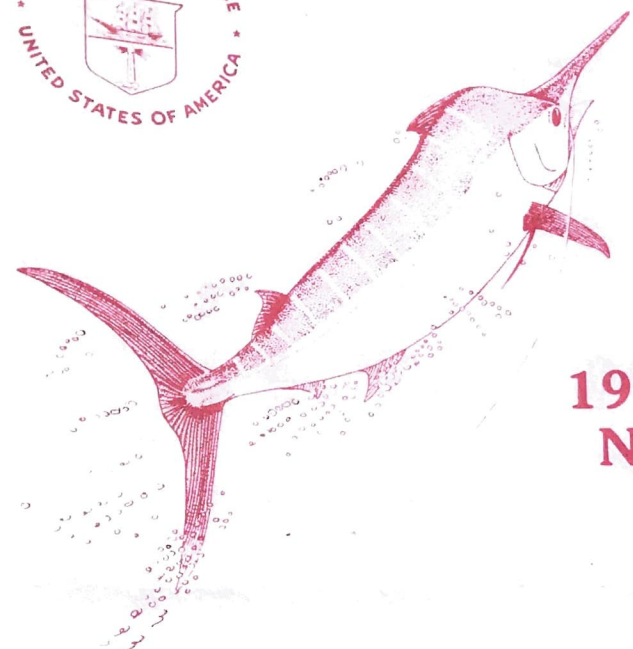
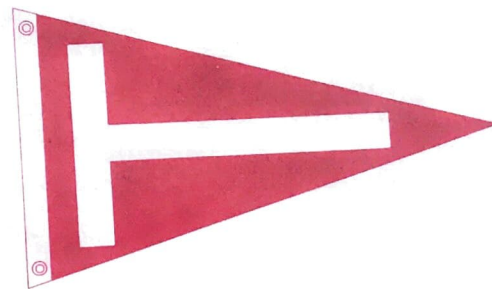




U.S. DEPARTMENT OF COMMERCE
National Oceanic & Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
P.O. Box 271, La Jolla, California 92038 U.S.A.



1988 BILLFISH NEWSLETTER



Results of the PACIFIC BILLFISH ANGLER SURVEY and the COOPERATIVE MARINE GAME FISH TAGGING PROGRAM

This issue of Billfish Newsletter presents information on the Billfish Cooperative Tagging Program, the changes proposed in the tagging program for the 1988 fishing season, tagging results off southern California and Hawaii, and the results of the annual Pacific International Billfish Angler Survey.

Pacific International Billfish Angler Survey

Since 1969, the National Marine Fisheries Service has conducted, in cooperation with the International Game Fish Association and billfish anglers throughout the Pacific, and recently those in the Indian Ocean, an annual survey of catch and effort. Detailed results of this survey will be published in the National Marine Fisheries Service's "Marine Fisheries Review", scheduled for release in March, 1988. This international survey was developed to provide information on the trend of angler catch rates for billfish. Commercial longliners are active in both oceans, and in some areas, catch a considerable amount of billfish. Catch and effort records are maintained by these fishing vessels and are usually made available to research organizations for analysis. In some areas, analysis of both angler and longline operations have shown an impact on the catch rate of the recreational billfish angler. This is particularly

well documented for such areas as the southern tip of Baja California, Mexico.

Unfortunately, few recreational billfish fishing fleets maintain detailed logbook records which give information on fishing effort and catch over a long period of time. The staff of the Pacific International Billfish Angler Survey has requested billfish angler catch and effort data, and upon receipt of these data makes an annual analysis. The results are made available to the billfish angling community, and to countries and research groups interested in maintaining a healthy and economically viable recreational billfish fishery.

The following reports cover the results of the survey for billfish fishing in 1986, based on data collected during the 1987 survey. We request that billfish anglers who fished for billfish in 1987 complete the 1987 Billfish Angler Survey form. Details on how to complete this form are mentioned later in this Newsletter.

In 1986 the total number of billfish fishing days reported by billfish anglers responding to the Survey for the Pacific and Indian Oceans totaled 15,932 days, with 13,711 days of this total reported for fishing in the Pacific Ocean. Anglers fishing in the Pacific Ocean reported catching 6,949 billfish; in the Indian Ocean they caught 1,473 billfish, for a total of 8,422 billfish. The catch rate average for both the Pacific and Indian Oceans combined was 0.52 billfish per angler day (1.89 days per billfish). For the Pacific the catch rate was 0.51 billfish per angler day (1.97 days per billfish) and for the Indian Ocean the rate was 0.66 billfish per angler day (1.51 days per billfish). The catch per angler day for 1986 in the Pacific was the same as recorded for 1985 (0.51 fish per angler day). On comparing this to the early years of the Survey, 1969-72, when the rate was 0.55 billfish per angler day, the current catch rate is only slightly less than that observed 15 years ago.

