# A SURVEY ON RECREATIONAL AND SUBSISTENCE FISHING IN SOUTHERN CALIFORNIA COASTAL WATERS 

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## INTRODUCTION

## SITE BACKGROUND

From the late 1940s to the early 1970s, Los Angeles area industries discharged large amounts of DDTs (dichlorodiphenyltrichloroethane) and PCBs (polychlorinated biphenyls) into ocean waters off the Southern California coast. Most of the DDTs released to the Southern California marine environment originated from the Montrose Chemical Corporation's pesticide manufacturing plant in Torrance, CA. Montrose discharged waste containing DDTs into Los Angeles County Sanitation District sewers that empty into the Pacific Ocean at White Point, on the Palos Verdes shelf. Montrose also dumped DDT-contaminated waste into the ocean near Santa Catalina Island. Additionally, large quantities of PCBs (polychlorinated biphenyls) from numerous industrial sources throughout the L.A. Basin were released into ocean waters through the Los Angeles County Sanitation Districts' sewer system.

DDTs are a mixture of similar chemicals widely used as pesticides starting in the 1940s. The U.S. banned the use of DDT in 1973. PCBs are a group of 206 related chemicals once widely used in electrical transformers, hydraulic fluids, and paints. PCBs were banned in the U.S. in 1977. Because of their stable chemical structure, DDTs and PCBs are slow to break down in the environment, and accumulate in plants and animals.

In 1992 and 1993, surveys by the United States Geological Survey (Lee, 1994) found more than 100 metric tons ( 110 US tons) of DDT and 10 metric tons ( 11 US tons) of PCBs still remained in the sediments on the ocean bottom of the Palos Verdes Shelf. The highest concentrations of DDTs and PCBs were in sediments surrounding the White Point wastewater outfall, at water depths from 40 to $80 \mathrm{~m}(130-260 \mathrm{ft}$ ) deep; but high concentrations are found over a much wider area extending north into Santa Monica Bay and south into the LA and Long Beach Harbor areas. Surveys by the Southern California Bight 1994 Pilot Project (Schiff \& Gossett, 1998) showed that elevated concentrations of DDTs and PCBs in bottom sediments
extended beyond the Palos Verdes Shelf into Santa Monica Bay, and also into Los Angeles and Long Beach Harbors.

In 1990 the State and Federal governments filed an action in Federal District Court against several parties responsible for the discharges of DDTs and PCBs. The comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund," 42 U.S.C. Section 9601 et seq.) provides a mechanism for addressing the nation's hazardous waste sites, allowing states and the federal government to bring legal claims against polluters for the cleanup and restoration of sites.

In December 2000 the federal and state governments and remaining defendants signed the last of four settlements, ending ten years of litigation. Under the terms of these four separate settlement agreements, Montrose Chemical Corporation and the other defendants agreed to pay $\$ 140$ million to the governments. Pursuant to the settlements, the U.S. Environmental Protection Agency (EPA) will use a share of the funds to reduce ecological and human exposures to DDTs and PCB contamination, and the Natural Resource Trustees will use a share of the funds to restore natural resources and associated services injured by the DDTs and PCBs released by these parties.

Many common sport fish caught from the ocean in the L.A. area (eight species or species groups) have levels of DDTs high enough that the State of California has issued fish consumption advisories, recommendations that people limit or avoid consumption of certain fish. A number of these sport fish also have concentrations of PCBs high enough to be of concern for human consumption. Consequently, the State of California has issued health advisories to limit or avoid consumption of these fish when caught at certain coastal locations of Los Angeles and Orange Counties. In addition, because of especially high levels of DDTs and PCBs in a particular fish species, white croaker, the State has imposed bag limits for this fish and has banned commercial fishing for white croaker in the vicinity of the Palos Verdes Shelf.

## EXISTING FISHING STUDIES AND FISH CONSUMPTION ADVISORIES IN SOUTHERN CALIFORNIA.

Several studies have been conducted on recreational fishing practices in Southern California. The Marine Recreational Fisheries Statistics Survey (MRFSS) is used to develop the Recreational Fishing Information Network (RecFin) and is administered in Southern California and elsewhere along the pacific coast by the Pacific States Marine Fisheries Commission. The MRFSS has been operating since 1979 on the West Coast and, except for the years 1990 , 1991, and 1992, continues to gather information annually. The purpose of RecFIN is to provide a reliable database for estimating the impacts of recreational fishing on marine resources.

Another relatively recent survey effort was undertaken in the early 1990s by the Santa Monica Bay Restoration Project, now known as the Santa Monica Bay Restoration Commission (SMBRC). The SMBRC conducted the Santa Monica Bay Seafood Consumption Study to determine seafood consumption patterns of recreational anglers in Santa Monica Bay and assess the risks of consuming fish caught within the bay (Allen et. al., 1996). While the information developed through this study is similar to some of the current information needed by EPA and the Trustees, the objectives and design of the SMBRC study are different enough such that there is still a need for additional, and more current information.

Certain species of fish in the ocean waters along the Southern California coast are contaminated with high levels of DDTs and PCBs. The State of California Office of Environmental Health Hazard Assessment (OEHHA) has issued public fish consumption advisories for these fish in coastal areas from Point Dume to Dana Point (see Appendix D for specific locations). The current color advisory trifold in Appendix D is a public outreach product based on the OEHHA advisory. Also included in Appendix D is a table from the California Sport fish Advisories developed by CaIEPA/OEHHA. The State has also banned commercial fishing for white croaker over a large area off the Palos Verdes peninsula. The high levels of contamination in certain species of fish, and the associated impacts on fishing, fish
consumption, and public health, are a major focus for the Environmental Protection Agency's (EPA) remediation and the Natural Resource Trustees' restoration efforts.

In a recent pilot public outreach program, EPA worked with community-based organizations (CBOs) to identify needs of the specific ethnic communities in fish contamination education efforts, including appropriate outreach methods and materials for specific communities. EPA is continuing these efforts in its current Institutional Controls Program. As part of the pilot, in Summer 2001, Heal the Bay conducted pier outreach at Venice and Santa Monica piers to educate a specific segment of the fishing population, the pier anglers. This pilot outreach program reached hundreds of anglers, however, the pier outreach location only included Venice and Santa Monica piers and no written report was produced to summarize the effort.

Upon review of existing data, the Trustees, including the National Oceanic and Atmospheric Administration (NOAA), and EPA determined that they still needed additional information to gain a better understanding of the effects of the DDT and PCB releases on recreational and subsistence anglers, how those anglers and their families are being impacted, what fishing changes and improvements might be acceptable to them, and how best to reach them with relevant fishing and health protection messages. On this basis, the Trustees and EPA decided to conduct a new study to further assess and update information on recreational and subsistence angling in Southern California coastal waters.

## PURPOSE AND OBJECTIVES

Both EPA and NOAA desire to communicate effectively with anglers in the process of developing and implementing their respective programs. As part of EPA's institutional controls program, EPA jointly with local communities, and other federal, state and local agencies, is actively conducting outreach activities for communities thought to be most affected by the contamination, including local fishing communities. To implement an effective outreach
program requires updated knowledge of the communities and their fishing and fish consumption practices. This angler study also provides important information for the Trustees' Montrose Settlements Restoration Program (MSRP), as it will be used not only to better understand the communities affected by the injuries in the case, but also to develop focused outreach programs to effectively include those communities in the restoration planning effort currently underway.

The purpose of this study is to gather qualitative information on fishing and fish consumption practices from people who fish, for recreation or subsistence, in coastal waters from Point Dume in Los Angeles County to Dana Point in Orange County. The Trustees and EPA have identified the need for additional qualitative information for the following objectives:

1. To help guide the development of more effective public outreach and education programs intended to reduce public health risks from exposure to DDT and PCBs in fish. Information gathered from the angler survey may be used to:
a) Improve outreach programs to ensure that they reach people who fish for, and consume, fish that may be more highly contaminated with DDT and PCBs and thus pose a significant health risk;
b) Identify communication methods and languages that are more likely to effectively reach these target audiences, based on their identified preferences for obtaining information related to fishing and fish contamination, their current awareness of fishing advisories, and how they obtained that current awareness;
c) Improve the effectiveness, and cultural appropriateness, of their outreach messages about reducing contaminant exposure, through improved understanding of catch preferences, the parts of the fish consumed, and the different ways the fish are prepared for eating.
2. To gain insights on fishing preferences (types of fish and locations) that may assist the Trustees in planning restoration projects to increase the availability of opportunities to fish for cleaner fish.

## SURVEY IMPLEMENTATION AND DESIGN

## OVERALL APPROACH

The data collection effort was an intercept survey of fishermen conducted along the Southern California coast. The survey was conducted in two phases. Phase 1 occurred from August 31 through October 6, 2002. Phase 2 occurred from May 25 through August 31, 2003. The Phase 1 and Phase 2 survey instruments were identical. A total of 2,441 intercept interviews were conducted with 1,181 in Phase 1 and 1,260 in Phase 2.

Geographically, the intercept survey covered roughly 66 miles of coastline from Newport Beach to Malibu Pier (see Figure 1). The actual sampling locations were derived from the sites used by the Pacific States Marine Fisheries Commission in their MRFSS/RecFIN study. All major fishing modes were interviewed. Specifically, the modes included: (1) Piers including Pier J; (2) beach/banks/jetties; (3) Private/rental boats; and (4) Party/charter boats.

Interviews were conducted on weekdays and weekends from 6:00 a.m. to 8:30 p.m. Both Phase 1 and Phase 2 interviews were conducted by bilingual interviewers in English and Spanish. However, in Phase 2 all interviewers were bilingual, while in Phase 1 only about onehalf of them were bilingual. After July 20, 2003 a short version of the questionnaire was made available for self-administration in 8 other languages. The collected interviews were coded, edited, keypunched, and quality assured. Basic descriptive statistics were run and the database was submitted to the Trustees and EPA.

## QUESTIONNAIRE DESIGN

The questionnaire was designed by a committee consisting of representatives from the Trustees, EPA and the contractors, Stratus Consulting, Inc., and CIC Research, Inc. Several
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iterations of the questionnaire were considered in multiple conference calls with the committee. Care was taken to design a questionnaire that would permit future detailed analysis, including but not limited to: (1) response of fishers to fish consumption advisories by site and fish species; (2) the role of ethnicity in fish consumption; (3) the impact of awareness of fish consumption advisories to preferred and targeted fish; and (4) evaluation of actions to improve fish consumption advisory awareness. An early draft of the questionnaire was administered as a pilot in June of 2002 to optimize the survey language and organization, and to gain a sense of how best to plan and perform the fieldwork. This work was conducted by Nakatomi and Associates, and resulted in a brief letter-report with recommendations on survey design and field implementation. The final questionnaire was also pre-tested on August 30, 2002 by the actual field personnel administering it in Phase 1 to determine whether any last minute changes were needed. No major changes were made as a result of the pre-test.

The questionnaire was designed for face-to-face interviewing of intercepted fishers. The questionnaire required the use of a colored fish of interest graphic (see Figure 2). The Figure 2 graphic has been reduced in size for reporting purposes. Fifteen fish of interest were considered. Twelve of the fish were specific species while surfperches, rockfishes and sharks were grouped, e.g., the barred surfperch depicted represented all surfperchs. Interviewers also collected the languages of non-respondents. Figure 3 depicts a graphic used to determine the language of non-respondents. Again the graphic has been reduced in size for reporting purposes. It should also be noted that the languages in the left column of the graphic have been added for clarity.

Ten language versions of the questionnaire were ultimately developed. Appendix A provides all versions of the questionnaire. In Phase 1 only English and Spanish versions of the questionnaire were used. Based upon the Phase 1 survey non-response results, a decision was made to develop short self-administered versions of the questionnaire in several additional languages for Phase 2. In Phase 2 after July 20, 2003, the short versions of the questionnaire
were available for self-administration in Armenian, Khmer, Chinese, Japanese, Korean, Russian, Tagalog, and Vietnamese. The languages for the short version of the questionnaire were chosen based on the results from the determination of language of non-response (Figure $3)$, and the ethnicities noted in completed questionnaires from Phase 1.

## SAMPLING DESIGN

To intercept fishers, a sampling design was developed which accounts for fishing sites, fishing pressure, fishing modes, weekdays/weekends, time of day and geographical areas between Newport Pier and Malibu Pier. A systematic sampling approach was developed for the Phase 1 effort as well as the Phase 2 effort. The same sampling approach was used for both efforts.

## Use of MRFSS Data

The sampling plan made use of intercept survey data collected as part of the Marine Recreational Fisheries Statistics Survey (MRFSS). Initiated in 1979 on the West Coast, the MRFSS has collected fishing catch information continuously including the geographical area between Newport Pier and Malibu Pier. The survey effort for the study area is managed by the California Department of Fish and Game under contract with the Pacific States Marine Fisheries Commission.

Table 1 summarizes the MRFSS's site locations. As the table indicates some sites contain multiple fishing modes. In addition, some sites have extensive areas. For example, the North end of Santa Monica Bay beach/bank mode extends from Santa Monica Pier North to Pt. Dume, roughly eight miles. A much more detailed site list may be obtained from California Fish and Game electronically by requesting the MRFSS site list.

One segment of the fishing public has not been included within the sampling design of the MRFSS as of the date of this angler survey: private access anglers, i.e., anglers who fish

Figure 2

## Fish of Interest

1. 


2.

seatred sandbas*
3.

4.

whitue croaker, kugfish,委合mego
5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.


