



1991 Billfish Newsletter



- Trends of angler catch rates in the Pacific, Indo-Pacific and Indian Ocean.
- Problem areas for billfish anglers.
- 1990 Billfish Tagging Results.

TRENDS IN ANGLER CATCH RATES

The 1989 International Billfish Angler Survey represented the continuation of twenty consecutive years of the Survey. The Billfish Angler Survey was started in 1969, and annual surveys have been conducted since to record the trend of the catch-per-unit-effort (CPUE - catch-per-days fishing) attained by the billfish angler in various fishing areas of the Pacific, Indo-Pacific, and Indian Oceans.

Prior to the start of the Survey in 1969, the only billfish catch and effort data available were from the Japanese longline

fishery. Over the years, catch rates for the longline fishery have decreased (i.e., northeastern Pacific) as have catch rates for the billfish angler. The Survey has provided data to determine the magnitude of the decline in billfish angler catch rates.

The relation between the performance of the tuna/billfish longline fishery and the recreational fishery, as determined from the Angler Survey, for striped marlin is evident about the southern tip of Baja California, Mexico. The following graph (Figure 1) shows the CPUE for both the commercial longline fishery and the recreational hook-and-line fishery.

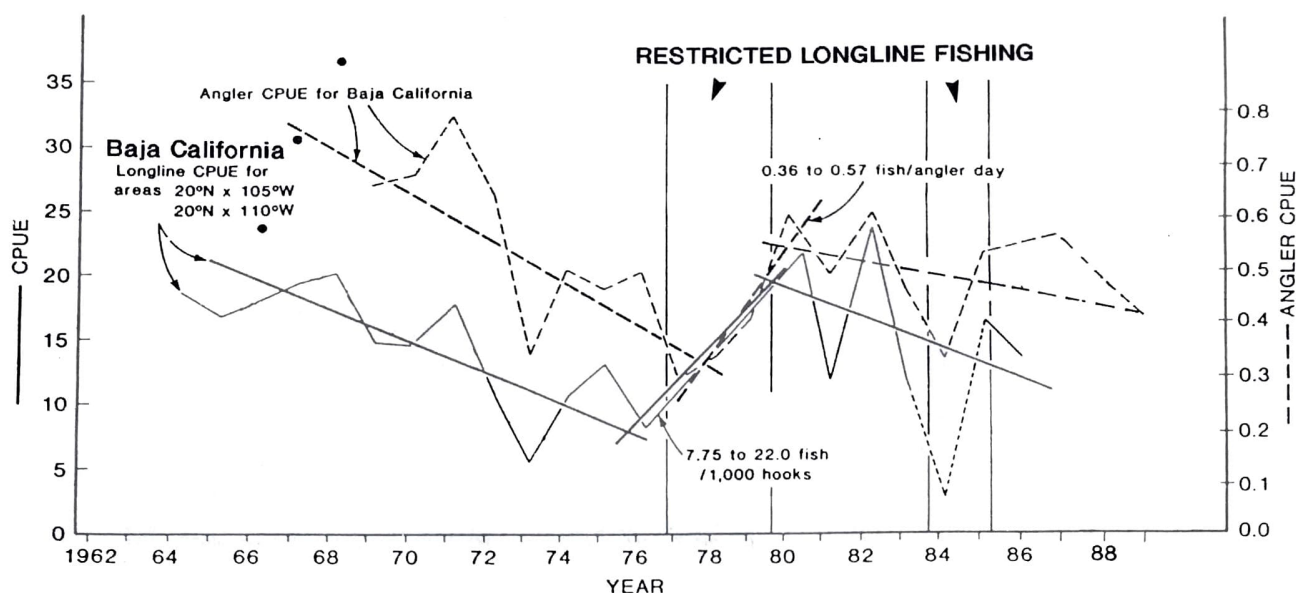


Figure 1. Striped marlin catch rate trends for the longline fishery (no. fish/1,000 hooks fished) and the recreational fishery (no. fish/day) about the southern tip of Baja California, Mexico. Angler CPUE from the Billfish Angler Survey, longline CPUE from the Japanese Fishery Agency (1964-1980), and joint-venture operations off Mexico (1980-1986).

Longline catch rates for striped marlin declined from about 18 fish/1,000 hooks fished to about 9 fish/1,000 hooks fished during the period 1963-1976. Angler catch rates, determined by the annual Billfish Angler Survey, declined from about 0.6 fish/day to 0.3 fish/day during the same period. Catch rates increased during 1977-1980 when longlining was prohibited off Mexico. Permits were issued to longliners starting in 1980. Targeting with longline gear for striped marlin and other billfish species was prohibited in 1990.