Again, we present updated graphics giving the CPUE (catch per angler day) for some important billfish fishing areas in the Pacific and Indian Oceans.

Striped marlin (*Tetrapturus audax*), blue marlin (*Makaira nigricans*), black marlin (*Makaira indica*) and sailfish (*Istiophorus platypterus*) graphics are presented in Figures 1-4.

Many of the billfish anglers responding to the 1986 Survey did not fish in areas having a high catch rate for recreational billfish fishing. We attempt to recognize these areas; Table 1 lists the catch rates in terms of numbers of billfish per angler day, number of days fishing per billfish and dominant species for the area, for all areas reporting in the Pacific and Indian Oceans.

The 1987 Billfish Angler Survey is now in progress. Your assistance is needed to obtain an adequate sample of angler catch and effort for all billfish fishing areas in the Pacific and Indian Oceans. The Billfish Angler Survey is conducted in cooperation with the International Game Fish Association. Each year they enclose a survey form in an issue of their publication entitled *The International Angler*.

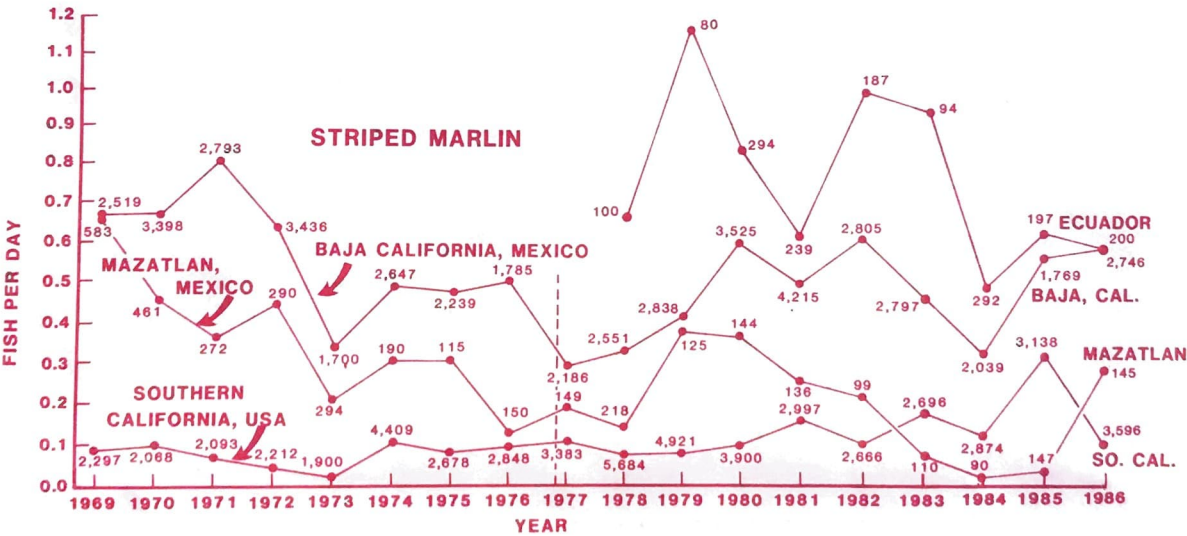


Figure 1. CPUE (number of fish/angler day) and number of respondents for striped marlin, 1969-1986.

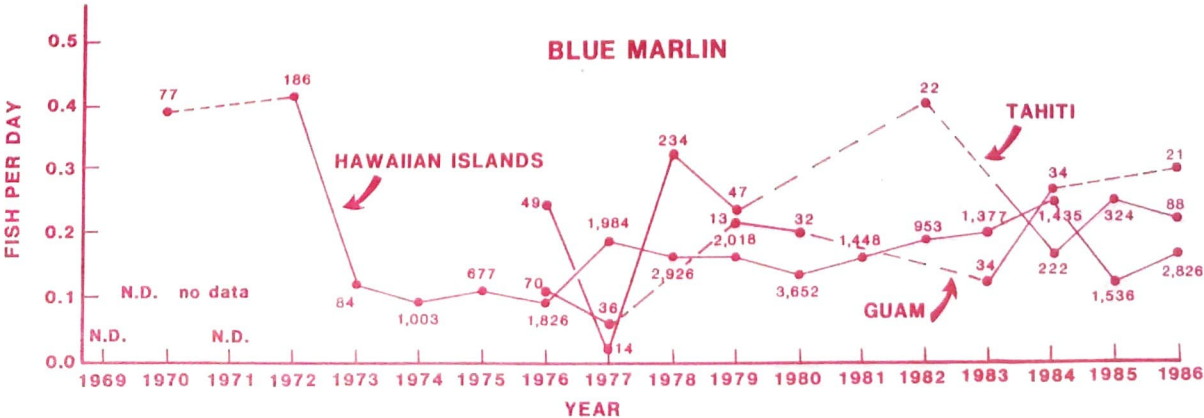


Figure 2. CPUE (number of fish/angler day) and number of respondents for blue marlin, 1969-1986.

