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**U.S. Fisheries for Tuna and Tuna-like
Species in the Eastern Pacific Ocean**

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INTRODUCTION

A variety of U.S. fisheries harvest swordfish, tuna and other pelagic species in the eastern Pacific Ocean (EPO, east of 150°W longitude, south of 40°N latitude and north of 40°S latitude). Large-scale purse seine, albacore troll, and longline fisheries operate both in coastal waters and on the high seas. Small-scale gill net, harpoon, and pole-and-line fisheries and recreational fisheries operate generally in coastal waters. The range of some U.S. fisheries in the eastern Pacific is extensive and extends beyond the boundaries of the EPO to areas in the central Pacific.

Fishery monitoring responsibilities for U.S. eastern Pacific fisheries are shared by the National Marine Fisheries Service (NMFS) and by partner fisheries agencies in the states and territories of California, Oregon, Washington, and Hawaii. On the federal side, monitoring is conducted by the Southwest Regional Office (SWRO) and the Southwest Fisheries Science Center (SWFSC) in California and by the Pacific Islands Regional Office (PIRO) and the Pacific Islands Fisheries Science Center (PIFSC) in Hawaii. NMFS fishery monitoring activities include collection of landings, logbook, observer, and size composition data. In Hawaii, state landings data are coordinated by the Western Pacific Fishery Information Network (WPacFIN). In California, Washington, and Oregon, landings receipts are collected by state agencies and placed in the Pacific Fisheries Information Network (PacFIN) system. Some state agencies are also mandated to collect logbook data and have also collected size composition data. The management of data on U.S. eastern Pacific fisheries for tuna and tuna-like species is coordinated between the SWFSC, SWRO, PIFSC, and PIRO. Data catalogs, metadata, data summaries, reports, and related information are being assembled as part of a Web-based portal hosted at the SWFSC (still under construction).

This report provides information on data collection activities, the number of active vessels by fleet, and their catches of tunas and billfishes in the EPO. Information presented in this report is based on the data available through 2003, which are considered complete. Data for 2004 are incomplete but in some cases provisional estimates are given for 2004. While the report focuses on tunas and billfish catches, many other pelagic fish are caught and are important to the fishing fleets and local economies. Some of the fisheries described extend beyond the boundaries of the eastern Pacific Ocean, and the catches presented in this report are for the entire range of those fisheries.

FISHERIES

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Eastern Pacific Purse Seine Fishery

The U.S. purse seine fishery in the EPO started in the late 1950's. The fishery currently operates mainly in areas between 20° N and 20° S latitude and between the Central American coastline and 150° W longitude (Figure 1). The number of U.S. vessels fishing has decreased from 74 in 1985 to 8 in 2003 (Table 1). The U.S. fleet caught approximately 36 % of the EPO surface fishery catch of yellowfin, skipjack and bigeye tuna in 1985. Yellowfin tuna was the major species caught and predominately on schools associated with dolphins. Since the mid 1990s, skipjack tuna has dominated the catch and the fleet switched to catching tunas associated with floating objects (logs or Fish Aggregation Devices, FADs) Fishing on FADs also increased catches of bigeye tunas. Currently (2003) the U.S. fishery catches approximately 2% of the yellowfin, skipjack and bigeye tuna catch in the EPO.

U.S. purse seine catches of yellowfin tuna in the EPO decreased from 97,732 t in 1987 to 1,190 t in 2003 (Table 2). Skipjack tuna catches decreased from 32,129 t in 1988 to 3,646 t in 2002 and then increased to 6,713 t in 2003. Preliminary data indicate that the 2004 yellowfin tuna and skipjack tuna catches were 2,778 t and 4,800 t, respectively. Other tuna and tuna-like fish are also caught and are shown in Table 2. Yellowfin tuna caught in 2003 ranged from 34 cm to 150 cm fork length, and skipjack tuna ranged from 33 cm to 85 cm fork length.

The IATTC monitors U.S. purse seine vessels fishing in the EPO. Logbooks (coverage 100%) are submitted by vessel operators, and landings (coverage 100%) are obtained from each vessel or from canneries or fish buyers. Fish are measured for fork length by port samplers (coverage unknown but probably less than 2% of the fish landed). IATTC observers are placed on all large purse seine vessels.

Data from the U.S. purse seine fishery are submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of catch. Logbook data and length data are usually aggregated by 1° square and month. All Data are obtained from the Inter-American Tropical Tuna Commission (IATTC).

Albacore Troll Fishery

The U.S. troll fishery for albacore in the North Pacific Ocean started in the early 1900's. The fishery operates in waters between the U.S. west coast and 160° E longitude (Figure 2). Fishing usually starts in May or June and ends in October or November. The number of vessels participating in the fishery ranged from a low of 179 in 1991 to a high of 1,121 in 1997 (Table 1). In 2003, 718 vessels participated in the fishery. Historically, some pole-and-line and recreational vessels targeted albacore seasonally and longline, gill net and purse seine fisheries catch albacore incidentally. The U.S. currently (2003) catches approximately 18% of the north Pacific albacore catch of all countries and all gears.

The troll fishery catches mainly albacore. While transiting to and from the fishing grounds, minor amounts of skipjack, yellowfin and bluefin tunas, eastern Pacific bonito, yellowtail, and mahimahi are incidentally caught. Since 1985, the albacore catch has ranged between 1,845 t in 1991 and 16,938 t in 1996 (Table 2). In 2003, 17,237 t were caught. The preliminary estimate of the 2004 catch is 13,200 t. Sampled albacore caught in 2003 ranged in fork length between 47 and 99 cm and averaged 75 cm.

