

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
P. O. BOX 271
LA JOLLA, CALIFORNIA 92038



1977 COMBINED REPORT OF THE;
COOPERATIVE MARINE GAME FISH
TAGGING PROGRAM - 1976 RESULTS

PACIFIC BILLFISH ANGLER SURVEY -
1976 RESULTS

NOAA, National Marine Fisheries Service
in cooperation with International Game
Fish Association and Billfish Anglers
throughout the Pacific

MARCH 1977

TO ALL PARTICIPANTS

In 1977 we had planned to issue separate reports to: 1) individuals that had tagged and released marine game fish in the Cooperative Marine Game Fish Tagging Program, and 2) those individual anglers responding to the questions asked in the Pacific Billfish Angler Survey. However, since both reports contain information of interest to all billfishermen, and to reduce expense, we will continue to combine these two reports.

This report is in two Parts: Part I, the results of the marine game fish tagging program; Part II lists the results of the 1975 annual angler catch and effort survey for Pacific billfishing.

SOUTHWEST FISHERIES CENTER
ADMINISTRATIVE REPORT NO. LJ-77-4

PART I - COOPERATIVE MARINE GAME FISH TAGGING PROGRAM 1976 RESULTS

In 1976, the number of billfish reported tagged by having tag cards received by the Southwest Fisheries Center, La Jolla, California by December 31, 1976 was 1,341, slightly more than reported tagged in 1975 (1,307).

The number of fish tagged by the program in 1976, which includes billfish, roosterfish, dolphin, yellowtail and other species such as sharks, wahoo, and sturgeon, was 1,673.

Of the total number of billfish tagged by cooperating marine anglers, striped marlin (Tetrapturus audax) accounted for 626 or 46% of the total tagging. Black marlin (Tetrapturus indica) with 520 being tagged accounted for 39%. Sailfish (Istiophorus platypterus) accounted for 170 of the tagging total (13%) and 25 blue marlin (Makaira nigricans) for 2%.

A breakdown of billfish tagging by species and geographic area for 1975 and 1976 for ports having tagging recorded in 1976 follows:

	1975	1976	Number increase or decrease
<u>Striped marlin</u>			
Southern California, USA	16	58	+42
Baja California, Mexico	647	568	-79
<u>Black marlin</u>			
Queensland, Australia	433	516	+83
Baja California, Mexico	1	2	+1
Panama	1	2	+1
<u>Blue marlin</u>			
Baja California, Mexico	16	23	+7
Hawaiian Islands, USA	2	2	0

Sailfish

Baja California, Mexico	87	23	+42
Manzanillo, Mexico	1	4	+3
Guaymas, Kino	6	9	+3
Mazatlán, Mexico	12	12	0
Acapulco, Mexico	61	3	-58
Panama	6	2	-4
Queensland, Australia	0	11	+11

RECOVERIES

New tag return posters in the Japanese and Korean languages were distributed in Japan and Korea during the past year in cooperation with the Far Seas Laboratory, Shimizu, Japan and an increased number of recoveries are being obtained from Japanese longline vessels. For example, the number of black marlin tag recoveries reported in early 1977 has now totaled 10.

Recoveries received or reported to the Southwest Fisheries Center in 1976 (January 1 to December 31, 1976) totaled 21 fish.

From tagging off Queensland, Australia, eight black marlin were recovered. In the eastern Pacific recoveries included six striped marlin, two roosterfish, and one yellowtail tagged off Baja California, Mexico. Additional recoveries off Australia were of a barracuda and a whaler shark. Off New Zealand a mako shark was recaptured, and off southern California a diver-tagged black sea bass was recovered.

A tabular list of recoveries by species is given in Table 1.

GARDINER FOUNDATION AWARD PROGRAM

Awards are made to Mexican sport fishing boat captains who tag and release the most billfish (marlin and sailfish) during the calendar year. This program is sponsored by the Gardiner Foundation, Oakland, California with the cooperation of the National Marine Fisheries Service's Southwest Fisheries Center, La Jolla, California.

Mr. Thomas Gardiner was an active sportfisherman and conservationist in the San Francisco/Oakland area and his estate has provided funds for the conduct of the award program and other activities concerning the study and conservation of sportfishery resources.

The awards are based on a tabulation of Mexican captains' names as they appear on the tag cards received at the SWFC, for the period January 1, 1976 to December 31, 1976. Some of the tag cards do not have the names of the captain, and therefore cannot count in the award program. The lower portion of Baja California, Mexico, peninsula is divided into two parts. The eastern award area covers from east of San Jose del Cabo to north of La Paz, the western or southern award area is from San Jose del Cabo west to Cabo San Lucas.