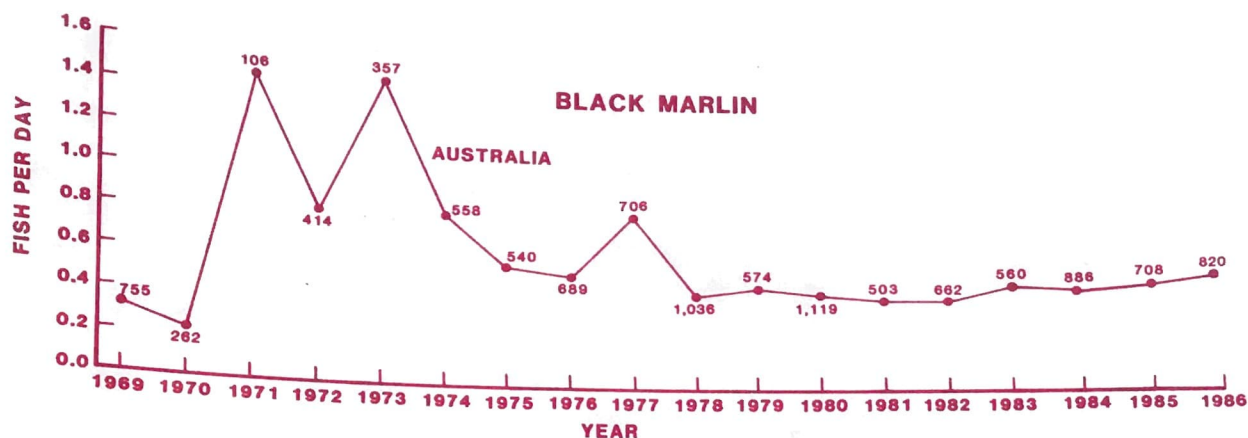


Figure 3. CPUE (number of fish/angler day) and number of respondents for black marlin, 1969-1986.

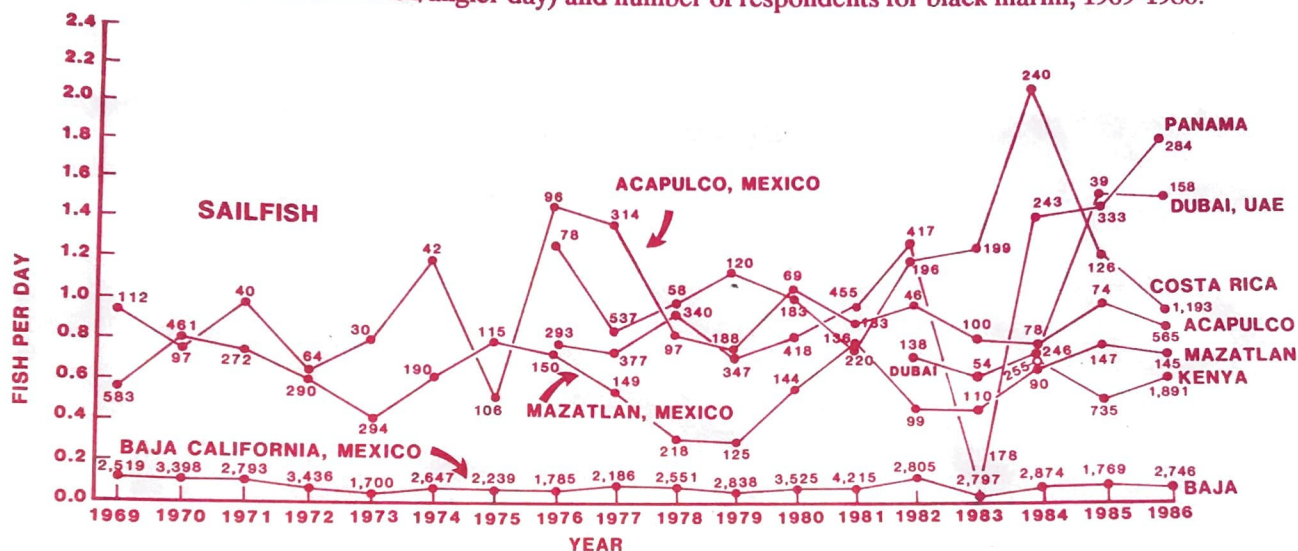


Figure 4. CPUE (number of fish/angler day) and number of respondents for sailfish, 1969-1986.