Of concern to recreational billfish fishermen is the resulting decline in CPUE in areas having active longline fisheries. Catch rates of recreational anglers have declined in other areas of the world, such as the Gulf of Mexico. Figure 2 shows a substantial decline in billfish angler catch rates for white marlin in the Gulf of Mexico. Increased longline effort in other areas having concentrations of billfish fished by recreational anglers could have a substantial negative impact on the recreational billfish fishery.

In 1989, the total number of billfish fishing days in the Pacific, Indo-Pacific, and Indian Oceans reported by those anglers responding to the Survey was 10,016. Anglers responding to the Survey reported catching 5,744 billfish. The catch rate for the Pacific, Indo-Pacific, and Indian Oceans was 0.57 billfish/day or 1.74 days/billfish. This catch rate is slightly lower than that reported for 1988, 0.58 billfish/angler day.

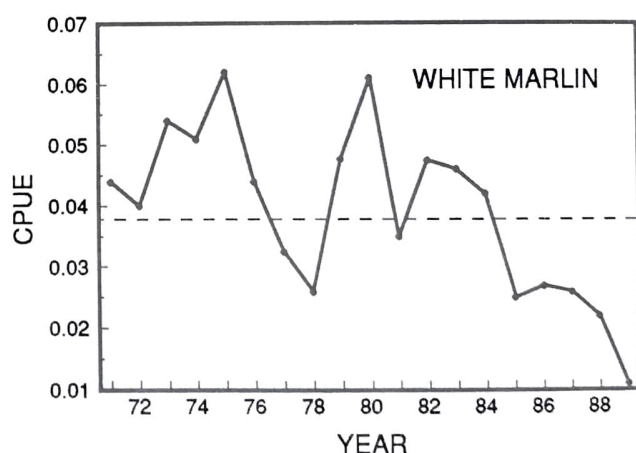


Figure 2. Decline in white marlin angler catch rates (CPUE = # fish hooked/hr. trolling) and average CPUE in the Gulf of Mexico, derived from a NMFS angler survey (Source: Pristas and Avrigian, 1991).

Tables 1 and 2 give the results of the 1989 survey as submitted by anglers, by landing locations in the Pacific and Indian Oceans. These tables include location, number of angler days reported, number of billfish reported caught, CPUE in terms of fish per day and days fishing per fish, and major species reported. Table 1 is for locations having over 100 angler days reported, and Table 2 is for areas having less than 100 days reported. Information on 1988 data is given in parenthesis for comparison. In these tables, the codes are striped marlin (SM), blue marlin (BLM), black marlin (BKM), and sailfish (SF).

Table 1. Results of 1989 Billfish Angler Survey - for areas with more than 100 angler days reported. (-) is the CPUE and major species as recorded in 1988.

	ANGLER FISHING DAYS	BILLFISH PER FISHING DAY (CPUE)	MAJOR SPECIES
PACIFIC OCEAN			
Southern Calif. U.S.A.	3,067 (2,993)	0.16 (0.12)	SM (SM)
Baja California Mexico	2,075 (2,544)	0.67 (0.73)	SM (SM)
Manzanillo Mexico	112 (91)	1.24 (0.96)	SF (SF)
Guatemala	158 (193)	0.87 (0.62)	SF (SF)
Costa Rica	254 (334)	2.51 (2.80)	SF (SF)
Ecuador	190 (320)	0.61 (0.65)	SM (SM)
Hawaii	1,881 (1,479)	0.34 (0.34)	BLM (BLM)
New Zealand	311 (395)	0.13 (0.09)	SM (SM)
Australia	316 (614)	0.41 (0.36)	BKM (BKM)
INDIAN OCEAN			
Kenya	1,198 (1,444)	1.48 (1.27)	SF (SF)

It is noted in the tabular list of areas having an angler response that the response rate for many areas is down for 1989, compared to 1988. Your response to this survey is needed to better determine the trend of angler catch rates in relation to the trend of commercial longline catch rates .

CPUE (catch-per-angler day) data by fishing area are shown graphically for striped marlin (Figure 3), blue marlin (Figure 4), black marlin (Figure 5), and sailfish (Figure 6).

NOTE: In February 1991, Angler Survey forms for the 1990 survey were sent to all 1,700 individuals on our current mailing list. This list is comprised of individuals that had either tagged and released fish in 1990, or had responded to the 1989 Billfish Angler Survey.

Enclosed you will find two forms for the 1990 Survey year - one for your use, and one to give to a billfish angler that has not completed the Survey form for 1990. If you have previously submitted a Survey form for your 1990 catch and effort, do not submit a duplicate. If you would like additional Survey forms for distribution to other billfish anglers and to billfish club members, please write and we will send additional Survey forms to you.

Table 2. Results of 1989 Billfish Angler Survey - for areas with less than 100 angler days reported. (-) is the CPUE and major species as recorded in 1988.

