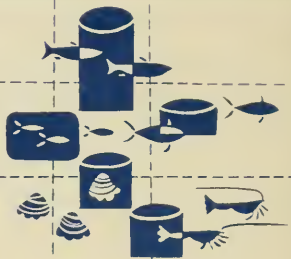




household consumer preferences for canned fishery products 1956



HOUSEHOLD CONSUMER
PREFERENCES

for canned fishery products

1956

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY
FISH AND WILDLIFE SERVICE
CIRCULAR 45



preface

The annual retail value of fish and shellfish sold to consumers in the United States amounts to over one billion dollars. The cost of merchandising fishery products from producers to consumers runs to hundreds of millions of dollars annually. The function of marketing which is a part of this effort is a fertile field of study for the purpose of effecting worthwhile savings which would reduce this cost. In addition, means of increasing or better serving the demands of consumers for fishery products should also be a primary object of such marketing study.

Accordingly, the survey herein reported upon was undertaken for the purpose of improving marketing conditions for canned fishery products. It was financed with funds made available by the Saltonstall-Kennedy Act, approved July 1, 1954 (68 Stat. 377). This Act established a separate fund to be used by the Secretary of the Interior to promote the free-flow of domestically produced fishery products in commerce by conducting, among other programs, marketing and economic research.

A table of contents appears on page 46

introduction

This report deals with preferences for canned fish and shellfish in United States households. The survey on which it is based was designed to assist the commercial fishing industry in obtaining a better understanding of factors affecting consumption of canned fishery products. Such factors as consumer preferences, buying practices and methods of distribution were studied. This is the first of two reports resulting from the survey which was conducted on the basis of a probability sample of 2,770 households representative of all households in the United States. This report highlights some of the more important findings of the survey.

The second report, Special Scientific Report: Fisheries No. 200, will provide more detailed data as to the information supplied by the households analyzed nationally and regionally, as well as by city size, income classes and by other characteristics. Detailed discussion on the sample design, sampling and non-sampling errors, methods of collection, editing and tabulation will be given in an appendix to that report.

The survey was conducted in June 1956 by the firm of W. R. Simmons and Associates Research, Inc., of New York City, under contract with the United States Fish and Wildlife Service.

HOW THE SURVEY WAS PLANNED

To interview all households in the United States as to their preferences for canned fish and shellfish would be difficult and expensive. Fortunately, modern sampling methods can provide sufficiently accurate information about the responses of these households to various questions on this topic. To determine these preferences the tested and reliable statistical sampling technique known as area probability sampling was chosen. This simply means that every

household in the United States has a known chance of being included in the sample. Thus a representative and unbiased group of households is selected to reflect the responses of all the nation's households. This technique also permits the calculation of the amount of sampling error involved in an estimate of the response of the nation's households to a particular question derived from the sample.

Three simple steps have been followed in order to obtain the sample of households deemed necessary to give reliable results for the limited funds available to be spent on the survey. First, the approximately 3,000 metropolitan and non-metropolitan counties in the United States were classified into strata representative of various types of communities from which 100 localities (metropolitan areas or counties) were selected. The second step was to select 440 clusters from among the 100 localities. A cluster is usually a Census Enumeration District, or in large cities a block or group of blocks. The final step consisted of selecting the households from among a listing of all dwelling units situated within the boundaries of these clusters. The sample design permitted the listing of newly constructed as well as other units during the course of the survey which were not included in the pre-listing as the survey plans were being developed. The procedures at each one of the steps mentioned, with all their attendant statistical refinements which for the purpose of simplicity are omitted here, gave an unbiased sample of United States households in existence at the time of the survey and permitted group totals to be estimated from the sample. The localities, clusters and households were selected by random procedures according to statistical formulas rather than by personal choice.

Households have been defined for the purpose of this report as a dwelling unit in which one or more persons, related or not, have their main meal at home at least once a week. This definition differs from the Bureau of Census definition of a household although not drastically. The number of households in the United States, as defined in this survey, has been estimated from data

of the Bureau of the Census at somewhat in excess of 48,000,000 in 1956.¹ If this figure is used to approximate the number of households, on the average, therefore, the 2,770 households included in the sample corresponds, roughly, to a sampling rate of approximately one out of every 17,390 households.

THE INTERVIEWING

The survey was conducted by trained interviewers of the contractor. Before surveying the individual households in the sample, the questionnaire on household preferences for canned fish and shellfish was pretested in the New York metropolitan area, Duluth, Minnesota and New Hanover County, North Carolina. Field interviewing for the survey began on June 11, 1956 and continued for approximately three weeks.

A good portion of the staff of W. R. Simmons and Associates Research, Inc., participated in the revision of the questionnaire. This practice enabled the questionnaire to reflect any local custom or local word usage which might present problems and brought the knowledge of many experts in survey technique into the development of the questionnaire.

The 185 interviewers who made the field contacts attended a number of training sessions where they were given a set of written instructions, and were required to pass a written examination demonstrating complete understanding of the questionnaire and the written instructions. The interviewer filled out a number of practice questionnaires by interviewing a number of strangers under the supervision of trained supervisors. To assure fullest cooperation and maximum accuracy, the interviewer was instructed to read an opening statement to the respondent which explained the purpose of the survey and guaranteed

¹ Data in U. S. Census Bureau *Current Population Reports*, Series P-20, No. 68 adjusted for households *not* serving at least one main dish meal at home in a week.

that the responses of the person being interviewed would be kept confidential and not revealed as the response of a single household. Each interviewer carried sufficient identification to indicate that he was an employee of W. R. Simmons and Associates Research, Inc. under contract to the United States Fish and Wildlife Service.

Where necessary, each household in the sample was visited a second time to establish contact with a responsible member of the household in order to complete the questionnaire. Those households not-at-home after two calls were accounted for in the sample by a method of weighting based on the not-at-home experience of those responding.