Figure 3
Determination of Language of Non－Response

| English | 1. | Hello．If you speak English，please point to this line． |
| :---: | :---: | :---: |
| Armenian | 2 |  |
| Khmer | 3. |  |
| Cantonese | 4. | 喂，如果您說釆语，请指这条线。 |
| Mandarin | 5. | 噮，如果您說國语，请指这条线。 |
| Farsi | 6. |  |
| Hmong | 7. | Nyob zoo．Yog koj hais lus Hmoob no ces tib nias ntawm kab no． |
| Japanese | 8. |  |
| Korean | 9. | 안녕하신니깨！한곡 어률 하시면 이 줄을 가리키십시오． |
| Laotian | 10. |  |
| Russian | 11. | Здравствуйте．Если Вы говорите по－русски，покажите на эту строку． |
| Spanish | 12 | Hola．Si habla español，por favor señale esta linea |
| Tagalog | 13. | Hello．Kung nagsasalita kayo ng Tagalog，mangyaring ituro ang linyang ito |
| Thai | 14. | สวัสดีคะ หากคุณพูดภาษาไทย กรุณาซื้ที่บรรทัดนึ้ |
| Vietnamese | 15. | Chào quy̆ vị．Nếu quyy vị nơi tiéng Viẹt，xin chì ngay vào dòng này． |

from private/rental boats that depart from private marinas or other sites not included in the list of survey sites in the Southern California region by the MRFSS. Thus, since the sites selected in the sampling plan for this EPA/MSRP angler survey was built upon the MRFSS sites, this private access segment of the fishing public was not included within the EPA/MSRP angler survey.

The MRFSS also records fishing pressure at each site for weekdays and weekends. Fishing pressure is defined as the expected number of fishermen at a particular site using a particular fishing mode. Fishing pressure data is collected continuously and the database is periodically updated and summarized by month. While the MRFSS uses eight categories of fishing pressure, this survey aggregated these categories into three as follows:

|  | Number of <br> Expected Fishers | MRFSS |
| :--- | :---: | :---: |
|  | For entire day on a Weekday |  |
| And/or Weekend Day |  |  |$\quad$| Categories of |
| :---: | :---: |
| Expected Fishers |

The pressure data was aggregated to permit a manageable number of categories when weekdays/weekends and four separate fishing modes are considered for the sampling plan. The Phase 1 sample used MRFSS pressure data for September with weekends representing 45.7 percent of the fishing pressure and weekdays representing 54.3 percent. The Phase 2 sample used MRFSS pressure data for July with weekends representing 34.5 percent of the fishing pressure and weekdays representing 65.5 percent. It should be noted that a specific site/mode pressure could change between weekdays and weekends. For example, a pier site may fall in the medium pressure range on weekdays and the high-pressure range on weekends. In addition since there are more weekdays than weekend days, the weekend fishing effort is greater than the weekday effort when considered on a per-day basis.

Table 1
Site List Newport Beach Pier to Malibu Pier

| ID\# | Co. | Site | Geo Group | Site Name | City | Modes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 37 | 10 | 6 | Marina Del Rey jetties, sportfishing, launch | Marina Del Rey | 1,3,4 |
| 2 | 37 | 12 | 6 | Santa Monica Pier | Santa Monica | 1 |
| 3 | 37 | 13 | 3 | Long Beach Sportishing | Long Beach | 3 |
| 4 | 37 | 14 | 4 | 22nd Street Landing sportfishing | San Pedro | 3 |
| 5 | 37 | 15 | 4 | L.A. Harbor Sportfishing | San Pedro | 3 |
| 6 | 37 | 17 | 2 | Long Beach Marine Sportfishing | Long Beach | 3 |
| 7 | 37 | 105 | 2 | Dave's Launch Ramp | Long Beach | 4 |
| 8 | 37 | 110 | 4 | Cabrillo pier \& jetty, launch | Cabrillo Beach | 1,4 |
| 9 | 37 | 135 | 5 | Beach Cities Charters \& Rentals | Redondo Beach | 4 |
| 10 | 37 | 201 | 3 | Pier J | Long Beach | 2,4 |
| 11 | 37 | 202 | 3 | Shoreline Village, Pierpoint Landing | Long Beach | 1,2,3 |
| 12 | 37 | 204 | 2 | Seaport Village jetty | Long Beach | 1 |
| 13 | 37 | 205 | 4 | Abalone Cove | Palos Verdes | 2 |
| 14 | 37 | 206 | 4 | Royal Palms | San Pedro | 2 |
| 15 | 37 | 209 | 6 | North end Santa Monica Bay | Pt.Dume-SM Pic | 2 |
| 16 | 37 | 210 | 6 | South end Santa Monica Bay | SM Pier-Malaga | 2 |
| 17 | 37 | 211 | 4 | Palos Verdes | Malaga Cove-Lo | 2 |
| 18 | 37 | 214 | 2 | Alamitos Bay west jetty | Long Beach | 1,2 |
| 19 | 37 | 215 | 2 | Marina Stadium Alamitos Bay | Long Beach | 2 |
| 20 | 37 | 216 | 3 | Shoreline Village jetty | Long Beach | 1 |
| 21 | 37 | 303 | 5 | King Harbor | Redondo Beach | 1,2,3,4 |
| 22 | 37 | 305 | 6 | Venice Pier | Venice | 1 |
| 23 | 37 | 306 | 5 | Hermosa Beach Pier | Hermosa Beach | 1 |
| 24 | 37 | 308 | 5 | Redondo Beach Pier | Redondo Beach | 1 |
| 25 | 37 | 312 | 6 | Fisherman's Village | Marine Del Rey | 1 |
| 26 | 37 | 316 | 5 | Manhattan Beach Pier | Manhattan Bead | 1 |
| 27 | 37 | 401 | 6 | Malibu Beach Pier, Sportfishing | Malibu | 1 |
| 28 | 37 | 402 | 2 | Belmont Pier/Cherry Beach | Long Beach | 1,2,3 |
| 29 | 59 | 104 | 1 | Sunset Aquatic Park launch ramp | Seal Beach | 2,4 |
| 34 | 59 | 106 | 1 | Newport Beach Pier | Newport Beach | 1 |
| 30 | 59 | 201 | 1 | Sunset to Huntington Beaches | HB/Seal Beach | 2 |
| 31 | 59 | 202 | 1 | Huntington Beach Pier, launch | Hunt. Beach | 1,2,4 |
| 32 | 59 | 301 | 2 | Seal Beach Pier | Seal Beach | 1,2,3 |
| 33 | 59 | 314 | 1 | Newport Beach small jetties (6) | Newport Beach | 1 |

Mode Codes: $1=$ manmade, $2=$ beach $/$ bank, $3=$ party $/$ charter, $4=$ private/rental boat Marine Recreational Fisheries Statistics Survey

## Fishing Modes of Interest

The sample considered fishing modes of interest. Specifically, the sample was not allocated proportionally to the fishing effort in each mode. Rather, the committee decided to emphasize the shore modes which provide access to the greatest range of fishers. The fishing mode distribution of the sample was as follows:

| Pier | $65 \%$ |
| :--- | :--- |
| Beach/Bank/Jetty | $15 \%$ |
| Private/Rental Boats | $10 \%$ |
| Party/Charter Boats | $10 \%$ |

It should be noted that the private/rental boats mode does not include moored boats for which public access is unavailable. Thus, as is the case in the MRFSS, these boats have been excluded from the study.

## Geographical Subarea

In order to make interviewing efficient and to facilitate interviewing supervision, the study area was divided into six geographic subareas (see Figure 1). The six subareas are defined as:

| Subarea 1 | Newport Pier north to Kitts Highway |
| :--- | :--- |
| Subarea 2 | Kitts Highway north to Cherry Avenue |
| Subarea 3 | Cherry Avenue north to Navy Way |
| Subarea 4 | Navy Way north to Torrance County Beach |
| Subarea 5 | Torrance County Beach north to Dockweiler State Beach |
| Subarea 6 | Dockweiler State Beach north to Malibu Pier |

## Time of Day

The sampling plan controlled for time of day. Morning interviewing occurred from 6:00 a.m. to 2:00 p.m. Afternoon interviewing occurred from 2:00 p.m. to 8:30 p.m. Chosen fishing sites were assigned an interviewing time period that alternated between visits. For example, if Newport Pier began with a morning shift, the next visit was assigned an afternoon shift, the third visit was assigned a morning shift and so on. Alternating interviewing times increased the range of fishers who visited each site.

## Sample Draw

All potential interviewing dates in the Phase 1 and Phase 2 time periods were eligible to be drawn at random. However, the random draw of dates was weighted to account for weekday and weekend fishing activity, i.e., Phase 1: $45.7 \%$ weekends $/ 54.3 \%$ weekdays, Phase 2: $34.5 \%$ weekends/ $65.5 \%$ weekdays.

Under the direction of the Trustees, fishing sites, as shown in Table 1 above, were weighted such that the fishing modes of interest reflected the $65 \%$ pier, $15 \%$ beach/bankjetty, $10 \%$ private/rental boats, and $10 \%$ party/charter boat distribution. A stratified random sample was drawn across modes. It should be noted that for the sake of this study Pier $J$ is grouped with the pier mode although it is a beach/bank/jetty. ${ }^{1}$ In addition, the sample draw controlled for the low, medium, and high use sites in proportion to pressure. The selected sites were grouped into the six geographical areas and assigned a morning or afternoon interviewing shift as discussed above. It should be noted that in some cases sites in adjacent geographical areas were grouped for a given interviewing day to allow cost effectiveness of the effort. An interviewing day consisted of three sites. The site groups were randomly assigned to the randomly chosen interviewing dates.

## Sampling Calendar

The results of the sample draw were summarized into a sampling calendar. Table 2 summarizes the Phase 1 sample while Table 3 summarizes the Phase 2 sample. The highlights in the table distinguish weekend interviewing dates from weekdays.

[^0]Table 2
Phase 1 Sample

| Fall 2002 - Random Sample for WeekDAY and WeekEND Interviewing |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
| AM/PM | Date of Survey | OBS | Day of Weef | Geographic Grouping | County | Site Number | Site Name | Pressure Level | Study Mode | MRFSS Mode |
| AM | 8131/2002 | 3 | we | 1 | 59 | 104 | Sunsel Acuatic Park launch ramp | Medium | Frvate Rentals | Prvate Rental |
| AM | 81312002 | 10 | v | 2 | 37 | 204 | Seaport vilage jety | Medium | Beach Bankluetys. | Man Made |
| AM | $8131 / 2002$ | 12 | we | 2 | 37 | 17 | L. E. Marina Sportishing | High | Party Eoats | Party/Charter |
| AM | $911 / 2002$ | 24 | we | 4 | 37 | 110 | Cabrllo pier \& Jety laurch | Hgh | Piers 4 Pierl | Man Made |
| AM | 91112002 | 26. | we | 5. | 37 | 306 | Hermosa Eeach pler | Medium | Plers + Pler $J$ | Nan Made |
| AM | 9112002 | 27 | we | 5 | 37. | 308 | Recondo Beach pler | Wigh | Plers + Pler $J$ | Mar Made |
| AM | 9122002 | 31 | we | 5 | 37 | 308 | Recondo Beadn pier | High | Plers + Piers | Mat Made |
| AM | 9/5/2002 | 27 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Piers + Pier J | Man Made |
| AM | 9/5/2002 | 32 | wd | 5 | 37 | 306 | Hermosa Beach pier | Low | Piers + Pier J | Man Made |
| AM | 9/5/2002 | 33 | wd | 5 | 37 | 308 | Redondo Beach pier | Medium | Piers + Pier J | Man Made |
| PM | 91712002 | 30 | we | 5 | 37 | 308 | Redondo Beach pier | High | Piers + Pier | Man Made |
| PM | $9 / 712002$ | 35 | we | 6 | 37. | 401 | Mallou Eeach pler Sportishing | Medium | Piers 4 Pier J | Man Made |
| PM | $97 / 12002$ | 36 | we | 6 | 37 | 10 | Marna Del Rey jettes, sportishing launch | Medium | Beach BanklJettys. | Man Mado |
| PM | 91812002 | 4 | we | 1 | 59 | 104 | Sunset Aquatic Park launct ramp | Medilim | Private Rentals | Private Rental |
| PM | 918/2002 | 11 | we | 2 | 37 | 204 | Seaport Vllage dety | Medilim | Beach BankNetys | Man Made |
| PM | 918/2002 | 13 | we | 2 | 37 | 402 | Belmont bier | Heh | Plers + Piers | Nar Made |
| PM | 9/9/2002 | 8 | wd | 2 | 37 | 105 | Dave's launch ramp | Medium | Private Rentals | Private Rental |
| PM | 9/9/2002 | 12 | wd | 2 | 37 | 402 | Beimont pier | Medium | Piers + Pier J | Man Made |
| PM | 9/9/2002 | 16 | wd | 2 | 59 | 301 | Seal Beach Pier | Medium | Piers + Pier J | Man Made |
| AM | 9/10/2002 | 29 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Piers + Pier J | Man Made |
| AM | 9/10/2002 | 36 | wd | 6 | 37 | 210 | South end Santa Monica Bay | Low | Beach Bank/Jettys | Beach/Bank |
| AM | 9/10/2002 | 37 | wd | 6 | 37 | 10 | Marina Del Rey jetties, sporttishing, launch | Medium | Private Rentals | Private Rental |
| AM | 9/12/2002 | 26 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Piers + Pier J | Man Made |
| AM | 9/12/2002 | 30 | wd | 5 | 37 | 135 | Beach Cities Charters \& Rentals | Low | Private Rentals | Private Rental |
| AM | 9/12/2002 | 31 | wd | 5 | 37 | 306 | Hermosa Beach pier | Low | Piers + Pier J | Man Made |
| PM | 9114/2002 | 22 | we | 4 | 37 | 15 | L A Harbor Sportishing | High | Party Eoats | Partyluarter |
| PM | 9/14/2002 | 23. | we | 4 | 37 | 110 | Cabrilo pier \& Jetty Jaunch | High | Piers 4 Pier | Man Made |
| PM | 91442002 | 25 | we | 5 | 37 | 316 | Manhattan Eeach pier | Low | Plers + Pler J | Man Made |
| AM | 911512002 | 18 | we | , 3 | 37 | 201 | Pler ${ }^{\text {d }}$ | High | Piers + Pler | Beachbank |
| AM | 9/15/2002 | 20. | We | Vay 4 | 37 | 211 | Palos Verdes | Low | Beach Bank/setys. | Beachrank |
| AM | 915 2002 | 21 | we | 4 | 37. | 14 | 22nd St landing Sporttishing | High | Pary Soats | Particharter |
| PM | 9/17/2002 | 28 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Piers + Pier J | Man Made |
| PM | 9/17/2002 | 34 | wd | 5 | 37 | 308 | Redondo Beach pier | Medium | Piers + Pier J | Man Made |
| PM | 9/17/2002 | 35 | wd | 6 | 37 | 305 | Venice Pier | Low | Piers + Pier J | Man Made |
| PM | 9/18/2002 | 4 | wd | 2 | 37 | 214 | Alamitos Bay West Jetty | Low | Beach Bank/Jettys | Man Made |
| PM | 9/18/2002 | 5 | wd | 2 | 37 | 215 | Marine Stadium Alamitos Bay | Low | Beach Bank/Jettys | Beach/Bank |
| PM | 9/18/2002 | 6 | wd | 2 | 37 | 17 | L.B. Marina Sportfishing | Medium | Party Boats | Party/Charter |
| AM | 9/19/2002 | 39 | wd | 6 | 37 | 12 | Santa Monica pier | Medium | Piers + Pier J | Man Made |
| AM | 9/19/2002 | 41 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportfishing | Medium | Piers + Pier J | Man Made |
| AM | 9/19/2002 | 45 | wd | 6 | 37 | 10 | Marina Del Rey jetties, sportfishing, launch | Medium | Beach Bank/Jettys | Man Made |
| AM | 9/20/2002 | 43 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportishing | Medium | Piers + Pier J | Man Made |


