

**WHO BUYS CANNED SALMON,
AND WHY?**



Circular 89

**UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE**

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A Study of Consumer Motivation in Three Cities

Prepared in the Branch of Economics



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ABSTRACT

This report contains the results of a marketing research study directed toward the improvement of promotional and merchandising techniques for the marketing of canned salmon. Special emphasis is placed upon motivational analysis using psychological techniques in probing for information as to why consumers are attracted to canned fishery products with certain styles of pack, taste, color, or other attributes. The report contains suggestions for regional promotional themes adapted to the needs of specific markets for canned pink and red salmon.

PREFACE

While the trend of total canned fish production in the United States has been generally upward since the end of World War II, the fortunes of the various canned fish industries have been diverse. Canned tuna, the leader, has been breaking production records but has been encountering increasing competition from Japanese imports. An acute supply problem grips the canned salmon industry and the marketing problems mainly ensue from a decline in the salmon runs. Canned sardines, and particularly the California sardine industry, is confronted with both supply problems and the loss of traditional markets.

Marketing research has something to offer the canned fish industries. Indeed, the most apparent common denominator in the marketing problems of all these industries is their need for better merchandising methods.

The prime objective of this market research study is to aid the domestic canned fish industries to expand markets for their products. Results and findings of the study are especially directed toward the improvement of promotional and merchandising techniques. However, the study has also a direct bearing upon other important aspects of canned fish marketing such as the adaptation of the product to meet specific consumer preferences.

This report describes the results of a survey of the motivational factors which influence the buying habits of household consumers of canned salmon. The survey also examines the buying habits of household consumers of canned tuna and sardines. Separate reports have been issued for those products.

The study was made by the A. J. Wood Research Corporation of Philadelphia, Pennsylvania, under contract to the United States Bureau of Commercial Fisheries. It was financed with funds made available under the Saltonstall-Kennedy Act, approved July 1, 1954 (68 Stat. 376).

The survey was conducted under the general supervision of Walter H. Stolting, Chief, Branch of Economics. Preliminary statistical and planning work was done by Adolph Scolnick, Analytical Statistician. The report was edited and adapted for publication by Alton T. Murray and Frans L. Widerstrom, Jr., Economists.

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WHO BUYS CANNED SALMON, AND WHY?

INTRODUCTION

In market research it is important to know how many people do what. It is even more important to know why.

The methodology of supplying answers to how-many-people-do-what is well established. The first part of this report is concerned with the interpretation of the results of household consumers' responses to questions on what buying habits, serving habits, etc., they have. In effect, this interpretation amounts to deciding how many household consumers prefer particular attributes of canned salmon in relation to other groups with different preferences. The selection of a random sample representative of all the householders in the areas surveyed was determined by statistical methods in common use. Also included in the first section of the report is the analysis of consumer responses to the use of two related motivational research techniques--the open question and the probe. These techniques represent an initial step in the process of learning the why of consumer marketing behavior.

While the study of marketing behavior over several decades has developed a number of methods of investigating the why of consumer habits, motivational research is relatively new. Practitioners in the field of motivational research sometimes disagree as to the emphasis to be placed upon the special techniques drawn from any one of the social sciences such as statistics, psychology, economics, and sociology. The principal techniques of motivational research in the field of consumer marketing behavior, however, are derived from psychology.

The second part of this report is concerned with the results of the motivational analysis of the marketing behavior of consumers of canned salmon based on other research techniques. Motivational market surveys require the services of a staff trained to interrogate consumers with special probing techniques, and a highly skilled research staff is needed to interpret the results of the recorded responses. Moreover, motivational research studies are much more expensive than consumer surveys using conventional statistical methods. This situation has a direct bearing upon the size of the motivational research survey which can be made for a fixed sum available for consumer research. As a compromise between the maximum population coverage to find out how many people do what with canned fish and the limitation imposed by the cost of motivational research into why they used it, three urban markets were selected for study instead of a national survey.

The populations under study consisted of households within the urbanized areas of Boston, Massachusetts; Detroit, Michigan; and Birmingham, Alabama. In addition, Negro households located in the rural areas of Orangeburg County, South Carolina were surveyed. Negro households in rural areas of the southern states represent an important market for canned sardines. The Orangeburg County results will be summarized in the sardine report which will show the cross-classification of various marketing data by race for Birmingham and Detroit. A western city was not included in the survey because of a lack of funds to cover the cost of interviews. Area probability samples were selected to represent the populations covered and interviews were completed with the homemaker or person mainly responsible for planning the meals as follows:

<u>Area</u>	<u>Number of Interviews</u>
Birmingham	585
Boston	553
Detroit	609
Orangeburg County	200

The interviewing phase of this study was carried out between March 13, 1959 and May 4, 1959.

Specifically, the survey was designed to elicit detailed answers to such questions as : why consumers decided to buy or not to buy certain canned fishery items; whether or not shoppers for canned fish and shellfish were motivated by advertisements or labels; the influence of income on buying habits and other marketing factors. Then there were the how-many-people-do-what questions to find out consumers' preferences for size of can; type of package; kind of oil in which fish are canned; color; texture; and other characteristics of canned fishery products.

CONSUMER PREFERENCES FOR CANNED SALMON ^{1/}

Use of Canned Salmon

Salmon is the second most popular canned fish among consumers in Boston and Detroit, but in Birmingham salmon and tuna are about equal in consumer esteem. In Boston, only 17 percent of all respondents in the survey indicated that they liked salmon best; 56 percent named tuna. In Detroit, 27 percent like salmon best; 47 percent preferred tuna. In Birmingham, salmon and tuna tied for the first place with 42 percent each. Canned shrimp and sardines trailed far behind salmon and tuna in order of consumer preference in all three cities.

With regard to actual use, the survey revealed that 13 percent of all households in Birmingham, 26 percent in Detroit, and 42 percent in Boston had not used canned salmon in the 12 months prior to the interview. For purposes of statistical analysis,

^{1/} Tables containing data referred to in this section are given on pages 13-30 and an explanation of the tables on page 11.

these households were classified as "never users" of canned salmon. Of those who had used canned salmon in the 12 months prior to the interview, 64 percent in Birmingham, 57 percent in Detroit, and 43 percent in Boston had used it in the 4 weeks immediately prior to the interview. These latter households were classified as "salmon users." Those who had used canned salmon in the past 12 months but not within the past four weeks were termed "sporadic users."

Percentage of respondents

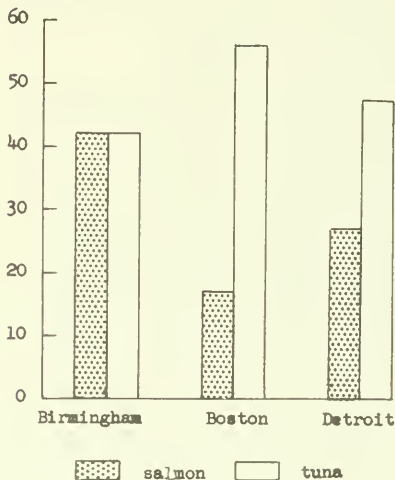


FIGURE I.--CONSUMER PREFERENCES FOR CANNED SALMON, CANNED TUNA

The salmon users were further divided into light and heavy user groups. The "light users" are defined as those who used salmon one or two times in the four weeks immediately prior to the interview and the "heavy users" as those who had served it three times or more in that period. The distribution of these user groups in the three cities is summarized in the following table. (Note: the reader should keep in mind while reading the following text and tables that "salmon users" are by definition all respondents representing households who had used

canned salmon within the past four weeks. The term, therefore, includes both light users and heavy users.)

DISTRIBUTION OF SALMON USER GROUPS,
BY FREQUENCY OF USE, BIRMINGHAM,
BOSTON, AND DETROIT, 1959

Classification of user groups	Birmingham	Boston	Detroit
	Percent	Percent	Percent
Never users	13	42	26
Sporadic users	32	33	32
Light users $\frac{1}{2}$	37	19	31
Heavy users $\frac{1}{2}$	18	6	11
Total	100	100	100

$\frac{1}{2}$ Referred to in text as "salmon users".

There was a slight variation in the frequency of serving canned salmon in the past four weeks among the three cities. The salmon-user households in Birmingham averaged 2.3 servings per household during this period, compared with 2.0 servings in both Boston and Detroit.

Salmon is eaten by all family members in 88 percent of the salmon-user households in Detroit, 84 percent in Birmingham, and 73 percent in Boston.

Can Size Preference

The majority of salmon users in Birmingham, 68 percent, and in Detroit, 78 percent, usually buy the product packed in 1-pound cans. The 7-3/4 ounce can size ranks next in popularity among one-third of the Birmingham users and one-sixth of those in Detroit. In Boston, consumer preference is divided almost evenly between the 1-pound size, 48 percent, and the 7-3/4-ounce size, 45 percent. The small 3-3/4-ounce size is purchased by only 10 percent of the Boston users, 7 percent of the Detroit group, and 1 percent in Birmingham.

Consumers are well satisfied with their can size selections. Approximately 90 percent of the salmon users in all three cities were of the opinion that the

preferred can size was "about right" for their needs.

When the salmon users were asked specifically if they would prefer another can size, approximately 11 percent in each of the cities answered in the affirmative. For the most part, the salmon users who would prefer another can size indicated that they would choose a larger can than is now available. More than 60 percent of the users who would like another can size in Birmingham and Detroit stated that they would select a can of 20 ounces or more. The proportion stating a preference for another can size in Boston was too small to permit a percentage breakdown to indicate the size preferred.