Since the household member interviewed was asked to recall something about canned fish and shellfish served in the preceding twelve months and in some instances about the last four weeks, memory aids were used. A card was used which listed the various forms and species of canned fish and shellfish, while other cards were used to classify the respondent's age and household income.

The data obtained were checked and tabulated by trained employees of the contracting firm. Checks were made for completeness of answers, correct recording of answers in the proper places, and adherence to the proper sampling procedure. Checks were also used throughout all phases of tabulating including the accuracy of punched cards, the machine tabulations and the final report.

WHAT THE SURVEY MEASURED

The survey was designed to measure various household preferences for canned fish and shellfish. It was desired to learn something about the general reaction of household consumers to certain styles of pack, purchase habits, etc. It was also desired to ascertain the factors influencing the use or non-use of the various types of canned fish and canned shellfish. Some of the kinds of information which was gathered from housewives and other adult members

of the household was the frequency of use of the various canned products during a specified period, the seasons of the year during which the canned fish and shellfish was served most often, the size of the can and number usually purchased, color of the meat usually purchased, methods of serving or cooking, whether purchases were by brand and reasons for serving or not serving. Households owning a pet gave information on the kinds and frequency of serving canned pet food containing fish. Some indication of the extent to which imported canned fish and shellfish were served by households and kind of oil used in canned sardines was also collected.

The survey recorded the responses of households in the sample to the questions regarding their use of canned fish and canned shellfish. Only those households which served at least one main meal at home during the survey week were included in the sample of households.

Recording the actual quantities of fishery products purchased by households was not among the purposes of this survey. The uncovering of the basic purchasing patterns, methods of use, and marketing practices in a given area so that consumers' requests for canned fishery products may be satisfied efficiently and satisfactorily were the principle things covered in this survey. Households were asked about their general use of canned fishery products during the last twelve months and more specific questions were asked as to the use and purchase patterns of canned fishery products during the last four weeks preceding the interview. Only households using canned fish or shellfish during the last four weeks preceding the interview were asked specific questions about their use of canned tuna, salmon, sardines and shrimp.

The survey was thus limited to the extent of the use of canned fish and shellfish in the period July, 1955 through June, 1956. The data were tabulated to give separate summaries nationally and by geographic region, household income, family size and city size, age and employment status of homemaker, race and religion. For the complete responses obtained in the survey and detailed tabulations thereof the reader is referred to Special Scientific Report: Fisheries No. 200.

Some of the more interesting findings are shown in the following pages. For this report the tabulations for the illustrations shown were made on the following bases:

REGIONS Northeast, North Central, South, West.



HOUSEHOLD INCOME Lower, 0-\$3,999 per annum; Middle, \$4,000-\$6,999 per annum; Higher, \$7,000 and over per annum.

FAMILY SIZE Small, one and two persons; Medium, three and four persons; Large, five or more persons.

CITY SIZE Big cities, population over 500,000; Small cities and suburbs, population 50,000-500,000; Towns, 2,500-50,000; Rural, farms or towns up to 2,500 population.

AGE OF HOMEMAKER, RACE, AND RELIGION As indicated on illustration.