U.S. troll vessels voluntarily submit logbook records to NMFS. Since 1995, however, those vessels fishing on the high-seas have been required to submit logbooks and beginning in 2005, all troll vessels will be required to do so. Logbook coverage rate in 2003 is approximately 30% of the landings. Landings (discards not included) are monitored by NMFS in American Samoa and various state fisheries agencies and coverage is 100% of the fleet. Landings are also measured for fork length by state agency port samplers along the U.S. west coast and by NMFS personnel in American Samoa. Coverage rate in 2003 is approximately 1% of the landings.

Data from the U.S. troll fishery are submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of catch. A catch estimate is obtained from landings reported by California, Washington and Oregon and canneries in American Samoa and another is also received from the Western Fishboat owner's Association. The two are compared and the higher estimate is chosen. Logbook data and length data are usually aggregated by 1° square and month. No raising of the logbook or length frequency data to the total catch is applied to data that are submitted.

Longline Fishery

The U.S. longline fishery targeting swordfish, tuna and tuna-like species in the EPO is made up of two components, the Hawaii-based fishery and the California-based fishery. Vessels transited between the two areas freely until 2000 when domestic regulations placed restrictions on moving between the two domestic management areas. The Hawaii-based component of the U.S. longline fishery comprises a majority of the vessels, fishing effort, and catch. The number of vessels participating in the fishery ranged from a low of 37 in 1987 to a high of 169 in 2000 (Table 1). In 2003, 134 vessels participated in the fishery. The fishery operates on the high seas mainly in the North Pacific Ocean between the U.S. west coast and Hawaii (Figure 3).

The longline fleet targets swordfish and bigeye or yellowfin tuna and catches other fish incidentally (Table 2). Catches of swordfish reached their highest levels in 1993 at 6,074 t. Since then swordfish catches have decreased to a low of 1,524 t in 2002. The 2003 catch of swordfish was 1,958 t. Bigeye tuna catches reached a high of 3,274 t in 1998 and peaked again at 4,396 t in 2002. The 2003 bigeye catch was 3,618 t. Yellowfin tuna catches peaked at 1,134 t in 1997 and 1,137 t in 2000. The 2003 yellowfin tuna catch was 809 t.

The Hawaii-based longline fishery is monitored by the PIFSC and the State of Hawaii's Division of Aquatic Resources (HDAR). PIFSC biologists collect mandatory logbooks (100% coverage in 2003). The State of Hawaii collects landings from fish dealers and coverage was nearly 100% in 2003. NMFS observers contracted by PIRO are placed on longline vessels to monitor protected species interactions, vessel operations, and catches. The coverage rate of the observer data is mandated by law to be no less than 20%, and 100% on vessels targeting swordfish.

California-based longline landings data are collected from 100% of the fleet by the California Department of Fish and Game (CDFG) through landing receipts. Logbooks, developed by the fishing industry (similar to the federal logbooks used in Hawaii), were submitted voluntarily to NMFS until 1994. From 1995 to 1999, CDFG collected logbooks from 100% of the fleet, and NMFS has done so since 1999 as a requirement of the High Seas Fishing Compliance Act. When boats depart Hawaii and land in California, the CDFG collects federal logbooks and sends them to PIFSC in Hawaii. Landed swordfish were measured for fork length by CDFG port samplers until 1997. NMFS's Southwest Regional Office currently places observers on California longline vessels. The observers also collect length measurements.

Data from the U.S. longline fishery are submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of catch. Hawaii-based longline catch data are from logbook catches, in number of fish, converted to weight using the average estimated unprocessed weight computed from State of Hawaii landings data. California-based catch data are from landing receipts. Logbook catch and effort data, for both fleets, are usually aggregated by 5° square and month and submitted un-raised since coverage is 100% (Hawaii-based longline aggregated data are screened to eliminate 5°-month strata with fewer than 3 vessels). Individual fish weight data are collected at the time of unloading at the fish markets in Hawaii and are usually submitted un-raised in annual temporal resolution. Length data are collected by observers and represent coverage initially at 5% and increasing to 20% currently except for swordfish trips at 100%. These length data are submitted aggregated by various time area resolutions and are un-raised with coverage rates included.

Pole-and-line Fishery

The pole-and-line fishery operates in waters along the U.S. west coast to areas off Central America and South America. The vessels usually target yellowfin tuna and skipjack tuna or albacore. The number of pole-and-line vessels operating in the EPO decreased from 10 in 1985 to 1 in 2003 (Table 1). The highest recorded yellowfin tuna catch was 2,839 t, recorded in 1993. The highest skipjack tuna catch was 1,759 t in 1995 (Table 2). The pole-and-line catches of yellowfin and skipjack tunas were less than 2 t in 2003 and 3 t in 2004 (preliminary data).

Logbook catch and effort data for this fishery are collected by the IATTC and NMFS (vessels fishing for albacore). Fork-length data for yellowfin and skipjack tunas

are collected by the IATTC. Albacore fork-length data are collected by NMFS through a contract with state agencies of Oregon, Washington, and California. Landings data are collected by state agencies (coverage 100%).

Data from the U.S. pole and line fishery are submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of catch. Logbook data and length data are usually aggregated by 1° square and month.

Drift Gill Net Fishery

The drift gill net fishery targets swordfish and operates mainly in areas within the 200 mile EEZ of California and sometimes off Oregon (Figure 4). Tuna and tuna-like fishes are caught mainly by drift gill nets, with minor quantities caught incidentally in set gill nets. The number of vessels participating in the fishery decreased from 220 in 1986 to 37 in 2003 (Table 1). Swordfish catches were 2,368 t in 1985 and have fluctuated while decreasing to 216 t in 2003 (Table 2). The preliminary 2004 swordfish catch estimate is 170 t.

Gill net fishery landings data (100% coverage) are collected by state agencies in California, Washington and Oregon (only minor amounts of tuna and tuna-like fishes are landed in Oregon or Washington). Logbook data for gill net fisheries are collected from 100% of the fleet by the CDFG. CDFG also collected length data for swordfish landings until 1997; less than 1% of the landings were sampled. NMFS places observers on gill net vessels and also collects length composition data.

