



# Shark Tagging Update



## The California Department of Fish and Game

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As you all know by now, the Pelagic Shark Tagging Program was discontinued last year because of funding redirection. We did, however, issue tags throughout 2001 and will continue to do so this year until our tag supply has been exhausted. Currently, we have approximately 215 large 'SH' and 290 small 'JS' tags left. If you would like to tag sharks less than 3 feet, please contact me, and I will issue you some of our 'JS' tags. Our large 'SH' tags should only be used on sharks greater than 3 feet in total length. Please remember that the 25 tag limit is still in place. If our database shows that you have more than 25 outstanding tags (this includes both 'JS' and 'SH' tags), I will not issue you any more tags until we have received the tag cards in the mail. If any tags were lost, notify me immediately so I can update the database. The Department will continue to maintain the historical database and receive all tagging and recapture data.

This update is dedicated to all of our volunteer taggers who stuck with us this past year. Thank you all for your time, effort, and support. Please keep tagging and keep up the good work!

-Valerie Taylor, Marine Biologist



### 2001 TAGGING OVERVIEW

This year 25 active volunteers tagged 286 sharks, bringing the total to more than 11,300 sharks (Table 1). Five species of shark were tagged: blue shark (*Prionace glauca*), shortfin mako shark (*Isurus oxyrinchus*), thresher shark (*Alopias vulpinus*), leopard shark (*Triakis semifasciata*), and sevengill shark (*Notorynchus maculatus*). Fifteen tagged sharks were recaptured in 2001, bringing the recapture total to 217 (Table 1). The recaptures consisted of ten mako, two blue, and three leopard sharks.

Table 1. Summary of tagged (T) and recaptured (R) sharks, 1983-2001 (includes sharks tagged by CDFG and NMFS biologists).

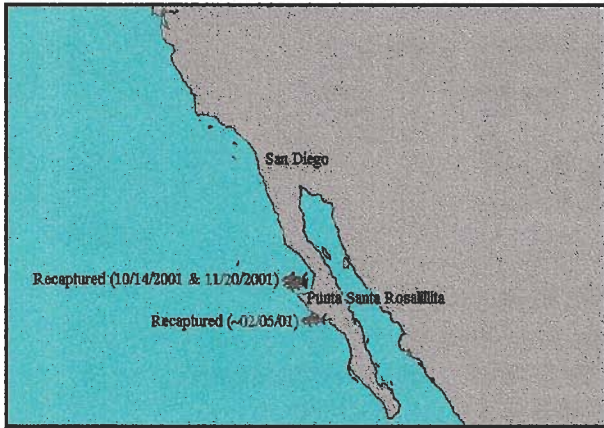
	1983-2000		2001*		Total	
	T	R	T	R	T	R
Blue Shark	7706	59	122	2	7828	61
Shortfin Mako	2790	124	136	10	2926	134
Thresher Shark	147	6	2	0	149	6
Angel Shark	107	6	0	0	107	6
Basking Shark	58	0	0	0	58	0
Sevengill Shark	71	6	4	0	75	6
Leopard Shark	112	1	20	3	132	4
White Shark	53	0	0	0	53	0
Soufjin Shark	7	0	0	0	7	0
Spiny Dogfish	5	0	0	0	5	0
Smoothhounds	3	0	0	0	3	0
Other Species	28	0	2	0	30	0
<b>Total:</b>	<b>11087</b>	<b>202</b>	<b>286</b>	<b>15</b>	<b>11373</b>	<b>217</b>

\*2001 preliminary data

### SHARK MOVEMENTS

#### MAKO SHARKS

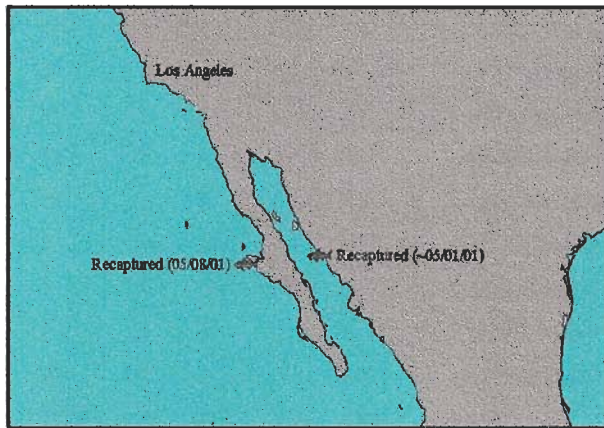
Ten mako sharks were recaptured this year. Seven were recaptured in the Southern California Bight, within 85 nm of their tagging positions. All of these sharks were at liberty for less than three months. The three remaining sharks were recaptured off Baja California, Mexico. The first shark was tagged on June 27, 1999, near San Diego, California. It traveled 387 nm and was at liberty for approximately a year-and-a-half (Figure 1). The second shark was tagged on June 10, 2001, off Pt. Vicente, California, and recaptured off Punta Santa Rosalillita, 345 nm from its point of release. The third shark was tagged on June 17, 2001, near La Jolla, California. It was also recaptured off Punta Santa Rosalillita and traveled 277 nm from its tagging position. Both sharks were at liberty for less than six months (Figure 1).