graphic presentations



CANNED FISH
AND SHELLFISH
A BASIC
AND POPULAR FOOD

9 in 10 households in the U.S.
served canned fish or shellfish

PERCENTAGE OF HOUSEHOLDS
NOT USING

8.6 %

4.7 %

9.7 %

9.6 %

8.3 %

PERCENTAGE OF HOUSEHOLDS
USING

91.4 %

95.3 %

90.3 %

90.4 %

91.7 %

U.S. TOTAL

WEST

NORTH
CENTRAL

SOUTH

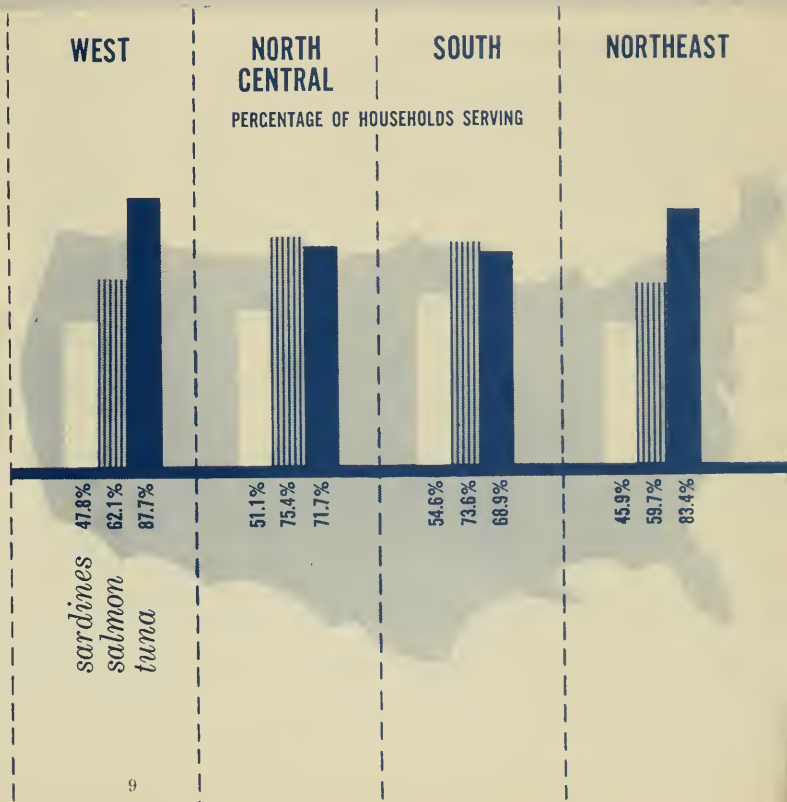
NORTHEAST



regional differences

TUNA SERVED BY
RELATIVELY MORE
HOUSEHOLDS IN THE
NORTHEAST AND WEST

SALMON AND SARDINES
SERVED BY RELATIVELY
MORE HOUSEHOLDS
IN THE NORTH CENTRAL
AREA AND SOUTH

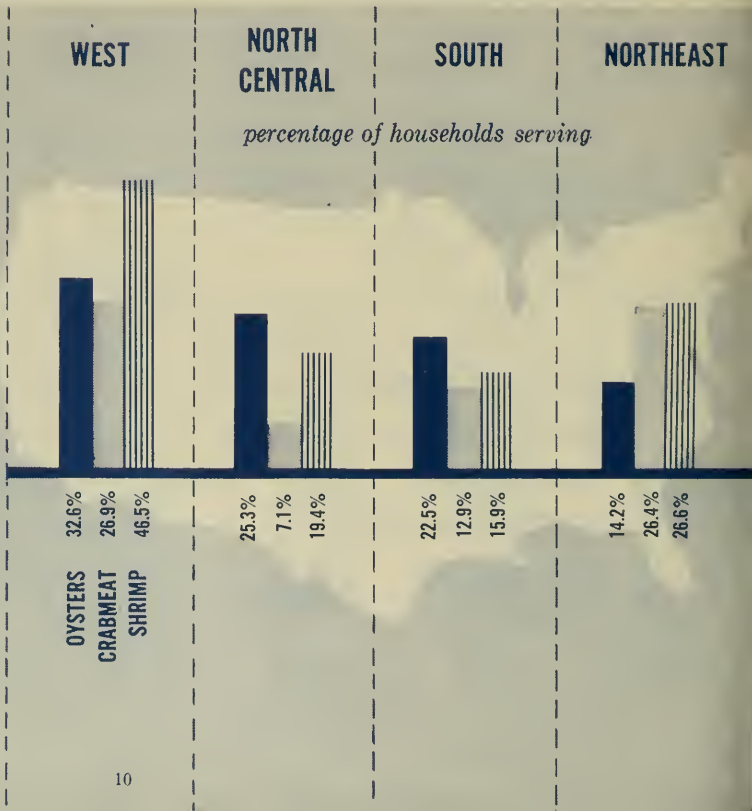




regional differences

SHRIMP AND CRABMEAT SERVED RELATIVELY MORE BY HOUSEHOLDS IN THE NORTHEAST AND WEST

OYSTERS SERVED RELATIVELY MORE BY HOUSEHOLDS IN AREAS OUTSIDE NORTHEAST WHERE FRESH OYSTERS ARE WIDELY DISTRIBUTED

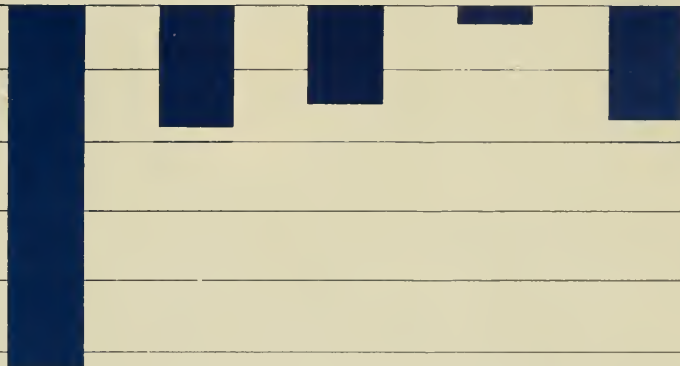




percentage of households serving canned fish and shellfish

*most
households
served
canned fish
or shellfish*

ALL SEASONS SPRING SUMMER FALL WINTER



52%

18%

15%

3%

17%

ALL YEAR AROUND

a few households mentioned more than one season



brand advertising effective

specific degree of effectiveness of brand advertising not measured in this study



6_{*in*}**10**

HOUSEHOLDS LOOKED OR ASKED FOR BRAND NAMES WHEN BUYING CANNED TUNA

more widely advertised



4_{*in*}**10**