	ANGLER FISHING DAYS	BILLFISH PER FISHING DAY (CPUE)	MAJOR SPECIES
PACIFIC OCEAN			
Guaymas, Mexico	24 (55)	0.04 (0.38)	SF (SF)
Mazatlan, Mexico	28 (41)	0.00 (0.65)	- (SF)
San Blas, Mexico	3 -	1.33 -	SF -
Acapulco/Zhuatanejo, Mexico	85 (124)	1.85 (1.16)	SF (SF)
Panama	11 (163)	1.18 (1.46)	SF (SF)
Tahiti	1 (24)	0.00 (0.08)	- (BLM/SF)
Guam	30 (24)	0.23 (0.41)	BLM (BLM)
Japan	7 (63)	0.00 (0.17)	- (BLM)
Puerto Vallarta, Mexico	27 (27)	0.26 (0.88)	SF (SF)
Revillagigedo Isl., Mexico	17	0.17 (-)	SM (-)
Micronesia	24 (-)	0.04 (-)	SF (-)
Fiji	7 (12)	0.28 (0.41)	BLM (BLM)
INDO-PACIFIC			
Malaysia	21 (64)	0.00 (0.21)	- (BKM)
Thailand	23 (31)	0.00 (0.25)	- (SF)
Borneo	2 (-)	0.00 (-)	- (-)
Vanuatu, Solomon Islands	2 (-)	1.00 (-)	BKM (-)
Pristas,, Hong Kong	25 (3)	0.04 (0.33)	SF (SF)
Puerto Princesa,, Palawan, Philippines	4 (-)	1.00 (-)	SF (-)
INDIAN OCEAN			
Seychelles	25 (-)	0.20 (-)	SF (-)
Mauritius	44 (48)	0.18 (0.25)	BLM (BLM)