Table 1. Tag and Recovery Data - based on recovery information received at the Southwest Fisheries Center in 1976.

Tagged			Recovered	
Species/location of tagging	Tagged by	Date (month, day/year)	Location	Date (month, day/year)
<u>BLACK MARLIN</u>				
(219) No. 10 Ribbon Reef, North Queensland, Australia	Mr. R. H. Schubot Ft. Lauderdale, Fla., USA Captain/D. Wallace	9/22/76	No. 5 Ribbon Reef, North Queensland, Australia	Mr. Ernest W. Palmer Somerton Park, Australia Captain/P. Wright
(220) No. 10 Ribbon Reef, North Queensland, Australia	Jo Jo Del Guercio Miami, Fla., USA Captain/P. Bristow	10/5/75	Linden Bank, North Queensland, Australia (Retagged & Released)	Ms. Natalie Mather Woods Hole, Ma., USA Captain/G. Mills
(227) Carter Reef, North Queensland, Australia	Mr. O. M. Phipps Miami Beach, Fla., USA Captain/L. Woodbridge	10/10/74	Lat. 14°33'S Long. 145°48'E	Yakushi Maru Captain/Shin Kasi
(228) No. 10 Ribbon Reef, North Queensland, Australia	Mr. Mortimer Cohn Houston, Texas, USA Captain/P. Bristow	9/14/75	Lat. 16°01'S Long. 146°16'E	Oyama Maru Captain/Minoru Nishijima
(231) No. 3 Ribbon Reef, North Queensland, Australia	Mr. Ian Marr Farrea, ACT, Australia Captain/D. Hayes	10/13/75	Lat. 17°12'S Long. 147°02'E	Kaiei Maru No. 38 Captain/Kazuhiko Nagamatsu
(233) Jenny Louise Shoal North Queensland, Australia	Mr. Keith Klaproth Cairns, Australia Captain/M. Klaproth	10/9/75	Off Inyadda Pt. (10 fm) South of Jervis Bay, NSW Australia	Tory & Camillo Puglisi Ulladulla, NSW (shark set net)
(234) No. 10 Ribbon Reef, North Queensland, Australia	Dr. David Roux Johannesburg, So. Africa Captain/P. Wright	11/14/74	Lat. 14°46'S Long. 146°03'E	Oyama Maru Captain/Minoru Nishijima

Tagged			Recovered		
Species/location of tagging	Tagged by	Date (month, day/year)	Location	Recovered by	Date (month, day/year)
(236) Agincourt Reef, North Queensland, Australia	Mr. Freddy Rice Kailua-Kona, Hawaii, USA Captain/D. Wallace	9/18/74	Lat. 13°45'S Long. 144°50'E	Oyama Maru Captain/Minoru Nishijima	10/31/75
<u>STRIPED MARLIN</u>					
(215) Cabo San Lucas, Baja California, Mexico	Mr. Jack Carpenter Santa Ana, Ca., USA Captain/K. Carson	5/24/76	Lat. 20°38'N Long. 115°02'W	Keifuku Maru No. 17 Captain/Yoshimi Miki	9/15/76
(221) Cabo San Lucas, Baja California, Mexico	Ms. Carolyn Bradfield Newport Beach, Ca., USA Captain/D. Brady	4/6/76	Lat. 22°50'N Long. 109°27'W	Kyowa Maru No. 28 Returned by Fishing Master	4/16/76
(224) Off Las Frailes Reef, Baja California, Mexico	Mr. Ivan Lewis Westminister, Ca., USA Captain/F. Cameron	5/13/74	Lat. 18°28'N Long. 112°09'W	Chokyu Maru No. 25 Captain/Shigeaki Okumura	11/24/74
(225) Near Cabo San Lucas, Baja California, Mexico	Unknown - Tag #H17876 used-tag card not returned	Estimate 5/19/76	Lat. 18°34'N Long. 110°35'W	Chokyu Maru No. 25 Captain/Shigeaki Okumura	6/8/76
(229) Off Rancho Buena Vista, Baja California, Mexico	Mr. Al Jensen Foster City, Ca., USA Captain/V. Cosio	5/30/76	Tag recovered on shore from marlin at La Ribera, Baja California, Mexico	Unknown, returned by Mr. Ted Bonney	6/2/76
(230) Off Rancho Buena Vista, Baja California, Mexico	Mr. Peter Sudkr So. Orange, Ca., USA Captain/Lino	6/28/75	18 mi. SSW of Mazatlán, Mexico	Mr. Charles Taylor San Marino, Ca., USA Sportfishing boat	12/28/75