| PM | 9/21/2002 | 28 | we | 5 | 37 | 308 | Redondo Beach pier | High | Piers + Pier $J$ | Man Made |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM | 9/2112002 | 32 | we | 6 | 37. | 305 | Venice Pier | Medium | Piers + Pler $J$ | Man Made |
| PM | 9/21/2002 | 34 | we | 6. | 37 | 401 | Malibu Beach pier, Sportishing | Medium | Piers + Pier J | Man Made |
| PM | 9/22/2002 | 2 | we | 1 | 59 | 104 | Sunset Aquatic Park launch ramp | Medium | Private Rentals | Private Rental |
| PM | 9/22/2002 | 7 | we | 1 | 59 | 106 | Newport Dunes | Medium | Piers + Pier J | Man Made |
| PM | 9/22/2002 | 9 | we | 2 | 59 | 301 | Seal Beach Pler | Medium | Plers + Pier U | Man Made |
| AM | 9/23/2002 | 9 | wd | 2 | 37 | 105 | Dave's launch ramp | Medium | Private Rentals | Private Rental |
| AM | 9/23/2002 | 13 | wd | 2 | 37 | 402 | Belmont pier | Medium | Piers + Pier J | Man Made |
| AM | 9/23/2002 | 17 | wd | 3 | 37 | 216 | Shoreline Village Jetty | Low | Beach Bank/Jettys | Man Made |
| AM | 9/25/2002 | 1 | wd | 1 | 59 | 202 | Huntington Beach pier, launch | Low | Beach Bank/Jettys | Beach/Bank |
| AM | 9/25/2002 | 2 | wd | 1 | 59 | 106 | Newport Dunes | Medium | Piers + Pier J | Man Made |
| AM | 9/25/2002 | 3 | wd | 2 | 37 | 214 | Alamitos Bay West Jetty | Low | Beach Bank/Jettys | Beach/Bank |
| AM | 9/26/2002 | 19 | wd | 3 | 37 | 202 | Shoreline Village, Pierpoint Landing | Medium | Party Boats | Party/Charter |
| AM | 9/26/2002 | 20 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| AM | 9/26/2002 | 23 | wd | 4 | 37 | 205 | Abalone Cove | Low | Beach Bank/Jettys | Beach/Bank |
| PM | 9/27/2002 | 22 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| PM | 9/27/2002 | 42 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportfishing | Medium | Piers + Pier J | Man Made |
| PM | 9/28/2002 | 16 | we | 3 | 37 | 13 | Long Beach Sportishing | High | Party Boats | Party/Charter |
| PM | 912812002 | 17. | we | 3 | 37 | 201 | PierJ | High | Plers + Pler $J$ | Beach/Bank |
| PM | 9/28/2002 | 19 | we | 4 | 37 | 206 | Royal Paims | Low | Beach Bank/Jettys | Beach/Bank |
| AM | 9/29/2002 | 5 | we | 1 | 59 | 104 | Sunset Aquatic Park launch ramp | Medium | Private Rentals | Private Rental |
| AM | 9/29/2002 | 14 | we | 2 | 37 | 402 | Belmont pier | High | Piers + Pier J | Man Made |
| AM | 9129/2002 | 15 | we | 3 | 37 | 202 | Shoreline Vilage. Pierpoint Landing | Medium | Beach Bank/Jettys | Man Made |
| AM | 10/1/2002 | 7 | wd | 2 | 37 | 17 | L.B. Marina Sportfishing | Medium | Party Boats | Party/Charter |
| AM | 10/1/2002 | 11 | wd | 2 | 37 | 402 | Belmont pier | Medium | Piers + Pier J | Man Made |
| AM | 10/1/2002 | 15 | wd | 2 | 59 | 301 | Seal Beach Pier | Medium | Piers + Pier J | Man Made |
| PM | 10/2/2002 | 38 | wd | 6 | 37 | 12 | Santa Monica pier | Medium | Piers + Pier J | Man Made |
| PM | 10/2/2002 | 40 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportishing | Medium | Piers + Pier J | Man Made |
| PM | 10/2/2002 | 44 | wd | 6 | 37 | 10 | Marina Del Rey jetties, sportishing, launch | Medium | Beach Bank/Jettys | Man Made |
| PM | 10/3/2002 | 10 | wd | 2 | 37 | 105 | Dave's launch ramp | Medium | Private Rentals | Private Rental |
| PM | 10/3/2002 | 14 | wd | 2 | 37 | 402 | Belmont pier | Medium | Piers + Pier J | Man Made |
| PM | 10/3/2002 | 18 | wd | 3 | 37 | 13 | Long Beach Sportfishing | Medium | Party Boats | Party/Charter |
| PM | 10/4/2002 | 21 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| PM | 10/4/2002 | 24 | wd | 4 | 37 | 14 | 22nd St Landing Sportfishing | Medium | Party Boats | Party/Charter |
| PM | 10/4/2002 | 25 | wd | 4 | 37 | 15 | L.A. Harbor Sportfishing | Medium | Party Boats | Party/Charter |
| AM | 1015/2002 | 29 | We | 5 | 37. | 308 | Redondo Beach pler | High | Piers + Pler J | Man Made |
| AM | 1015/2002 | 33 | we | 6. | 37 | 305 | Venice Pier | Medium | Piers + Pier J | Man Made |
| AM | 10/6/2002 | 1 | we | 1 | 59 | 104 | Sunset Aquatic Park launch ramp | Medium | Pivate Rentals | Private Rental |
| AM | 10/6/2002 | 6 | we | 1 | 59 | 106 | Nevport Dunes | Medium | Piers + Pler J | Man Made |
| AM | 1016/2002 | 8 | we | 2 | 37. | 214 | Alamitos Bay West Jetty | Low | Beach Bank/Jettys | Beach/Bank |

Table 3
Phase 2 Sample

| Summer 2003 - Random Sample for WeekDays 8. WeekEnds |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AM/PM | Date of Survey | OBS | Day of Week | Geographic Grouping | County | Site Number | Site Name | Pressure Level | Study Mode | MRFSS Mode |
| AMV | 25\%MAy 03 | 28 | We | 6 | 37 | 401 | Malibu Beach pler Spollishing | Fligh | Plers t Piers | Man Mado |
| AM | 25 May 03 | 29. | we | 6. | 37 | 10. | Mrrina Cel Rel lettes, sportisting, launch | High | Beach Banliletys | Man Made |
| AM | 25 May -03 | 25. | we | 6 | 37 | 12 | Santa Monica pier | High | Plers + Plers | Man Made |
| PM | 28-May-03 | 16 | wd | 2 | 37 | 402 | Belmont pier | High | Plers + Pier J | Man Made |
| PM | 28-May-03 | 27. | wd | 3 | 37 | 13 | Long Beach Sportfishing | High | Party Boats | Party/Charter |
| PM | 28-May-03 | 18 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| PM | 30-May-03 | 6 | wd | 2 | 37 | 214 | Alamitos Bay West Jetty | Medium | Beach Bank/Jettys | Man Made |
| PM | 30-May-03 | 12 | wd | 2 | 37 | 402 | Belmont pier | High | Piers + Pier J | Man Made |
| PM | 30-May-03 | 10 | wd | 2 | 37 | 105 | Dave's launch ramp | High | Private Rentals | Private Rental |
| PM | 2-Jun-03 | 31 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Piers + Pier J | Man Made |
| PM | 2-Jun-03 | 28 | wd | 4 | 37 | 211 | Palos Verdes | Low | Beach Bank/Jettys | Beach/Bank |
| PM | 2-Jun-03 | 22 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Private Rental |
| AM | 12-Jun-03 | 44 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportfishing | Medium | Piers + Pier 3 | Man Made |
| AM | 12-Jun-03 | 48 | wd | 6 | 37 | 10 | Marina Del Rey jetties, sportfishing, launch | High | Private Rentals | Private Rental |
| AM | 12-Jun-03 | 41 | wd | 6 | 37 | 209 | North end Santa Monica Bay | Low | Beach Bank/3ettys | Beach/Bank |
| AM | 15, Mn 03 | 11. | We | 3 | 37 | 13 | Long Beach Sportishiog | High | Pary Eoats | Party ${ }^{\text {a }}$ arter |
| AM | 16. lund 0 | 12 | we | 3 | 37. | 201 | Pier ${ }^{\text {d }}$ | High | Plers + Pier f | Beach/sank |
| AM | 15. $\operatorname{lin} 03$ | 4 | we | 2 | 37 | 204 | Soaport Vilage fety . | Mediun | Beach SanklJetys | Man Made |
| AM | 17-Jun-03 | 34 | wd | 5 | 37 | 306 | Hermosa Beach pier | Medium | Piers + Pler J | Man Made |
| AM | 17-Jun-03 | 23 | wd | 3 | 37 | 201 | Pier J | Medium | Plers + Pier J | Beach/Bank |
| AM | 17-Jun-03 | 36 | wd | 5 | 37 | 308 | Redondo Beach pier | Medium | Piers + Pier J | Man Made |
| AM | 18-Jun-03 | 52 | wd | 6 | 37 | 12 | Santa Monica pier | High | Piers + Pier J | Man Made |
| PM | 18-Jun-03 | 53 | wd | 6 | 37 | 12 | Santa Monica pier | High | Piers + Pier J | Man Made |
| AM | 21 Lun 03 | 18 | we | 5 | 37. | 306 | Hermosa Beach pler | Medium | Pers $~+~ P l e r)$ | Man Made |
| AM | $21 . \operatorname{lan} 63$ | 26. | wo | 6 | 37. | 404 | Malbu Beach pler. Sporfishing | High | Piers + Piery | Man Made |
| AM | 21 Lun-03 | 20. | We | 5 | 37. | 308 | Redordo Beach pier | High | Piers - Pler J | Man Made |
| PM | 22 lun 03 | 22 | wo | 6 | 37 | 210 | South end Santa Monica Ray | Low | Beach Bank/jetys | Beach/8ank |
| PM | 22 Lur-03 | 23 | wo | 6 | 37 | 305 |  | Medium | Plers + Pilat | Man Made |
| AM | 23-Jun-03 | 30. | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, lainch | Medium | Private Rentals | Private Rental |
| AM | 23-Jun-03 | 33 | wd | 4 | 37 | 15 | L.A. Harbor Sportfishing | High | Party Boats | Party/Charter |
| AM | 23-Jun-03 | 21 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| PM | 25-Jun-03 | 32 | wd | 4 | 37 | 14 | 22nd St Landing Sportishing | High | Party Boats | Party/Charter |
| PM | 25-Jun-03 | 29 | wd | 4 | 37 | 110 | Cabrillo pier \& jetty, launch | Medium | Private Rentals | Private Rental |
| PM | 25-Jun-03 | 20 | wd | 3 | 37 | 201 | Pier J | Medium | Piers + Pier J | Beach/Bank |
| PM | 2 LLH 03 | 7. | we | 2 | 37 | 402 | Betmont pier | High | Plers + Pler 4 | Man Made |
| PM | $28.10 n-03$ | 2 | we | 1 | 59 | 106 | Newport Dunes | Mediun | Piers + Piers | Man Made |
| PM | 28-314-03 | 3 | we | 23:2 | 59 | 301 | Seal Beach Pier | Medium | Piers - Pler 1 | Man Made |
| AM | 30-jun-03 | 46 | wd | 6 | 37 | 401 | Malibu Beach pier, Sportishing | Medium | Piers + Pier J | Man Made |
| AM | 30-Jun-03 | 55 | wd | 6 | 37 | 10 | Marina Del Rey jetties, sportfishing, launch | High | Beach Bank/Jettys | Man Made |
| AM | 30-Jun-03 | 50 | wd | 6 | 37 | 12 | Santa Monica pier | High | Piers + Pier J | Man Made |
| AM | 7 -Jul-03 | 15 | wd | 2 | 37 | 402 | Beimont pier | High | Piers + Pier J | Man Made |
| AM | 7-Jul-03 | 3 | wd | 2 | 59 | 301 | Seal Beach Pier | Medium | Piers + Pler J | Man Made |
| AM | 7-Jul-03 | 4 | wd | 2 | 37 | 204 | Seaport Village Jetty | Medium | Beach Bank/Jettys | Man Made |
| PM | 10-Jul-03 | 14 | wd | 2 | 37 | 402 | Belmont pier | High | Piers + Pier J | Man Made |
| PM | 10-Jul-03 | 9 | wd | 2 | 37 | 17 | L.B. Marina Sportishing | High | Party Boats | Party/Charter |
| PM | 10-Jul-03 | 2 | wd | 2 | 59 | 301 | Seal Beach Pier | Medium | Piers + Pier J | Man Made |



## CONDUCT OF THE SURVEY

Prior to the Phase 1 survey effort, survey supervisors toured the fishing sites noted in Table 1. Prior to each Phase, survey supervisors conducted survey training sessions. Besides basic face-to-face interviewing techniques, the training sessions focused on:

- Questionnaires (Appendix A)
- Site visit data base forms (Appendix B)
- Non-response tally forms (Appendix C)
- Use of fish boards (Figure 2)
- Use of language board (Figure 3)
- Trifold handouts (Appendix D)

Interviewers were provided the necessary materials to conduct the survey along with NOAA shirts and identification badges.