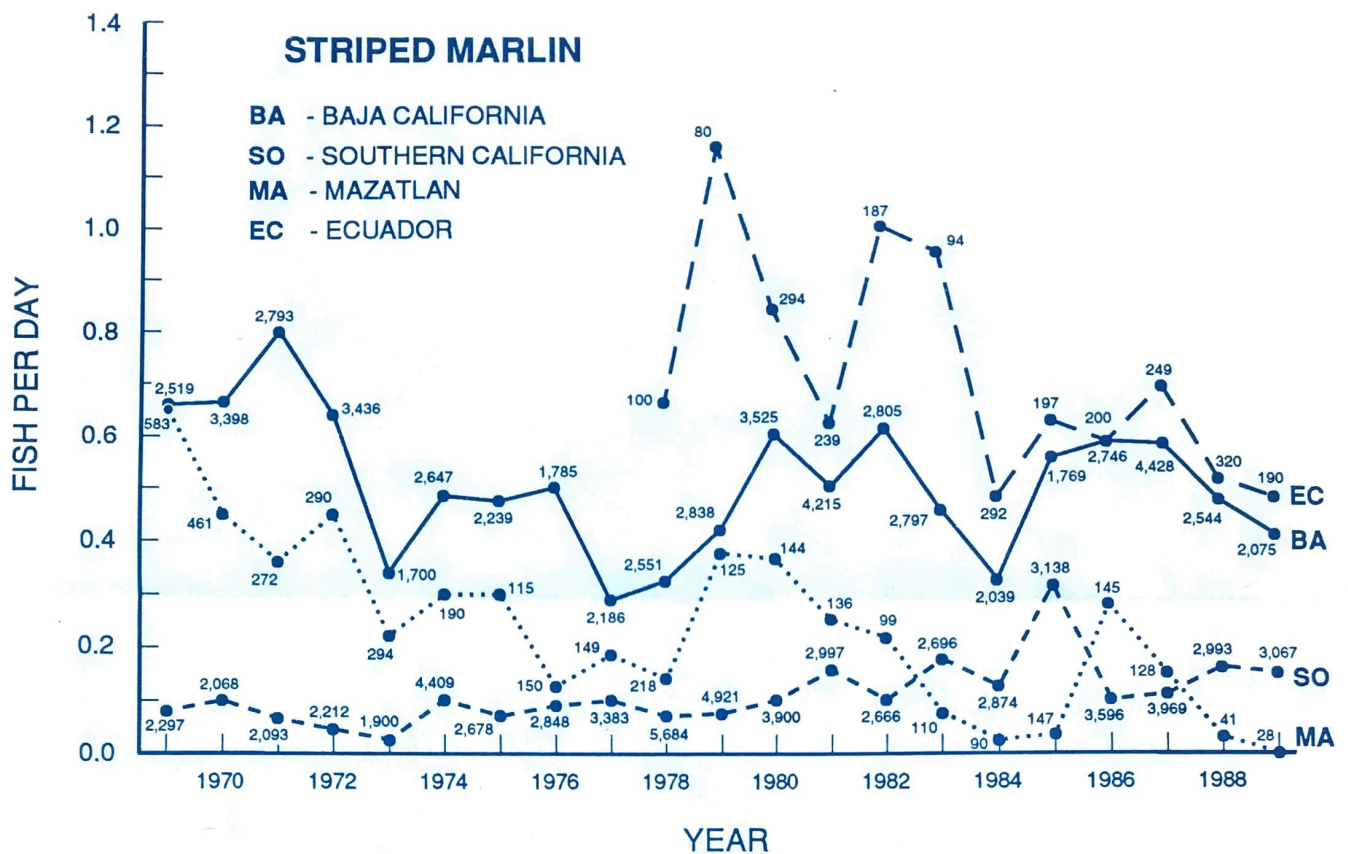


Figure 3. CPUE (number of fish/angler day) for striped marlin and number of angler days reported fishing in important catch areas, 1969-1989.

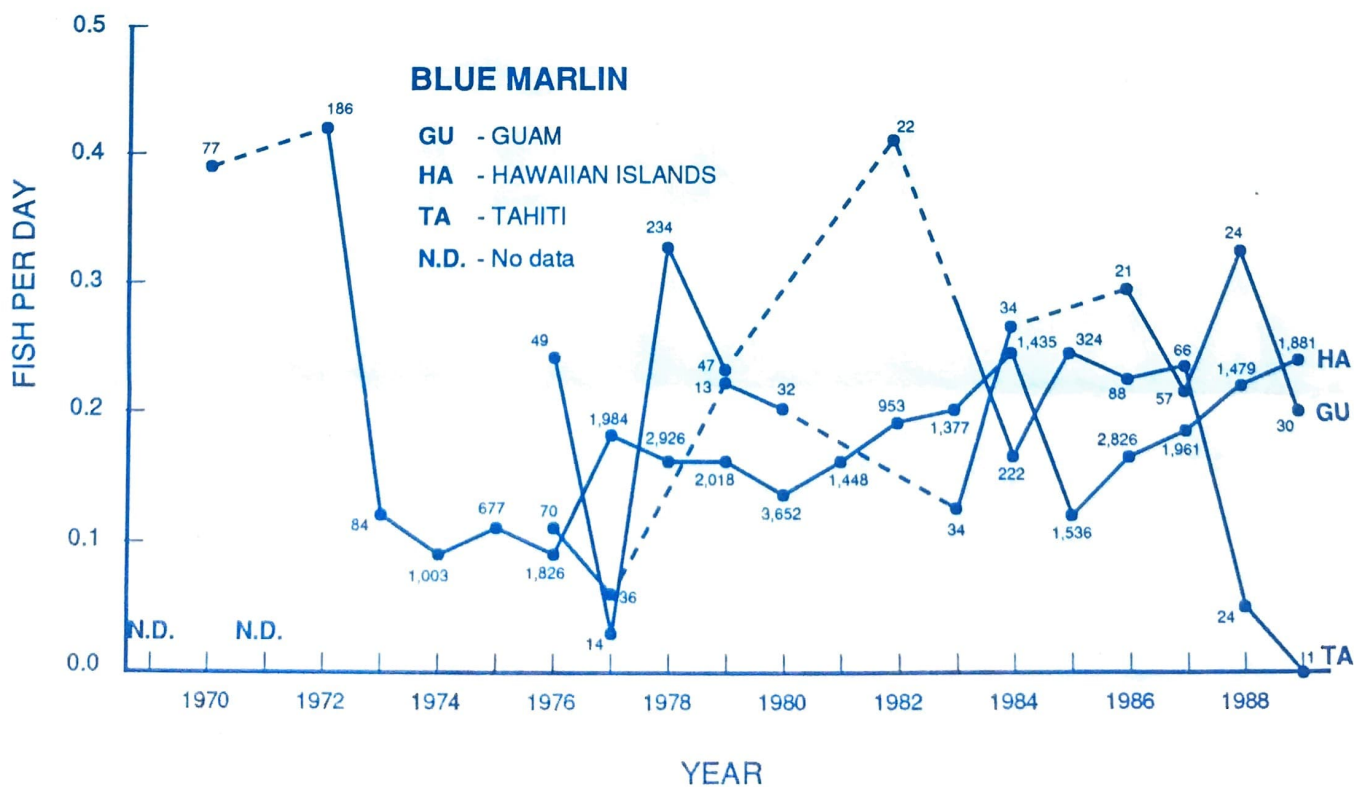


Figure 4. CPUE (number of fish/angler day) for blue marlin and number of angler days reported fishing in important catch areas, 1969-1989.