HOUSEHOLDS LOOKED OR ASKED FOR BRAND NAMES WHEN BUYING CANNED SALMON

less widely advertised



*most households serving tuna bought
two cans of tuna at a time*

percentage of households 25.5% 42.0% 14.4% 10.3% 7.3% .5%

cans bought at one time

1

2

3

4

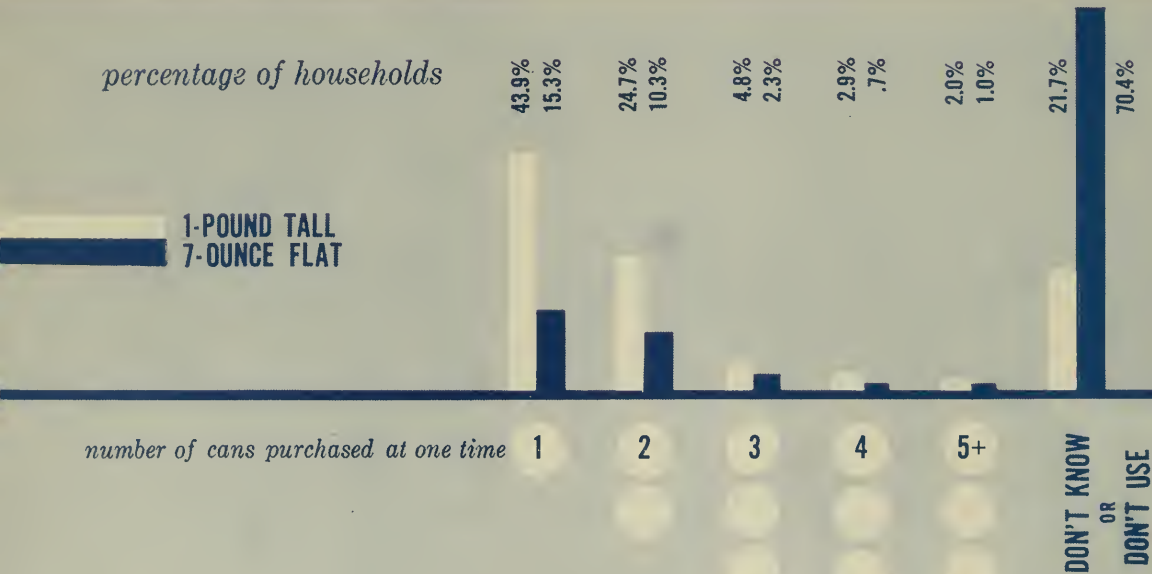
5+

DON'T KNOW



*most households serving canned salmon
bought one can at a time*

percentage of households



number of cans purchased at one time

most households serving



canned sardines

purchased two cans



2

at a time

percentage of households 19.3% 33.4% 20.2% 12.4% 13.0% 1.7%

cans bought at one time

1

2

3

4

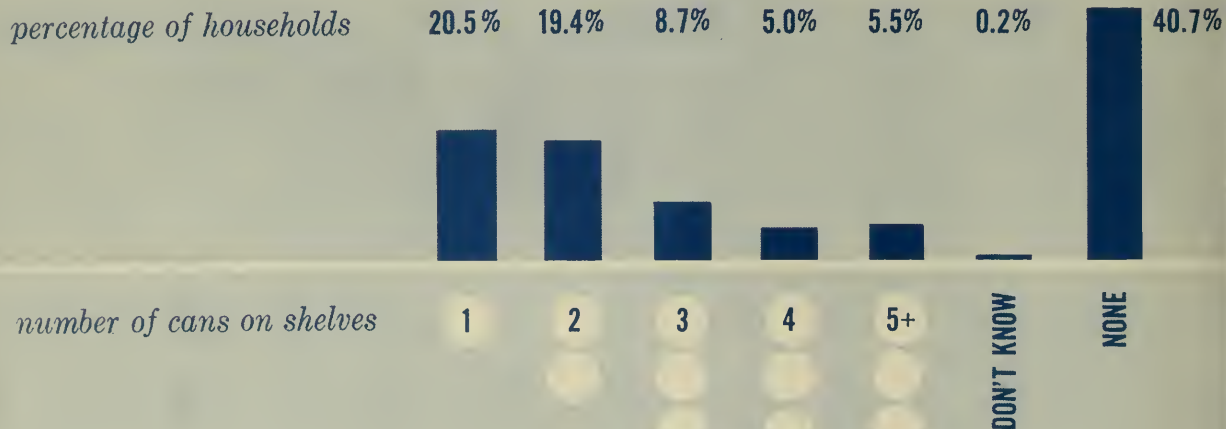
5+

DON'T KNOW

no hoarding these days—hand to mouth buying





MOST HOUSEHOLDS SERVING TUNA HAD EITHER NONE, OR ONLY 1 OR 2 CANS ON THEIR SHELVES



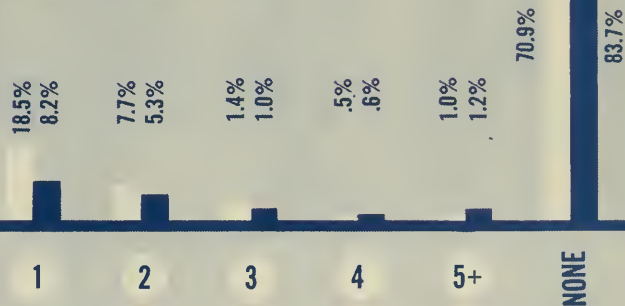


stocks of canned salmon in households
were **LOW**

percentage of households

 1-POUND TALL
 7-OUNCE FLAT

number of cans on shelves



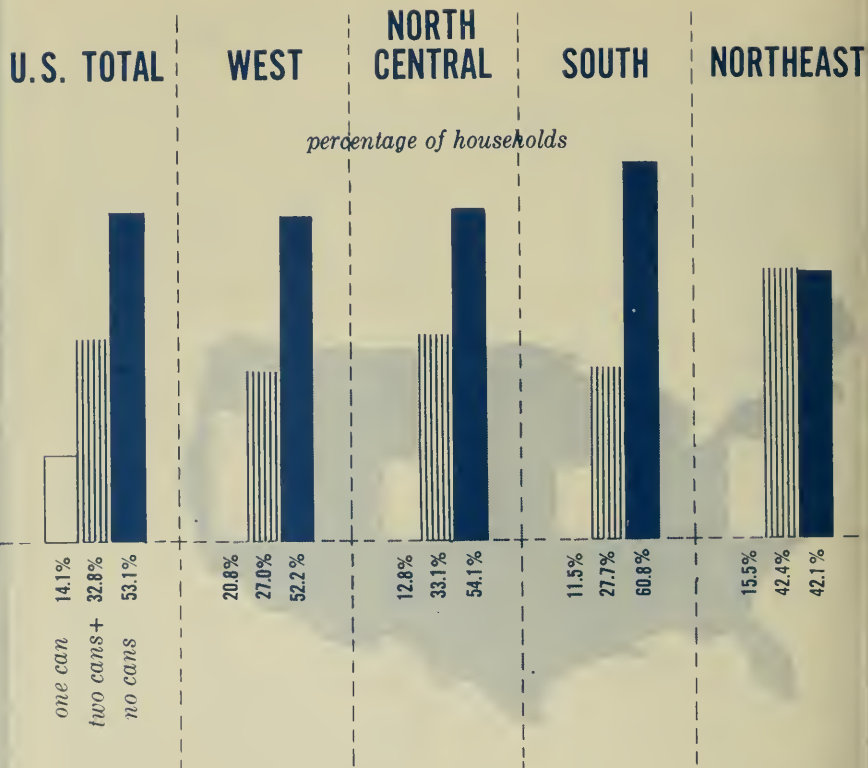


most households had no



canned sardines

on their shelves





tuna salads

and



sandwiches

most

popular

82%



SALADS

75%



SANDWICHES

41%



CASSEROLES

9%



APPETIZERS

9%



LOAVES

percentage of households

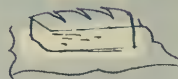
some households gave more than one way used.