Tagged			Recovered		
Species/location of tagging	Tagged by	Date (month, day/year)	Location	Recovered by	Date (month, day/year)
<u>ROOSTERFISH</u> (223) Off Punta Colorado, Baja California, Mexico	Mr. Donald Van Hoff Anaheim, Ca., USA Captain/unknown	7/10/75	Off Cabo San Lucas Baja California, Mexico	Mr. Lex Jones Costa Mesa, Ca., USA	3/1/76
(232) Off Punta Arena, Baja California, Mexico	Dr. John Ostenberg Boulder, Colorado, USA Captain/Naiyo	6/25/75	S. of Pt. Pescadero, Baja California, Mexico	Mr. John Minchin Del Mar, Ca., USA	5/28/76
<u>BARRACUDA</u> (216) Off Lizard Island, North Queensland, Australia	Mr. John Wilson Brisbane, Australia Captain/R. Ireland	24-29 8/75	Off Dayreef, North Queensland, Australia	Mr. J.B. Morgan Faukner, Vict., Australia	10/23/76
<u>YELLOWTAIL</u> (222) Point Candis, Baja California, Mexico	Mr. Art Pierce Fullerton, Ca. Captain/B. Barnes	11/28/72	Off cannery line, Ensenada, Mexico (fishing location unknown)	Mr. Carlos Lepe Dusnte Ensenada, Baja California Mexico	2/74
<u>MAKO SHARK</u> (217) Tag location and tagger unknown as of this date Tag #H15200	Unknown	Unknown	Off Coopers Beach near Manganui, New Zealand	Mr. A. Adams Manganui, New Zealand	10/11/76

Tagged			Recovered	
Species/location of tagging	Tagged by	Date (month, day/year)	Location	Recovered by Date (month, day/year)
<u>WHALER SHARK</u> (218) 4 mi. E of Dee Why, NSW, Australia	Ms. Pam Hudspeth Darling Point, NSW, Australia Captain/unknown	1/18/76	10 mi. E of Pt. Stephens Light (70 fm) near Nelson Bay NSW Australia. Caught by otter trawler	Mr. D. T. Asquith Nelson Bay, NSW Australia 9/28/76
<u>BLACK SEA BASS</u> (226) Anacapa Island, Ca., USA	Mr. W.G. Graham Thousand Oaks, Ca., USA Captain/unknown	9/3/73	Scorpion Bay, Santa Cruz Island, Ca., USA	Mr. Mike McCorkle Montecito, Ca., USA 6/27/76

Awards for each area consists of a cash award, 1st \$100.00 U.S., 2nd \$50.00 U.S. and 3rd \$25.00 U.S. plus an engraved plaque to all three winners. The hotel having the winning captain in each area receives an engraved plaque.

Winners of the 1976 Gardiner Foundation Awards are:

Eastern Area -

Resort Winner - Hotel Rancho Buena Vista

Captain: 1st - Jesus Araiza Ruiz (RBV)

Billfish tagged	90
Striped marlin	85
Black marlin	1
Sailfish	4

2nd - Lino Perez (RBV)

Billfish tagged	80
Striped marlin	76
Black marlin	1
Sailfish	3

3rd - Manuel Araiza Gonzales (RBV)

Billfish tagged	30
Striped marlin	30

Southern Area -

Resort Winner - None

Captain: 1st - Ramon Orozoco Burgoin

Billfish tagged	40
Striped marlin	35
Sailfish	5

2nd - Roberto Ceseña (Palmilla)

Billfish tagged	14
Sailfish	13
Striped marlin	1

3rd - Bernie Barrera

Billfish tagged	10
Striped marlin	9
Black marlin	1

PART II - PACIFIC BILLFISH ANGLER SURVEY

Conducted in cooperation with the
International Game Fish Association

Records on the trend of the catch rate for marine game species are few in number. The commercial catches of billfish in the Pacific, taken principally by longline fishing gear, are reasonably well documented over the years by species, area caught, days of fishing, and number of hooks fished. These worldwide longline fishery records showed that the world's billfish catch rose rapidly in the early 1960's to a peak in 1965 and has shown a steady decline since. The commercial catch composition worldwide for billfish is approximately 50% striped marlin, 30% sailfish with the remaining 20% composed of blue and black marlin and spearfish.