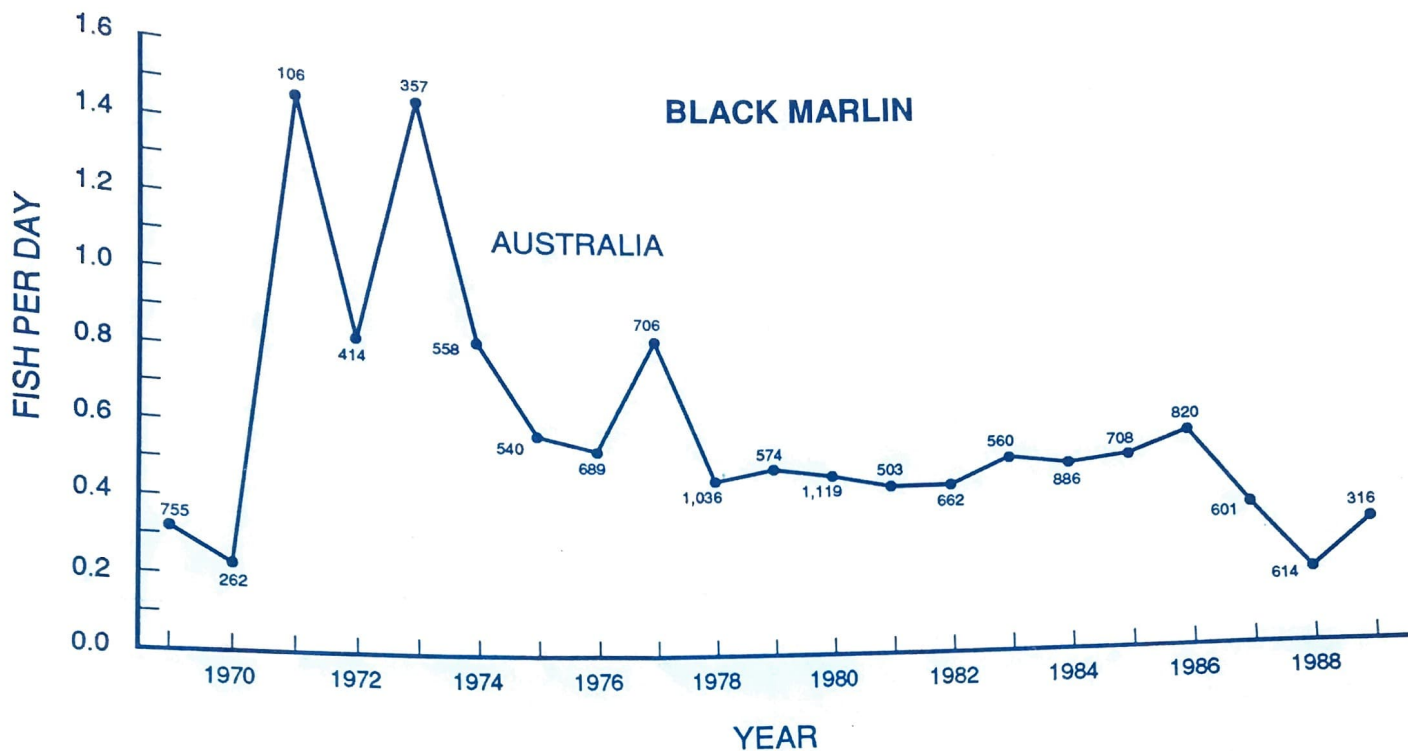


Figure 5. CPUE (number of fish/angler day) for black marlin and number of angler days reported for fishing in 1989.