Color Preference

Birmingham is predominantly a pink-salmon $\frac{2}{3}$ market; 85 percent of the salmon users buy pink salmon and only 16 percent buy red salmon $\frac{2}{3}$. On the other hand, Boston is a strong red-salmon market, with 89 percent usually buying that color and only 13 percent pink salmon. In Detroit, both colors are bought by sizable proportions of the user households; red, 60 percent and pink, 46 percent.

The salmon color preference distribution is similar to the actual buying by color in the three cities. Red salmon is liked better than pink salmon by 95 percent or more of the red salmon buyers in each of the three cities. However, in Detroit, as many as 20 percent of the pink salmon buyers indicated that they liked red salmon better than pink salmon. In Birmingham, only 6 percent of the pink salmon buyers liked red salmon better.

Loyalty to the salmon color preferred is generally strong with 93 percent in Boston, 87 percent in Birmingham, and 84 percent in Detroit usually buying their

$\frac{2}{3}$ In this report canned "pink" salmon includes chum, keta, and other species normally retailing at lower prices than "red" salmon.

$\frac{3}{4}$ In this report canned red salmon includes sockeye and other salmon classed as red salmon when canned.

color preference. In Birmingham and Detroit, there is less loyalty to red salmon among users who prefer that color than exists for pink salmon. Twenty-seven percent of the red salmon preferrers in Birmingham sometimes buy pink salmon; only 8 percent who prefer pink salmon sometimes buy red salmon. The comparable proportions in Detroit are 20 percent and 7 percent respectively.

Percentage of respondents

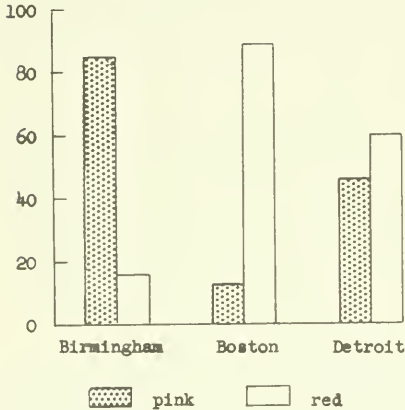


FIGURE II.--CONSUMER PREFERENCES FOR PINK SALMON AND RED SALMON

An important technique used in motivational research is the "open question" - one which seeks the why of consumer behavior. Such questions permit the respondent to reply freely and do not restrict his choice of answers to the limited categories imposed by the direct or closed type. If the respondent's reply is meaningful it gives a reason as to why he thinks or feels the way he does. A response of the type "just because I like it" would not be considered adequate and it would be

the responsibility of the interviewer to focus the respondent on more specific areas in which to answer. The focusing process is known as probing; it is not used in instances where the initial reply is deemed satisfactory by the specially trained interviewer. In cases where probing is used, it must be handled skillfully so as not to bias the respondent's answer.

The first open question asked of salmon users sought the reasons for changes in their purchase of canned salmon from red to pink or pink to red. Lower price was the major reason given for buying other than the preferred color.

Buying Habits

For the most part, the salmon users in the three cities stated that they had planned to buy canned salmon before they went to the store, not after their arrival there. One-fifth of the Birmingham and Detroit purchasers reported making their decision to buy while in the store; only one-tenth of the Boston users were in this category.

Open questions and the probing technique also may be used when attempting to ascertain consumer motives for impulse purchases. Specific, spontaneous responses of a type elicited only after skilled probing, are important sources of information for those interested in expanding the market for canned salmon.

Impulse buyers were asked what made them decide to buy salmon; 59 percent in Birmingham and 39 percent in Detroit indicated that they "saw it and just bought it." In addition, 56 percent in Detroit mentioned "special price or sale" as their reason, as compared with 14 percent in Birmingham. The number of impulse buyers in Boston was too small for a percentage breakdown indicating their motives.

Serving Habits

Eighty-eight percent of the salmon users in Detroit, 79 percent in Birmingham, and 73 percent in Boston indicated that dinner is the meal at which canned salmon is served most frequently. The product is popular also for lunch at home; 42 percent of the users in Birmingham and Boston serve salmon for lunch, compared with 31 percent in Detroit. Canned salmon is not used extensively for snacks, lunch taken to work, or for picnics. In Birmingham, 20 percent of the user homemakers serve salmon for breakfast. No respondents in Boston reported this particular use of the product. In Detroit, the proportion of breakfast users was only 3 percent.

A very large percentage of the homemakers in user households--nearly 9 out of 10 in each of the three cities--indicated that salmon was served in their homes when they were children.

The replies of consumers to an open question, and their responses to the use of the probing technique, revealed the relative importance of price reductions as a motive for the more frequent use of canned salmon.

A lower price was mentioned as an incentive for increasing their use of canned salmon by 44 percent of the users in Detroit, 37 percent in Boston, and 36 percent in Birmingham. Nearly one-fifth of the users in Boston indicated that the removal of the black skin and bones at the cannery would provide an inducement for increased salmon servings; only 3 percent in Birmingham and 4 percent in Detroit expressed similar views. Forty-eight percent of the Birmingham users, 42 percent in Boston, and 40 percent in Detroit stated that nothing would induce them to serve more canned salmon. "Already use it enough" and "don't care for it too often" were the leading reasons given.

In giving their answers to a direct question, more than one-fourth of the salmon-user homemakers in each of the three cities indicated that they would use larger quantities of the less-expensive salmon if the skin and bones were removed. Boston,

with 36 percent, had the largest proportion of positive responses to this question.

Percentage of salmon users

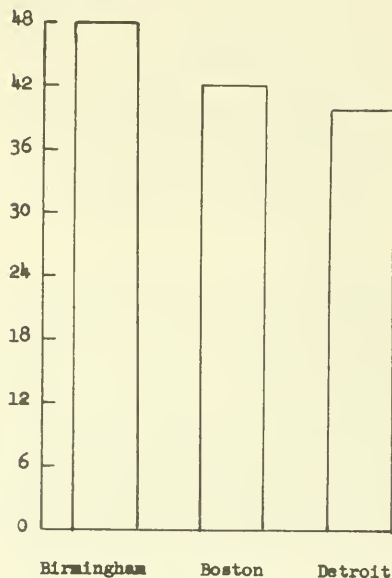


FIGURE III.--PERCENTAGE OF SALMON USERS WHO STATED THAT NOTHING WOULD INDUCE THEM TO SERVE MORE SALMON

Recipe Sources

Only one-fifth of the salmon users in the three cities indicated that they had used a salmon recipe obtained from a salmon can. The proportion that reported using salmon recipes from advertisements was somewhat larger, amounting to about one-third of the users in Boston and Detroit and one-fourth in Birmingham.

Ordering Salmon in Public Eating Places

Only 5 percent or less of the salmon-user respondents in each of the cities reported that they had ordered salmon in a public eating place during the two months preceding the interview. Approximately the same proportion indicated that someone else eating with them had placed a similar order within the same period.

Reasons for Not Using or Seldom Using Salmon

Motivational research techniques - the open question and the probe - were used to great advantage when the survey sought the reasons for not using, seldom using or discontinuing the use of canned salmon.

The "never users" (those who had not used salmon in the 12 months prior to the interview) were asked if there was any special reason why they did not use salmon. A substantial majority of these homemakers--80 percent in Boston, 68 percent in Detroit, and 64 percent in Birmingham--gave reasons indicating the product was unattractive. "Price too high" was mentioned by 24 percent in Detroit and by 11 percent in both Birmingham and Boston. Reasons related to health were given by 18 percent in Birmingham, 10 percent in Boston, and 8 percent in Detroit.

More than one-half of the "never-users" in Birmingham and Detroit and 37 percent in Boston had used canned salmon some time in the past. The respondents in this group indicated that they had stopped using the product for one or more of the following reasons: did not like it; a reduction in the size of the family; too expensive; health or diet reasons.

The reasons for using salmon infrequently as reported by the "sporadic users" (those who had served salmon in the 12 months prior to the interview) dealt mainly with the unattractiveness of the product. Approximately one-half of the responses given by sporadic users were in this category. Price was mentioned by 29 percent in Detroit, 19 percent in Birmingham, and 12 percent in Boston. Nearly one-half

of the sporadic users in Birmingham and Detroit, and one-fourth in Boston indicated that they had used salmon more frequently in the past. The current practice of decreasing their servings of salmon was attributed to high price or a reduction in the size of the family.

More than 8 out of 10 of the Birmingham non-users ("never users" and "sporadic users" combined) and 7 out of 10 of the Detroit non-users reported that at least one member of the household liked salmon. A lower ration was observed for those answering this question in the Boston group.

Canned Salmon Advertising

Only about one-third of the homemakers in Birmingham and Detroit and one-fourth of those in Boston have seen or heard any advertising for canned salmon. Newspapers were mentioned most frequently by those exposed to advertising in Birmingham and Detroit, followed by magazines and television. In Boston, magazines were mentioned most frequently, followed by newspapers and television.

The proportion of respondents who said they had seen or heard advertising for canned salmon increased with the frequency of their salmon consumption. In Birmingham, this increase was from 24 percent among the "never users" to 43 percent for the "heavy users"; in Boston, from 14 percent to 34 percent; and in Detroit, from 28 percent to 37 percent.

Personal Characteristics of Salmon-User Households

The socio-economic characteristics of the households and homemakers in all three cities differed considerably with respect to race, religion, income, nativity of parents, employment status, and education. In Birmingham, 36 percent of the households were Negro, compared with 19 percent in Detroit and only 2 percent in Boston.