Data from the U.S. gill net fishery is submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of catch. Logbook data and length data are usually aggregated by 1° square and month. Logbook and length data are not raised to the total catch.

Harpoon Fishery

The harpoon fishery operates in areas within the 200-mile EEZ of California between 32°N and 34°N latitude (Figure 5). The number of vessels participating in the fishery decreased from 113 in 1986 to 23 in 2001 (Table 1). Swordfish are targeted. Swordfish catches decreased from 236 t in 1986 to 16 t in 1991 and then fluctuated, reaching 106 t in 2003 (Table 1). The 2004 estimated swordfish catch is 70 t.

Landings and logbook catch and effort data for the harpoon fishery are collected by the CDFG and coverage is 100% of the fleet. Length measurements were taken until 1997, covering less than 1% of swordfish landings.

Data from the U.S. harpoon fishery are submitted annually to various international commissions or working groups. Catch data are submitted aggregated by the year of

catch. Logbook data and length data are usually aggregated by 1° square and month. Logbook and length data are not raised to the total catch.

Other Fisheries

Other U.S. fisheries operating in the eastern Pacific Ocean include mainly recreational fisheries. These fisheries mainly catch albacore and yellowfin, skipjack, bigeye and bluefin tuna (Table 2). Albacore is caught by sport fishermen in Washington, Oregon and California while the majority of the other tunas are landed in California.

Catch for albacore are usually supplied by the states of Oregon, Washington and California, while catches of other tunas are usually obtained from the Recreational Fisheries Information Network (RecFIN). Catch data are submitted to various International commissions and working groups and are aggregated by year. Catch data are converted from number of fish to weight using average weight data. Some data are from surveys and are extrapolated to the total catch.

Table 1. Number of vessels fishing in the eastern Pacific Ocean (EPO, <150°W longitude) in various U.S. fisheries. Troll and longline fisheries extend beyond the western boarder of the EPO. Data for 2002 and 2003 are preliminary.

Year	Purse Seine	Pole and line	Troll	Gill Net	Harpoon	Longline
1985	74	10	824	210	99	0
1986	61	3	462	220	113	0
1987	52	11	518	210	98	37
1988	59	15	547	192	83	50
1989	51	10	346	158	44	88
1990	46	5	371	146	49	138
1991	25	7	179	123	32	144
1992	26	7	603	113	48	125
1993	25	7	518	105	44	129
1994	28	12	686	112	49	156
1995	20	10	464	127	39	132
1996	23	7	640	100	30	118
1997	25	12	1121	104	31	130
1998	25	11	755	87	26	147
1999	16	2	705	78	30	156
2000	14	2	649	77	26	169
2001	9	3	870	64	23	139
2002	11	7	641	45	29	120
2003	8	1	718	37	34	134

Table 2. Catches (metric tons) in the eastern Pacific Ocean (<150°W longitude) for various U.S. fisheries. Catches for 2002 and 2003 are preliminary. .

FISHERY/YEAR	ALB	YFT	SKJ	BET	BFT	BKJ	BEP	SWO	BLZ	MLS	UNSPEC. BILLFISH	UNSPEC. TUNA	TOTAL
Purse Seine:													
1985	27	86,776	8,414	905	3,320	0	3,465	0	0	0	0	302	103,211
1986	47	90,762	10,969	131	4,851	5	172	0	0	0	0	149	107,086
1987	1	97,732	11,466	110	861	1	3,123	0	0	0	0	577	113,872
1988	17	87,020	32,129	130	923	35	3,516	0	0	0	0	991	124,761
1989	1	76,743	18,146	86	1,046	88	819	0	0	0	0	504	97,433
1990	39	52,775	11,308	104	1,380	265	3,757	0	0	0	0	695	70,324
1991	0	20,223	11,714	26	410	1	228	0	0	0	0	82	32,684
1992	0	18,771	13,197	1,635	1,928	3	944	0	0	0	0	146	36,625
1993	0	16,298	17,083	1,851	580	0	368	0	0	0	0	33	36,212
1994	0	10,320	9,430	4,320	906	95	236	0	0	0	0	0	25,306
1995	0	6,961	15,899	7,282	619	22	52	0	0	0	0	1	30,837
1996	11	9,095	12,976	5,269	4,523	63	325	0	0	0	0	47	32,310
1997	1	7,679	14,885	5,262	2,240	0	241	0	0	0	0	71	30,378
1998	34	3,625	7,711	3,472	1,771	75	918	0	0	0	0	11	17,617
1999	47	4,273	13,887	1,758	184	64	24	0	0	0	0	2	20,239
2000	1	4,154	10,664	2,082	693	0	187	0	0	0	0	16	17,796
2001	2	5,529	4,096	2,402	143	72	0	0	0	0	0	0	12,244
2002	3	8,763	3,646	1,744	50	224	0	0	0	0	0	64	14,494
2003	0	1,190	6,713	2,522	22	165	0	0	0	0	0	22	10,634
Pole and Line:													
1985	1,498	409	435	3	3	0	1	0	0	0	0	0	2,348
1986	432	482	385	15	1	0	2	0	0	0	0	1	1,318
1987	158	1,863	498	2	0	0	281	0	0	0	0	0	2,801
1988	598	1,195	1,613	0	5	0	27	0	0	0	0	0	3,438
1989	54	1,481	1,049	0	8	0	2	0	0	0	0	3	2,597
1990	115	144	58	1	62	0	16	0	0	0	0	2	398
1991	0	1,008	800	2	0	0	16	0	0	0	0	0	1,827
1992	0	2,136	904	4	1	0	13	0	0	0	0	2	3,060
1993	0	2,839	1,681	20	4	0	1	0	0	0	0	5	4,551
1994	0	2,037	1,748	6	1	0	155	0	0	0	0	18	3,965
1995	80	443	1,759	0	0	0	0	0	0	0	0	0	2,282
1996	24	749	442	0	0	0	0	0	0	0	0	1	1,216
1997	73	535	824	0	1	0	1	0	0	0	0	0	1,434
1998	79	2,300	590	1	3	0	4	0	0	0	0	0	2,977
1999	60	51	16	4	2	0	0	0	0	0	0	0	133
2000	69	13	0	1	12	0	0	0	0	0	0	0	95
2001	139	2	0	0	1	0	0	0	0	0	0	0	142
2002	378	0	0	0	2	0	0	0	0	0	0	2	382
2003	59	2	0	0	2	0	0	0	0	0	0	0	63

Table 2. Continued.