On a given interviewing day, the survey supervisor and interviewers traveled to the chosen sites on a morning or afternoon shift. During the course of interviewing, the supervisors checked the progress of each interviewer. To the extent possible, all fishers at a given site, while the survey agent was at the site, were approached. The completed interviews were given to the survey director. Ten percent of the interviews were chosen at random and validation telephone interviews were conducted from the contractor's central telephone room facility.

## Deviations from the Sampling Plan

During the course of interviewing some variation from the interviewing schedule was necessary. First, if the MRFSS survey was scheduled for the site on the schedule, the site was rescheduled to avoid interviewing conflict. Second, unscheduled problems arose during the interviewing. For example, at one point Balboa Pier was closed for construction and the next nearest pier was used as a replacement. Third, rescheduling was necessary for some unanticipated conflicts. For example, a launch ramp (private/rental boat mode) visit had to be shortened to accommodate an unannounced Coast Guard Safety Inspection at the site. Appendix F details all changes made to the interviewing schedule. When deviations from the original
sampling plan occurred, alternatives within each particular stratum were selected to maintain the integrity of the original stratified random sample design.

The duration spent at a given site was not always constant. For example, to interview a party/charter boat mode, interviews had to be conducted before the boat left and/or when the boat returned. For this mode interviews tended to occur over a relatively short period of time with intensive effort. As the site visit data base forms (Appendix B) indicate, the date, site, mode, interviewer, start time, and stop time exists as a submitted data base. This data base documents the time spent at each site/mode for each collected interview in the Phase 1 and Phase 2 data base.

During the course of the study design, the committee suggested involving certain community based organizations (CBO), or other organizations in the interviewing efforts. An effort to recruit such participation resulted in one individual from the Cabrillo Marine aquarium. In addition, efforts were made to avoid conflicts with other surveying/outreach programs including the RecFIN work and the Heal the Bay pier outreach campaign. Only one conflicting situation arose during Phase 2, in which Heal the Bay was distributing handouts on the same site and day of this interviewing effort. Respondents tended to confuse the two efforts. Although some limited interference occurred on this occasion, it was so minimal in comparison to the scope of the overall survey effort that it is considered to have had a negligible impact on the results.

The Phase 2 interviewing occurred over a longer time period than did the Phase 1 interviewing. As Table 4 indicates 1,181 Phase 1 interviews were conducted over 28 interviewing days. Table 5 shows that 1,260 were conducted over 31 interviewing days. In general, the average number of completed interviews per day was quite similar with an average of 42.2 per day in Phase 1 and 40.6 per day in Phase 2.

In summary, while this document details deviations from the sampling plan, the impacts of these deviations are believed to be negligible. The integrity of the original stratified random sample design was maintained.

Table 4

## Phase 1 Data Collection Effort

$\left.\left.\begin{array}{lc}\begin{array}{c}\text { Year } \\ \text { 2002 }\end{array} & \begin{array}{c}\text { Completed } \\ \text { Interviews }\end{array} \\ \text { August 31, 2002 }\end{array}\right] \begin{array}{c}30 \\ \text { September 1, 2002 }\end{array}\right) 50$

Table 5
Phase 2 Data Collection Effort

| Year <br> 2003 | Completed <br> Interviews |
| :---: | :---: |
| 25,2003 | 35 |

$\begin{array}{lr}\text { May 25, } 2003 & 35 \\ \text { May 28, } 2003 & 70\end{array}$
May 28, $2003 \quad 70$
May 30, 200365
June 2, $2003 \quad 24$
June 12, 200344
June 15, 200365
June 17, 200342
June 18, $2003 \quad 26$
June 21, $2003 \quad 57$
June 22, $2003 \quad 18$
June 23, $2003 \quad 20$
June 25, $2003 \quad 20$
June 28, $2003 \quad 62$
June 30, $2003 \quad 25$
July 7, $2003 \quad 44$
July 10, $2003 \quad 86$
July 11, $2003 \quad 54$
July 14, $2003 \quad 55$
July 15, 20034
July 16, $2003 \quad 17$
July 17, $2003 \quad 50$
July 20, $2003 \quad 99$
July 26, $2003 \quad 27$
August 4, $2003 \quad 37$
August 5, 200345
August 8, 20032
August 15, 200346
August 22, 200318
August 23, 200322
August 30, 200345
August 31, $2003 \quad \underline{36}$
1,260

Table 6 provides the final interviewing tally for Phase 1 and Phase 2 and in total. Overall, almost 72 percent of the fishers responded to the survey. The largest reason for non-response appears to be a language barrier. However, the language issue diminished significantly with the use of English/Spanish bilingual interviewers in Phase 2. The use of English/Spanish bilingual interviews in Phase 2 appears to have improved the overall response rate from 69.5 percent in

Phase 1 to 74.2 percent in Phase 2. However, the "not interested" and "already interviewed" categories increased from Phase 1 to Phase 2 as the language barrier diminished.

Table 6
Montrose Final Interviewing Tally
2002-2003

|  | $\begin{gathered} \text { Phase } 1 \\ 2002 \end{gathered}$ |  | $\begin{gathered} \text { Phase } 2 \\ 2003 \end{gathered}$ |  | $\begin{gathered} \text { Combined } \\ \text { 2002-2003 } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | \% | No. | \% | No. | \% |
| Completed interviews | 1,181 | 69.5 | 1,260 | 74.2 | 2,441 | 71.9 |
| Too busy | 53 | 3.1 | 44 | 2.6 | 97 | 2.8 |
| Appeared threatening | 3 | 0.2 | 1 | 0.1 | 4 | 0.1 |
| Not interested | 121 | 7.1 | 158 | 9.3 | 279 | 8.2 |
| Already interviewed | 94 | 5.5 | 153 | 9.0 | 247 | 7.3 |
| Language barrier | 245 | 14.4 | 80 | 4.7 | 325 | 9.6 |
| Other | 2 | 0.1 | 1 | 0.1 | 3 | 0.1 |
| Total | 1,699 | 100.0 | 1,697 | 100.0 | 3,396 | 100.0 |

After July 20, 2003, the self-administered short questionnaires became available (see Appendix A). Nine field days of interviewing remained in the survey when the forms became available. Two Chinese, six Korean, one Russian, one Tagalog, and three Vietnamese short forms were collected. These completed interviews were submitted separately to the committee and are not included in the Table 6 results.

## PROCESS DATA

The completed questionnaires were coded, edited, and keypunched. The first 200 interviews in Phase 1 were used to develop a codebook. Appendix E provides the codebook used in the English/Spanish interviews. Interviews in other languages were submitted to the committee as raw questionnaires. In addition, Appendix E provides a codebook for non-response (see Appendix C for the non-response tally forms) and an Angler Site Survey Codebook. A data entry program was developed for key entry of the data. The data entry program accounted for known variables (e.g., site codes, interviewing dates, etc.) as well as setting permissible ranges for variables and checking logical consistency.

Two forms of quality assurance were performed on each phase of the data set. First, a random sample of variables were drawn from the computer data file and compared to the actual questionnaires. The quality assurance effort followed MIL-STD 105, an American National Standard (see reference below). The process permitted checking both coding and keypunching. Second, Stratus Consulting conducted an independent quality assurance check on the data file using three forms of analysis. Branching pattern analysis was performed to ensure that the branching pattern was followed properly by survey administrators and respondents. Outlier analysis was conducted to evaluate the data for any extremely high or low values which could show summary statistics and subsequent analysis. Frequency distribution analysis entailed reviewing frequency distributions for each numeric variable to ensure that particular variables did not have unusually high frequencies at unusual values.

The quality assured data was submitted electronically to the committee. Three separate data files were submitted:

- Phase 1 and Phase 2 completed questionnaires
- Site visit data base
- Non-response tally form data base

In addition, descriptive statistics were submitted for Phase 1 and Phase 2.

## REFERENCES:

Lee, H. 1994. The Distribution and Character of Contaminated Effluent-affected Sediment, Palos Verdes Margin, Southern California, Expert Report, U.S. Geological Survey, Menlo Park, California, 237 pp .

Schiff, K.C. and R.W. Gossett. 1998. Southern California Bight 1994 Pilot Project; III Sediment Chemistry. Southern California Coastal Water Research Project, 7171 Fenwick Lane, Westminster, CA 92683.

American Society for Quality Control. 1981. American National Standard: Sampling Procedures and Tables for Inspection by Attributes, American Society for Quality Control, 310 West Wisconsin Avenue, Milwaukee, Wisconsin, 53203.

Allen. M. James, P.V. Velez, D.W. Diehl, S.E. McFadden, M. Kelsh. 1996. Demographic variability in seafood consumption rates among recreational anglers of Santa Monica Bay, Califomia in 19911992. Fishery Bulletin 94:597-610.

CAL/EPA and Office of Environmental Health Hazard Assessment (OEHHA), 2001. California sport fish consumption advisories.

## IIII

APPENDIX A
QUESTIONNAIRES BY LANGUAGE

- English
- Spanish
- Armenian
- Khmer
- Chinese
- Japanese
- Korean
- Russian
- Tagalog
- Vietnamese


OMB No. 0596-0110 exp. 4/30/06
Southern California Coast Angler Survey
Revised 6/29/03
Int $\qquad$ Site: $\qquad$
Date: $\qquad$ Mode: 1 pier 4 jetty 2 beach/bank $\frac{5}{5}$ charter/
Time: $\qquad$ 3 privirental boat party boat

Hello. My name is $\qquad$ I'm conducting a short survey that will be used to help State and Federal agencies improve fishing in this area. Could I ask you a few questions about your fishing?

1. Since May 1 st. how often have you gone saltwater fishing along the coast of Los Angeles and Orange Counties? Would you say it's ... (READ)
$\frac{1}{2}$ aimost every day 4 once a month or
2 $2-3$ times per week $\underline{5}$ less than once/month
3 a few times per month

## (PARTY/CHARTER BOATS, SKIP TO Q3))

1a. How long have you already been fishing today?
_ـ ${ }^{\text {h }}$ hrs + $\qquad$ min -2 NA
10. (Including the time you've arready spent), How long do you expect to fish today?
$\qquad$ hrs + $\qquad$ $\min$

## (ALL BOAT MODES, SKIP TO Q3)

2. Which of the following are reasons why you came to this particular fishing site to fish today? (SHOW CARD; IF MORE THAN 1 ANSWER. ASK: What is the most important reason you chose this site?
ONDERETME MOST IMPORTANT REASONO

$$
\begin{aligned}
& \text { Its close to home or work } \\
& \text { It has good parking or easy access } \\
& \text { I just like the place, the people, or the area } \\
& \text { I like the kinds of fish I can catch here } \\
& \text { I have good success fishing here } \\
& \text { I think the fish I catch here are safe to eat } \\
& \text { Other }
\end{aligned}
$$

3. Which tish on this list are you trying to catch today? (SHOW CARD)
4. Which of these types of fish do you usually catch in ocean waters off of Los Angeles and Orange Counties? (SHOW CARD)

|  |  | 04. <br> Typically Catch |
| :---: | :---: | :---: |
| 1. top smelt | 1 | 1 |
| 2. barred sandbass | 2 | 2 |
| 3 surf perches | 3 | 3 |
| 4. white croaker kingfish, tomcod | 4 | 4 |
| 5 Pacific (chub) mackeral | 5 | 5 |
| 6. sculpin, scorpionfish | 6 | 6 |
| 7. queentish | 7 | 7 |
| 8. kelp bass calico bass | 8 | 8 |
| 9. California halibut | 9 | 9 |
| 10. barracuda | 10 | 10 |
| 11. rockfishes (all species) | 11 | 11 |
| 12. bonito | 12 | 12 |
| 13. corbina | 13 | 13 |
| 14. shark | 14 | 14 |
| 15. guitarfish | 15 | 15 |
| 16. none of those/something else | 16 | 16 |
| 17. anything / can catch | 17 |  |
| 18. none (SKIP TO Q11) |  | 18 |

5. For those ocean fish you just said you usually catch. do you eat any of them?

$$
1 \text { yes } \quad 2 \text { no }
$$

6. Does anyone else in your household eat any of them?

> 1 yes (CONTINUE) 2 no (IF NOTO Q5 \& Q6. SKIP TO Q11)
7. How many people in your household eat them?