In Birmingham 6 percent were Catholic as compared to 34 percent in Detroit and 58 percent in Boston. The remainder comprised families of the Protestant religion, for the most part. A significantly higher proportion of the Birmingham families have

a lower income than is the case for Boston and Detroit. Only 3 percent of the Birmingham respondents had one or both of their parents born outside of the United States compared to 42 percent in Boston and 23 percent in Detroit. A slightly higher proportion of the Birmingham respondents were employed as compared to the other two cities. Finally, a higher proportion of the Boston respondents received an education beyond the eighth grade than was the case in Birmingham and Detroit.

Percentage of respondents

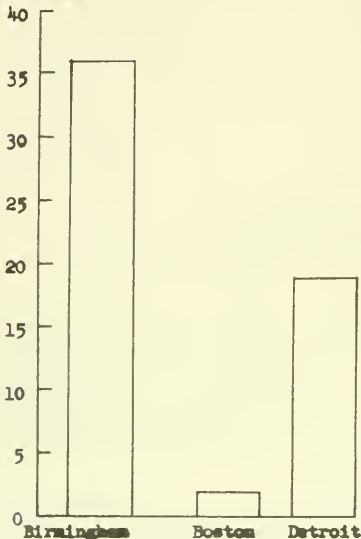


FIGURE IV.--PERCENTAGE OF NEGRO RESPONDENTS

The personal characteristics of the households and homemakers were tabulated for each of the canned salmon consumption groups defined for this study. These tabulations revealed frequency of canned salmon usage in these cities to be associated with the following characteristics: marital status, size of household, occupation of respondent's husband, age of homemaker, family income, education of homemaker, nativity of parents of homemaker, religion of family, and race.

In Birmingham, the salmon users groups contained a higher proportion of: manual laborers; homemakers 26 to 45 years of age; a family income ranging from \$5,000 to

\$7,000; homemakers with 8 to 12 years of education; and Negro families. In addition, Detroit users included a higher proportion of homemakers born in a southern state; manual laborers did not comprise a significant percentage of the Detroit users. Boston users respondents included a larger number of homemakers with a college education; more families in the highest income group; and a larger number of families affiliated with a religion other than Catholic or Protestant.

A statistical summary of findings based on classification of the data by personal characteristics of the households, together with data on product image mentioned in the next section, will be made available for a limited time upon request to the Fish and Wildlife Service by persons having a need for such data.

MOTIVATIONAL ANALYSIS

The motivational analysis in this survey was carried out by two different methods. The first method was to ask the respondents open questions as to why they use or do not use salmon so that they could spontaneously mention any reason or motive. The interviewers, who were all familiar with probing techniques, were instructed to probe as deeply as possible for any reasons which the respondents did not bring out immediately. There was a series of such open questions. The users were asked what would induce them to serve more salmon; non-users were asked why they do not use salmon; those who had stopped using salmon were asked why they had stopped. The sporadic users were asked why they used salmon so seldom, those who now use salmon less often than in the past were asked why they had reduced the number of times they served it. Similarly, there were open questions as to why people liked their preferred can size; their preferred color; and why they made impulse purchases. The responses to these open questions (as well as the responses to the more usual direct questions) have been summarized in the first part of this report.

Determining the Product Image

The second method which was used to study motivations is statistical and requires some technical explanation. The first step in this analysis was to determine the "image" of the product--that is, what each respondent thought of salmon,

what characteristics she attributes to it, what associations the product evokes. Therefore, each respondent was asked whether she agreed or disagreed with a series of statements, each representing a characteristic of salmon, for example: "salmon has a good flavor."

The motivational technique used in this phase of the analysis is known as the "guided association question." Although the respondent is asked only whether or not she agrees or disagrees with the statement, the interviewer actually records the intensity of the answer. Thus, strong agreement or disagreement (as well as less intensely expressed feelings or opinions) is noted by the interviewer. In addition, the statements on the questionnaire were sometimes phrased positively and sometimes negatively--as for example: "Salmon has an unpleasant smell." This was done in order to minimize what is called a "halo" or clustering effect whereby a favorable attitude toward a product tends to make respondents attribute all favorable characteristics to the product. The skill and training of the interviewer are as important to the proper handling of guided association questions as these requirements are when dealing with open questions and the probing technique.

Birmingham and Boston homemakers have a somewhat different image of canned salmon, according to the analysis of the data obtained in the product image phase of the study. It should be recalled that Birmingham is primarily a pink-salmon market and Boston, a red-salmon market. Detroit, a mixed market for the two salmon colors, reveals an image of salmon which is intermediate between the two extremes.

More than 85 percent of the homemakers in Birmingham and Detroit consider that canned salmon is a convenient food; is not too troublesome to prepare; is not hard to make look good; and is a food of high quality. As many as three-fourths of the homemakers in these cities are of the opinion that

salmon has a good flavor, is not undesirably oily, and has a nice appearance in the can.

In Boston, on the other hand, the proportion of homemakers who agree that salmon is a convenient food is only 61 percent, compared with 89 percent in Birmingham and 90 percent in Detroit. Fewer of the Boston homemakers (by at least 10 percentage points) attribute the characteristics of quality, appearance, and ease of preparation to salmon than is the case in Birmingham or Detroit. In addition, as many as 77 percent of the Boston homemakers consider salmon not to be a food for poor people, compared with 58 percent in Birmingham and 62 percent in Detroit. Exactly the same proportion (77 percent) feel that canned salmon is only good if it is a well-known brand, compared with 62 percent in Birmingham and 70 percent in Detroit. About 5 out of 8 of the homemakers in Boston and Detroit consider canned salmon to be expensive; only 45 percent of the Birmingham homemakers hold similar opinions.

Rather wide differences of opinion occur among the three cities for the items "leaves a bad odor in the refrigerator," "has a nice appearance in the can," "has many uses," "is not eaten mainly by manual laborers," and "is used a great deal by Negroes."

Measuring the Motivational Difference

The aim of motivational analysis is to determine the characteristics which have the greatest influence on the behavior of the respondent. The approach used in this study to measure the strength of a motive was first to determine the ratio of heavy users among those who agree with the statement and compare it with the ratio of heavy users among those who do not agree with it. The difference between these ratios, which will be called the motivational difference, indicates whether agreeing with the statement has influence and measures the extent of the motivational strength of the statement. The greater the difference between the ratios, the stronger the influence of the specific statement. The selection of heavy user groups is

justified because there is an interest in converting not only the never users into regular users but also to transform the light users into heavy users of canned salmon.

There is considerable agreement among the respondents in the three cities regarding the primary motives for using canned salmon. "Good flavor" is the leading motive in all three cities and is clearly the most important. "Salmon has many uses," "is not hard to make look good," "is not undesirably oily," and "is a food of high quality" are among the leaders in each city. Ease of preparation is much more important in Birmingham and Detroit than in Boston. On the other hand, the sense qualities of aftertaste and smell are somewhat more important in the latter city.

Index of Possible Market Gain

As a third step, the extent to which a motivating characteristic is already attributed to the product by homemakers must be measured.^{4/} Conversely, the proportion of homemakers who are to be convinced that canned salmon has a specific desirable quality must be established. It is in this group that the potential market gain is greatest. The result of multiplying the motivational difference by the potential to be convinced yields an index of the possible market gain.

Observations Based on Computed Indexes of Possible Market Gain

Only the items "salmon has many uses," "salmon is eaten often by sick people," and "salmon has a good flavor" are among the leading indexes for the three cities. The remaining items are listed for only one or two of the cities. This is explained for the most part by the fact that the survey cities are separated widely and located in different regions of the country. The variations in the listings among cities are a reflection of differences in socio-economic characteristics and market behavior.

^{4/} There is no need to try to convince that sector of the public that a product has a certain characteristic when everyone within the sector recognizes that this is the case.

In addition, it should be recalled that Birmingham is primarily a pink-salmon market, Boston a red-salmon market, and Detroit a mixed red salmon and pink salmon market.

Four of the five leading indexes for Boston and Detroit are the same. Three of these four are "salmon has a good flavor," "salmon has a pleasant aftertaste," and "salmon does not leave a bad odor in the refrigerator." None of these items appears among the leaders for Birmingham, although "salmon does not have an unpleasant smell" is common to both Birmingham and Boston in the over-all listings.

The idea that salmon is not expensive compared with other canned fish is important in the red-salmon markets of Boston and Detroit.

Pink-salmon brand differences are not considered important. A leading index in Birmingham and Detroit (a predominantly pink-salmon market and a mixed pink and red salmon market, respectively) indicates that salmon need not be a well-known brand to be considered good by these consumers.

It is significant to note that the items "salmon is a food of high quality," "salmon is a convenient food," "salmon is used by inexperienced cooks," and "salmon is a food for poorer people" are not listed among the leading indexes for any of the three cities.

In Birmingham and Boston, it is advantageous to convince consumers that canned salmon is a good diet food.

SUGGESTIONS

The following suggestions have been derived from the analysis and summary of the data:

Only a relatively small proportion of the consuming public has been exposed to promotional or advertising material for canned salmon. There is also evidence that a consumer educational program of considerable magnitude is necessary if the use of salmon is to be increased to any appreciable degree. Because of the limited

budgets of individual salmon packers, it would be advisable for them to channel advertising and promotional activities through a central agency of an industry association. A coordinated effort of this sort would enable packers to conduct a consistent, coherent, and more widespread promotional campaign.