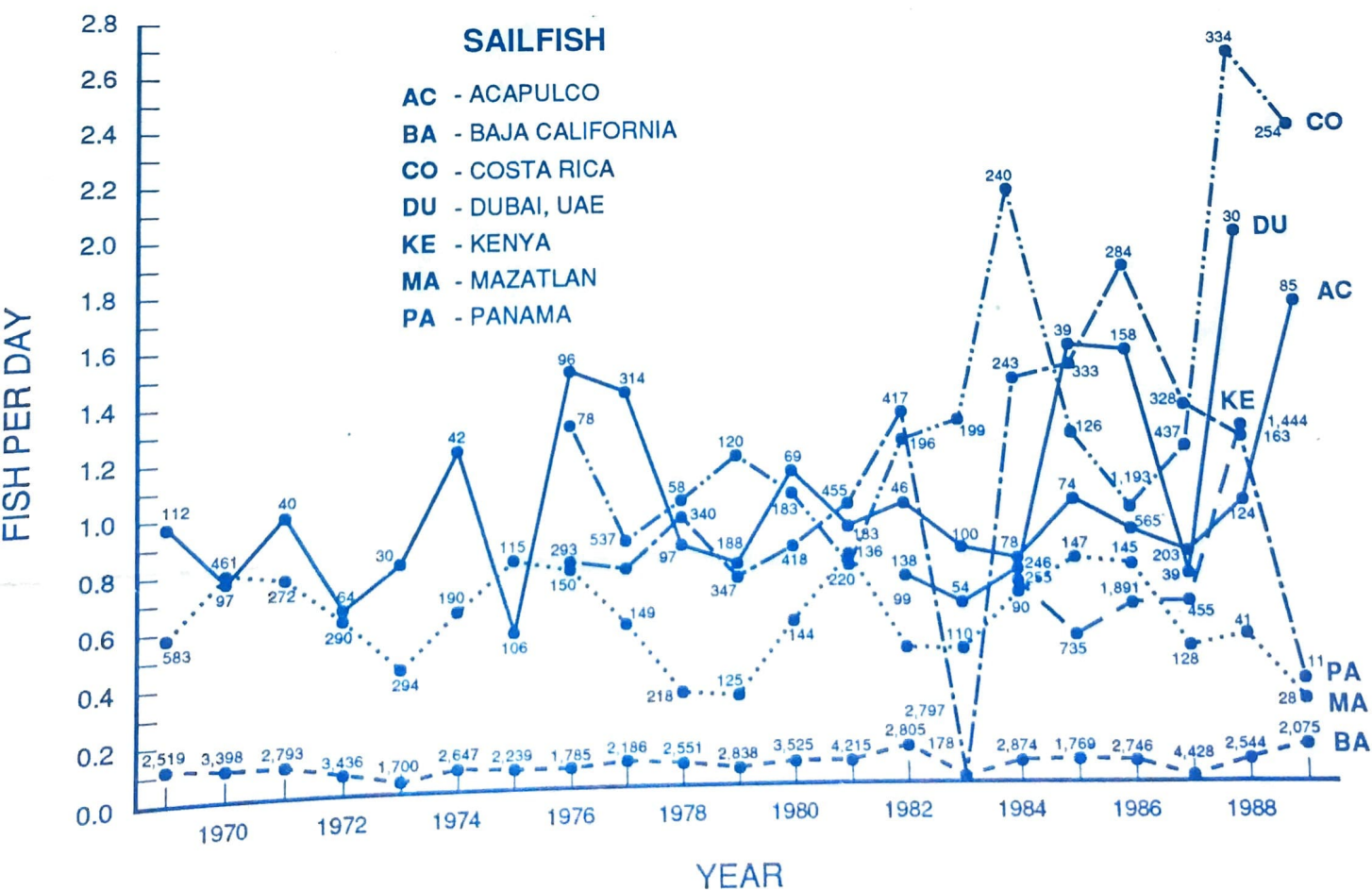


Figure 6. CPUE (number of fish/angler day) for sailfish and number of angler days reported for fishing in important catch areas, 1969-1989.

INFORMATION FOR RECEIVING THIS NEWSLETTER AND BILLFISH ANGLER SURVEY FORM

This Newsletter is sent to individuals who have **within the past year tagged and released billfish, or who have submitted the Billfish Angler Survey form during the past year.** U.S. Government regulations require us to revise our mailing list each year, and to delete names that do not fall under the above categories. However, if you did not fish for billfish in 1990, but you would like to continue to receive the Newsletter, complete the Billfish Angler Survey by including your name and address; write "*no billfish fishing*", and return the card. Your name will be retained on the mailing list. Response to the Billfish Angler Survey is voluntary.

COOPERATIVE MARINE GAME FISH TAGGING PROGRAM - 1990 RESULTS

Tag report cards received at the Southwest Fisheries Science Center in 1990 were tabulated and results indicate that in 1990, billfish anglers tagged and released 1,188 billfish, an increase of 401 billfish tagged from the number tagged (787) in 1989. Interest in the tagging and releasing of billfish has increased at locations in Kenya, Guam, Tahiti, Singapore, and about the Hawaiian Islands, thanks to Dr. Dave Grobecker of the Pacific Gamefish Research Foundation. Although few tag cards were received from Kenya in 1990, a total of 195 tag cards was received from this location in early February 1991 and will be noted in the 1992 Newsletter.

The distribution of tagging effort and number of billfish tagged by area from tag cards received during the calendar year 1990 is given in Table 3.

Other species tagged consisted of: yellowfin tuna, bigeye tuna, dolphinfish, jack cravelle, amberjack, bonito, bronze whaler shark, hammerhead shark, tiger shark, whitetip shark, mako shark, blue shark, thresher shark, and dusky shark. The total of "other" fish species tagged is 64.

The 1990 Billfish Newsletter urged the harpoon-tagging and releasing of broadbill swordfish since little is known about the migration of swordfish in the Pacific. None was reported tagged off southern California in 1990; however, 2 swordfish were tagged and released in the Hawaiian Islands area. The harpoon-tagging of

Table 3. Summary of billfish tagged - 1990.