Total people who eat: $\qquad$
\# Under 18 years of age $\qquad$
\# of women aged 15-45 $\qquad$
8. Which of these types of fish that you catch yourself do you or others in your household eat? (SHOW CARD; IF NONE, CIRCLE CODE 16 \& SKIP TO Q11)
9. How do you usually prepare the fish? (PROBE WELL; SPECIFY FOR EACH TYPE EATEN; MULTIPLES OK) (Fry; broil/grill/BBQ; bake/boil/steam; raw; soup; other)
10. What parts of the fish do you eat? Do you eat the fillet or steak? ... Do you ever eat the head? ... Do you ever eat the guts? Do you ever eat the skin? (ASK FOR EACH TYPE OF FISH EATEN IN Q8; MULTS OK)

| Q8. Eat? (Circle\#'s) | Q9. How Prepared? |  |  |  |  |  | Q10. Parts Eaten? |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fry | $\begin{aligned} & \text { Broil, } \\ & \text { Grii, } \mathrm{BBQ} \end{aligned}$ | Bake, boil steam | Raw | Soup | $\begin{gathered} \text { Other } \\ \text { (specify) } \end{gathered}$ | Eat Filletisteak | Ever eat Head | Ever eat Guts | Ever eat Skin |
| 1. top smelt | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 2. barred sandbass | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 3. surf perches | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 4. white croaker etc | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 5. mackeral | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 6. sculpin, scorpionfish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 7. queenfish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 8. kelp/calico bass | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 9. California halibut | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 10. barracuda | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 11. rockfishes (all) | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 12. bonito | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 13. corbina | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 14. shark | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 15. guitarfish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 16. none of those |  |  |  |  |  |  |  |  |  |  |

11. If something could be done to change the kinds of fish you could catch where you're fishing today, what types of fish would you prefer? (SHOW LIST; CIRCLE ALL THAT APPLY; PROBE FOR ANY OTHERS)
12. top smelt
13. barred sandbass
14. surf perches
15. white croaker, kingfish, tomcod
16. Pacific (chub) mackeral
17. sculpin, scorpionfish
18. queenfish
19. kelp bass calico bass
20. California halibut
21. barracuda
22. rockfishes (all species)
23. bonito
24. corbina
25. shark
26. guitarfish
27. Other $\qquad$
28. Other $\qquad$
29. Other $\qquad$
30. Other $\qquad$

## 20. No preferences

12. Have you seen, heard, or read any health advisories about eating saltwater fish caught from coastal waters in Southern California?

13. In response to these advisories, do you do any of these? (SHOW CARD; CHECK ALL THAT APPLY)
1 avoid or eat less of certain kinds of fish
$\underline{2}$ change the way you clean or prepare fish
3 eat fewer fish
4 avoid fishing or fish less in certain locations
5 any others? (SPECIFY) $\qquad$
$\qquad$

6 have made no changes (DO NOT READ)
14. How have you gotten information on the health advisories about eating fish? (DO NOT READ CHOICES: CHECK ALL THAT APPLY)
1 Other fishermen/friends
2 Signs posted at piers/ beaches/ boat launches
3 Newspapers
4 Magazines
5 Television
6 Radio
7 The internet
8 Fishing license booklet
9 Bait or tackle shop
10 Don't remember

* Other (specify)

15. Which of these do you think are the best ways to get information to you about health advisories about eating fish, or fishing locations where you could avoid contaminated fish? (SHOW CARD; CHECK ALL THAT APPLY) (IF MORE THAN ONE ANSWER, ASK) Which is the best way?

1 Signs posted at pers/ beaches/boat launches
2 Newspapers $\qquad$
3 Magazines $\qquad$
4 Television $\qquad$
5 Radio $\qquad$
6 Internet Web Site
7. Writen brochure maled to me

8800 Number
9. Fishing license booklet

10 Bait or tackle shops
11 Other $\qquad$
Now I have just a few last questions to help us group your answers with those of others
16. How many of the people fishing with you today are members of your household?

Respondent + $\qquad$ hh members
17. Which of the following groups includes your age? Are you... (READ CHOICES)

| $\frac{1}{2}$ Under 18 | $\underline{3} 46-64$ |
| :--- | :--- |
| $\underline{4} 18-45$ | $\underline{4}$ or 65 and over |

4 or 65 and over
18. Which number on this card best describes your face, culture, or ethnic background? (SHOW CARD; RECORD NUMBER; ONE ANSWER ONLY)
\# $\qquad$ or
18
19. (HAND RESPONDENT TRI-FOLD: If we make more of these in other languages, what languages would be best for you and your household?
1 English
2 Spanish

3 Oher $\qquad$
20. What is your home ZIP code? (IF DK, ASK FOR CITY)

$$
\mathrm{ZIP} \quad \mathrm{OR}
$$

Cly $\qquad$
21. How long have you lived in Southern California?

| $\frac{1}{2}$ less than 1 year | $\frac{4}{5}$ Over 5 years |
| :--- | ---: |
| $\frac{2}{3} 1-2$ years a So, Cal. |  |
| $\frac{3}{2} 2-5$ years | resident |

22. Just in case my supervisor needs to verify my work, can I please get your first name and phone number? (INCLUDE AREA CODE)

Name $\qquad$

| Phone ( |  |  |
| :--- | :--- | :--- |
| Sex: | $\frac{1}{1 \text { male }}$ | $\underline{2}$ female |
| Interview quality: | 1 poor | $\underline{2}$ fair $\quad 3$ good |
| Language: | 1 English | $\underline{2}$ Spanish |



OMB No. 0596-0110 exp. 4/30/06

## Southern California Coast Angler Survey <br> Revised 6/29/03

Int: $\qquad$ Site: $\qquad$ Date:
Mode: 1 pier 4 jetty 2 beach/bank 5 charter/party 3 privirental boat boat Hora: $\qquad$
Hola. Mi nombre es $\qquad$ . Estoy realizando una encuesta breve que ayudará a organismos estatales y federales a mejorar la pesca en esta área. ¿Le puedo hacer algunas preguntas sobre su pesca?

1. ¿Con qué frecuencia ha ido de pesca a lo largo de la costa de los condados de Los Ángeles y de Orange desde el 1ero de Mayo? ¿Diría que...? (READ)
1 casi todos los dias
$\underline{2}$ 2-3 veces por semana
3 pocas veces al mes
4 una vez al mes
2. menos de una vez al mes

## (PARTY/CHARTER BOATS, SKIP TO Q3)

1a. Cuánto tiempo lleva pescando el dia de hoy?
$\qquad$ hrs + $\qquad$ $\min -2 N A$

1b. Incluyendo el tiempo que lleva pescando hoy, por cuánto tiempo pasara percando hoy?
$\qquad$ hrs + $\qquad$ $\min$

## (ALL BOAT MODES, SKIP TO Q3)

2. ¿Por cuáles de las siguientes razones vino hoy a pescar especialmente a este lugar? (SHOW CARD; IF MORE THAN 1 ANSWER, ASK:) ¿Cuál es la razón más importante por la que eligió venir a este lugar?

## ONOERTNEMOSTHMPOBTANTT

## 1

abajo
2 Buen estacionamiento o de fácil acceso
3 Me gusta el lugar, las personas o el área
4 Me gusta el tipo de pez que puedo pescar aqui
5 Tengo suerte pescando aqui
6 Creo que los peces de aqui se pueden comer
7 Otro $\qquad$
3. ¿Cuales de los siguientes peces en esta lista desea atrapar el día de hoy? (SHOW CARD)
4. ¿Cuáles de estos tipos de peces atrapa por lo general en la costa de los Condados de Los Ángeles y Orange? (SHOW CARD)

|  | Q3. Trying to Catch | Q4.Typical y Catch |
| :---: | :---: | :---: |
| 1. top smelt | 1 | 1 |
| 2. barred sandbass | 2 | 2 |
| 3. surf perches | 3 | 3 |
| 4. white croaker, kingfish, tomcod | 4 | 4 |
| 5. Pacific (chub) mackeral | 5 | 5 |
| 6. sculpin, scorpionfish | 6 | 6 |
| 7. queenfish | 7 | 7 |
| 8. kelp bass calico bass | 8 | 8 |
| 9. California halibut | 9 | 9 |
| 10. barracuda | 10 | 10 |
| 11. rockfishes (all species) | 11 | 11 |
| 12. bonito | 12 | 12 |
| 13. corbina | 13 | 13 |
| 14. shark | 14 | 14 |
| 15. guitarfish | 15 | 15 |
| 16. none of those/something else | 16 | 16 |
| 17. anything I can catch | 17 |  |
| 18 none (SKIP TO Q11) |  | 18 |

5. ¿Se come usted alguno de los pescados que acaba de mencionar que por lo general atrapa en el mar?

$$
1 \text { yes } \quad 2 \text { no }
$$

6. LAlguien en su hogar come cualquiera de los pescados que usted atrapa?

$$
\begin{array}{ll}
1 \text { yes (CONTINUE) } 2 \text { no (IF NOTOQ5 \& Q6, } \\
& \text { SKIP TOQ11)) }
\end{array}
$$

7. ¿Cuántas personas en su hogar comen el pescado que usted atrapa?

Total de personas que comen: $\qquad$
\# Menores de 18 años de edad $\qquad$
\# de mujeres entre 15 y 45 años $\qquad$
8. CCuales de estos tipos de peces que usted pesca come usted $u$ otras personas en su hogar? (SHOW CARD: IF NONE SKIP TO Q11)
9. ¿Como prepara el pescado por lo general? (SPECIFY FOR EACH TYPE EATEN: Frito; asadolparrillal BBQ ; al horno/cocidolvapor; crudo; sopa; otro)
10. ¿Qué partes del pescado se come usted? Se come el filete? Se come la cabeza? Se come los tripas? Se come la piel? (ASK FOR EACH TYPE EATEN IN Q8: CHECK ALL THAT APPLY)

| Q8. Eat? (Circle \#'s) | Q9. How Prepared? |  |  |  |  |  | Q10. Parts Eaten? |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fy |  | Bake bol | Raw | Soup | $\begin{aligned} & \text { Other } \\ & \text { fspeciy) } \end{aligned}$ | $\begin{gathered} \text { Eat } \\ \text { Filetstata } \end{gathered}$ | $\begin{gathered} \text { Ever eat } \\ \text { Head } \end{gathered}$ | Ever eat Cuts | $\begin{gathered} \text { Eves exin } \\ \text { Sxim } \end{gathered}$ |
| 1 top smelt | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 2. barred sanabass | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 3. surf perches | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 4. white croaker etc | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 5 mackeral | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 6. scupin, scorpionlish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 7. queenfish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 8. kep/calico bass | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 9. Califomia halibut | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 10. barracuda | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 11. rockfishes (all) | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 12. bonito | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 13. corbina | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 14. shark | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 15. guitarish | 1 | 2 | 3 | 4 | 5 |  | 1 | 2 | 3 | 4 |
| 16. none of those |  |  |  |  |  |  |  |  |  |  |

11. Si existiera la posibilidad de hacer algo para cambiar el tipo de peces que pudiera pescar hoy, ¿qué tipo de peces preferiria usted pescar? (SHOW LIST: CIRCLE ALL THAT APPLY; PROBE FOR ANY OTHERS)
12. top smell
13. barred sandbass
14. surf perches
15. white croaker, kingfish, tomcod
16. Pacific (chub) mackeral
17. sculpin scorpionfish
18. queenfish
19. kelp bass calico bass
20. Calfornia halibut
21. barracuda
22. rockfishes (all species)
23. bonito
24. corbina
25. shark
26. gutarfish
27. Otro
28. Otro

29. Otro
$\qquad$
30. Otro $\qquad$
31. No preference
32. ¿Ha visto, escuchado o leido algún mensaje de alerta de salud sobre no comer pescados de aguas saladas atrapados en la costa del Sur de Calfornia?

$$
1 \text { Yes } 2 \text { No (SKIP TOQ15) }
$$

13. En respuesta a estos mensajes de alerta, ¿hace alguna de las siguientes cosas? (SHOW CARD, CHECK ALL THAT APPLY)

1 Evita o come menos de ciertos tipos de
2 Cambió la manera en la que limpia o prepara el pescado

3 Come menos pescado
4 Evita ir de pesca o pescados de ciertos lugares
5 Otros $\qquad$

6 No ha realizado ningún cambio (DO NOT READ)
14. ¿Cómo se ha informado usted de los mensajes de alerta de salud sobre comer pescado? (DO NOT READ CHOICES; CHECK ALL THAT APPLY)
1 Otros pescadores / amistades
2 Avisos en los muelles/ playas/ botadura (rampa de lanzamiento)
3 Periódicos
4 Revistas
5. Televisión

6 Radio
7 El Internet
8 Libro de la licencia para pescar
9 Tiendas de equipo para pesca o camada
10 No recuerda

* Otro (Specify) $\qquad$

15. ¿Cuales de las siguientes maneras considera usted que sean las mejores para darle mensajes de alerta de salud sobre comer pescado o sobre lugares de pesca donde no haya peces contaminados? (SHOW CARD; CHECK ALL THAT APPLY) (IF MORE THAN ONE ANSWER, ASK:) ¿Cual seria la mejor?

## MNBER MNE BEST WAM

1 signs posted at piers/beaches/boat launches
2 newspapers $\qquad$
3 magazines $\qquad$
4 television $\qquad$
5 Radio $\qquad$
6 Intemet Web Site
7 Written brochure mailed to me
8800 number
9 Fishing license booklet
10 Bait or tackle shops
11 Other $\qquad$
Ahora sollo tengo unas pocas preguntas para poder agrupar sus respuestas junto con las de otras personas.
16. ¿Cuántas personas que vienen a pescar con usted son miembros de su hogar?