Consumer awareness of the varieties of ways in which the product can be prepared and served is an important factor connected with increasing the use of salmon. The proposed educational campaign should emphasize the many attractive meals which can be prepared with the product. Salmon is considered to be a convenient food by many consumers at the present time; such a favorable attitude provides a firm foundation for promoting new and improved methods of using it.

The high quality attributes of salmon are recognized by a large proportion of the consuming public. A strong motivational influence is exerted also by the opinion that salmon is a "health food"--that it is used by dieters and by sick people. The current public concern regarding the association of heart disease with fatty foods is another reason for stressing the product as one that is "better for you;" a modern, tasty food that is nourishing, health-promoting, and easily digested.

The proportion of consumers who order salmon in a public eating place is extremely small. Special promotional material, designed for restaurant owners and cooks, should be prepared and distributed. The primary objective of this phase of the program would be to increase the variety and frequency of salmon offerings on restaurant menus.

Consumer use of salmon as a breakfast food is very limited at the present time. Only 20 percent of the users in Birmingham and practically none in Boston and Detroit reported serving the product for breakfast. An educational campaign that would point out this additional use could result in an increase in total salmon consumption.

The selection of Birmingham, Boston, and Detroit was made, in part, with the intention of giving representation to three regions of the country--the South,

Northeast, and North Central--rather than to three particular cities. When viewed from this perspective it should be noted that the factors with the greatest potential for motivating consumers to become heavy users of salmon are quite different for the three areas. Only three motivational characteristics appear among the leaders for the three cities; thus the problem of increasing salmon consumption cannot be solved by the exclusive use of a single national advertising program. In addition, there are markets where the preference for pink salmon predominates; in others, red salmon; and in still others, a mixture of the pink and red packs. Advertising media which could be regulated to suit the needs of a specific market or region would aid packers in promoting increased salmon sales.

Regional promotional themes should be developed for Boston and Detroit stressing the pleasant aftertaste of salmon and the fact that the product does not leave a bad odor in the refrigerator. Red salmon should be advertised as a "value food" in Boston and Detroit in order to combat the attitude that it is expensive compared with other canned fish.

The introduction of another can size for salmon is not recommended at this time. The limited demand for larger can sizes can be met by arranging special multiple can "deals" at the retail level. Special combination offers of the 16-ounce can and the 3-3/4-ounce can, the 16-ounce can and the 7-3/4-ounce can, or the 3-3/4-ounce can and the 7-3/4-ounce can should be made occasionally. By means of such a sales technique, users who are concerned with can sizes and the amount of salmon per can would be induced to buy the product more often.

An effort should be made to improve packing methods. The removal of larger quantities of skin and bones should combat certain unfavorable associations presently connected with the product, such as unpleasant smell and unsatisfactory appearance.

It is apparent from the results of the survey that the major promotional activities of salmon packers should be directed toward persuading non-users to

buy and serve the product. Thus the problem differs substantially from that confronting tuna packers; tuna promotion should stress more frequent servings by all user groups-- particularly light and sporadic tuna users.

A large proportion of the salmon non-users in the Boston "red salmon market" indicated that they considered the product to be too expensive. Pink salmon should be marketed extensively in such areas in order to overcome this unfavorable attitude. Many of the users who presently serve pink salmon report that they like it.

TABLES

The tables showing the percentage distribution of the responses to each of the questions pertinent to this report are included in the next section. A weighted base was employed for the computation of each percentage distribution. This base is shown at the bottom of each table column. Weighting the actual number of interviews completed in each city was necessary since a small number of the sampling units were sub-sampled to avoid an excessive number of interviews in any one interviewing

assignment. This procedure was necessary in those sample area segments which had grown in number of households considerably since 1950. In addition, the total Detroit area was divided into zones which were either predominately white or Negro with the former sampled at one-half the rate of the latter zone; weighting was employed to restore the proportionality of the race distribution in this city.

No weighting was attempted for households selected for the sample but not interviewed (refusals, unable to contact, etc.). The actual number of completed interviews and the weighted base for the total respondent population in each city are shown below.

<u>City</u>	<u>Actual number of interviews</u>	<u>Weighted base</u>
Birmingham	585	669
Boston	553	572
Detroit	609	916

Percentage distributions were computed whenever the weighted base was 25 or more.

STATISTICAL TABLES

Use of Canned Salmon

TABLE 1.--WHICH KIND OF CANNED FISH DO YOU LIKE BEST?

Kind of canned fish	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Tuna	42	56	47
Salmon	42	17	27
Sardines	5	4	6
Shrimp	3	14	11
Don't know	8	9	9
Weighted base	(669)	(572)	(916)

TABLE 2.--DURING THE LAST TWELVE MONTHS
HAVE YOU SERVED CANNED SALMON?

Response	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	87	58	74
No	13	42	26
Weighted base	(669)	(572)	(916)

Use of Canned Salmon

TABLE 3.--DURING THE PAST FOUR WEEKS, ABOUT
HOW OFTEN DID YOU SERVE CANNED SALMON?

Number of times	Those who have served canned salmon within last 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
1 time	21	19	25
2 times	22	13	17
3 times	8	3	6
4 times	9	6	7
5 or more times	4	2	1
Did not serve	36	57	43
Don't know	(1)	(1)	1
Weighted base	(581)	(333)	(681)
Average (last 4 weeks)	2.3	2.0	2.0

1/ Less than one percent.

TABLE 4.--WHO IN YOUR FAMILY EATS CANNED SALMON?

Family member	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Entire family	84	73	88
Husband	9	13	7
Respondent	13	24	12
Children	7	7	7
Other adults	0	3	1
Weighted base	(370)	(143)	(388)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Can Size Preference

TABLE 5.--WHICH SALMON CAN SIZE DO YOU BUY?

Can size	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
3-3/4 ounce	1	10	7
7-3/4 ounce (flat)	33	45	17
16 ounce (tall)	68	48	78
Don't know	(2)	0	0
Weighted base	(370)	(143)	(388)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Less than one percent.

TABLE 6.--HOW ADEQUATE IS THIS SALMON CAN SIZE FOR YOUR PURPOSES?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
About right	91	91	86
Too small	5	6	7
Too large	3	3	4
Don't know	2	1	4
Weighted base	(370)	(143)	(388)

Can Size Preference

TABLE 7.--WOULD YOU PREFER ANOTHER CAN SIZE?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	11	10	11
No	88	87	85
Don't know	1	3	4
Weighted base	(370)	(143)	(388)

TABLE 8.--ABOUT WHAT SIZE CAN WOULD YOU PREFER?

Can size	Salmon users who would prefer another can size		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(2)	100
12 ounce (3/4 pound)	18	-	26
20 ounce	10	-	21
24 ounce (1-1/2 pound)	15	-	23
32 ounce or more	35	-	21
Other size	0	-	0
Don't know	28	-	9
Weighted base	(40)	(15)	(43)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Percentages are omitted because the data are not statistically significant.

Color Preference

TABLE 9.--WHICH COLOR OF CANNED SALMON DO YOU PREFER?

Color	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Red	16	89	60
Pink	85	13	46
Don't know	(2)	0	(2)
Weighted base	(370)	(143)	(388)

- 1/ Totals more than 100 percent as some respondents gave more than one answer.
 2/ Less than one percent.

TABLE 10.--WHICH COLOR CANNED SALMON DO YOU LIKE BETTER?

Color	Salmon users who buy					
	Birmingham		Boston		Detroit	
	Red	Pink	Red	Pink	Red	Pink
	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent
	100	100	(1)	(2)	100	100
Red	95	6	99	-	97	20
Pink	5	93	2	-	3	79
Don't know	0	1	1	-	(3)	1
Weighted base	(59)	(313)	(127)	(19)	(231)	(177)

- 1/ Totals more than 100 percent as some respondents gave more than one answer.
 2/ Percentages are omitted because the data are not statistically significant.
 3/ Less than one percent.

Color Preference

TABLE 11.--DO YOU USUALLY BUY THAT COLOR SALMON OR DO YOU SOMETIMES BUY ANOTHER COLOR?

Buying practice	Salmon users		Salmon users with a preference							
	Boston		Detroit		Birmingham		Boston		Detroit	
	Per- cent	Per- cent	Per- cent	Per- cent	Red	Pink	Red	Pink	Red	Pink
	100	100	100	100	100	100	100	100	100	100
Usually buy	87	93	84	84	71	91	93	-	80	92
Sometimes buy	12	6	15	15	27	8	5	-	20	7
Don't know	1	1	1	1	2	1	2	-	0	1
Weighted base	(370)	(143)	(388)	(388)	(73)	(293)	(125)	(18)	(240)	(142)

1/ Percentages are omitted because the data are not statistically significant.

Color Preference

TABLE 12.--WHY DO YOU SOMETIMES BUY
A COLOR OTHER THAN YOUR PREFERENCE?

Reasons	Salmon users who sometimes buy a color other than their preferred color		
	Birmingham	Boston	Detroit
	<u>Percent</u>	<u>Percent</u>	<u>Percent</u>
	(2)	(3)	(2)
Lower price	61	-	72
Stores don't have what I want, take the next best	18	-	2
Looks nicer for salads	5	-	10
Holds together better when being prepared	2	-	10
Other reasons ^{1/}	17	-	15
Don't know	2	-	7
Weighted base	(44)	(8)	(58)

- ^{1/} None of these reasons was given by as many as 10 percent of the respondents.
- ^{2/} Totals more than 100 percent as some respondents gave more than one answer.
- ^{3/} Percentages are omitted because the data are not statistically significant.