FISHERY/YEAR	ALB	YFT	SKJ	BET	BFT	BKJ	BEP	SWO	BLZ	MLS	UNSPEC. BILLFISH	UNSPEC. TUNA	TOTAL
Troll:													
1985	6,415	5	0	0	0	0	0	0	0	0	0	0	6,420
1986	4,708	1	0	0	0	0	0	0	0	0	0	0	4,709
1987	2,766	76	0	0	0	0	33	0	0	0	0	0	2,875
1988	4,212	7	0	0	0	0	0	0	0	0	0	0	4,219
1989	1,860	1	0	0	0	0	0	0	0	0	0	0	1,861
1990	2,603	0	0	0	0	0	55	0	0	0	0	0	2,658
1991	1,845	0	0	0	0	0	0	0	0	0	0	0	1,845
1992	4,572	0	0	0	0	0	0	0	0	0	0	0	4,572
1993	6,254	137	62	0	0	0	0	0	0	0	0	1	6,454
1994	10,978	769	352	0	0	0	0	0	0	0	0	0	12,099
1995	8,045	211	1,157	0	0	0	0	0	0	0	0	0	9,413
1996	16,938	606	393	0	2	0	0	0	0	0	0	0	17,939
1997	14,252	4	2	0	1	0	0	0	0	0	0	0	14,259
1998	14,410	1,246	2	0	172	0	10	0	0	0	0	0	15,840
1999	10,060	52	16	0	20	0	0	0	0	0	0	0	10,148
2000	9,645	3	4	0	1	0	0	0	0	0	0	1	9,654
2001	11,210	1	1	0	6	0	0	0	0	0	0	0	11,218
2002	10,387	0	0	0	1	0	0	2	0	0	0	0	10,390
2003	17,237	0	2	0	0	0	0	0	0	0	0	0	17,239
Longline:													
1985	0	0	0	0	0	0	0	46	0	0	0	0	46
1986	0	0	0	0	0	0	0	4	0	0	0	0	4
1987	150	261	1	815	0	0	0	28	51	272	45	0	1,623
1988	307	594	4	1239	0	0	0	43	102	503	68	0	2,861
1989	248	986	10	1442	0	0	0	310	356	612	132	0	4,096
1990	177	1098	5	1514	0	0	0	2,455	378	538	58	0	6,223
1991	312	733	30	1555	2	0	0	4,547	297	663	69	0	8,208
1992	334	346	22	1486	38	0	0	5,795	347	459	142	0	8,969
1993	438	633	36	2124	42	0	0	6,074	339	471	100	0	10,258
1994	544	610	53	1827	30	0	0	3,916	362	326	99	5	7,772
1995	882	984	101	2099	29	0	1	2,992	570	543	182	0	8,383
1996	1,185	634	41	1846	25	0	0	2,849	467	419	115	2	7,582
1997	1,653	1143	106	2526	26	0	0	3,545	487	352	143	2	9,982
1998	1,120	724	76	3274	54	0	0	3,685	395	378	172	9	9,887
1999	1,542	477	99	2820	54	0	0	4,433	357	364	242	10	10,398
2000	940	1137	93	2708	19	0	0	4,857	314	200	152	0	10,420
2001	1,295	1029	211	2418	6	0	0	1,983	399	352	136	0	7,829
2002	525	572	127	4396	2	0	0	1,524	264	226	160	1	7,797
2003	524	809	207	3618	0	0	0	1,958	363	538	252	0	8,269

Table 2. Continued.

FISHERY/YEAR	ALB	YFT	SKJ	BET	BFT	BKJ	BEP	SWO	BLZ	MLS	UNSPEC. BILLFISH	UNSPEC. TUNA	TOTAL
Gill Net:													
1985	2	12	0	2	6	0	289	2,368	0	0	0	0	2,679
1986	3	14	0	3	15	0	58	1,594	0	0	0	4	1,691
1987	5	3	0	6	2	0	95	1,287	0	0	0	5	1,403
1988	15	7	0	5	4	0	33	1,092	0	0	0	2	1,158
1989	4	1	5	0	3	0	12	1,050	0	0	0	3	1,078
1990	29	1	1	1	9	0	35	1,028	0	0	0	2	1,106
1991	17	1	3	3	3	0	14	836	0	0	0	3	880
1992	0	4	1	1	8	0	7	1,332	0	0	0	6	1,359
1993	0	7	2	0	32	0	8	1,400	0	0	0	9	1,458
1994	38	0	0	0	28	0	1	799	0	0	0	2	868
1995	52	2	70	1	19	0	2	755	0	0	0	1	902
1996	83	2	2	0	43	0	2	752	0	0	0	0	884
1997	60	3	2	5	57	0	6	707	0	0	0	0	840
1998	80	2	3	4	40	0	4	924	0	0	0	2	1,059
1999	149	0	0	2	19	0	1	606	0	0	0	1	778
2000	55	1	0	2	30	0	1	646	0	0	0	0	735
2001	94	5	1	0	34	0	0	375	0	0	0	0	509
2002	30	1	0	0	6	0	1	302	0	0	0	0	340
2003	16	0	9	6	14	0	1	216	0	0	0	0	262
Harpoon:													
1985	0	0	0	0	0	0	0	211	0	0	0	0	211
1986	0	0	0	0	0	0	0	236	0	0	0	0	236
1987	0	0	0	0	0	0	0	211	0	0	0	0	211
1988	0	0	0	0	0	0	0	180	0	0	0	0	180
1989	0	0	0	0	0	0	0	54	0	0	0	0	54
1990	0	0	0	0	0	0	0	50	0	0	0	0	50
1991	0	0	0	0	0	0	0	16	0	0	0	0	16
1992	0	0	0	0	0	0	0	74	0	0	0	0	74
1993	0	0	0	0	0	0	0	169	0	0	0	0	169
1994	0	0	0	0	0	0	0	153	0	0	0	0	153
1995	0	0	0	0	0	0	0	96	0	0	0	0	96
1996	0	0	0	0	0	0	0	81	0	0	0	0	81
1997	0	0	0	0	0	0	0	84	0	0	0	0	84
1998	0	0	0	0	0	0	0	48	0	0	0	0	48
1999	0	0	0	0	0	0	0	81	0	0	0	0	81
2000	0	0	0	0	0	0	0	90	0	0	0	0	90
2001	0	0	0	0	0	0	0	52	0	0	0	0	52
2002	0	0	0	0	0	0	0	90	0	0	0	0	90
2003	0	0	0	0	0	0	0	106	0	0	0	0	106