Entrevistado + $\qquad$ miembros hogar
17. ¿En cuales de los siguientes grupos se encuentra su edad? ¿Tiene usted. . ? (READ CHOICES)

1 Menos de 18 años $\frac{3}{4}$ de 46 a 64 años
18. ¿Qué número en esta tarjeta describe mejor su raza - antecedentes culturales o étnicos? (SHOW CARD; RECORD NUMBER; ONE ANSWER ONL.Y) \# $\quad 018$ $\qquad$
19. (HAND RESPONDENT BROCHURE:) Si realizamos esta encuesta en otros idiomas. ¿cuales serian los más apropiados para usted y las personas de su hogar?
1 inglés
2 Español

3 Other $\qquad$
20. ¿Cual es el código postal de su casa? (IF DK, ASK FOR CITY)
$\qquad$
City $\qquad$
21. ¿Cuánto tiempo lleva viviendo en el Sur de California?
1 Menos de 1 año
4 Más de 5 años
$\underline{2} 1-2$ años $\quad \underline{3}$ no es residente del 3-2-5 años Sur de Ca.
22. Solo en caso de que mi supervisor desee verificar mi trabajo. ¿me podria dar su nombre y teléfono, por favor? (INCLUDE AREA CODE)

Nombre $\qquad$
No de teléfono ( ) $\qquad$ - $\qquad$


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저는 주정부와 연방정부 기견들이 이 지역 내에서 행해지는 뉶시를 개 선하는 것을 돕기 위채 사용쵤 간단한 설문조사를 하고 있습니다. 기하의 핚시에 대한 다음의 질문에 대답해 주시젰습니까?

1. 2003년 4월 1 일 이ㅎㅜㅜ, 로스앤겔레스와 오렌지 카운티 해안에서 열마나 자주 바다 뉶시를 하셨습니까?저의 빼일1주일예 2-3번한 달에 몇 번 한 달에 한 번 미만
2. 주로 어떠 한 종류의 생선을 주ㄹㅗㅗ 잡으십니까? (캥선 가드 사진을 핳고하어 그 생선의 코드 번로흘 다윰 빈한에 적어후십시오:)
3. 로스옌젶례스와 오팬지 가운티 즌치 바다에서 잡은 셤션을 트십니까?
$\square$ 아니오 (아니오이면, 4뻔 질문예서 계속하십시오.)

3a. 예 라면, 게하 기족 중 몇 분이나 잠은 생선을 드십니까? (자신도 포 혀)
3b. 예라면, 대게 어면 빵벱으로 생선을 조려하십니꾜? (하나 이상 표시할 수 잇슾니대)
듁짐구이석쇠구이/벼비큠오븐 구이/삷읍찜회로 먹음 $\qquad$ 스픈 $\qquad$
3c. 머리 부분을 화 번이라도 드신 적이 있으십니까?
3 d . 내 장을 할 번이라도 드신 적이 있으십니까?
3 e . 간이나 다른 내장 부위를 한 번이라도 드신 적이 있으십니까? 3f. 껍질을 한번이라도 드신 적이 있으십니까?
$\square$ 예 $\quad \square$ 지아니오 아니오아니오
4. 남가주 연안애서 잔힌 바다 생셜을 뜨시는 것과 콴련항여 위생에 뎌한 견고문을 보거나, 들거나, 읽은 젹이 있으십니까? 에 $]$ 아니오 (아니오이면. 6번 질문에서 계속하십시오.)
5. 그럴 권로문이 어먼 방식으로 귀햐의 낚시에 변화를 주었술니까? (하나 이상 표시할축 있슴ㄴㄷ․

다른 셩선을 믹는다다른 방볍으로 생선을 처리 조리한다생선을 더 적게 먹는다다른 장소에서 낚시를 한더 (그 위치는?) $\qquad$기타 (자세히 적으십시오) $\qquad$나의 낚시 빰법에 어떠한 변촤도 추지 않았다
6. 생선율 먹는 것이나 오염 킨 생선율 피챨 수 였는 장소에서 낚시 하는 젓에 대핱 워챙견고문을 밭아본든 최상의 빵법이 다음 중 무엇이라 생각하십니쪄? (하나 이앙 표시햘 수 있슬니다.)
$\square$ 방퍄제/혜변 보트 선착장에 게시 된 안녜문신문 (어편 신문?잡지 (어떤 장징)델레미전 (어떤 채널?라디오 (어떤 맘谷乲?인터넷 ㅇㅞㅞ 사이트짐으로 배달됯 문자화푗 브로슈어정보를 제공하는 $1-800$ 전화헌호낚시 면허 책자미끼나 넦시 도구를 파는 업소에서의 안냬문기타 $\qquad$
7. 거하의 연령이 해당되는 그릅을 표시햐십시오.
18세 $\square 19-45$ 세 $46-64$ 셰65셀 이상
8. 귀하 댁의 우편번호가 무엇입니까? (모르흔 정우 자신이 거줌ㅎㅎ는 시를 적으십시오, )

## 우펼번호

$\qquad$ 초는
시 $\qquad$
9. 성별;남여 고맙습니다: 이 설문지와 싱선 카드를 조사원에제 돌려주십시오.

## Southern California Angler Survey <br> OMB\# 0556-0110 $\exp 4 / 30 / 06$ - (Russian - \#11)

Я провожу короткий опрос, который поможет обцефедерапьным агентстзам и агентствам итата исправить положение с рыболовством в этом регионе. Вы не могли бы ответить на нескопько вопросов о Ваших занятияк рыболовством?

1 Как часто вы рыбачили на побережье Пос-Анджелеса и южньх (апепьсиновых) графств, начиная с 1 -го апреля 2003 года?Поити каждый день2-3 разав неделюНескопько раз в месяяРеже чем раз в месяц

2 Рыб каких пород Вы обычно ловите? (Посмотрите изображения рыб на карточке и запишите их кодовые номера:)
3. Едите пи Вы рыбу, пойманную в океане возпе Лос-Анджелеса и южных (апельсиновых) ғрафств?ДаНет (еспи нет, переходите к вопросу 4)
За. Если ДА, то скопько человек в Вашей семье их ест? (Вкпочая Вас) $\qquad$
3b. Еспи ДА, то как Вы обычно эту рыбу готовите? (Можно опметить несколько omeemos.)Жарю на открытом опнежжарю на гриле/Жарю для барбекью Запекаю/Варю/Варю на паруЕм сырую Варю yxy Другое
3с. Едите ли Вы когда либо головы?$\square$ Het
3d. Едите пи Вы когда либо внутренности?Да
3d. Едите ли Вы когда либо печень и другие потроха?Дa
Зе. Едите ли Вы когда либо кожу?да
4. Знакомы пи Вы с какими пибо медицинскими рекомендациями об использовании в пищу рыбы, пойманной в соленых водах у побережья Южной Капифорнии?
$\square$ даНет (еспи нет, переходите к вопросу 6 .)
5. Каким образом эти рекомендации изменили Ваше поведение как рыболова? (Можно отметить несколько ответов.)ловлю другую рыбучиццуготовлю ее по-другомуем меньые рыбыезжу на рыбалку в другую местность (КУДА?)другое (КОНКРЕТИЗИРУЙТЕ)не изменити мое поведение как рыболова
6. Как Вы думаете, какой способ предупреждения о влиянии на здоровье способов приготовления рыбы и местностей, где ее ловить, является наилучшим? (Можно отметить несколько ответов.)Знаки, выставленные на пирсах/ппяжах/подочных причалахГазеты (Укажите назкание вазепь:)Журналы (Укажите название журнапа.) $\qquad$Телевидение (Укажитне канап.)Радио (Укажите станиио)Информация в интернетеПриспанные мне печатные броиюрыИнформация по тепефонному номеру $1-800$Букпет лицензии на рыбоповстеоЗнаки на магазинах для рьболововдруroe
7. Пожалуйста, отметьте Вашу возрастную группу,
$\square$ До 18
19-45
46-6465 n Болине
8. Укажите Ваш домашний ZIP код. (Если не знаете, напииите назеание города.) ZIP ___ ипи Город $\qquad$
9. Hon:МужскойЖенский
СПАСИБОІ ПОЖАПУЙСТА, ВЕРНИТЕ АНКЕТУ И КАРТОЧКУ С ИЗОБРАЖЕНИЯМИ РЫБ ЛИЦУ, ПРОВОДЯЩЕМУ ОПРОС.

## Survey $n g$ mga Namimingwit sa Southern California

OMB O $596-0110$ exp 4/30/06-(Tagniog - \#13)
Ako ay nagsasagawa ng maikling survey na gagamitin upang tulungan ang mga ahensiya ng Estado at Pederal na mapabuti ang pamimingwit sa lugar na ito. Maari mo bang sagutin ang mga sumusunod tungkol sa iyong pamimingwit?

1. Mula ng ika-1 ng Abril 2003, gaano ka kadalas namingwit sa dagat sa baybay-dagat ng Los Angeles at Orange Counties?


Halos arav-araw
$2-3$ beses bawat linggo
$\square$ llang beses bawat buwan $\square$ Waia pang isang beses bawat buwan
2. Anong klaseng mga isda ang karaniwan mong nahuhuli? (Tingnan ang mga litrato ng isda sa fish card at isulat dito sa puwang ang mga bilang ng code para sa isda:)
3. Kinakain mo ba ang alinman sa mga isdang nahuhuli mo mula sa dagat sa may Los Angeles at Orange Counties?
$\square$Hindi (kung hindl. lumaktaw sa ika-4 na katanungan)
3a. Kung 00, ilang tao sa fyong kabahayan ang kumakain nito? (Kasama ang iyong sarii)
3b. Kung OO, paano mo karaniwan niluluto ang isda upang kainin? (Maaari kang mag-tsek ng higit saisa.)
$\qquad$ Pritohaw/GrillBEQ $\qquad$ Bake(Hinuhurno)/Pinapakuluan/Steam(Pinapasingawan) $\square$ Kinakain nang hindi lutoSopasiba pa
3c. Nakakain ka na ba ng ulo?
3d. Nakakain ka na ba ng mga lamang-loob (guts)?
00
3d. Nakakain ka na ba ng atay o iba pang mga organ?Oo Hindi00 Hindi
3e. Nakakain ka na ba ng balat?00 Hindi
4. May nakita, nadinig, o nabasa ka na ba na mga payo sa kalusugan tungkol sa pagkain ng isdang dagat na hinuli sa baybay-dagat ng Southern California?OoHindi (kung hindi, lumaktaw sa ika-6 na katanungan.)
5. Sa anu-anong mga paraan, kung mayroon man, nakapagbago ang mga payo sa iyong pamimingwit? (Maaari kang mag-tsek ng higit sa isa.)magtago $n g$ ibang isdalinisminanda slla sa nalibang paraankumain ng mas kaunting isdamagpunta sa ibang mga lugar upang mamingwit (SAAN?)ba pa (TUKUYIN)hindi nito binago ang aking pamimingwit
6. Alin dito sa palagay mo ang mga pinakamahusay na paraan upang maihatid sa iyo ang mga payo tungkol sa kalusugan tungkol sa pagkain ng isda o mga lugar ng pamimingwit upang maiwasan mo ang isdang may kontaminasyon? (Maaari kang magrtsek ng higit sa isa.)Mga karatula na nakapastel sa mga pierimga beachimga boat launchMga diyaryo (Ano ang pangalan?)Mga magasin (Ano ang pangalan?)Telebisyon (Aling channel?)Radyo (Aling istasyon?)Internet Web SiteNakasulat na polyeto na pinadala sa akin sa koreo1-800 na numero na matatawagan para sa impormasyonIsang malit na aklat ng lisensiya para sa pamimingwitMga karatula sa tindahan ng bait o tacklelba pa
7. Mangyaring bilugan ang isa sa mga sumusunod na grupo na sumasaklaw sa jyong edad.
$\square$ Wala pang 18
$\square 19-45$
76-64
$\square 65$ at higit pa
8. Ano ang ZIP code ng iyong tahanan? (Kung hindi mo alam, pakisulat lamang ang iyong lungsod.)

ZIP $\qquad$ o Lingsod $\qquad$
9. Kasarian:LalakiBabae

MARAMING SALAMAT! MANGYARING ISAULI ANG PALATANUNGAN NAITO AT ANG FISH CARD SA TAGAPAG-SURVEY.

Thưa qui vi, chüng tồi thực hiện cuộc thäm do này nhẳm giúp các co quan hứu trách Tiểu Bang vá Lien Bang cải thiẹn vân đề câu cà trong vûng. Xin vui lòng trả lờ cac câu hôi sau vè viêc câu cả của qui vi?

1. Kề tùr 1 thâng Tu 2003, quí vi câu cá nước mặn dọc biển Los Angeles và Hạt Cam (Orange) thương xuyên đén mưc nảo?

Hãu nhu hàng ngày2-3 Iần mỗi tuẩnVäi là̀n mợt thàngIt hon 1 新/thang
2. Quí vị thuờng câu được loại cá nào? (Xin cooi hinh cá trong danh phiếu cà và viết mã số cá vào đây)
3. Qui vị có ăn cá cấu được từ vùng biền khơi Los Angeles và Hạt Cam (Orange) không?CóKhông (Néu không, qua câu 4)
3a. Nếu Có, bao nhiêu ngượi trong gia đinh ăn cá đò (kẻ cà quí vi) $\qquad$
3b. Nếu có, quỉ vị thương chế biến cá nhự thế nào? (Cô thể đânh đấu nhiểu hơn mộtó)
$\square$ ChiênNươngiNương vilNướng ngoài tról An sông $\square$ Nấu sủp
Bò iolluọc/HápCach khac

3c. Quil vì có bao gió̀ ăn đầu cá không?
3d. Quí vì có bao giờ àn ruột cá không? $\square \mathrm{Co}$ $\square$ Khơng

3e. Quí vi có bao giờ àn gan hay các bộ phận khác không? $\square$ Có $\square$ Không 3f. Quí vi có bao giò̀ àn da không? $\square$ Có $\square$ Không
4. Quỉ vil có thấy, nghe thấy hay dọc thấy khuyến cảo y tế nào về ăn cá nước mặn câu được tại vùng duyèn hải mièn Nam Cali khóng?
$\square \mathrm{Co}$Không (Nểu khỏng, que cău 6)
5. Nếu các khuyển câo có làm qui vi thay đối càch àn/cāu ca, thì quí vị thay đồi bàng những cách nào? (Có thể đảnh dấu nhièu hơn ô)
$\square$ giù loal cá khácrưa sachilàm cá cách khàcăn it ca hontới các nơ khác cau (noi nào?) $\qquad$cách khác (nól rô)tot khong thay oól càch cau ca
6. Trong các căch dượ đây, theo quî vi, cách nảo tỗt nhất đế bao tin cho qui vị biết về các khuyền cào y té về việc ăn cá hay các địa điêm câu cả đé trảnh các loại cá bị nhiềm độc (Quí vi có thể đảnh dáu nhièu hon một ô)Bảng gân tạ câc bến tàulbaí tâmicâu tầuBac (Ten baola gi?)Tap chi (Ten tap chila gi?) $\qquad$Truyèn hinh (Kenh náo?) $\qquad$Truyền thanh (Đai nào?)Dia chi mang lướTập hương dân gớn tới tôiGoí số 1-800 dé láy thöng tinTạp sách nhó vê giây phèp cảu cáBảng gắn tại càc tiệm bán mồ cà hay luỗ cảuNoi khác
7. Xin đánh đấu nhóm tuồ cua qui vi vào ô dướ đây.Dưới 1819-4546-6465 trở lên
8. Sồ bưu chinh vùng quí vị ờ? (Nếu không biêt, xin cho biết tên thảnh phố của quí vi).