We need your honest and accurate estimate of the number of days you fished for billfish in 1987 (by quarter) and the number of billfish you caught. Please indicate the correct species and quarter of the year when the fish was caught. If you did not catch any billfish, we would like to know how many days you spent billfishing even though you did not land a billfish. Some anglers indicate the number of billfish caught, but they do not record the number of days fished. Both number of fish caught and number of days spent fishing are essential. Please check your form and make sure you have filled in all the appropriate blanks.

If you fished for billfish in 1986, or if you have not fished but would like to remain on the mailing list for the Newsletter, complete the enclosed form. If you would like additional forms for other billfish anglers or for distribution by billfish clubs, contact the Southwest Fisheries Center, National Marine Fisheries Service, P.O. Box 271, La Jolla, California 92038

(619-546-7072) and we will be pleased to mail a supply of cards to you for distribution.

Cooperative Marine Game Fish Tagging Program

1987 Results

In 1987 billfish anglers tagged and released 1,570 billfish, an increase of 336 billfish tagged over the number tagged in 1986. In addition, anglers used billfish tags to tag 74 fish and sharks (species other than billfish) for a total number of fish tagged of 1,644 fish. A total of 1,150 striped marlin, 254 blue marlin, 26 black marlin, 125 sailfish and 11 short-billed spearfish was tagged and released in 1987.

A detailed review giving the results of the tagging program for striped marlin off Baja California, Mexico will be published in the National Marine Fisheries Service publication, "Marine Fisheries Review", scheduled for release in March, 1988.

In the 1987 Newsletter we stressed the importance of returning the tag report card to us after you have tagged and released the billfish. Tagging is of no value if the tag card is not returned. It is equally important to return the information on a billfish tag recovery to us if the research program to determine the migration trends of the various billfish species is to be successful. If you know of someone who has failed to return the tag report card, or has failed to return information on the recovery of a billfish tag, please encourage them to submit the information.

Key individuals in the process of tagging and releasing billfish are the charterboat or private boat captains. It is these individuals who have frequently taken the time to obtain the tags for use by the anglers. In Hawaii, the tagging of billfish increased during the past two years, thanks to the support for tagging given by the Pacific Game Fish Research Foundation, Kona HI, and the Hawaiian boat captains.

In 1987, 160 billfish were tagged and released in the Hawaiian Islands. A total of 97 blue marlin, 52 striped marlin and 11 short-billed spearfish was tagged. On the tag card is a place for the name of the angler and the captain who used the tag. We would like to recognize the efforts of the captains (those captains who have Hawaiian addresses) in tagging and releasing billfish in 1987; **Table 2** gives the captain's name as listed on the tag card. Thank you for your efforts on behalf of the tagging program.

In 1987 tagging of striped marlin was continued off southern California with the support of the anglers, captains and the National Coalition for Marine Conservation (NCMC). The NCMC makes an annual award to the angler and captain tagging the most billfish off southern California. A list of anglers and captains (derived from the tag cards) who have tagged and released striped marlin off southern California and the number of billfish tagged is given in **Table 3**.

The distribution of tagging effort and number of billfish tagged by area and tag recoveries made in 1987 is given in **Tables 4a and 4b**.

Changes in Tagging Program Policy for 1988

Due to budget reductions and a review of the research needs of the Southwest Fisheries Center, we will be limiting tagging supplies for the tagging of **striped marlin** off the coast of Mexico or for the tagging of **sailfish** in the eastern Pacific.

We continue, however, to encourage billfish anglers to tag and release blue marlin and black marlin off Mexico (Baja California area) and all species (striped, blue and black marlin) in other areas of the eastern Pacific and throughout the Pacific and Indian Ocean. The only tags provided to fishing resorts in Mexico will be to those resorts that have supported the program in past years for the tagging of blue or black marlin, or for special studies. These fishing resorts are Rancho Buena Vista, Spa Buena Vista and Punta Colorada in Baja California, Mexico.

Table 1. Results of the 1986 Billfish Angler Survey by location, number of angler days reported, number of billfish caught, catch per unit effort in terms of number of billfish per fishing day and number of days fishing per fish, and major species reported for the area. For comparative purposes 1985 data are given in parentheses.