Table 2. Continued.

FISHERY/YEAR	ALB	YFT	SKJ	BET	BFT	BKJ	BEP	SWO	BLZ	MLS	UNSPEC. BILLFISH	UNSPEC. TUNA	TOTAL
Unclassified, other or recreational:													
1985	1,176	58	5	1	56	0	426	792	0	0	0	468	2,982
1986	196	227	0	6	7	0	28	696	0	0	0	6	1,166
1987	74	2,159	633	1	21	0	266	300	0	0	0	67	3,521
1988	74	936	372	1	4	0	335	344	0	0	0	2	2,068
1989	183	849	103	0	70	0	137	224	0	0	0	0	1,566
1990	28	508	147	0	134	0	227	137	0	0	0	1	1,182
1991	77	235	137	0	62	0	69	137	0	0	0	0	717
1992	74	1,119	1,014	0	174	0	78	44	0	0	0	2	2,505
1993	25	2,031	2,279	0	139	0	140	36	0	0	0	0	4,650
1994	319	3	0	0	125	0	12	8	0	0	0	0	467
1995	102	5	263	0	166	0	0	31	0	0	0	0	567
1996	88	0	0	4	30	0	0	10	0	0	0	0	132
1997	1,019	0	83	0	90	0	0	3	0	0	0	0	1,195
1998	1,210	43	0	0	214	0	0	13	0	0	0	1	1,481
1999	3,622	0	0	0	399	0	0	2	0	0	0	0	4,023
2000	1,801	1	0	0	220	0	0	9	0	0	0	0	2,030
2001	1,635	0	0	0	226	0	0	5	0	0	0	0	1,866
2002	2,357	0	0	0	348	0	0	3	0	0	0	0	2,708
2003	2,214	0	0	0	226	0	0	0	0	0	0	0	2,440

ALB - albacore, YFT - yellowfin tuna, SKJ - skipjack tuna, BET - bigeye tuna, BFT - northern bluefin tuna, BKJ - black skipjack, BEP - Pacific Bonito, SWO - swordfish, BLZ - blue marlin, MLS - striped marlin,