Só buy chinh $\qquad$ hoăe Thanh phón $\qquad$
9. Giof tinh:NamNư

Cám on qui vil Xinvui lòng trả lại câu hờ đã điển này cung danh phiếu cả cho người thàm dó.

## APPENDIX B

## SITE VISIT DATA BASE FORMS

## Interviewer Name

$\qquad$

## Date

$\qquad$
Site Name $\qquad$
Site \# $\qquad$
Mode $\qquad$

| Start Time | $\square \mathrm{am}$ | $\square \mathrm{pm}$ |
| :--- | :--- | :--- |
| Stop Time | $\square \mathrm{am}$ | $\square \mathrm{pm}$ |

Total \# of people at mode associated with fishing: $\qquad$
Total \# of Forms: $\qquad$

## Interviewer Notes:

$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

Interviewers: Please attach ONE of these sheets to EACH batch of questionnaires and non-response tally sheets that you complete at a site mode.


APPENDIX C
NON-RESPONSE TALLY FORMS

## Non-Response Tally Form - Summer 2003




APPENDIX D
TRIFOLD HEALTH ADVISORY

- English
- Spanish
- Khmer

CALIFORNIA SPORT FISH CONSUMPTION ADVISORIES

## Reduce Exposure to DDTs and PCBs



## Eat only the fllletl

$\triangle$ DDTs and PCBs bulld up in the fatty parts of the fish.

## Cleaning fish:

- Remove and throw away the head, guts, kidneys, and the liver,
- Cutaway the tat, skin, and belly area before cooking.


## Cooking fish:

- Bake, broil, steam, or grill fish, and throw away cooking fuices.
- Use only fish fillet when preparing soups, stews or chowder.


## WARNING! <br> DDTs, PCBs, and marcury may pose greater risk to bables and young children. For thle reason it Is Important for women who are pregnant, or might become pregnant, breastfoading women, and young chlldren to follow the recommendations found in this pamphlet to reduce exposure.

## Where ta ne nore

 inflormationtu




 H及ant (





## 





Eaking fish ia good lor you, wut some fish caught off the coasts of Los Angulos and Orange Counties aro contaminated whth the chemfall murury, DOT, mad PCBE.

## KNOW THESE FISHI



2-4
meals
per month


## Reduzca su exposición a los contaminantes



## IConsuma solo el filete!

- Los ODTs y PCBs se amacenan an la grasa del pescado


## Como limpiar el pescado:

- Deshagase de la rabeza. mtasthos, mones ehigade del pescado y trelos.
- Contole la grasa piel y ia ara del vienire del pescado ántes de cocinat.


## Como cocinar el pescado:

1- Cochato al vapor asado, on a partlay y lire fos jugos del pescado.

- Cuanco prepare caldos o sopas use sole el flele para cocmar


## OPELICRID!



DOTS, PCBs y el mercurio pueden causar graves problemas a los bebés y a niños pequeños. Por esta razón es importante que las mujeres embarazadas, las que posiblemente estan embarazadas yolo las que están actando, sigan las recomendaciones que están en este folleto para reducir su exposición.

## 4ara maxs invormaclom








 Mestan min









 - asado minas selludx 2 Is


Elpascado es nutrtivo. Sim embaryo nomuos pescadoun qua sulen de las costat de los condados do Los Anwaley y de Orange estam contaminados con marcurio, DDIE y PCBs.
> iSepa cuales son estos pescados!

Recomendaciónes para el consumo del pescado y para reducir la exposición del mercurio, DDT's y PCBs



## CALIFORNIA SPORT FISH CONSUMPTION ADVISORIES

## Southern California Locations - Point Dume to Dana Point

| SITE | FISH SPECIES | RECOMMENDATION* |
| :---: | :---: | :---: |
| Point Dume/Malibu off shore | White Croaker | Do not consume |
| Malibu Pier | Queenfish | One meal a month |
| Short Bank | White Croaker | One meal every two weeks |
| Redondo Pier | Corbina | One meal every two weeks |
| Point Vicente Palos VerdesNorthwest | White Croaker | Do not consume |
|  | White Croaker | Do not consume |
| White's Point | Sculpin Rockfishes Kelp Bass | One meal every two weeks+ |
| Los Angeles/Long | White Croaker | Do not consume |
| Beach Harbors (especially Cabrillo Pier) | Queenfish Black Croaker Surfperches | One meal every two weeks+ |
| Los Angeles/Long Beach Breakwater (ocean side) | White Croaker Queenfish Surfperches Black Croaker | One meal a month + |
| Belmont Pier Pier J | Surfperches | One meal every two weeks |
| Horseshoe Kelp | Sculpin White Croaker | One meal a month + |
| Newport Pier | Corbina | One meal every two weeks |

[^1]APPENDIX E
MONTROSE ANGLER SURVEY CODEBOOK MONTROSE ANGLER NON-RESPONSE CODEBOOK MONTROSE ANGLER SITE SURVEY CODEBOOK - FINAL

## Montrose Angler Survey Codebook - Final

Variable Name

$$
\text { ID } \quad 1
$$

INT Interviewer 2
Susan
Rita
James
Rebecca
Randy
Alfonso
Kaz
Marcela
Favian
John
DATE Date of the survey ..... 3
TIME Time of the survey ..... 4
1 Time is blank
SITE Site of the survey ..... 5

| 37010 | Marina Del Rey jetties, sportsfishing, launch |
| :--- | :--- |
| 37012 | Santa Monica Pier |
| 37013 | Long Beach Sportsfishing |
| 37014 | 22nd Street Landing Sportsfishing |
| 37015 | L.A. Harbor Sportsfishing |
| 37017 | Long Beach Marina SportsFishing |
| 37105 | Dave's Launch Ramp |
| 37110 | Cabrillo pier \& jetty, launch |
| 37135 | Beach City Charters \& Rentals |
| 37201 | Pier J |
| 37202 | Shoreline Village piers, Pierpoint Landing |
| 37204 | Seaport Village jetty |
| 37205 | Abalone Cove (beach) |
| 37206 | Royal Palms (beach) |
| 37209 | North end Santa Monica Bay (beach) |
| 37210 | South end of Santa Monica Bay |
| 37211 | Palos Verdes (beach) |
| 37214 | Alamitos Bay west jetty |
| 37215 | Marina Stadium Alamitos Bay (beach) |
| 37216 | Shoreline Village jetty |
| 37303 | King Harbor |
| 37305 | Venice Pier |



```
Clean water
Don't need a light here
Free parking
Fishing tournament
Don't have a license/don't need a license here
Water off pier is deep
Not crowded
Open early
Close to favorite pier which is closed/where I had a bad
Free
Restaurants on pier
Fish weren't biting at favorite pier
Safe here
Can bring dog here
Close to restrooms/shops
Clean
```

Q3_1-Q3_3 Q3. Which fish are you trying to catch today?
16

| -1 | Blank |
| ---: | :--- |
| 1 | top smelt |
| 2 | barred sandbass |
| 3 | surf perches |
| 4 | white croaker, kingfish, tomcod |
| 5 | Pacific (chub) mackeral |
| 6 | sculpin, scorpionfish |
| 7 | queenfish |
| 8 | kelp bass calico bass |
| 9 | California halibut |
| 10 | barracuda |
| 11 | rockfishes (all species) |
| 12 | bonito |
| 13 | corbina |
| 14 | shark |
| 15 | guitarfish |
| 16 | none of those/something else |
| 17 | anything I can catch |

Q4_1-Q4_8 Q4. Which of these types of fish do you usually catch in ocean 21 waters off of Los Angeles and Orange Counties?

```
-1 Blank
    top smelt
    barred sandbass
    surf perches
    white croaker, kingfish, tomcod
    Pacific (chub) mackerel
    sculpin, scorpionfish
    queenfish
    kelp bass calico bass
    California halibut
    barracuda
    rockfishes (all species)
    bonito
```

```
13 corbina
14 shark
15 guitarfish
16 none of those/something else
18 No fish at all
```



16 none of those/something else

Q9A 1-Q90_3 Q9. How do you usually prepare the TOP SMELT? (multi-response). 39

| -1 | DK/Refused |
| ---: | :--- |
| 1 | Fry |
| 2 | Broil/grill/BBQ |
| 3 | Bake/boil/steam |
| 4 | Raw |
| 5 | Soup |
| 6 | Smoked |

Q10A_1-Q1004 Q10. What part of the TOP SMELT do you eat? (multi-response). 42

| -1 | DK/Refused |
| ---: | :--- |
| 1 | Fillet/steak |
| 2 | Head |
| 3 | Guts |
| 4 | Skin |
| 5 | Other |


| -1 | Blank |
| ---: | :--- |
| 1 | top smelt |
| 2 | barred sandbass |
| 3 | surf perches |
| 4 | white croaker, kingfish, |
| 5 | Pacific (chub) mackerel |
| 6 | sculpin, scorpionfish |
| 7 | queenfish |
| 8 | kelp bass calico bass |
| 9 | California halibut |
| 10 | barracuda |
| 11 | rockfishes (all species) |
| 12 | bonito |
| 13 | corbina |
| 14 | shark |
| 15 | guitarfish |
| 16 | albacore tuna |
| 17 | white seabass |
| 18 | swordfish |
| 19 | salmon |
| 20 | no preference |
| 21 | bluefin tuna |
| 22 | cod |
| 23 | marlin |
| 24 | yellowtail |
| 25 | dorado |
| 26 | sardines |
| 27 | tuna |
| 28 | ahi |
| 29 | sheepshead |
| 30 | herring |
| 31 | sargo |

```
32 lingcod
33 yellowfin
34 squid
35 striped bass
36 tilapia
37 grouper
38 mahi mahi
39 half moon
4 0 ~ b l a c k ~ s e a ~ b a s s
41 opal eye
4 2 ~ z e b r a ~ p e r c h ~
43 mojarra
4 4 ~ w a h o o
4 5 \text { grunion}
4 6 ~ f l o u n d e r ~
47 mullet
```


## Q12 Q12. Have you seen, heard, or read any health advisories about 152 eating saltwatex fish caught from coastal waters in Southern <br> California?

| -1 | Blank |
| ---: | :--- |
| 1 | Yes |
| 2 | No |

## Q13_1-Q13_4 Q13. In what ways have the advisories changed your fishing?

| -1 | Blank |
| ---: | :--- |
| 1 | Avoid or eat less certain kinds of fish |
| 2 | Change the way you clean/prepare fish |
| 3 | Eat fewer fish |
| 4 | Avoid fishing or Eish less in certain locations |
| 5 | Spend fewer days Eishing |
| 6 | Have made no changes |
| 7 | More freshwater fishing |
| 8 | Buy more fish from store |
| 9 | Catch \& release some fish |
| 10 | Won't fish in s.D. where they're contaminated |
| 11 | Don't eat anything caught from pier |
| 12 | Flushing heads at dump site |
| 13 | Don't eat any fish I catch |
| 14 | Eat less white croaker |
| 15 | Throw back white croaker |
| 16 | Fish less Erequently |
| 17 | Avoid fishing certain times of year |
| 18 | Eok for growth on fish |
| 19 | Don't eat anything inside breakwaters |
| 20 | Don't fish after a storm |
| 21 | Eat fish south of border |
| 40 | Other location - Further off shore |
| 41 | Other location - Long Beach |
| 42 | Other location - Newport Beach |
| 43 | Other location - San Pedro |
| 44 | Othex location - Redondo Beach |
| 45 | Other location - Unspecified |

```
4 6 ~ O t h e r ~ l o c a t i o n ~ - ~ D o n ' t ~ g o ~ n e a r ~ c l i f f s
```


## Q14_1-Q14_5 Q14. How have you gotten information on the health advisories

| -1 | Blank |
| ---: | :--- |
| 1 | Other fishermen/ friends |
| 2 | Signs posted at piers/ beaches/ boat launches |
| 3 | Newspapers |
| 4 | Magazines |
| 5 | Television |
| 6 | Radio |
| 7 | The Internet |
| 8 | Fishing license booklet |
| 9 | Bait or tackle shop |
| 10 | Don't remember |
| 12 | Booklets available in store |
| 13 | Fishing shows |
| 14 | Pamphlets |
| 15 | From School |
| 16 | Cabrillo Museum |
| 17 | Fish game |
| 18 | Sierra Club |
| 19 | Someone came to the pier and told people |
| 20 | Health Department |
| 21 | Caught a sick fish |
| 22 | Used to do marine research |
| 23 | Heal the Bay |

Q15MOST Q15. What is THE BEST WAY to get information to you about 162
Q15_1-Q15_6 health advisories about eating fish, or fishing locations where you could avoid contaminated fish?