	Angler fishing days	No. of billfish	Billfish per fish- ing day	Fishing days per billfish	Major species
A. Pac. & Indian Oceans - areas with 100 or more angler days reported.					
Southern California, U.S.A.	3,596 (3,138)	401 (998)	0.11 (0.32)	8.97 (3.14)	SM (SM)
Baja California Sur, Mexico (tip area)	2,746 (1,769)	2,022 (1,303)	0.74 (0.74)	1.36 (1.36)	SM (SM)
Hawaii, U.S.A.	2,826 (1,536)	836 (250)	0.30 (0.16)	3.02 (6.14)	BLM (BLM)
Australia	820 (708)	615 (606)	0.75 (0.85)	1.33 (1.17)	BLKM BLKM
Panama	284 (333)	588 (574)	2.07 (1.72)	0.48 (0.58)	SF (SF)
New Zealand	532 (410)	35 (22)	0.07 (0.05)	15.20 (18.64)	SM (SM)
Costa Rica	1,193 (126)	1,268 (179)	1.06 (1.42)	0.94 (0.70)	SF (SF)
Ecuador	200 (197)	160 (133)	0.80 (0.68)	1.25 (1.48)	SM (SM)
Mazatlan, Mexico	145 (147)	137 (113)	0.94 (0.77)	1.06 (1.30)	SF (SF)
San Blas, Mexico	180 (140)	203 (247)	1.13 (1.76)	0.89 (0.57)	SF (SF)
Kenya	1,891 (735)	1,194 (391)	1.26 (0.53)	1.58 (1.88)	SF (SF)
Guaymas and	124 (35)	11 (10)	0.09 (0.29)	11.27 (3.50)	SF (SF)
Acapulco and Zihuatanejo, Mexico	565 (84)	506 (86)	0.90 (1.02)	1.12 (0.98)	SF (SF)
Dubai, U.A.E.	158	245	1.55	0.64	SF
Persian Gulf	(39)	(61)	(1.56)	(0.64)	(SF)
Mauritius	103 (3)	13 (1)	0.13 (0.33)	7.92 (3.00)	BLM (BLM)

Table 1. (continued)

B. Pac. & Indian Oceans - areas with 100 or fewer angler days reported.	Angler fishing days	No. of billfish	Billfish per fishing day	Fishing days per billfish	Major species
Guatemala	21	9	0.43	2.33	SF
Puerto Vallarta, Mexico	(29)	(8)	(0.28)	(3.63)	(SF)
Revillagigedo Islands, Mexico	42	33	0.79	1.27	SF
Guam	(50)	(66)	(1.32)	(0.76)	(SF)
	13	4	0.31	3.25	BLKM
	(76)	(2)	(0.03)	(38.0)	(BLKM)
Japan	21	6	0.29	3.50	BLM
	(1)	(0)	-	-	-
	68	3	0.04	22.67	SM
Thailand	(88)	14	(0.16)	(6.29)	(SM)
	20	9	0.45	2.22	BLKM
New Guinea	(2)	(0)	-	-	-
	8	2	0.25	4.00	SF/BLM
Kiribati	(82)	(5)	(0.06)	(16.4)	(SF)
	31	0	-	-	-
Fiji	(23)	(0)	-	-	-
	39	6	0.15	6.50	BLM
Marshall Islands	(52)	(0)	-	-	-
	5	1	0.20	5.00	BLM
Malaysia	(32)	(2)	(0.06)	(16.00)	(BLKM)
Samoa	14	2	0.14	7.00	BLM/
Seychelles Islands	1	2	2.00	0.50	BLM
South Africa	8	3	0.38	2.67	SF
	21	8	0.38	2.63	BLM
Maldiv Islands	(32)	(13)	(0.41)	(2.46)	(SF)
	22	7	0.32	3.14	SF
Somalia	(2)	(1)	(0.50)	(2.00)	(BLM)
	18	3	0.17	6.00	SF
Caroline Islands	(21)	(3)	(0.14)	(7.00)	(SF)
	4	0	-	-	-

SM -striped marlin
 BLKM -black marlin
 SF -sailfish
 BLM -blue marlin

As we noted earlier, the reason for this change is related to budget problems, but it is also related to research needs. The major objective of this cooperative tagging program is to obtain facts concerning billfish migration patterns and the rate of exchange between various high density areas in the Pacific. Over 12,000 striped marlin have been tagged and released about the southern tip of Baja California and facts relative to migration rates have been developed for the striped marlin population common to this area as a result of the tagging. With reference to sailfish, this species is most common in the near offshore areas of the eastern and western Pacific. Stocks of sailfish are reasonably well defined and migratory patterns derived from commercial and recreational catch data indicate that in the eastern Pacific migratory patterns are latitudinal in nature.

Table 2. Captains (individuals who are listed on the tag card as Captains) who have contributed to billfish tagging in the Hawaiian Islands - 1987. Numbers of billfish credited from tag cards received is noted.