Buying Habits

TABLE 13.--THE LAST TIME YOU BOUGHT CANNED SALMON--DID YOU PLAN TO BUY IT BEFORE YOU WENT TO THE STORE OR DID YOU DECIDE ON IT AT THE STORE?

Type of purchase	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Planned	79	89	81
Impulse	21	11	19
Don't know	0	0	0
Weighted base	(370)	(143)	(388)

TABLE 14.--WHAT MADE YOU DECIDE TO BUY IT ON IMPULSE?

Reasons	Salmon users who made last purchase of salmon on impulse		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(2)	(?)	100
Saw it and just bought it	59	-	39
Special price, on sale, good buy	14	-	56
To stock pantry	11	-	3
Other reasons ^{1/}	19	-	2
Don't know	5	-	0
Weighted base	(76)	(16)	(75)

- ^{1/} None of these reasons was given by as many as 10 percent of the respondents.
- ^{2/} Totals more than 100 percent as some respondents gave more than one answer.
- ^{3/} Percentages are omitted because the data are not statistically significant.

Serving Habits

TABLE 15.--WHEN DO YOU SERVE SALMON?

Time of serving	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Lunch at home	42	42	31
Dinner	79	73	88
Snack	9	16	9
Lunch to take to work	10	14	6
Picnic	4	3	4
Breakfast	20	0	3
Don't know	0	0	(2)
Weighted base	(370)	(143)	(388)

- 1/ Totals more than 100 percent as some respondents gave more than one answer.
- 2/ Less than one percent.

TABLE 16.--WAS SALMON SERVED IN YOUR HOME WHEN YOU WERE A CHILD?

Response	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	90	87	90
No	8	10	10
Don't know	2	3	(1)
Weighted base	(370)	(143)	(388)

- 1/ Less than one percent.

Serving Habits

TABLE 17.--WHAT WOULD INDUCE YOU TO USE MORE SALMON?

Reasons	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
If cheaper, if on sale	36	37	44
Remove black skin, bone	3	19	4
Nothing	48	42	40
Other reasons	11	10	11
Don't know	6	1	5
Weighted base	(370)	(143)	(388)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 18.--IF LESS EXPENSIVE SALMON HAD THE SKIN AND BONES REMOVED, HOW WOULD IT INFLUENCE YOUR SALMON USE?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Would eat more salmon	27	36	25
Would eat about same quantity	72	62	73
Don't know	1	2	2
Weighted base	(370)	(143)	(388)

Recipe Sources

TABLE 19.--HAVE YOU EVER USED A RECIPE OBTAINED FROM A SALMON CAN?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	22	17	21
No	78	83	79
Don't know	(1)	0	0
Weighted base	(370)	(143)	(388)

1/ Less than one percent.

TABLE 20.--HAVE YOU EVER USED A RECIPE OBTAINED FROM AN ADVERTISEMENT?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	25	34	32
No	74	66	66
Don't know	1	0	2
Weighted base	(370)	(143)	(388)

Ordering Salmon in
Public Eating Places

TABLE 21.--HAVE YOU ORDERED SALMON IN A
PUBLIC EATING PLACE IN THE LAST TWO MONTHS?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	5	5	2
No	95	95	97
Don't know	0	0	1
Weighted base	(370)	(143)	(388)

TABLE 22.--BESIDES YOURSELF, HAS ANYONE EATING WITH YOU
ORDERED SALMON IN A PUBLIC EATING PLACE IN THE LAST TWO MONTHS?

Responses	Salmon users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	6	3	3
No	92	94	94
Don't know	2	3	3
Weighted base	(370)	(143)	(388)

Reasons for Not Using
or Seldom Using Salmon

TABLE 23.--IS THERE ANY SPECIAL REASON
WHY YOU DO NOT USE CANNED SALMON?

Reasons	Salmon non-users who have not served salmon in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Unattractive	64	80	68
Price too high	11	11	24
Health or diet reasons	18	10	8
Other reasons	23	12	16
Don't know	0	(2)	0
Weighted base	(88)	(238)	(235)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Less than one percent.

TABLE 24.--DID YOU EVER USE SALMON IN THE PAST?

Responses	Salmon non-users who have not served salmon in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	52	37	55
No	45	61	44
Don't know	3	2	1
Weighted base	(88)	(238)	(235)

Reasons for Not Using
or Seldom Using Salmon

TABLE 25.--WHY DID YOU STOP USING SALMON?

Reasons	Salmon non-users who have not served salmon in past 12 months but who used salmon previously		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Unattractive	22	31	28
Reduction in size of family	20	13	14
Price too high	11	20	25
Health or diet reasons	21	15	11
Other	29	27	17
Don't know	2	1	5
Weighted base	(46)	(89)	(130)

1/ Totals more than 100 percent as some respondents gave more than one answer.

TABLE 26.--WHY DO YOU SERVE SALMON SO SELDOM?

Reasons	Salmon non-users who have served salmon in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Unattractive	46	55	45
Price too high	19	12	29
Health or diet reasons	5	6	5
Difficult to prepare or use	4	13	9
Other	35	32	22
Don't know	(2)	1	1
Weighted base	(211)	(190)	(293)

1/ Totals more than 100 percent as some respondents gave more than one answer.

2/ Less than one percent. 26

Reasons for Not Using
or Seldom Using Salmon

TABLE 27.--DID YOU USE SALMON MORE OFTEN IN THE PAST?

Responses	Salmon non-users who have served salmon in past 12 months		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	57	26	49
No	42	72	51
Don't know	1	2	(1)
Weighted base	(211)	(190)	(293)

1/ Less than one percent.

TABLE 28.--WHY HAVE YOU REDUCED THE NUMBER OF TIMES YOU SERVED IT?

Reasons	Salmon non-users who have served salmon in past 12 months and used more salmon previously		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	(1)	(1)	(1)
Price too high	20	24	31
Used it when entire family was living together	25	20	24
Health or diet reasons	8	20	7
Difficult to prepare or use	6	0	7
Unattractive	3	12	9
Other reasons	33	10	21
Don't know	9	16	5
Weighted base	(120)	(50)	(144)

1/ Totals more than 100 percent as some respondents gave more than one answer.

Reasons for Not Using
or Seldom Using Salmon

TABLE 29.--DOES ANYONE LIVING IN THE HOUSE LIKE SALMON?

Responses	Salmon non-users		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
	100	100	100
Yes	83	38	74
No	12	11	24
Don't know	5	51	2
Weighted base	(299)	(428)	(528)

TABLE 30.--HAVE YOU SEEN OR HEARD ANY ADVERTISING FOR CANNED SALMON?

Responses	Respondents, by salmon consumption													
	All respondents			Birmingham			Boston			Detroit				
	Percent	Percent	Percent	Never users	Heavy users	Percent	Never users	Heavy users	Percent	Never users	Heavy users	Percent	Never users	Heavy users
	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Yes	31	24	34	24	43	14	34	28	37	34	66	72	0	63
No	68	76	65	73	56	84	66	72	63	66	0	0	0	37
Don't know	1	(1)	1	3	1	2	0	0	0	0	0	0	0	0
Weighted base	(669)	(572)	(916)	(88)	(122)	(238)	(35)	(235)	(100)	(235)	(35)	(235)	(100)	(100)

1/ Less than one percent.

TABLE 31.--WHERE HAVE YOU SEEN OR HEARD ADVERTISING FOR CANNED SALMON?

Sources	Those exposed to advertising for canned salmon					
	Birmingham		Boston		Detroit	
	Percent	Percent	Percent	Percent	Percent	Percent
	(1)	(1)	(1)	(1)	(1)	(1)
Magazines	49	55	54	55	54	54
Radio	8	5	3	5	3	3
Television	21	22	15	22	15	15
Newspapers	59	41	59	41	59	59
Don't know	2	0	1	0	1	1
Weighted base	(209)	(135)	(316)	(135)	(316)	(316)

1/ Totals more than 100 percent as some respondents mentioned more than one source.

CharacteristicsTABLE 32.--SELECTED SOCIO-ECONOMIC
CHARACTERISTICS OF HOUSEHOLDS, HOMEMAKERS

Race	All respondents		
	Birmingham	Boston	Detroit
	Percent	Percent	Percent
White	64	98	81
Negro	36	2	19
Other	0	0	0
<u>Religion</u>			
Protestant	94	33	63
Catholic	6	58	34
Jewish	0	8	2
Other	0	1	1
<u>Income</u>			
Under \$2,999	31	12	19
\$3,000 to \$3,999	16	15	13
\$4,000 to \$4,999	16	35	20
\$5,000 to \$6,999	18	20	26
\$7,000 or more	15	15	17
Unclassified	4	3	5
Weighted base	(669)	(572)	(916)
<u>Both parents native born</u>			
Yes	96	58	71
No	3	42	28
Unclassified	1	0	1
Weighted base	(668)	(483)	(764)
<u>Outside employment of homemaker</u>			
Yes	33	26	29
No	64	72	70
Unclassified	3	2	1
Weighted base	(669)	(572)	(916)
<u>Completed education of homemaker</u>			
Less than 8th grade	24	10	24
8th through 12th grade	62	73	62
College	13	16	14
Unclassified	1	1	0
Weighted base	(669)	(572)	(916)

SURVEY METHODS

Questionnaire

The development phase of the study consisted of 57 depth interviews conducted by specialists in this type of interviewing. Respondents were chosen for these interviews in a non-systematic, but also non-random method. These interviews consisted of informal and casual discussions covering aspects of household consumers' preferences for canned fish. The respondent was allowed to take whatever direction she wanted to in these discussions, following her own natural inclinations. No attempt was made to limit or restrict the discussion to predetermined areas of interest. Only when the respondent had exhausted some topic did the interviewer attempt to give some further direction to the interviews by asking a very general and open "why" or "how" question.