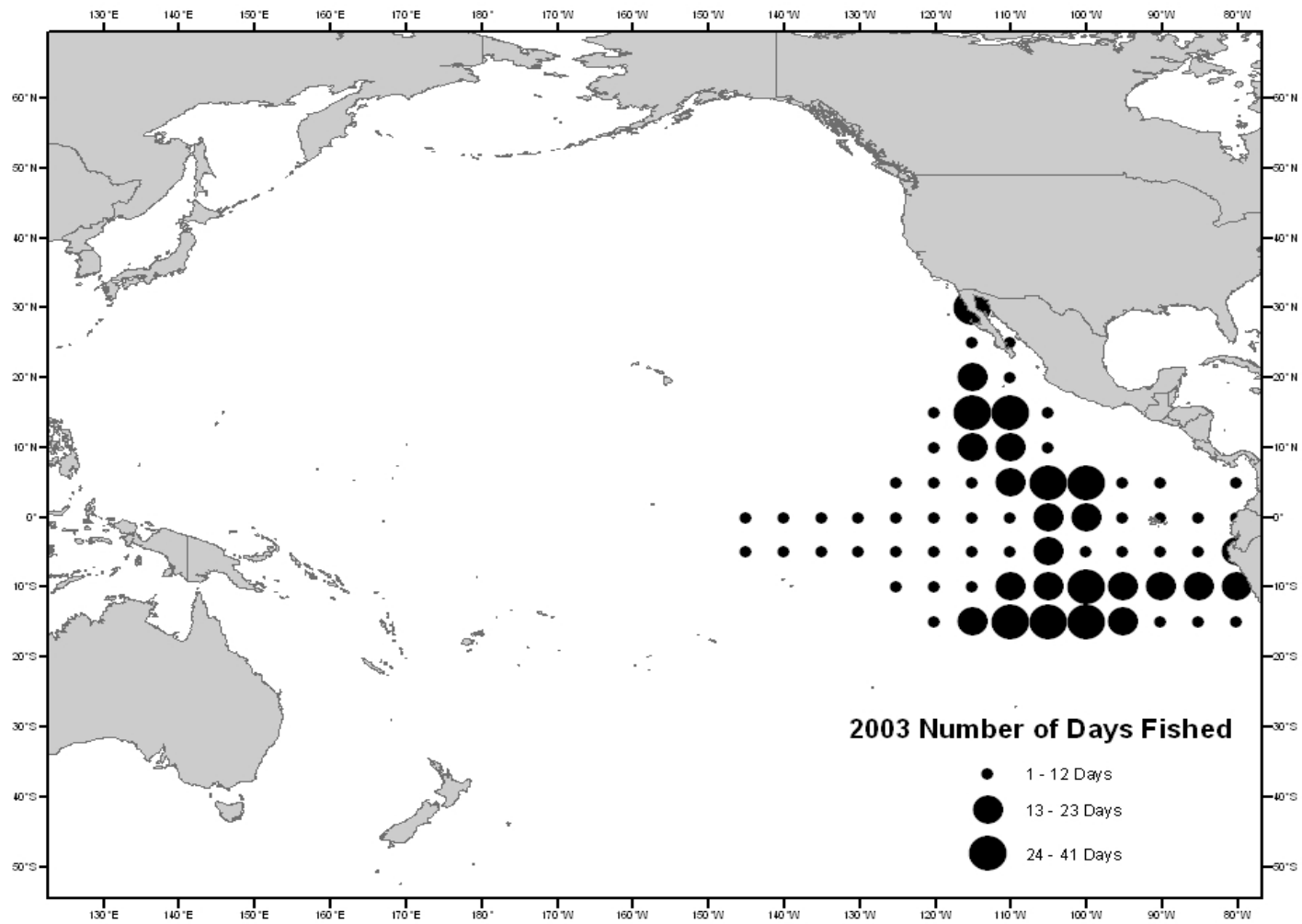


Figure 1. Distribution of nominal fishing effort (days fished) for the U.S. purse seine fishery in the Pacific Ocean, 2003.

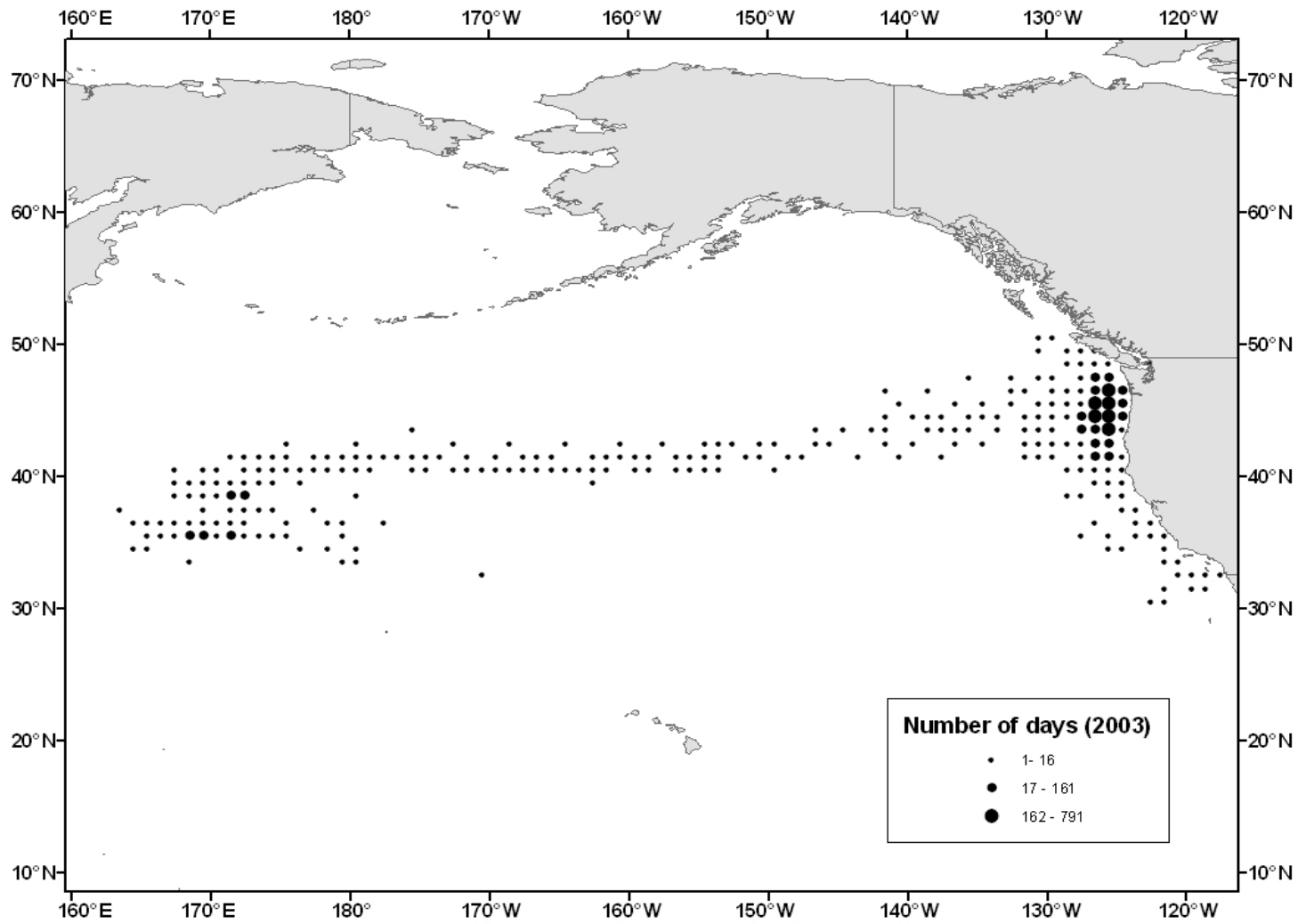


Figure 2. Distribution of nominal fishing effort (days fished) for the U.S. North Pacific albacore troll fishery, 2003.