Area	Species	Total
PACIFIC OCEAN		
Southern California, U.S.A.	Striped marlin	148
Baja California, Mexico	Striped marlin	390
	Blue marlin	50
	Black marlin	53
	Sailfish	119
	Marlin ?	50
	Billfish ?	1
	TOTAL	663
Mazatlan/Puerto Vallarta, Mexico	Striped marlin	2
Manzanillo/Acapulco, Mexico	Sailfish	17
Guatemala	Sailfish	4
Nicaragua	Sailfish	5
	Blue marlin	1
	TOTAL	6
Costa Rica	Sailfish	3
	Black marlin	2
	Blue marlin	10
	TOTAL	15
Panama	Sailfish	17
	Blue marlin	1
	TOTAL	18
Colombia	Sailfish	3
	Striped marlin	3
	TOTAL	6
Tahiti, French Polynesia	Sailfish	3
	Black marlin	1
	Blue marlin	18
	Billfish	1
	TOTAL	23
Hawaii, U.S.A.	Swordfish	2
	Striped marlin	63
	Blue marlin	160
	Short-billed spearfish	46
	Marlin ?	3
	TOTAL	274
Guam, U.S.A.	Sailfish	2
	Blue marlin	9
	TOTAL	11
Fiji	Sailfish	2
	Blue marlin	1
	TOTAL	3
Tuvalu	Blue marlin	1
Solomon Islands	Blue marlin	1
Australia	Black marlin	12
Indo-Pacific Malaysia	Black marlin	6
INDIAN OCEAN		
Kenya	Sailfish	1
	Striped marlin	1
	TOTAL	2
Mauritius	Blue marlin	6
	Sailfish	2
	Striped marlin	2
	Short-billed spearfish	1
	TOTAL	11
BILLFISH TOTAL		1,223

broadbill swordfish continues to be encouraged in areas where they are common at the surface.

As noted, over 1,200 billfish were reported tagged and released in 1990. Though some anglers have tagged several billfish in 1990, most tagging is by anglers that may tag only one or two fish during the year. This group of taggers is the "backbone" of the tagging program along with the charterboat captains and fleet operators that encourage the tagging and releasing of billfish. We would like to list the name of all taggers and captains; however, space does not allow this. In tables 4, 5, and 6 are the leading anglers and captains tagging billfish off southern California, and the leading charterboat captains in the Hawaiian Islands and Baja California areas.

If you plan to tag billfish in 1991, and need tagging supplies, please contact the Southwest Fisheries Science Center (SWFSC). For billfish tagging supplies for the Hawaiian area and the central and western Pacific area, contact the Southwest Fisheries Science Center, La Jolla, CA 92038, or the Pacific Game Fish Research Foundation, Kailua Kona, Hawaii, P.O. Box 3189, Kailua Kona, HI 96745, (808) 329-6105.

If you fish in southern California waters, you are encouraged to tag striped marlin and swordfish; tagging equipment (tag applicator tips and tags) is available to boat owners at the following locations:

- San Diego Marlin Club, San Diego, California
- Balboa Angling Club, Newport Beach, California
- Catalina Seafood, end of Avalon Pier, Avalon, Catalina Island, California (Rose Cadman)

BILLFISH TAG RECOVERIES - 1990

A total of nine tagged billfish was reported to the SWFSC as being recovered in 1990. This is a sharp decline from the 26 billfish recoveries reported for 1989. Table 7 lists the recoveries reported to the National Marine Fisheries Service, La Jolla, CA during the calendar year 1990. It is possible that additional tagged fish have been recovered but not reported. Any information on recoveries that may not have been reported is appreciated.

You will note that we have been unable to locate the tagging information (tag card) for several recoveries. On the tag report card to which the tag is attached, there is a statement "tagging is of no value unless tag card is returned." Obviously, this statement is being disregarded by a number of anglers. If you are not going to submit the tag report card, don't tag, and you will save us time

Table 4. Names of charterboat captains about Hawaii tagging 5 or more billfish, and the number of billfish tagged and released. Taken from tag report cards received in La Jolla, California in calendar year 1990.

CAPTAIN NAME/LOCATION	NO. FISH
Capt. Bobby Brown/Kailua-Kona, Hawaii	37
Capt. Kelly Everette/Kailua-Kona, Hawaii	27
Capt. Freddy Rice/Kamuela, Hawaii	10
Capt. Glen Hodson/Kailua-Kona, Hawaii	10
Capt. Jeff Fay/Kailua-Kona, Hawaii	10
Capt. Peter Hoogs/Kailua-Kona, Hawaii	9
Capt. Steve Kaiser/Kailua-Kona, Hawaii	8
Capt. Tomo Rogers/Kailua-Kona, Hawaii	8
Capt. Erwin Fergerstrom/Wailuku, Maui	6

Table 5. Names of Gardiner Foundation Awards winners for 1990, for charterboat captains in the East Cape area of Baja California tagging and releasing the most billfish.

