,000) .	0.2	0.1
Man-hours (million)	0.4	0.2
Wages (millions of dollars)	1.8	1.5
Value added in mining (millions of dollars)	9.0	8.1
Cost of supplies used, purchased machinery installed, etc. (millions of dollars)	4.1	2.9
Value of shipments and receipts (millions of dollars)	11.0	9.7
Capital expenditures (millions of dollars)	2.0	1.3

Source: U.S. Bureau of the Census, U.S. Census of Mineral Industries, 1972, MIC72(2)-9, table 1, and U.S. Census of Mineral Industries, 1977, MIC77-S(A).

Table 406.-- MINERAL PRODUCTION: 1960 TO 1979

(Production as measured by mine shipments, sales, or marketable production, including consumption by producers.)

Year	Quantity (1,000 short tons)		Value (\$1,000)			
	Cement	Stone	Total	Cement	Stone	Other minerals <u>1/</u>
1960	21	3,535	9,254	571	6,443	2,240
1961	202	4,429	14,588	5,574	7,656	1,358
1962	212	4,071	14,844	6,055	6,883	1,906
1963	279	3,844	15,307	7,125	6,480	1,702
1964	323	5,282	19,605	8,877	8,765	1,963
1965	294	5,172	20,835	8,297	9,353	3,185
1966	329	5,079	21,253	9,046	9,482	2,725
1967	262	4,100	16,936	7,360	7,207	2,369
1968	346	5,211	23,225	9,254	11,273	2,698
1969	390	6,534	29,539	10,544	16,059	2,936
1970	406	6,331	28,965	10,334	15,538	3,093
1971	386	6,056	28,107	10,627	14,357	3,123
1972	415	5,005	28,074	11,116	13,494	3,464
1973	469	7,180	35,147	13,750	18,466	2,931
1974	502	7,638	42,042	17,111	21,370	3,561
1975	469	7,569	49,710	20,704	25,319	3,687
1976	339	6,092	42,252	18,410	21,193	2,649
1977	330	5,759	39,980	16,922	19,880	3,178
1978	452	6,027	52,743	26,454	23,840	2,449
1979 <u>2/</u> ..	479	5,085	55,355	32,284	19,942	3,129

1/ Chiefly sand and gravel; pumice, pumicite, and volcanic cinder; and lime.

2/ Preliminary.

Source: U.S. Bureau of Mines, Minerals Yearbook (annual), "The Mineral Industry in Hawaii," Mineral Industry Surveys (annual preliminary and advance summary reports), and Minerals in the Economy of Hawaii (annual, 1978 and 1979).