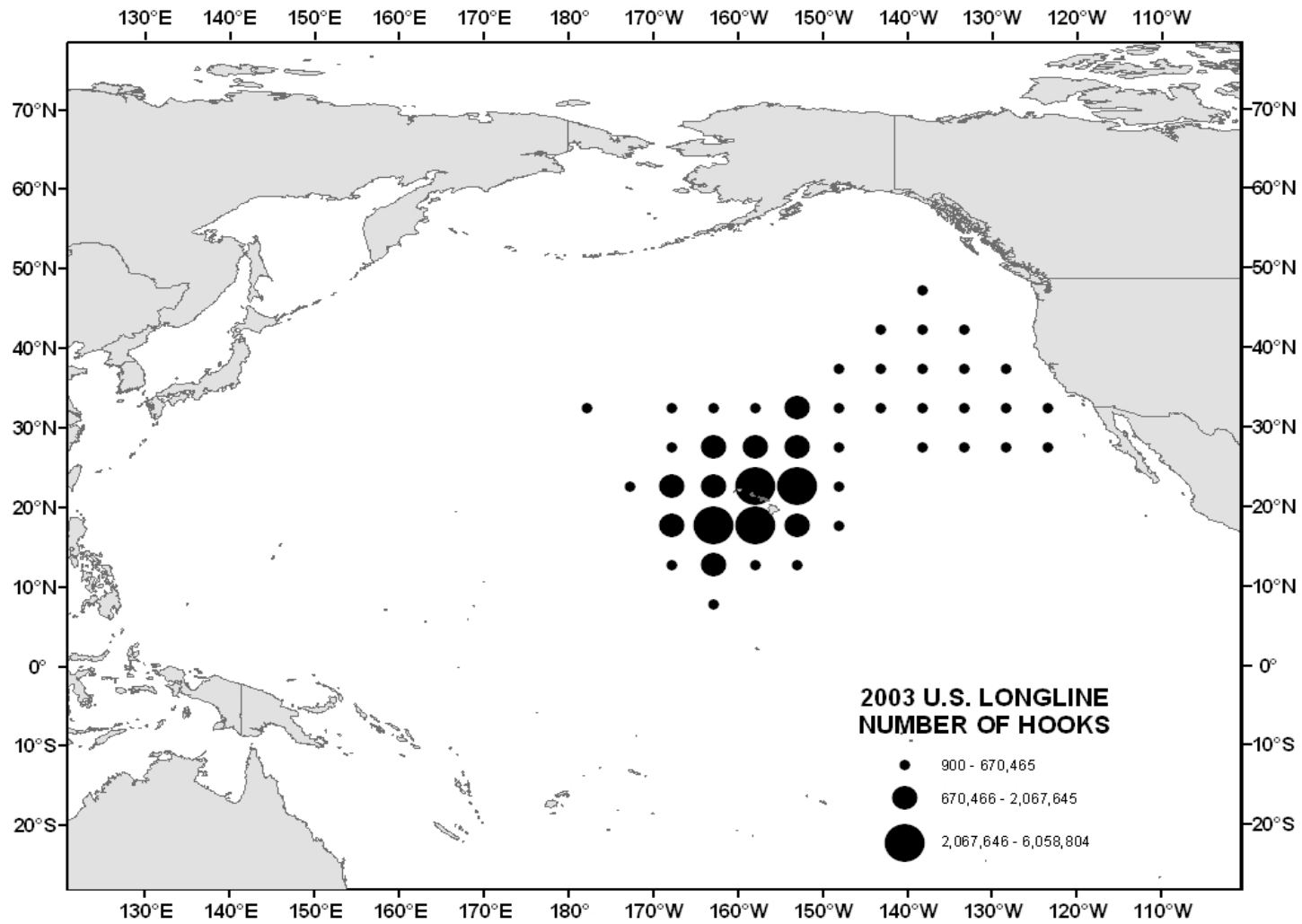


Figure 4. Distribution of fishing effort for the U.S. longline fishery, 2003.