In addition, a number of specific techniques were used in these initial interviews as further aids in eliciting consumer attitudes and motivations. Such techniques as word association, sentence completion, response projection, role taking, and cartoon tests were used.

After the first few of these 57 interviews were completed, discussions were held by the staff and the interviewers. Suggestions were made regarding procedural changes in order to increase the prospects for more complete and detailed information.

Using these 57 preliminary interviews as a basis, a list of associations was developed showing all of the relevant areas to be explored in the full scale study. This "item list" formed the basis for development of the "guided association" portion of the questionnaire.

Several drafts of the pre-test questionnaire were then developed, in consultation with staff members of the U. S. Fish and Wildlife Service, with each draft receiving limited field tests by a specialist in interviewing techniques. An improved draft of the questionnaire was also forwarded to members of the fish canning industry for their comments and suggestions.

A full scale pre-test of the questionnaire was carried out in the three urbanized areas selected for the full scale survey, Boston, Massachusetts, Birmingham, Alabama and Detroit, Michigan. A total of 61 pre-test interviews were completed. These were distributed approximately equally among the three urbanized areas. A complete review of all questions included in the pre-test was carried out with differences in local interpretation noted especially. Based on this review final revisions in the questionnaire were made and specific instructions to the interviewers prepared. A copy of the questionnaire is included in this Appendix.

Sample Design

The sample design for this study was constructed with two basic requirements in mind. First, the sampling techniques employed must be consistent with the demands of sound research methodology; they must be techniques by which valid inferences may be drawn from the sample for the population group under investigation. The only known way to meet this requirement is through probability sampling. With probability samples, the chance of observing a given individual or element of the population of interest is known. It permits the researcher to not only control the sampling areas, but also to measure them. It is this property, the measurability of area, which lends validity to the conclusions drawn from probability samples.

Second, the sample design must be economically and statistically efficient; that is, it should, for the budget allotted and resources available, provide the most accurate estimates of the characteristics studied. The estimates derived from the sample must be of sufficient accuracy to be used with confidence. Selection of the most efficient design implies knowledge of the sources of variation affecting a set of sample observations or measurements. The problem of sample design is to make that judicious selection among the many techniques available for controlling these sources of variation, and hence the eventual sampling area, which will achieve an appropriate balance between administrative efficiency and statistical

efficiency. The specific techniques employed in the sample designs constructed for this study include:

1. Grouping the eligible population into small clusters or sampling units comprising an efficient interviewer daily work load.
2. Grouping the sampling units into city and suburban zones, in each of the three urbanized areas surveyed, to provide approximately proportionate representation.
3. A further grouping of the sampling units within each zone into geographic or area strata, with an equal number of sampling units in each stratum, to ensure adequate distribution of the sample to all segments of the population of interest.
4. Using equal probabilities for the selecting of sampling units within strata and thereby considerably simplifying the formulas necessary for valid computation of the estimates and of their standard errors.

A strict probability sample implies the application of completely objective methods for the selection of respondents. In the absence of a list of households or persons eligible for interview, the required objectivity is met through the use of area probability sampling techniques. To be satisfied with simple area sampling techniques is not enough, however. Ingenuity in the use of available resources and facilities can considerably increase the efficiency of one area probability sample over another.

United States Census Population and Housing data, both published and unpublished, are our major resource in the design of efficient probability samples. Unpublished data for small areas, such as enumeration districts used in collecting census data, may be purchased on special order from the Bureau of the Census. In open country areas maps indicating the location of dwelling units are available

from State Highway Commissions. This supplementary information may be used for a variety of purposes in the design of a sample including stratification, assigning selection probabilities, or for the construction of approximately equal-sized sampling units. The sample design outlined below makes use of 1950 census data to establish the area strata and for the assignment of the sampling units within these strata. Although these data were not used for the direct assignment of selection probabilities, the sampling plan adopted is such that the chance for any segment of the areas surveyed, to be represented in the sample, was approximately proportionate to the number of occupied dwelling units contained within the segment whether it was an enumeration district, census tract, township, urban place, city block, or portion of an enumeration district, etc.

A sample representative of all households in the urbanized areas of Birmingham, Alabama; Boston, Massachusetts; Detroit, Michigan was selected for this study. In addition, a representative sample of all non-white households located in the rural portion of Orangeburg County, South Carolina was chosen. Bureau of the Census definitions of households, dwelling units, urbanized area, rural territory etc. were employed. The sample designs for the three urbanized areas will be described first. These designs were stratified one-stage sample designs, constructed in accordance with the principles outlined above. Careful control in all steps of the sample selection made it possible to know exactly the chance every household cluster or sampling unit had of falling into the sample.

The first step in the sample design consisted of listing and ordering geographically the census tracts in the central city portions of each of the three urbanized areas. In Detroit, those census tracts with 10 percent or more of the dwelling units occupied by non-white households in 1950 were listed and ordered separately. Similarly, ordered lists of the 1950 Census Enumeration Districts were prepared for those portions of the three urbanized areas which fall outside the central cities. Geographic or area strata were then constructed within the central city zones and the suburban zones for each

of the urbanized areas using the ordered lists and 1950 census data on the number of occupied dwelling units or households found in each census tract, block or enumeration district. These strata, seventy in number for each urbanized area, were constructed to contain approximately the same number of households in each.

Each of the seventy strata was then divided into a number of small area segments having boundaries which could easily be identified in the field by the interviewers. Each such area segment contained one or more clusters of households or sampling units. The number of sampling units or interviewer work loads assigned to each area segment was based on data available on the number of occupied dwelling units located within these segment boundaries. These data were obtained from a variety of sources including 1950 block statistics, 1950 enumeration district statistics, state highway maps, etc.

The geographic strata in each city were all constructed to contain the same number of sampling units with the exception of Detroit. In the central city portion of Detroit, the area strata for the tracts in the white zone (that is, the tracts with at least 90 percent of their 1950 dwelling units occupied by white families) were constructed to contain twice as many sampling units as the remaining area strata established for the Detroit urbanized area sample. Initially, two sampling units were selected with equal probability and without replacement from each of the geographic strata, yielding a sample total of 140 sampling units for each urbanized area.

The sample selection was accomplished by choosing two random numbers for each stratum between one and the total number of sampling units in the stratum. Thus, the sampling rate was the same for all geographic strata within a city with the exception of those comprising the white zone in Detroit referred to above. Since these strata contained twice as many sampling units as the remaining geographic strata in Detroit they were sampled at one-half the rate of the remaining strata in that urbanized area. The disproportionate sampling in Detroit was deemed necessary to yield sufficient interviews with non-white families for separate tabulation.

The number of strata and sampling units for the central cities and the remaining portions of the three urbanized areas are shown in the following table:

Appendix Table 1
NUMBER OF STRATA AND SAMPLING UNITS OF
URBANIZED AREAS INCLUDED IN THE
MOTIVATION SURVEY

Area	Number of strata	Sampling units per stratum
Boston Urbanized Area		
Boston city	25.0	1,454
Outside city	45.0	1,454
Birmingham Urbanized Area		
Birmingham city	52.0	298
Outside city	18.0	298
Detroit Urbanized Area		
Detroit city, white zone	25.5	2,560
Detroit city, non-white	15.5	1,280
Outside city	29.0	1,280

The decision to include a sample of non-white households in Orangeburg, South Carolina was made after the sample for the three principal urbanized areas was designed and selected. The expected sample size in each of the three urbanized areas was then reduced from 840 households to 725 households in order to shift a portion of the field budget to the survey to be conducted in Orangeburg County. Rather than design and select a new sample in each of the three urbanized areas, twenty sampling units in Birmingham, thirteen in Boston, and twenty-eight in Detroit were discarded at random with a condition that no more than one sampling unit would be discarded from any one stratum.

Strict field procedures were employed to determine the eligible households associated with the selected sampling units in an unbiased manner. The interviewers were required to list the occupied dwelling units in each area segment containing a selected sampling unit in advance of the interviewing. The listings showed addresses and other necessary identification for all dwelling units located within the boundaries of each area segment. The enumerators were provided with maps showing these boundaries, as well as the starting point and direction

to take through the segment for listing purposes. These lists were then returned to the Philadelphia office of the A. J. Wood Research Corporation where they were checked. Next, the dwelling units on each list which were associated with the selected sampling units were marked for interviewing. For example, if a given area segment was assigned three sampling units and the random selection had designated the second sampling unit, the list was first divided into three equal parts and then the dwelling units listed in the second of the three parts were marked for interview. The few sampling units in each urbanized area which contained more than 12 households selected for interview were subsampled. The lists were then returned to the interviewers for interviewing.

The interviewers were instructed to interview the sample (marked) households on the list and any other household (not shown on the list) found between a sample household and the next one listed. Thus households which might have been omitted in the pre-listing were included; and changes occurring after the pre-listing were accounted for. Interviews in the sample households were conducted with the person mainly responsible for planning the meals. Where the person designated for interview was not at home on the first call, succeeding calls up to a total of three were made on different days or evenings (in some instances more than three calls were made).