salmon salads, cakes, and loaves popular

percentage of households



SALMON CAKES,
PATTIES



SANDWICHES

SALADS

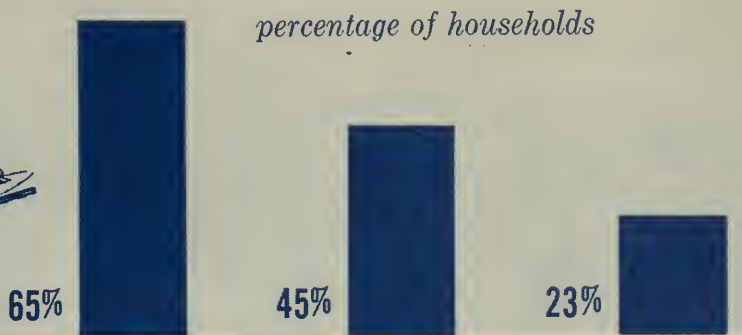


LOAVES



SOME HOUSEHOLDS SERVED CANNED SALMON IN MORE THAN ONE WAY.

*sardines were served principally
on crackers and in sandwiches*



CRACKERS



SANDWICHES



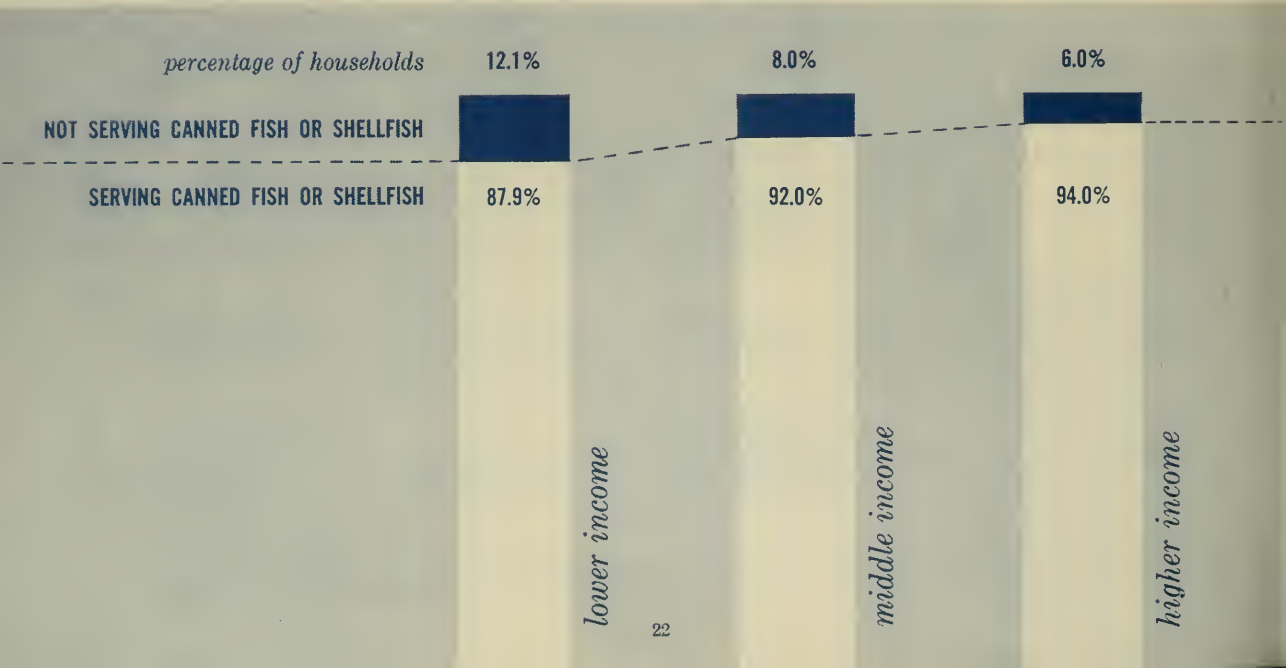
MAIN MEAL



some households gave more than one way used.



the higher the income the greater the use of canned fish or shellfish



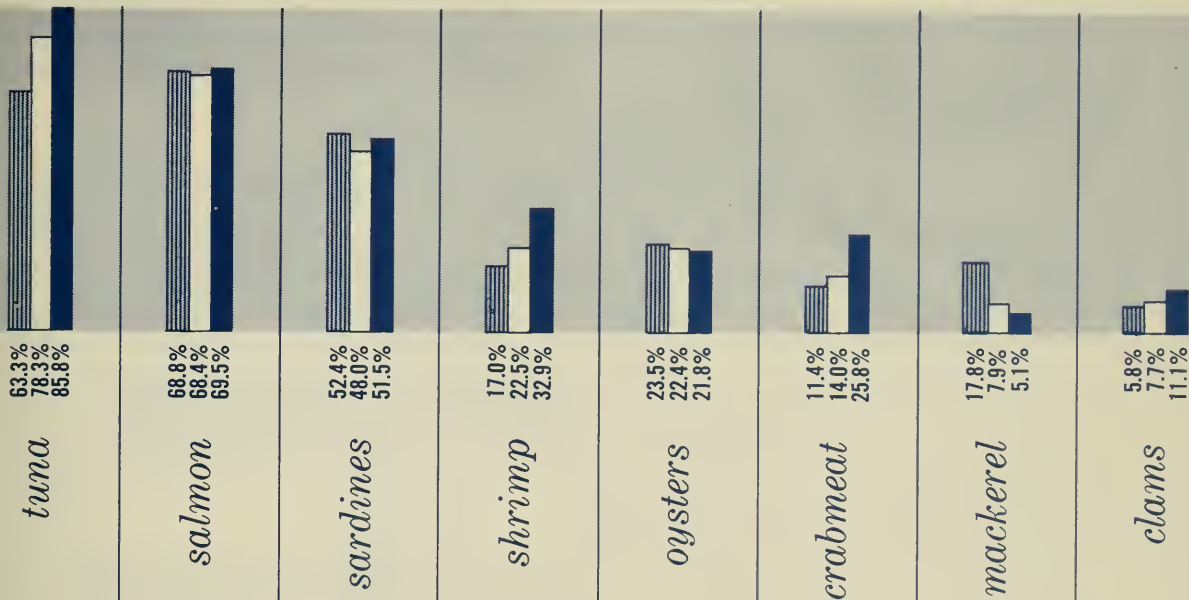
canned tuna, shrimp and crabmeat served more by higher income groups, but canned mackerel served more by lower income groups