Since 1969, the National Marine Fisheries Service has conducted, in cooperation with big-game angling clubs throughout the Pacific, an annual angler catch effort survey of billfishing. This survey in the Pacific is the only oceanwide survey that attempts to measure the sportfish catch and effort trends for billfishing. Knowledge of the catch trends of billfish anglers in the many fishing locations throughout the Pacific, is of future importance in the management of the billfish resources.

In 1975, the billfish angler survey program in the Pacific became an annual cooperative survey with the International Game Fish Association. Marine game fish anglers who had fished in the Pacific for billfish in 1975 were asked to complete a postcard form which requested information of the number of days the angler engaged in billfishing, and the catch of billfish that he made. Both the effort (days fishing) and catch (numbers caught by species) data were requested by quarter for 1975.

Analysis of 1975 billfish angler catch and effort data shows a total effort of 7,303 angler days catching 2,802 billfish. This is an overall catch effort rate of 0.38 fish per day or 2.6 days fishing per fish. The 1975 data are nearly comparable to those observed in 1974 when the catch rate was 0.36 fish per day or 2.75 days fishing per fish. However, this rate continues to be well below the 1969-1972 average of 0.55 fish per day, and 1.80 days per billfish. The amount of fishing effort recorded by the survey in 1975 was down from that recorded in 1974 - 9,638 angler days (1974) compared to 7,303 angler days reported in 1975.

Angler responses were received for billfishing in not only the major locations but in many locations not normally associated with billfishing by most billfish anglers. Such locations are New Guinea, Thailand, Kuajalien, Persian Gulf, Guatamala, and Figi. A catch/effort listing for the major billfishing areas for each species follows:

Catch/effort 1974 and 1975 in days per fish (d/f)

<u>Striped marlin</u>	<u>1974</u>	<u>1975</u>
Southern California, USA	9.8 d/f	11.3 d/f
Baja California, Mexico	2.0	2.1
<u>Sailfish</u>		
Mazatlán, Mexico	1.6	1.2
Acapulco, Mexico	0.8	2.4
<u>Black marlin</u>		
North Queensland, Australia	1.2	1.6
<u>Blue marlin</u>		
Hawaii, USA	11.4	8.9

SUMMARY

In 1975, fishing for striped marlin was less productive off southern California than in 1974, and the fishing off Baja California, Mexico was at about the same catch rate as observed in 1974.

The sailfish catch rate dropped substantially off Acapulco which usually has a higher rate than any other port in Mexico. However, it remained approximately the same at Manzanillo.

Black marlin catch rate was down slightly from the 1974 level, and is down considerably from the high catch levels of 1971 and 1973.

The blue marlin catch rate showed a substantial increase off Hawaii in 1975.

Records for all areas reported upon are being maintained. In the future a comprehensive report will be prepared giving the results of your responses. The data collected in 1969-1971 were reviewed in a 1972 paper, "Angler catch rates of billfishes in the Pacific Ocean," which was presented at the International Billfish Symposium held in Kona, Hawaii. This paper reviewed the results of the Pacific survey 1969 through 1971. At that time, a total of 24,292 angler days had been reported with a catch of 13,495 billfishes. The average catch for all species combined for the 4-year-period was 0.55 billfish per angler day or 1.80 days fishing per billfish.

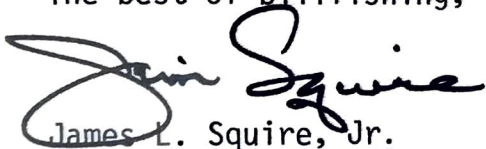
NOTE: Enclosed you will find the 1976 Pacific Billfish Angler Survey form. An increased response rate is requested from billfish anglers fishing the Pacific.

Again, I emphasize that we would like to have an honest, accurate-as-possible response from you, for the number of days in each quarter of 1976 you went billfishing and the number of billfish caught (boated or released). The accuracy of the resulting data depends on you. This survey is not to see which area has the highest catch rate, but to obtain a truthful measure of the impact of commercial and sport fisheries on the angler success of Pacific billfishing.

Please complete only one form per angler for any billfishing in 1976 only.

United States Government regulations require periodic revision of our mailing list for this report. If you wish to receive the next annual report, return the Angler survey Card with your name and zip code if applicable. If you did not billfish in 1976 and wish to receive the report indicate on the card "no billfishing" and your name will be retained on the list. Those individuals fishing and returning the survey form will be automatically retained on the mailing list.

The best of billfishing,



James L. Squire, Jr.
Fishery Biologist (Research)

U. S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center
P. O. Box 271
La Jolla, California 92038