Name of Captain	Number of Billfish
Kenny Auld	2
Rutledge Bray, Jr	1
Dirk Britton	1
Bobby Brown	22
Del Cannon	3
Bill Crawford	1
Geza Csige	1
Clyde Dillon	1
Robert Erickson	3
Kelly Everette	1
Jeff Fay	4
Dominic Fergundas	2
Scott Fuller	3
Chuck Hauptert	1
Louise Hawkins	1
Mike Holtz	1
Peter Hoogs	4
Dave Hudson	2
Norm Isaacs	6
John Jordan	4
Jerome Judd	1
Stephen Kaiser	5
Butch Kelly	2
Wally Kobayashi	2
Edward Laau, Jr.	1
Dale Leverone	1
Chris Lightfoot	5
Murray Mathews	2
Lin McIntosh	1
Fran O'Brien	1
Gary Oliver	1
Marlin Parker	1
Bob Pipinich	3
Tim Putnam	1
Freddy Rice	8
F. McGrew Rice	1
Tom Rogers	6
Steve Roney	6
Rick Rose	1
Chris Rose	6
Jack Ross	2
Gary Testa	1
Rusty Unger	6
Dave Welker	1
Joe Yurkanin	2

In view of these factors and because recovery rates are very poor for sailfish (0.25%), priority should be given instead to achieving a better understanding of the migratory patterns of marlin about which little is known. We ask, therefore, that tagging equipment not be used for additional tagging of sailfish in the Pacific.

Table 3. Names of anglers and captains reporting tagging striped marlin in 1987 off southern California and number of releases.

Name of Angler	No. Fish	Name of Captain	No. Fish
Jim Cleland	1	Ralph Clock	1
Darrell Spenser	1	Barry Emerson	1
R. Schweitzer	1	Bill Woodward	5
Bill Woodward	3	Kenny Knight, Jr.	1
Thayer Crispin	1	Fred Thomas	1
Hal Neibling	1	O. Bailey	1
Dick Mitten	2	Allan Sheridan	1
Dave Herrara	1	Joe Houck	2
Gary Newton	1	Mike Morris	1
Vic Edelbrock	1	Jeff Check	1
Michael Callan	1	Mark Wisch	1
Bill Lescher	1	Stan Ecklund	1
Bill McCorkell	1	Bill Lescher	4
Mark Wisch	3	Ken Carson	3
Camilla Frost	1	Rich Johnson	1
F. Daniel Frost	2	Dick Sieminski	3
Bob Hampton	1	Bill Vas	1
Pete Johnson	1	Dewayne Brown	1
Karl Kogler	1	Doug Carson	10
Marshall Hugo	1	Richard Pomo	1
Gary Collicott	1	Doug Daniels	1
Doug Daniels	1	Ross Stotesbury	4
Nicole Denholm	1	David Santiago	2
David Denholm	8	Gary Jasper	2
Kathleen Pomo	1	Michael Callan	1
Mike Thomas	1	Bob Woodward	1
Greg Stotesbury	4	Frank Martin	1
Gary Graham	3	Ron Johnson	8
Ron Johnson	2	Daniel Morris	1
Jeff Babb	1	Fred Thomas	2
Steve Hardin	1	Allan Main	1
Pat Woodward	1	Ed Cleland	1
Pat Johnson	1	Horst Schulze	1
Gary Jasper	4	T. Salem	1
Kenneth Morris	1	Walt Bates	1
Jeff Wetmore	1	Steve Lassley	1
Richard Barrett	2	Dennis Ogden	2
Bill Park	1	Dave Berutich	1
Gene Shawler	1	Paxon Offield	1
Don Goodwin	1	Mike Stinson	1
Robbie Bailor	2	Mike Hefty	2
Walter Braun	1	Cami Garnier	1
Gene Grimes	1	Jim Martin	1
Don Sloan	1	Brad Crow	3
Bennett Barke	1	Dave Bonilla	1
Hayes Overton	1	Gerald Brennock	1
Jennifer Yen	1	Mike Thomas	1
Dave Berutich	1	Larry Litveinoff	1
Paxon Offield	1	Dave Denholm	3
Jim Murray	1	Marie Johnson	1
Bob Middleton	1	Donna Sieminski	1
Roger Trudeau	1	Joe Dill	1
Kevin Crow	1	Don McPherson	1
Cami Garnier	1	Buck Buchanan	1
Don Goodwin	1	Tom Shaver	1
B.G. Williams	1		
Tom Conn	1		
Ed Crow	1		
Jeff Wood	1		
Lynn Jasper	1		
Bob Ballengen	1		
Steve Barnes	1		

Table 3. (continued)

Name of Angler	No. Fish	Name of Captain
Gaile Yoder	1	
Jim Torre	1	
Terry Kaser	1	
Jock Albright	2	
Doug Carson	1	
Mike Yaeger	1	
Rich Johnson	1	
Dick Sieminski	1	
Dave Symonds	1	
Walt Wolf	1	
Don McPherson	1	
Danny Lee Jones	1	
Robert Shaver	1	

Table 4a. Summary of billfish tagging - 1987.

