

8 March 1993

Memorandum

From: Bill Fisher (Code 231WF)
To: Andrea Muckerman (Code 1823.AM)

Subj: ECOLOGICAL RISK ASSESSMENT FOR NAVAL COMPLEX LONG BEACH

1. Initial fisherman creel surveys were conducted at the Navy mole on February 28 and March 1. The sample size was small, 16 interviews were conducted Feb. 28 and 2 on Mar. 1. I believe the small number of people fishing was probably due to cool temperatures and windy conditions. Conversation with those fishing indicate that average crowds of 35 to 50 people may fish from the mole on weekends if the weather is favorable. Due to the limited data collected during this survey, more surveys will be required to determine species that we will recommend as contaminant receptors (end-points). The completed survey data sheets are available at the SWDIV / Natural Resource office.

2. General summarization of the collected data reveals the following:

- a. Fishing in the inner harbor may occur from 2-3 times/year to 4 times/week.
(Average is about 1/week)
- b. Most people that were interviewed consume the fish they catch (dependent upon species).
(Some people were very illusive about what fish they ate, I believe that the only true way to determine the species consumed is to consider only those in possession)
- c. Determining the amount or parts of fish that are consumed was rather difficult, it was difficult to get people to give you exact answers to these questions. My guess at this time is that consumption is about 8 ounces/week and may involve all edible parts of the fish.
- d. Age of humans consuming fish varies from 2 to 73 years.
- e. Length of time that people have been fishing from the mole varied from first time to 40+ years.
- f. Only one contact indicated that they consumed any marine species other than fish (mussels).
- g. Species that people said they caught are sea bass, perch (several species), sculpin (and other rockfish species), opaleye, barracuda, bonito, sand and calico bass, mackerel, halibut, sharks and rays, and croaker.

h. Fish in possession at time of survey were opaleye, bonito, yellow-fin croaker, white perch, barred perch, staghorn sculpin, mackerel, starry flounder, and sand bass.

3. Anecdotal information indicates that aquatic vegetation in the inner harbor basin may down substantially (as much 50%) over the last three years. This same information indicates that the perch population may be less than 10% of what it was 5 years ago. I have no scientific evidence to support or refute this information. There are many forces that could attributed to this decline and I do not know if contaminants are a contributing factor.

4. In attempting to determine contaminant levels in biological receptors, I believe it would be unwise to focus only on species that have direct contact with sediments. Determining these levels may be valuable information but will not provide a true picture of contaminant pathways. Species further up the food chain is the only real way to determine contaminant ingestion by higher animals. Arthropods (Crustacea ?) and Annelids (Polychaets ?) are in direct contact with the sediments but it would be very difficult to quantify the amount of contaminants that are being passed on to higher order animals. Fish will be a better representative genera as these are consumed by humans as well as birds and mammals. We will need to collect more data in order to propose the species that may be the best indicators of links in the food chain.

5. Should you have any questions, the point of contact is Bill Fisher, telephone (619) 532-1488, DSN 522-1488.


Bill

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LONG BEACH INNER HARBOR CREEL CENSUS

Date

1. How often do you fish in the inner harbor area ?

Range - First time to daily Greatest response - 1-2/week (25)
 Next highest - 1-2/month (12)

2. What do you do with the fish (or other Marine species) that you catch when fishing in this area ?

Consume - (35) Catch and release - (13) Give to others - (5) Pet food - (1)

3. If fish are kept, are they utilized for human consumption ? Yes 36 No 10

4. What species of fish do you keep for consumption ?

Bonito Mackerel perch(species?) Croaker Opaleye Smelt(species?) Calico bass Rockfish
 Black (Buttermouth) perch Sargo Barracuda Sculpin Barred surfperch Sandbass White perch

5. How often (times/year) do you or your family consume fish taken from the inner harbor ?

Range - 2/week to 2/year Varies by catch - highest response (21) 1/week (4) 2/week (4)

Do you fish for recreation only ? 12 - (recreation hard to define for many people)

Are fish taken from this area a major portion of your / family diet (subsistence) ? no (19)

(I believe that only one person I interviewed really depended on their catch for food)

6. Who in your family consumes fish ?

Range from - wife, husband, children, grandparents, in-laws, other relatives

What are the ages of family members that may consume fish taken from this area ?

Range (age) - 2 to 73 Average crosssection - 45 to 55 Average - 38.9

7. What part(s) of the fish do you consume ?

Flesh only 13 (parts) filets-17

Skin 10

Check flesh

Liver 1

Head 1

Whole fish 16
 (including entrails - 1)
 (soup-2) (Smoked-1)

What is the typical portion (amount) consumed/meal _____ /week _____

Difficult to measure !! 8oz. - 5 8oz. + - 2 32oz./family 3/week - 1 1-2/week - 1

8. Do you know other people that fish in this area and how might we contact them ?

People were very reluctant to answer this question (questionable use)

9. How long have you been fishing in the inner harbor area ?

Range - 1 month to 40+ years Highest - 1-2 years (15)

Next - 2-5 years (6)

10. Do you fish at other places within the inner harbor area ? No - 19 Yes - 4

Where / By what means ? (from boat, shore, use of nets, fish traps, set lines)

Queen Mary San Pedro Pier Breakwater Whites Point Santa Monica Seal Beach
By boat, inner-harbor, breakwater

11. Do you harvest any other marine species for consumption ? Yes 5 No 35

What species ? Mussels - 3 Clams - (17) Crabs - 1

12. What species do you catch and release or use for other purposes ?

Bonito Mackerel perch(species?) Croaker Opaleye Smelt(species?) Halibut
Guitarfish Lizardfish Barracuda Sandbass Calico bass Sea bass Sand shark Rockfish

LIST SPECIES IN POSSESSION AT TIME OF SURVEY !

Mackerel - 9

Barracuda - 2

Buttermouth (Black perch) - 16

Calico bass - 1

Opaleye - 8

Topsmelt - 4

Rockfish (sp.) - 2

Sargo - 1

Jacksmelt - 1

Rubberlip surfperch - 2

Yellowfin croaker - 6

Staghorn sculpin - 1

White perch - 4

Sandbass - 2

Bonito - 1

Stary flounder - 1 Mussels Crabs

BOLD indicates fish that I consider are year round residents of the structure around the Mole