The sample design for the Orangeburg County, South Carolina, sample was similar in many respects. After preparing an ordered list of the enumeration districts falling in the rural portion of the county, sampling units were assigned to the enumeration districts according to the number of dwelling units occupied in 1950 by non-white households contained in each. These sampling units were then grouped into geographic strata, 21 in total, with each stratum containing 55 sampling units. Two sampling units were selected at random without replacement from each stratum, yielding a total of 42 sampling units for the sample. Next, maps of each of the area segments containing a selected sampling unit were prepared and the interviewers listed all dwelling units falling within the area segment, classifying these

dwelling units according to whether they were occupied by white households or non-white households or were vacant. The location of each dwelling unit was marked on the segment map and numbered; this same number was used on the listing sheet.

Field Work

Training sessions with the supervisors and interviewers were conducted in each of the survey areas by members of the Philadelphia office staff of the A. J. Wood Research Corporation. Initial field work was checked for quality and understanding of the instructions.

In addition to the check of the initial interviews, the area supervisors were required to conduct a preliminary edit of all work turned in and to check 10 percent of each interviewer's work by telephone. A further verification check on the field staff was carried out by the home office by means of a check card mailing to 33 percent of the respondents in each city.

A total of 2,385 households were designated for interview in this survey; 706 in Birmingham, 743 in Boston, 716 in Detroit and 220 in Orangeburg. Interviews were completed in 1,947 of the sample households. The reasons for the non-interviews are tabulated in Appendix Table 2.

Data Processing Procedures

All questionnaires were edited upon receipt in the Philadelphia office and those which were incomplete or contained questionable responses were returned to the field supervisors for re-interview. The coding department then prepared tabulations of the open-end questions from a sample of the completed interviews from each survey area. Codes for these questions were established and coding instructions were prepared and reproduced.

The questionnaire and coding procedures were explained and reviewed with the coders. The open-end questions were reserved for coding by the most experienced coders only. Answers to open-end questions which were not readily

classified into specific code categories were held aside for review by the coding supervisor and project director. Specific categories for the latter cases were established when necessary.

The work of all coders was checked by the coding supervisor until an acceptable level of coding consistency was achieved both between and within coders. Thereafter a 10 percent check for the purpose of maintaining this consistency level was carried out.

The punch cards were then prepared and weighted as follows. In Detroit, the interviews completed in sampling units selected from the white zone were duplicated once since these interviewer assignments had one-half the probability of being included in the sample as did the remaining sampling units chosen for this survey in that city. In addition the punch cards for interviews completed in assignments which had been subsampled were weighted according to the subsampling rates. No attempt was made to substitute or weight for households designated for the sample but not interviewed.

The punch cards then received a thorough error and consistency check on the IEM Electronic Statistical machine. Where necessary the punch cards were corrected by reference to the specific questionnaires corresponding to the cards in question.

Sampling Errors

The sampling error for a particular estimate serves as a guide to the confidence with which this estimate can be used. It is a measure of the closeness of the

sample estimate to the result which would be obtained from a complete census of the population sampled, using the same questionnaire, interviews and interviewing procedures.

Practically all of the estimates developed from the data collected in this study are simple percentages of the respondents having a particular opinion or characteristic. In technical terminology, these percentages are actually combined strata ratio estimates, since the sample design employed extensive geographic stratification and cluster sampling, in which the number of respondents in each cluster was subject to random sampling variation. Thus, sampling errors were computed using the formula for the variance of a ratio estimate.

This formula contains variance measures for the cluster average of both the numerator and denominator of the computed proportion or percentage estimate, as well as a covariance measure for these two averages. These measures were computed from the average variance between clusters within strata.

The chances are approximately 2 to 1 that the error, due to sampling, in a particular estimate, will not exceed one standard error; the chances are 19 to 1 against a deviation as large as two standard errors from the result which would be obtained with a complete census using the same procedures.

Estimates of the standard errors for several items included among the guided association questions are shown in Appendix Table 3.

Appendix Table 2

REASONS FOR NON-INTERVIEWS

Designation	Birmingham		Boston		Detroit		Orangeburg County, South Carolina	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total households designated for interview	706	100	743	100	716	100	220	100
Total households interviewed	585	83	553	74	609	85	200	91
Total households designated but not interviewed	121	17	190	26	107	15	20	9
Reasons for non-interviews								
Not-at-home (3 or more calls)	60	9	65	9	38	5	15	7
Refused	29	4	62	8	46	6	4	2
Other 1/	24	3	60	8	17	2	1	(3)
Not eligible 2/	8	1	3	(3)	6	1	-	-

1/ This category includes sickness of eligible respondent, language difficulty, and vacancy of dwelling unit on succeeding call.

2/ These were households where main meals were not eaten at home.

3/ Less than one percent.

Appendix Table 3

SAMPLING ERRORS

Question	Item	Percent who agree	Estimated standard error in percentage points
A-1	Served canned salmon in last 12 months:		
	Birmingham	86.8	1.7
	Boston	58.2	2.2
	Detroit	74.3	1.9
1	Salmon has a good flavor:		
	Birmingham	90.1	1.2
	Boston	70.9	2.1
	Detroit	82.4	1.8
6	Salmon is undesirably oily:		
	Birmingham	12.4	1.5
	Boston	11.4	1.1
	Detroit	12.1	1.3
8	Salmon is expensive:		
	Birmingham	45.0	2.9
	Boston	62.4	2.9
	Detroit	63.5	2.1
18	Salmon is often eaten by sick people:		
	Birmingham	20.7	1.9
	Boston	20.2	2.0
	Detroit	26.3	2.2

QUESTIONNAIRE

Stratum No. 3,4 Segment No. 5 Unit No. 6

Bureau of the Budget
No. 42-5901
Auth. Expires June 30, 1959

City 7

INTERVIEW THAT PERSON MAINLY RESPONSIBLE FOR PLANNING THE MEALS SERVED IN THE HOUSEHOLD

RECORD OF CALL:

	Date	Interview	Not at Home	Refusal	Other (SPECIFY)
1st Call					
2nd Call					
3rd Call					

A. J. WOOD RESEARCH CORPORATION
PART A - GUIDED ASSOCIATION QUESTIONS
CANNED FISH STUDY

Time Interview Started:
_____ A.M. _____ P.M.

Introduce yourself as being from the A. J. Wood national research corporation doing a study for the U. S. Government. Then say, "I am going to make several statements about three types of canned fish. After I make the statement will you tell me how you feel about it, if you agree or disagree?" (Interviewer will grade intensity of feeling by respondent's statement, attitude, tone, etc.)

PART A

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
1. _____ has a good flavor.	Sardine	9-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
2. _____ has an unpleasant smell.	Tuna	10-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
3. _____ leaves a bad odor in the refrigerator.	Salmon	11-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
4. _____ has a pleasant aftertaste, that is after it has been eaten.	Tuna	12-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
5. _____ can size is about right for my household.	Sardine	13-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
6. _____ is undesirably oily.	Tuna	14-1	-2	-3	-4	
	Salmon	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
7. _____ is a food of high quality.	Salmon	15-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
8. _____ is expensive, compared to other canned fish.	Tuna	16-1	-2	-3	-4	
	Salmon	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
9. _____ has a nice appearance when you open the can.	Salmon	17-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	



Tell me what you think immediately when I ask the following questions.

	Coffee	Tea	Milk	Beer	Soft Drink	Fruit Juice or Punch	Other
10. What beverages go best with <u>sardines</u> ?	---	---	---	---	---	---	_____
11. What beverages go best with <u>salmon</u> ?	---	---	---	---	---	---	_____
12. What beverages go best with <u>tuna</u> ?	---	---	---	---	---	---	_____

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
13. _____ does not have many uses.	Sardine	21-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
14. _____ is mainly eaten by manual laborers.	Tuna	22-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
15. _____ is used by people who are inexperienced cooks.	Salmon	23-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
16. _____ is hard to make look good to eat.	Tuna	24-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
17. _____ is used a great deal by Negroes.	Salmon	25-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
18. _____ is often eaten by sick people.	Tuna	26-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	

(READ EACH STATEMENT
INSERTING EACH VARIETY
OF CANNED FISH)

		Strongly agree	Agree	Disagree	Strongly disagree	Don't know or Indifferent
19. _____ is usually eaten only by children.	Salmon	27-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
20. _____ is not eaten by people trying to lose weight.	Sardine	28-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
21. _____ is a convenient food for a busy housewife.	Salmon	29-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Sardine	-9	-0	-X	-Y	
22. _____ is only good if it is a well-known brand.	Tuna	30-1	-2	-3	-4	
	Sardine	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
23. _____ is too troublesome to prepare.	Sardine	31-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
24. _____ is food for poorer people.	Sardine	32-1	-2	-3	-4	
	Tuna	-5	-6	-7	-8	
	Salmon	-9	-0	-X	-Y	
25. Canned <u>shrimp</u> are equal in quality to fresh shrimp.		33-1	-2	-3	-4	
26. Canned <u>shrimp</u> are less costly than fresh shrimp.		-5	-6	-7	-8	

PART C

SALMON SECTION

- A-1. During the last 12 months have you served canned salmon? Yes-----35-1
No-----2

IF "NO," SKIP TO NON-USER SECTION

- A-2. During the past 4 weeks, about how often did you serve canned salmon?