percentage of households

LOWER INCOME 

MIDDLE INCOME 

HIGHER INCOME 



salmon salads, cakes, and patties were nearly equally popular with households of all income groups

some households gave more than one way used.



salads

HIGHER INCOME 46.5%

MIDDLE INCOME 45.8%

LOWER INCOME 43.0%

PERCENTAGE OF HOUSEHOLDS SERVING



cakes and patties

HIGHER INCOME 36.0%

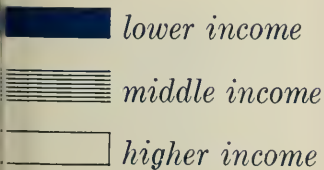
MIDDLE INCOME 38.1%

LOWER INCOME 39.6%



*domestic
sardines
preferred
by middle
and lower
income
groups*

percentage of households



DOMESTIC SARDINES



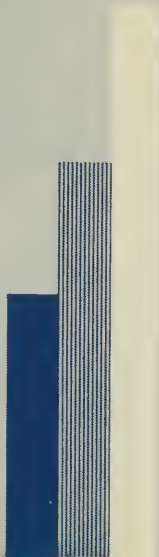
45.3%
45.8%
37.1%



IMPORTED SARDINES



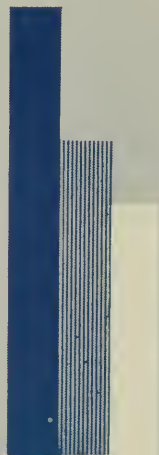
19.7%
30.0%
43.5%



DON'T KNOW



35.0%
24.2%
19.4%



more higher income households bought by brand

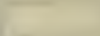
lower income



middle income



higher income



TUNA



45.8%

61.2%

64.4%



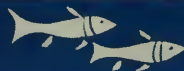
SALMON

35.4%

40.9%

48.1%

SARDINES



28.7%

32.5%

44.0%



SHRIMP

31.6%*

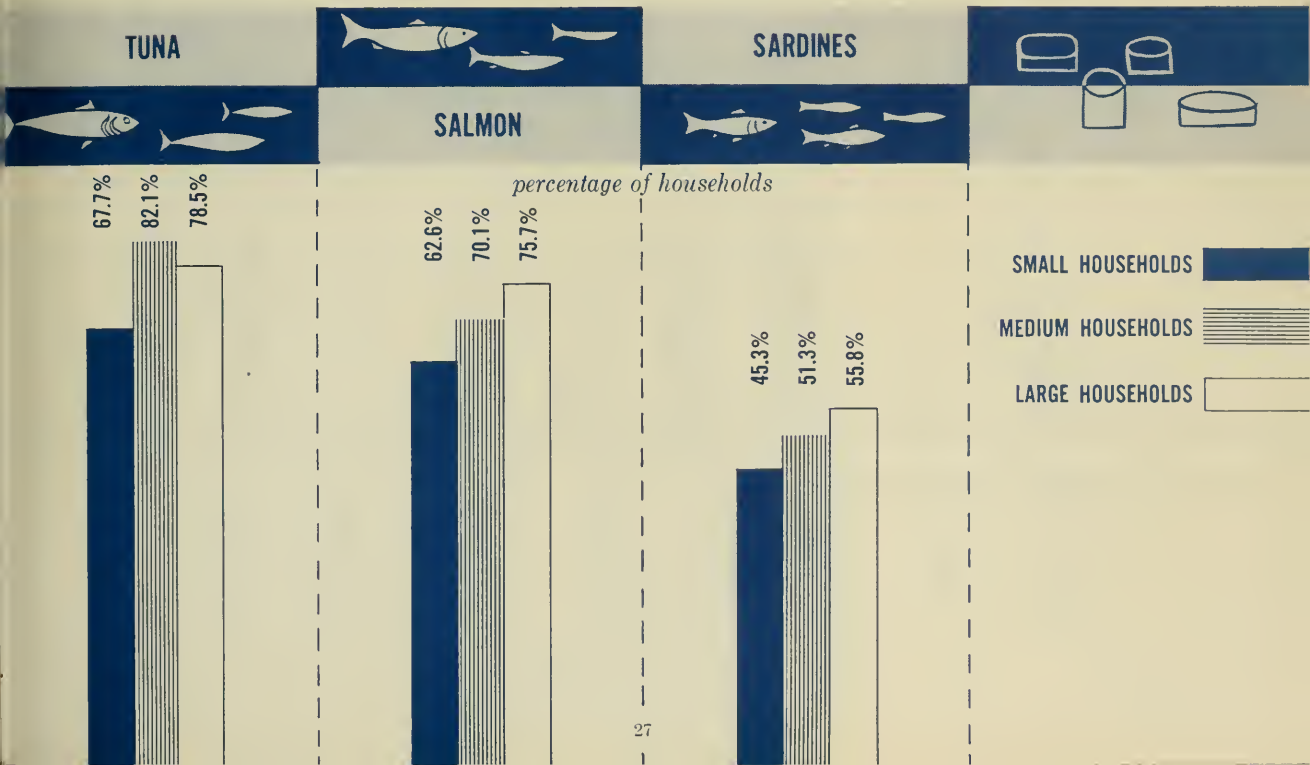
30.9%

43.3%

percentage of households

*number in sample too small for reliability. shown for consistency only.