Area		Total
Pacific Ocean		
Australia	Black marlin	13
	Blue marlin	1
Hawaii	Striped marlin	52
	Blue marlin	97
	Short-billed spearfish	11
Tahiti	Blue marlin	9
Solomon Islands	Black marlin	2
Southern California.	Striped marlin	99
Mexico, Baja California	Striped marlin	809
	Blue marlin	108
	Pacific sailfish	63
	Black Marlin	2
	Marlin (uncl.)	1
Mazatlan to Puerto Vallarta	Striped marlin	169
	Pacific sailfish	2
	Black marlin	2
	Blue marlin	26
	Marlin (uncl.)	3
Manzanillo to Acapulco	Black marlin	1
	Blue marlin	1
Guatamala	Sailfish	1
	Blue marlin	1
Costa Rica	Sailfish	2
	Striped marlin	6
	Blue marlin	8
Panama	Striped marlin	14
	Black marlin	6
	Sailfish	32
El Salvador	Striped marlin	1
	Blue marlin	1
Indian Ocean		
Kenya	Sailfish	25
Somaliland	Blue marlin	1
Mauritius	Blue marlin	1
Totals		
	Striped marlin	1,150
	Blue marlin	254
	Black marlin	26
	Sailfish	125
	Short-billed spearfish	11
	Marlin (unclassified)	4
		1,570

Table 4b. Billfish Tag Recoveries reported to the SWFC in 1987.

Species/Location of Tagging	Tagged by Angler/Captain	Tag Date Day/Mo/Year	Recovered By	Recovered Date Day/Mo/Year	Location
STRIPED MARLIN					
(431) Off Rancho Buena Vista B.C.S., Mexico	GIL TRAVIS Laguna Hills, CA JESUS ARAIZA, Buena Vista B.C.S., Mexico	May 21, 1987	Marion E. Bell Mantecia, CA	Dec 5, 1987	Off Rancho Buena Vista, B.C.S., Mexico
(432) Off Rancho Buena Vista, B.C.S., Mexico	PETER HAUSER Corona del Mar, CA ANTONIO VARGAS M. Rancho Buena Vista, B.C.S., Mexico	Sep 02, 1987	Rev. Arturo Lozano S.J. St. Louis, MO	Less the 2 mos. from date of tagging	Off Cabo San Lucas, B.C.S., Mexico
(433) Off Cabo San Lucas, B.C.S., Mexico	MIKE SOLONY Woodland Hills, CA JIM RONIS, Woodland Hills, CA	Jan 01, 1987	COPEMAPRO II Ensenada, Mexico	Oct 20, 1987	22°38' N 111°59' W
(444) 181 Bank off San Diego, CA	THAYER CRISPIN Newport Beach, CA KENNY KNIGHT, JR. Costa Mesa, CA	Sep 11, 1987	COPEMAPRO II Ensenada, Mexico	Oct 20, 1987	20°29' N 111°31' W
(445) Off Spa Buena Vista, B.C.S., Mexico	BRUCE GLANTZ Iowa City, IA JORGE VERDUGO C Spa Buena Vista, B.C.S., Mexico	Jun 14, 1987	ALIANZA No. 6 Ensenada, Mexico	Oct 14, 1987	20 miles SW of Clarion Island
(446) 12 miles E of San Clemente Island	JAMES MACKEL Newport Beach, CA JOHN GUFFERTY Corona del Mar, CA	Sep 12, 1987	Robert Hampton Anaheim, CA	Oct 24, 1987	245°, 15 mi from Point Loma, San Diego
(447) Osborne Bank, So. of Santa Barbara Island, CA	JOCK ALBRIGHT Corona del Mar, CA	Sep 13, 1985	Jerry Bidwell Escondido, CA	Sep 27, 1987 (near 2 years)	165°, 39 miles from Point Loma, San Diego
(448) Off Spa Buena Vista, B.C.S., Mexico	NORM LEWIS Anaheim, CA	Jun 02, 1987	Robert Edman Oxnard, CA	May 31, 1987	12 mi offshore, Bahia de Palmas, B.C.S., Mexico
(449) S.E. Cabo San Lucas, B.C.S., Mexico	FRED ISAIP San Jose, CA DAVE MCINTYRE Le Mesa, CA	May 01, 1987	Sam Jeffery Houston, TX	May 21, 1987	24 mi S.E. Cabo San Lucas, B.C.S., Mexico
(450) 8 mi NW of Cabo San Lucas, B.C.S., Mexico	LEON LEVIN Marina del Rey, CA LANCE KLUGER Los Angeles, CA	Dec 28, 1985	Tiburón II Manzanillo, Col., Mexico	Mar 03, 1987	23°10' N 107°09' W
(451) Off Cabo San Lucas, B.C.S., Mexico	ROB WILSON Houston, TX JAMES BASS Houston, TX	Dec 15, 1985	Scott Yuill Houston, TX	Apr 26, 1987	Off Cabo San Lucas, B.C.S., Mexico
(452) Thetis Bank, B.C.S., Mexico	KEVIN SCHULTZ Costa Mesa, CA CAMI GARNIER Costa Mesa, CA	Dec 08, 1986	James Matthews Seattle, WA	Mar 30, 1987	9 mi off Rancho Buena Vista, B.C.S., Mexico