1 time-----3
2 times-----4
3 times-----5
4 times-----6
5 times or more
(SPECIFY)_____

Did not serve-----X
Don't know-----Y

IF NO SALMON SERVED IN LAST 4
WEEKS, SKIP TO NON-USER SECTION

SALMON USERS ONLY

1. Who in your family eats salmon... Entire family?-----36-1
or only
Husband,-----2
Respondent,-----3
Children under 5,-----4
Children 5 - 10,-----5
Children 11 - 15,-----6
Male children over 15,-----7
Female children over 15,-----8
Other adults?-----9

2. Which size can do you buy salmon in... 3 3/4 oz.,-----37-1
7 3/4 oz. (flat),-----2
16 oz. (tall)?-----3

3. Which do you prefer? CHECK ONE 16 oz. (1 lb.)-----4
7 3/4 oz.-----5
3 3/4 oz.-----6

4. Is this size... About right,-----7
Too small,-----8
or too large?-----9

5. Would you prefer another size can? Yes-----0
No-----X

IF "YES"

- 5a. About what size? (SPECIFY)_____38-

6. Which color of canned salmon do you buy? Red-----39-1
Pink-----2
Other (SPECIFY)_____

- 6a. Which do you like better... CHECK ONE Red,-----5
or Pink?-----6
Other (SPECIFY)_____

7. Do you usually buy that color salmon or do you sometimes buy another color? Usually buy-----40-1
Sometimes buy-----2

IF RESPONDENT SOMETIMES CHANGES

- 7a. Why do you buy it rather than your preference?

PROBE

8. When do you serve salmon...
 Lunch at home,-----41-1
 Dinner,----- -2
 Snack,----- -3
 Lunch to take to work,----- -4
 Picnic?----- -5
 Other (SPECIFY)_____
9. Have you ever used a salmon recipe you got from a salmon can? Yes----- -9
 No----- -0
10. Have you ever used a salmon recipe you got from an ad? Yes----- -X
 No----- -Y
11. The last time you bought salmon did you plan to buy it before you went to the store; or did you decide on it at the store? Planned-----42-1
 Not planned----- -2
- IF NOT PLANNED**
- 11a. What made you decide to buy it? _____
PROBE - ESPECIALLY PRICE

12. What would induce you to use more salmon? _____

PROBE 43-
13. If less expensive salmon had the skin and bones removed would you... Eat more of it,-----44-1
 Eat about the same?----- -2
14. Was salmon served in your home when you were a child? Yes----- -3
 No----- -4
15. Have you ordered salmon in a public eating place in the last two months? Yes----- -5
 No----- -6
- IF "YES"**
- 15a. How many times have you ordered salmon in any form in a public eating place in the past two months? 1 to 3 times----- -7
 4 to 6 times----- -8
 7 to 9 times----- -9
 10 to 12 times----- -0
 Over 13 times----- -X
- 15b. Generally speaking, what day of the week did you order salmon in a public eating place? Monday-----45-1
 Tuesday----- -2
 Wednesday----- -3
 Thursday----- -4
 Friday----- -5
 Saturday----- -6
 Sunday----- -7
- IF MORE THAN ONE DAY MENTIONED, CIRCLE ALL DAYS MENTIONED**
- 15c. Generally speaking, at what time did you order salmon in a public eating place? Morning----- -8
 Lunch----- -9
 Afternoon----- -0
 Dinner----- -X
 Evening----- -Y
- IF MORE THAN ONE TIME MENTIONED, CIRCLE ALL TIMES MENTIONED**
16. Besides yourself, has anyone eating with you ordered salmon in a public eating place in the last two months? Yes-----46-1
 No----- -2
- IF "YES"**
- 16a. Who was it? Spouse----- -3
 Child----- -4
 Friend or other relative----- -2

SALMON - NON-USER SECTION

ASK OF PEOPLE WHO HAVE NOT SERVED SALMON IN LAST 12 MONTHS

1. Is there an special reason why you don't use salmon?

36-

PROBE

2. Did you ever use salmon in the past?

Yes-----37-1
No-----2

IF "YES"

2a. How long ago did you use it? _____ years

2b. Why did you stop using salmon?

38-

PROBE

ASK OF PEOPLE WHO SERVED SALMON IN PAST 12 MONTHS, BUT NOT IN PAST 4 WEEKS

3. Why do you use salmon so seldom?

39-

PROBE

4. Did you use salmon more often in the past?

Yes-----40-1
No-----2

IF "YES"

4a. Why have you reduced the number of times you serve it?

PROBE

5. Does anyone living in the house like salmon?

Yes-----41-1
No-----2

IF "YES"

5a. Who is it?

Spouse-----3
Male child-----4
Female child-----5
Other (SPECIFY)

PART E

ASK ALL RESPONDENTS

- | | | |
|------|--|--|
| 1. | Have you seen or heard any advertising for canned tuna? | Yes-----77-1
No----- -2 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "YES"</table> | |
| 1a. | Have you seen or heard it... | In magazines,----- -3
On radio,----- -4
On television,----- -5
In newspapers?----- -6 |
| 2. | Have you seen or heard any advertising for canned salmon? | Yes----- -7
No----- -8 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "YES"</table> | |
| 2a. | Have you seen or heard it... | In magazines,----- -9
On radio,----- -0
On television,----- -X
In newspapers?----- -Y |
| 3. | Have you seen or heard any advertising for canned sardines? | Yes-----78-1
No----- -2 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "YES"</table> | |
| 3a. | Have you seen or heard it... | In magazines,----- -3
On radio,----- -4
On television,----- -5
In newspapers?----- -6 |
| 4. | Have you seen or heard advertising for canned shrimp? | Yes----- -7
No----- -8 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "YES"</table> | |
| 4a. | Have you seen or heard it.. | In magazines,----- -9
On radio,----- -0
On television,----- -X
In newspapers?----- -Y |
| 5. | Do you use canned shrimp? | Yes-----79-1
No----- -2 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "YES"</table> | |
| 5a. | Do you use the veined or de-veined variety, or both? | Veined----- -3
De-veined----- -4
Both----- -5 |
| | <table border="1" style="display: inline-table; vertical-align: middle;">IF "BOTH"</table> | |
| 5aa. | Which do you like better... | Veined,----- -6
or de-veined?----- -7 |
| 6. | Which kind of canned fish do you like best... | Tuna,----- -8
Salmon,----- -9
Sardines,----- -0
Shrimp?----- -X |

CLASSIFICATION DATA

1. MARITAL STATUS:
 Married-----70-1
 Single----- -2
 Widowed, divorced, etc.----- -3

- 1a. How many people eat dinner at home with you? (CIRCLE ONE)
 1 2 3 4 5 6 7 8 9 10 or more
 71-1 -2 -3 -4 -5 -6 -7 -8 -9 -0

IF NOT SINGLE, ASK QUESTIONS 1b AND 1c

- 1b. How many children eat dinner at home? (CIRCLE ONE)
 0 1 2 3 4 5 6 7 8 9 10 or more

- 1c. What are their approximate ages?

IF MARRIED, ASK QUESTION 1d

- 1d. What is your husband's job?
 Executive, professional, merchant or own business-----72-1
 Clerical or sales personnel----- -2
 Manual skilled, semi-skilled or unskilled worker----- -3
 Retired, unemployed, or student----- -4
 Other (SPECIFY) _____

2. Do you work? Yes-----73-1
 No----- -2

IF "YES," ASK QUESTION 2a

- 2a. What is your job?
 Executive, professional, merchant or own business----- -3
 Clerical or sales personnel----- -4
 Manual skilled, semi-skilled or unskilled worker----- -5
 Retired, unemployed, or student----- -6
 Other (SPECIFY) _____

HAND RESPONDENT CARD #4

3. Would you tell me which letter indicates the age you are? (CIRCLE ONE)
 A B C D E
 74-1 -2 -3 -4 -5

HAND RESPONDENT CARD #5

4. Would you tell me into which group your total family income falls? (CIRCLE ONE)
 A B C D E
 75-1 -2 -3 -4 -5

5. What was the last grade you completed in school?
 Less than 8th-----76-1
 8th through 12th----- -2
 College----- -3

ASKED ONLY OF COLORED HOUSEHOLDS

6. How long have you lived in this city?
 1 year or less----- -4
 More than 1 to 5 years----- -5
 More than 5 to 10 years----- -6
 More than 10 to 15 years----- -7
 More than 15 years----- -8

IF LESS THAN 15 YEARS, ASK QUESTION 6a

- 6a. Where did you come from?
 Northern state----- -9
 Southern state----- -0
 Foreign country----- -X

ASK ALL RESPONDENTS

7. Where were you born?
 Northern state-----77-1
 Southern state----- -2
 Foreign country (SPECIFY) _____

IF NATIVE BORN

8. Were both of your parents born in this country? Yes-----78-1
 No----- -2

IF "NO"

- 8a. In what country(s) were they born? (SPECIFY)
 Father _____
 Mother _____

9. Ten years ago did you live in...
 open country,-----79-1
 suburbs,----- -2
 city?----- -3

10. The religious background of a family at times influences eating habits. With what religion is your family most closely associated?
 Protestant----- -4
 Catholic----- -5
 Jewish----- -6
 Other (SPECIFY) _____

AUTOMATIC CLASSIFICATION

11. RACE: White-----80-1
 Negro----- -2
 Other non-white----- -3

12. LOCATION OF DWELLING:
 City----- -4
 Suburb----- -5

Name _____ Tele. No. _____
 Address _____ City _____ State _____
 Interviewer's Signature _____ Date _____

Time Interview Completed:

A.M. _____ P.M. _____

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