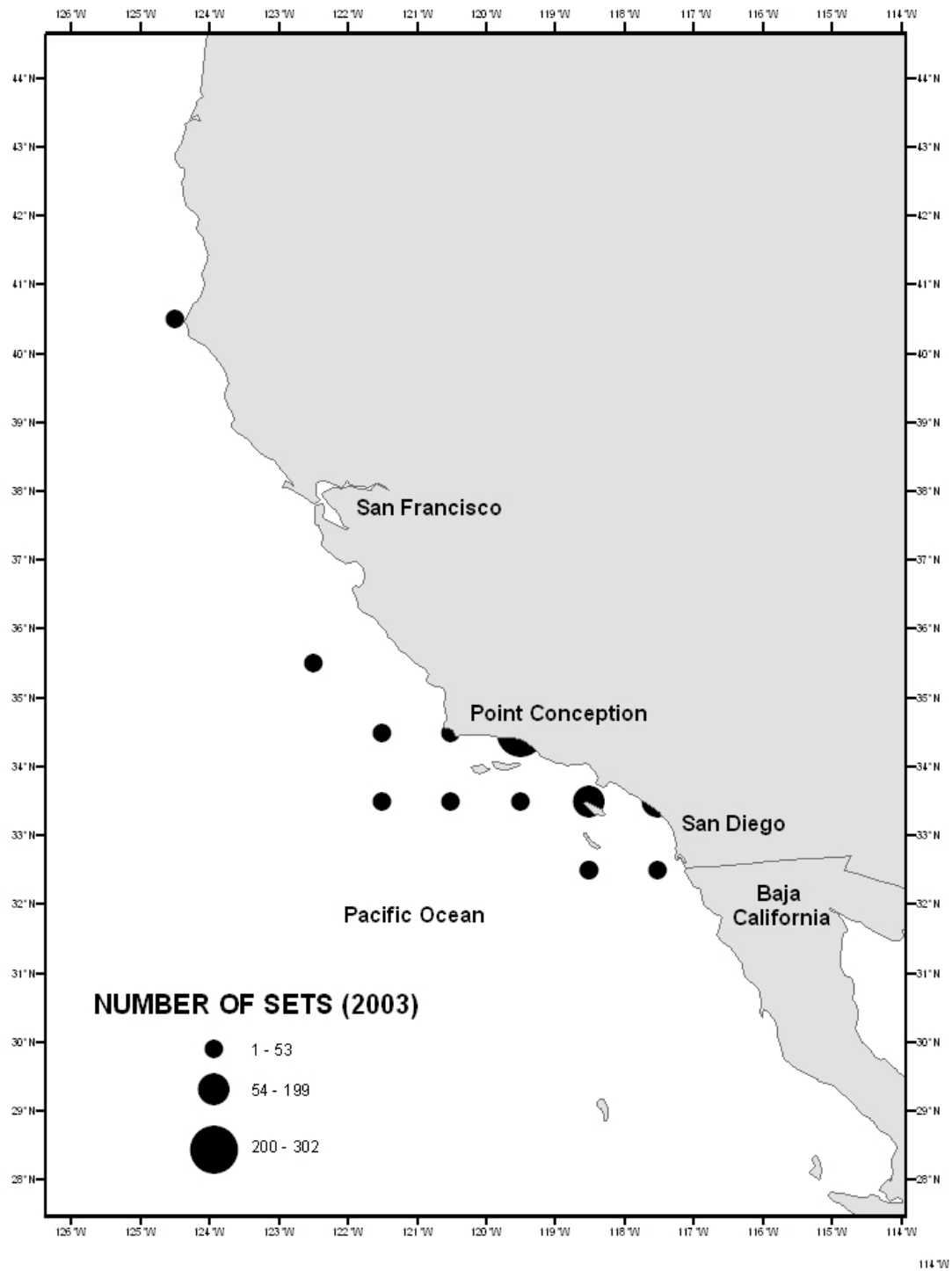


Figure 4. Distribution of fishing effort for the U.S. drift gill net fishery, 2003.

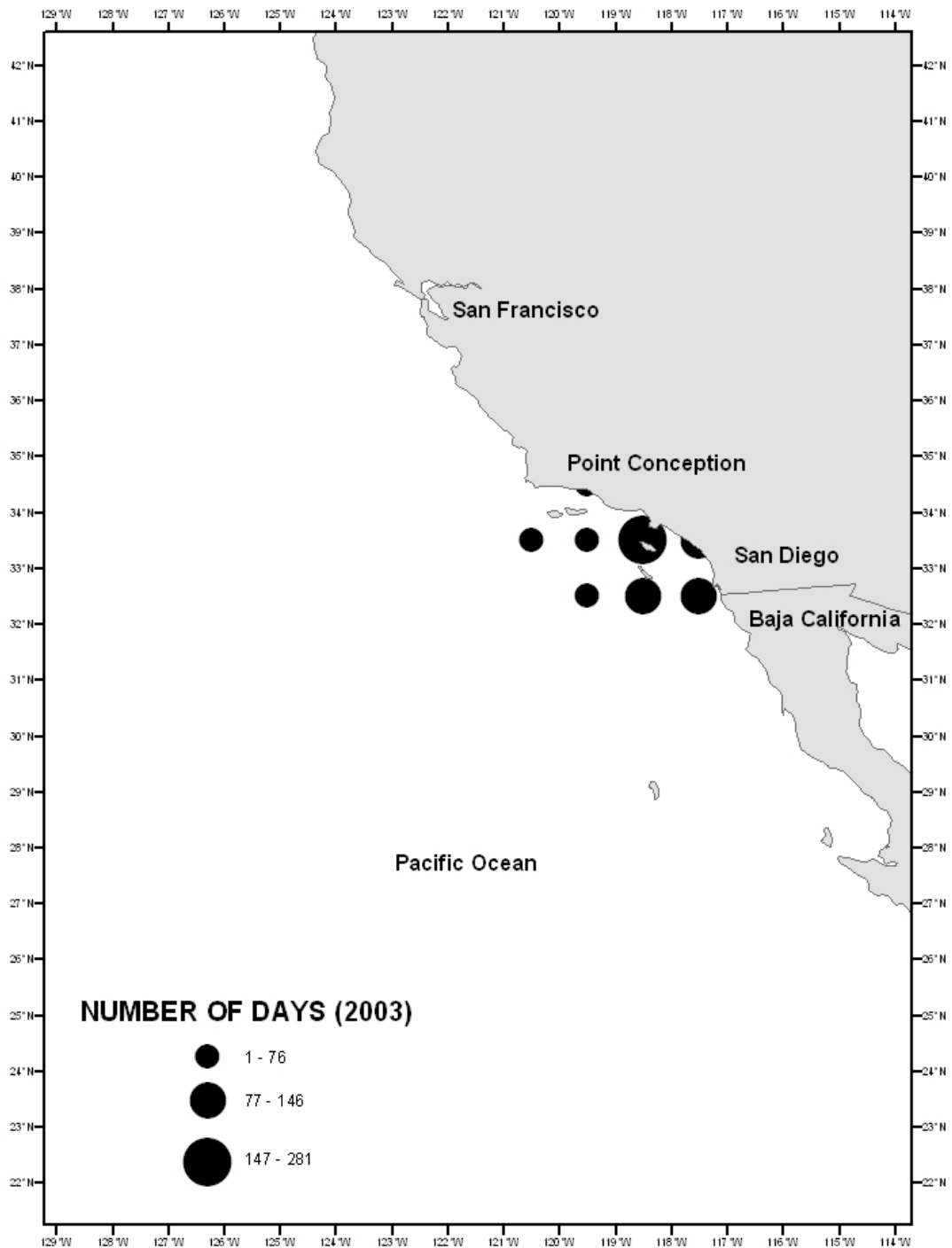


Figure 5. Distribution of fishing effort for the U.S. harpoon fishery, 2003.