CAPTAIN NAME	NO. FISH
Capt. Tomas Yepiz C.	58
Capt. Jesus Araiza R.	49
Capt. Martin Verdugo F.	44
Capt. Jose Ortiz	20
Capt. Manuel Castro C.	19
Capt. Felipe Ruiz M.	19

Table 6. List of anglers and captains tagging two or more billfish off southern California in 1990. Information taken from tag cards received in La Jolla in calendar year 1990.

ANGLER	NO. FISH	CAPTAIN	NO. FISH
Dave Denholm	12	Doug Carson	13
Karl Kogler	7	Gary Jasper	6
Lynn Jasper	6	Michele Kogler	5
Mark Wisch	4	Stan Ecklund	5
Bill Leschler	3	Stan Johnson	5
Bob McNary	3	Bill Woodard	4
Gary Jasper	3	Bill Cummings	4
James Cecconi	3	Harold Bosworth	3
Simon Cottriall	2	Lynn Jasper	3
Bill Woodard	2	Bill Lescher	3
Jim Salter	2	Jim Sieminski	3
Linda Houck	2	Matt Roberts	3
Paul Zylstra	2	Randy Wood	3
Richard Barrett	2	Mark Wisch	3
Bill Bird	2	Robert Schuller	2
Craig Oliver	2	Mike Thomas	2
		Christine Wisch	2
		Dick Sieminski	2
		Peter Wishney	2
		Jon Ingram	2
		Bruce Burns	2
		James Cecconi	2

Table 7. Billfish tag recoveries reported to the SWFSC in 1990.

Species/Location of Tagging	Tagged by Angler/Captain	Tag Date Day/Mo/Year	Recovered by	Recovered Date Day/Mo/Year	Location
STRIPED MARLIN					
(512) So. California 4 mi. S. of 267 F spot.	Bill Vauthrin Rancho Santa Margarita, CA	Aug. 17, 1990 (A 13965)	Robert Busch Orange, CA	Aug. 30, 1990	2.8 mi. S. of 267 F spot. So. California
	Capt. Robert Schuller San Juan Capistrano, CA				
(513) Unk.	Unknown	Unk (A7336)	Capt. Steve Triebwasser F/R Finback	Oct. 15, 1989	18°57'N x 153°30'W Abt. 90 mi. SE Hawaii
(514) Unk.	Unknown	Unk (A9353)	Taniloa Mzilau Kahului, Maui Hawaii	Aug. 26, 1990	Unknown
(515) Off Cabo San Lucas, B.C.S. Mexico	Rick Biel Dallas, TX	May 4, 1990 (A05314)	David Herrera Lakewood, CA	Jun 26, 1990	Off Cabo San Lucas, B.C.S. Mexico
(516) Off Buena Vista,, B.C.S. Mexico	Bob Lyall Dublin, CA	May 7, 1990 (A12016)	Michael Connolly El Cajon, CA	Jun. 3, 1990	7 mi. off Palmilla Pt. near Cabo San Lucas
	Capt. Felipe Ruiz M. Spa Buena Vista				
(517) Off La Ribera, B.C.S. Mexico	Jeff Stewart Ventura, CA	May 13, 1990 (A12420)	Ron Crabtree Tucson, AZ	Jun. 5, 1990	Off Cabo San Lucas, B.C.S. Mexico - Marlin retagged and released by Mr. Ron Crabtree (Tag #03354).
	Capt. Tomas Yepiz C. Spa Buena Vista,, B.C.S. Mexico				
(518) Off Punta Pescadero, B.C.S. Mexico	Leonard W. Smith Anchorage, AK	May 27, 1990 (A10154)	Ken Skinner Arroyo Grande, CA.	Jun. 9, 1990	Off Cabo San Lucas, B.C.S. Mexico
	Capt. Tomas Yepiz C. Spa Buena Vista,, B.C.S. Mexico				
(519) 209 Bank, So. California	Steve Bridges Laguna Beach, CA	July 30, 1989 (H-046722)	Shinsoo Lee F/R Robin	6/10-19/1990	200 mi. N. of Oahu, HI
BLUE MARLIN					
(520) Off Keauhou- Kona, HI	John P. Law Los Angeles, CA	Aug. 21, 1989 (A11774)	Steve Triebwasser F/V. Finback	Jun. 24, 1990	19°01'N x 160°56'W Abt. 130 mi. S. of Oahu, HI

and expense searching the files and computer for the nonexistent information.

Your cooperation in the annual Billfish Angler Survey and the Cooperative Marine Game Fish Tagging Program is appreciated.

Best of fishing,

James L. Squire, Jr.
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