more of the medium and large households served canned tuna, salmon, and sardines

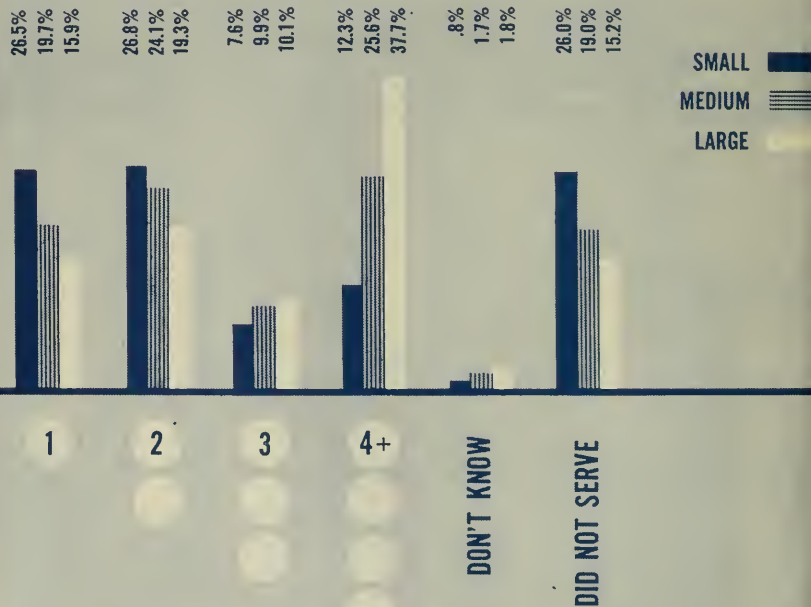


larger households served canned tuna more often than small households



percentage of households

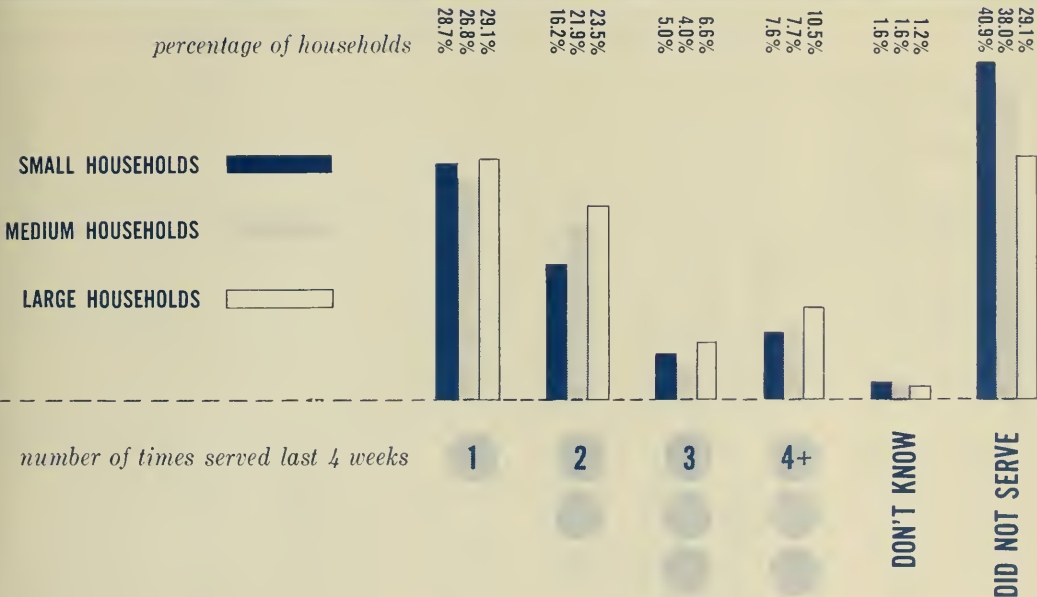
number of times served in last 4 weeks





*larger households served
canned salmon more often
in four weeks during june, 1956*

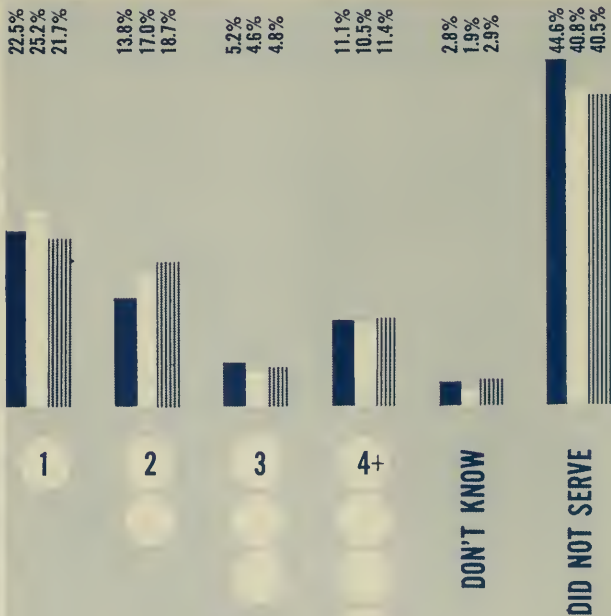
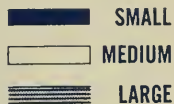
percentage of households