| -1 | Blank |
| ---: | :--- |
| 1 | Signs posted at piers/beaches/boat launches |
| 2 | Newspapers |
| 3 | Magazines |
| 4 | Television |
| 5 | Radio |
| 6 | Internet Web Site |
| 7 | Written brochure mailed to me |
| 8 | 800 Number |
| 9 | Fishing license booklet |
| 10 | Bait or tackle shops |
| 11 | Big Sporting Goods Store |
| 12 | Party boat skippers |
| 13 | Fliers |
| 14 | Fish Market |
| 15 | Word of mouth |
| 16 | Other |
| 20 | Newspaper: Daily Breeze |
| 21 | Newspaper: Long Beach Press-Telegram |

Newspaper: L.A. Times
Newspaper: O.C. Register
Newspaper: The Log
Newspaper: La Opinion
Newspaper: Tribune
Newspaper: Redondo Beach Reader
Newspaper: Korean Times
Newspaper: Unspecified
Magazines: Western Outdoor News
Magazines: Saltwater Sportfishing
Magazines: So. Cal. Sportfishing
Magazines: Saltwater Fishing
Magazines: Time
Magazines: Fish
Magazines: Newsweek
Magazines: Bass Fishing
Magazines: Fishing (in general)
Magazines: Unspecified
TV: Fox Channel 11
TV: Spanish Channel 34/Univision
TV: Channel 9
TV: Channel 4 (KNBC)
TV: News channel
TV: Channel 7 - ABC
TV: Channel 5 - KTLA
TV: OLN
TV: Channel 55
TV: Unspecified
TV: Channel 32
TV: Channel 62
TV: Discovery Channel
TV: Channel 13
TV: Spanish channel
TV: Channel 52/Telemundo
TV: Channel 35
TV: Channel 37
TV: Channel 38
TV: Channel 6
Radio: 99.1/KGGI-FM
Radio: Spanish Stations
Radio: 690 - XTRA
Radio: KICS
Radio: KFWB/AM 980
Radio: 100.5
Radio: 103.5/KOST-FM
Radio: 102.7 - KISS/KIIS
Radio: Power 106 - KROQ
Radio: Unspecified
TV: Channel 46
TV: Channel 2 - KCBS (CBS)
TV: Channel 28 - KCET (PBS)
TV: Charnel $22 /$ Telemundo
TV: ESPN
TV: CNN
TV: Fox News Channel
TV: Channel 64
TV: Channel 21

```
\begin{tabular}{|c|c|}
\hline 79 & TV: Channel 10 \\
\hline 80 & TV: Sportfishing channel \\
\hline 81 & TV: Channel 18 \\
\hline 82 & TV: Channel 31 \\
\hline 83 & TV: Channel 45 \\
\hline 84 & TV: Channel 56 \\
\hline 85 & TV: Channel 60 \\
\hline 86 & TV: Channel 24 \\
\hline 87 & TV: The Learning Channel \\
\hline 88 & TV: National Geographic \\
\hline 89 & TV: Channel 40 \\
\hline 90 & Radio: 95.9 - KFSH \\
\hline 91 & Radio: 97.1-KLSX \\
\hline 92 & Radio: 98.7 - KYSR \\
\hline 93 & Radio: 96.7 - KWIZ \\
\hline 94 & Radio: 94.7-KTWV \\
\hline 95 & Radio: 570 - Kı.AC \\
\hline 96 & Radio: 870 - KRLA \\
\hline 97 & Radio: 1230 - KYPA (Korean) \\
\hline 98 & Radio: 790 - KABC \\
\hline 99 & Radio: 100.3 - KKBT \\
\hline 100 & Radio: 101.1 KRTH (K-Earth) \\
\hline 101 & Radio: 640 - KFI \\
\hline 102 & Radio: 830 - KPLS \\
\hline 103 & Radio: 106.7 - KROQ \\
\hline 104 & Radio: 94.3/105.5 - KBUA/KBUE (Que buena!) \\
\hline 105 & Radio: 90.7-K. \({ }^{\text {R }}\) - \\
\hline 106 & Radio: 98.7-KYSR \\
\hline 107 & Radio: 95.5 - KLOS \\
\hline 108 & Radio: 93.9 - KZLA \\
\hline 110 & Radio: 97.5 - KSSE \\
\hline 111 & Radio: 97.9 - KLAX \\
\hline 112 & Radio: 101.9 - KSCA \\
\hline 113 & Radio: 1580 - KBLA \\
\hline 114 & Radio: 107.5 - KLVE \\
\hline 115 & Radio: 1600 - KMNY (Chinese) \\
\hline 116 & Radio: 1070 - KNX \\
\hline 117 & Radio: 93.1 - KCBS \\
\hline 118 & Radio: 89.3 - KPCC \\
\hline 119 & Radio: 92.3 - KHHT \\
\hline 120 & Radio: 105.5 - KBUE \\
\hline 121 & Radio: 104.3 - KBIG \\
\hline 122 & Radio: 107.9 - KWAVE \\
\hline 150 & Newspaper: Whittier Daily News \\
\hline 151 & Newspaper: Daily Bulletin \\
\hline 152 & Newspaper: Vietnamese newspaper \\
\hline 153 & Newspaper: Sun Newspaper \\
\hline 154 & Newspaper: Grass Valley Union \\
\hline 155 & Newspaper: Valley News \\
\hline 156 & Newspaper: Norlander \\
\hline 157 & Newspaper: USA Today \\
\hline 158 & Newspaper: Spanish Newspaper \\
\hline 159 & Newspaper: Press Entreprise (Riverside) \\
\hline 160 & Newspaper: The Beach Reporter \\
\hline 161 & Newspaper: Chinese Daily \\
\hline 162 & Newspaper: L.A. Daily News \\
\hline 163 & Newspaper: L.A. Independent \\
\hline
\end{tabular}
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164 Newspaper: Japanese Newspaper
170 Magazine: Johnny Sports
171 Magazine: Parents Magazine
172 Magazine: Fish \& Sports
173 Magazine: Sports Illustrated
174 Magazine: Western Fishing
175 Magazine: Field \& Stream
176 Magazine: Surfer Magazine
177 Magazine: So. Coast Fishing
178 Magazine: Outdoor Magazine
179 Magazine: No. American Fishing Club
180 Magazine: Bass Masters
181 Magazine: Maxim
182 Magazine: NRA Magazine
183 Magazine: National Geographic
200 TV: Food Channel
201 TV: Channel 41
202 TV: Channel 65
203 TV: Channel }72\mathrm{ TNT

```

Q16 Q16. Including yourself, how many members of your household 169 are in your fishing group?
-1 M Blank
\begin{tabular}{|c|c|}
\hline Q17 & Q17. Which of the following groups includes your age? 170 \\
\hline -1 & Blank \\
\hline 1 & Under 18 \\
\hline 2 & 18-45 \\
\hline 3 & 46-64 \\
\hline 4 & 65 and over \\
\hline \begin{tabular}{l}
Q18 \\
or
\end{tabular} & Q18. Which number on this card best describes your race, culture, 171 ethnic background? \\
\hline -1 & Blank \\
\hline 1 & American Indian or Alaskan native \\
\hline 2 & Black/African American not of Hispanic origin \\
\hline 3 & Mexican \\
\hline 4 & Central American \\
\hline 5 & South American \\
\hline 6 & Caribbean \\
\hline 7 & White, not of Hispanic origin \\
\hline 8 & Indian \\
\hline 9 & Chinese \\
\hline 10 & Filipino \\
\hline 11 & Japanese \\
\hline 12 & Korean \\
\hline 13 & Vietnamese \\
\hline 14 & Cambodian \\
\hline 15 & Native Hawailan \\
\hline 16 & Guamanian or Chamoro \\
\hline
\end{tabular}



\title{
Montrose Angler Non-Response Survey Codebook - Final
}
\begin{tabular}{|c|c|c|c|c|}
\hline & \multicolumn{2}{|l|}{Variable Name} & \multicolumn{2}{|l|}{Position} \\
\hline \multicolumn{3}{|c|}{ID} & & \\
\hline \multicolumn{2}{|r|}{SITE} & Site of the survey & & \\
\hline 37010 & \multicolumn{3}{|r|}{\multirow[t]{2}{*}{Marina Del Rey jetties, sportsfishing, launch Santa Monica Pier}} & \\
\hline 37012 & & & & \\
\hline 37013 & \multicolumn{3}{|c|}{Long Beach Sportsfishing} & \\
\hline 37014 & \multicolumn{3}{|c|}{22nd Street Landing Sportsfishing} & \\
\hline 37015 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{L.A. Harbor Sportsfishing}} & \\
\hline 37017 & & & & \\
\hline 37105 & \multicolumn{3}{|c|}{Dave's Launch Ramp} & \\
\hline 37110 & \multicolumn{3}{|c|}{Cabrillo pier \& jetty, launch} & \\
\hline 37135 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{Beach City Charters \& Rentals pier J}} & \\
\hline 37201 & & & & \\
\hline 37202 & \multicolumn{3}{|r|}{Shoreline Village piers, Pierpoint Landing} & \\
\hline 37204 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{Seaport Village jetty}} & \\
\hline 37205 & & & & \\
\hline 37206 & \multicolumn{3}{|c|}{Royal Palms (beach)} & \\
\hline 37209 & \multicolumn{3}{|c|}{North end Santa Monica Bay (beach)} & \\
\hline 37210 & \multicolumn{3}{|c|}{South end of Santa Monica Bay} & \\
\hline 37211 & & os Verdes (beach) & & \\
\hline 37214 & \multicolumn{3}{|c|}{Alamitos Bay west jetty} & \\
\hline 37215 & \multicolumn{3}{|c|}{Marina Stadium Alamitos Bay (beach)} & \\
\hline 37216 & \multicolumn{3}{|c|}{Shoreline Vilage jetty} & \\
\hline 37303 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{King Harbor Venice pier}} & \\
\hline 37305 & & & & \\
\hline 37306 & \multicolumn{3}{|c|}{Hermosa Beach Pier} & \\
\hline 37308 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{Redondo Beach Pier}} & \\
\hline 37312 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{Fisherman's \({ }^{\text {Manhattan }}\) Beach Pier}} & \\
\hline 37316 & & & & \\
\hline 37401 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{Malibu Beach Pier, Sportsfishing Belmont Pier/Cherry Beach Sportsfishing}} & \\
\hline 37402 & & & & \\
\hline 59104 & \multicolumn{3}{|c|}{Belmont Pier/Cherry Beach, Sportsfishing
Sunset Aquatic Park launch ramp} & \\
\hline 59106 & \multicolumn{2}{|r|}{Newport Beach Pier} & & \\
\hline 59201 & \multicolumn{3}{|c|}{Sunset to Huntington Beaches} & \\
\hline 59202 & \multicolumn{3}{|c|}{Huntington Beach Pier, launch} & \\
\hline 59301 & & \(l\) Beach Pier & & \\
\hline 59314 & \multicolumn{3}{|c|}{Newport Beach small jetty (6)} & \\
\hline \multicolumn{3}{|r|}{DATE Date of the survey} & & 3 \\
\hline
\end{tabular}



\section*{Montrose Angler Site Survey Codebook - Final}


37010 Marina Del Rey jetties, sportsfishing, launch
37013 Long Beach Sportsfishing
37014 22nd Street Landing Sportsfishing
37017 Long Beach Marina Sportsfishing
37105 Dave's Launch Ramp

37201 Pier J
37202 Shoreline Village piers, Pierpoint Landing
37204 Seaport Village jetty
37205 Abalone Cove (beach)
37206 Royal Palms (beach)
North end Santa Monica Bay beach
37210 South end

37215 Marina Stadium Alamitos Bay (beach)
37216 Shoreline Vilage jetty
37303 King Harbor
37306 Hermosa Beach Pier
37308 Redondo Beach Pier
Fisherman's Village

37401 Malibu Beach Pier, Sportsfishing
37402 Belmont Pier/Cherry Beach, Sportsfishing
launch ramp

59201 Sunset to Huntington Beaches
59202 Huntington Beach Pier, launch
59301 Seal Beach Pier
59314 Newport Beach small jetty (6)

Pier
Beach/bank
Launch ramp Jetty


APPENDIX F
CHANGES TO MONTROSE SCHEDULES

\section*{Changes to Montrose Schedules}

\section*{Changes for Fall 2002 Survey:}
1. On \(9 / 1\) did not interview at Hermosa Beach pier because a Labor Day festival was taking place there. Added to schedule on 9/7.
2. Moved \(9 / 10\) to \(9 / 11\) due to excessive interviewer workload in a 24 -hour period
3. Swapped \(9 / 14\) and \(9 / 15\) due to excessive interviewer workload in a 24 -hour period
4. Moved \(9 / 17\) to \(9 / 16\) because of RecFin schedule overlap
5. Moved \(9 / 19\) to \(9 / 20\) due to excessive interviewer workload in a 24 -hour period
6. Swapped \(9 / 21\) and \(9 / 22\) due to bi-lingual availability
7. Moved \(9 / 23\) to \(9 / 24\) because of RecFin schedule overlap
8. On \(9 / 24\), did not interview at Belmont Pier because it was closed for repairs. Substituted Seal Beach Pier
9. Swapped \(9 / 28,9 / 29\) and \(10 / 6\) due to excessive interviewer workload in a 24 -hour period

Changes for Summer 2003 Survey:
1. On \(7 / 15\) interviewer could not find Fisherman's Villiage so went back on \(7 / 17\).
2. Interviewed at Redondo Pier on \(7 / 16\) rather than \(7 / 15\) because of overlap with RecFin schedule
3. Interviewed at Pier J on \(8 / 8\) rather than \(8 / 22\) because of overlap with RecFin schedule. Unfortunately interviewer went to Pier J jetty rather than the scheduled Pier J launch ramp by mistake.```


[^0]:    ${ }^{1}$ The study committee decided to include Pier $J$ in the pier category because fishers appear to consider the site a pier.

[^1]:    *In this table a meal for a 150-pound adult is about six ounces.
    +Consumption recommendation is for all listed species combined at the particular site.