Species/Location of Tagging	Tagged by Angler/Captain	Tag Date Day/Mo/Year	Recovered By	Recovered Date Day/Mo/Year	Location
STRIPED MARLIN (table 4b. continued)					
(453) Off Cabo San Lucas, B.C.S.,	JUDY DAVIS Oxnard, CA KEN THEIS Oxnard, CA	Feb 07, 1986	Longliner - COPEMAPRO Fleet, Ensenada, Mexico	Jan 01, 1987	22°30' N 108°35' W
(454) Off Spa Buena Vista, B.C.S., Mexico	FRANK PARCELL Redwood City, CA TONY LUCERO C La Paz, B.C.S., Mexico	Jul 11, 1986	Longliner - COPEMAPRO Fleet, Ensenada, Mexico	Mar 22, 1987	22°30' N 108°50' W
(456) Off Cabo San Lucas, B.C.S., Mexico	JUDY DAVIS Oxnard, CA TONY ESCALDERON Spring Valley, CA	Jan 11, 1987	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Mar 20, 1987	22°30' N 107°30' W
(457) 8 mi 240° from Santa Barbara Island, CA	DAVE DENHOLM Corona del Mar, CA J.M. Lopez Costa Mesa, CA	Oct 24, 1985	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Sep 11, 1986	23°57' N 112°53' W
(458) Osborne Bank SW Santa Barbara Island, CA	DICK SIEMINSKI Fullerton, CA JIM SIEMINISKI Fullerton, CA	Sep 17, 1985	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Dec 05, 1986	23°30' N 112°10' W
(459) 15 mi SW of Pt. Redondo,	JOE STRAUSS ED MARTIN Garden Grove, CA	Dec 12, 1986	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Dec 18, 1986	25°10' N 113°25' W
(460) Unknown	Unknown	Unknown	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Nov 30, 1986	23°32' N 112°03' W
(461) Off Cabo San Lucas, B.C.S., Mexico	JAMES CAREY Chino, CA MANUAL ACEVEDO Rancho Buena Vista, B.C.S. Mexico	Jun 23, 1987	Longliner - (Japanese) Ensenada, Mexico	Oct 21, 1987	24°19' N 112°03' W
(462) 10 mi W of Santa Barbara Island, CA	DAVE DENHOLM Corona del Mar, CA J. M. LOPEZ Costa Mesa, CA	Oct 23, 1985	Longliner - based out of Ensenada, Mexico	Nov 14, 1987	25°18' N 113°24' W
(463) Unknown	Unknown	Unknown	Randall Leads, Vista, CA	Apr 22, 1987	2 mi off Cabo San Lucas, B.C.S., Mexico
(464) Unknown	Unknown	Unknown	Chidori-Mar No. 86 Japan	Aug 05, 1986	23°24' N 112°31' W
BLUE MARLIN					
(455) off Rancho Buena Vista, B.C.S., Mexico	LINDA RICH Los Angeles, CA JESUS ARAIZA Rancho Buena Vista B.C.S., Mexico	Oct 16, 1986	Longliner - COPEMAPRO Fleet Ensenada, Mexico	Mar 20, 1987	22°45' N 107°50' W
(456) off Capt. Cook Pt. near Kona, HI	DONNA MYERS Las Vegas, NE BOBBY BROWN Kailua-Kona, HI	Aug 28, 1987	Tim Jones Kailua-Kona, HI	Aug 31, 1987	TT buoy near Kona HI
SAILFISH					
(466) 6 mi NE Malindi Kenya, E Africa	H. PAARMANN Hamburg, W. Ger.	Mar 17, 1987	Omar Hussbin Malindi, Kenya	Mar 30, 1987	Malindi Bay, Kenya, E. Africa

Billfish Tagging - 1988

If you plan to tag billfish in 1988 and need tagging supplies, please contact the Southwest Fisheries Center (SWFC). If you fish in southern California waters, tagging equipment is available at the following locations:

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

For billfish tagging supplies in the Hawaiian area and the central and western Pacific area, contact the Pacific Game Fish Research Foundation, Kailua Kona, Hawaii (Dr. Dave Grobecker, P.O. Box 3189, Kailua Kona, HI 96745). The Pacific Game Fish Foundation supports and is a cooperator in the tagging of billfish.

Information for Receiving This Newsletter

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 1987, 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.

Again, thank you for your cooperation and interest in the Billfish Angler Survey and the Cooperative Marine Game Fish Tagging Program.

Sincerely,



James L. Squire, Jr.
Fishery Biologist (Research)
U.S. Department of Commerce
NOAA, NMFS, SWFC
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La Jolla, CA 92038