**Figure 1**

**BLUE SHARKS**

Two blue sharks were recaptured in 2001. The first shark was tagged on June 25, 2000, near Santa Cruz Island. It was recaptured off San Marcos, Mexico, approximately 1,186 nm from its point of release. The second shark was tagged on July 8, 2000, near San Clemente Island. It was recaptured off Baja California, Mexico, and traveled approximately 380 nm. Both sharks were at liberty for less than a year (Figure 2).



**Figure 2**

**LEOPARD SHARKS**

All three leopard sharks recaptured this year were tagged and caught within the San Francisco Bay. One shark was at liberty for slightly over a year. The other two sharks were at liberty for almost two years. All three sharks traveled less than 15 nm from their tagging positions.

On June 9, 2001, a male leopard shark was caught in San Francisco Bay of San Mateo, California. The shark was originally tagged on August 23, 1979, by a researcher in San Francisco Bay. During its 21.8 years at liberty, the shark grew 21 1/4 inches, averaging a little over 1/2 inch per year. At the time of tagging, the shark had also been injected with a tetracycline time marker; however, there were no vertebrae retrieved from the shark to verify its age. Thus, the shark's age could only be roughly estimated. Based on previous information on growth from the same tagging experiment, the shark was estimated to be 30 years old, about the maximum estimated life span of leopard sharks. This fish was one of a group of 948 leopard sharks tagged and released off Hunter's

Point in San Francisco Bay between July 26 and September 13, 1979. To date, a total of 120 leopard sharks have been recaptured from this group.

**2001 SHARK TAGGERS**

The following permit holders volunteered their time, effort, and expenses to help use up the Department of Fish and Game's shark tags this year. All of their efforts are greatly appreciated.

- |                          |                          |
|--------------------------|--------------------------|
| <b>Howard Arnold</b>     | <b>John O'Cain</b>       |
| <b>Jason Blower</b>      | <b>Keith Poe</b>         |
| <b>David Brackman</b>    | <b>Deana Poe</b>         |
| <b>Donald Bragg</b>      | <b>Steve Prime</b>       |
| <b>Andy Ellis</b>        | <b>Debbie Prime</b>      |
| <b>Manny Ezcurra</b>     | <b>Mark Rein</b>         |
| <b>Walter Heim</b>       | <b>Jeff Rogers</b>       |
| <b>Randall Holman</b>    | <b>Mike Schmidt</b>      |
| <b>Guy Irwin</b>         | <b>Chugey Sepulveda</b>  |
| <b>Rich Johnson</b>      | <b>Scott Smith</b>       |
| <b>Wayne Kelly</b>       | <b>Sean Van Sommeran</b> |
| <b>Jeffrey Landesman</b> | <b>Kevin Wright</b>      |
| <b>Chuck Myers</b>       |                          |

The Department would also like to thank the following agencies and institutions for their continued cooperation and time:

**Monterey Bay Aquarium, Pelagic Shark Research Foundation, and the National Marine Fisheries Service.**

**SHARK TAGGING ACTIVITIES**

The National Marine Fisheries Service (NMFS) conducted their annual shark tagging cruise aboard the *R/V David Starr Jordan* in June and July of this year. In total, 198 mako, 6 thresher, and 260 blue sharks were captured using longline gear. Of those, 52 blue sharks were tagged, and 185 makos and 6 thresher sharks were tagged and injected with oxytetracycline. In addition, blood was drawn from 50 mako and 5 thresher sharks for studies on condition at capture and post release survival.

**TAGGING REMINDERS**

Recently, we have received several tag cards that are missing information, such as a tagging date. Please make sure that you fill out the cards as accurately and completely as possible. Include location in latitude and longitude or as a well known landmark. Be as accurate as possible on length estimates and don't forget to write down the tagging date. Remember, tagging is of no value unless the card is filled out and returned to the Department as soon as possible.