*canned sardines used about same
in all household size groups*

percentage of households

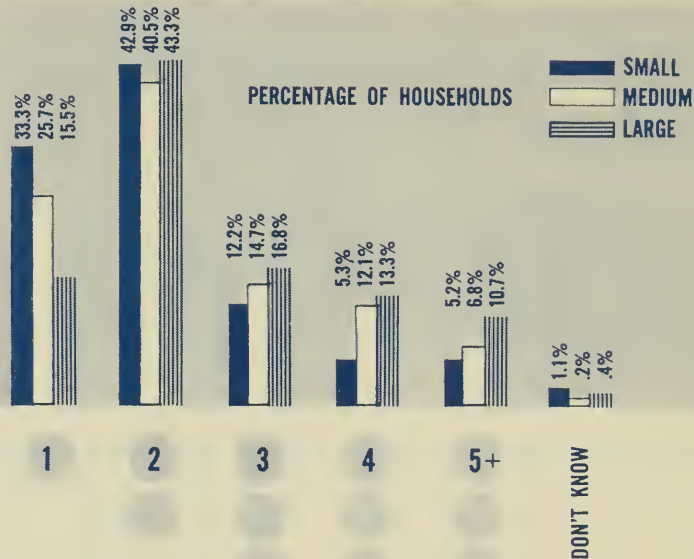


number of times served in last 4 weeks

most households of all sizes bought two cans of tuna at one time



cans bought at one time





one pound tall cans of salmon were purchased one at a time by most households

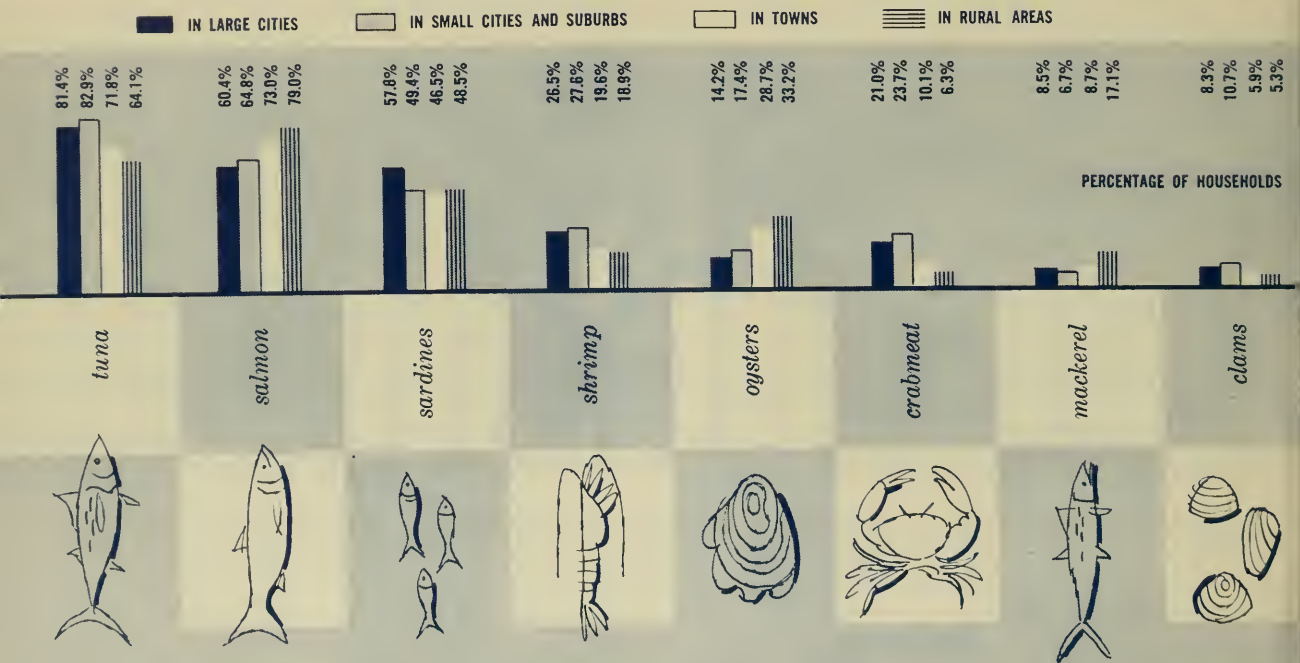




large households bought more cans of sardines at one time than small households







*canned tuna, shrimp and crabmeat served more in cities;
salmon and oysters in towns and rural areas*

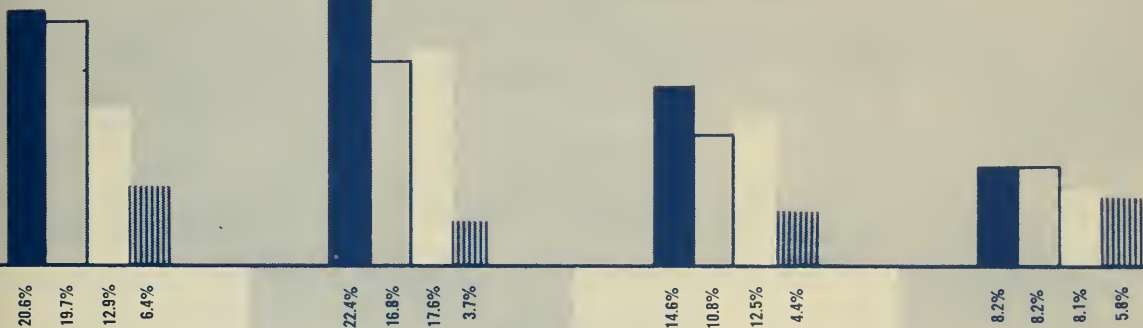


some households purchased and served more than one type of fish and shellfish.

*more canned specialty products
were served in cities
than in towns and rural areas*

-  CLAM CHOWDER
-  FISH CAKES
-  FROZEN OYSTER STEW
-  NON-FROZEN CANNED COOKED OYSTER STEW

percentage of households

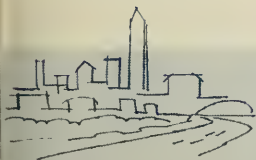


LARGE CITIES

SMALL CITIES SUBURBS

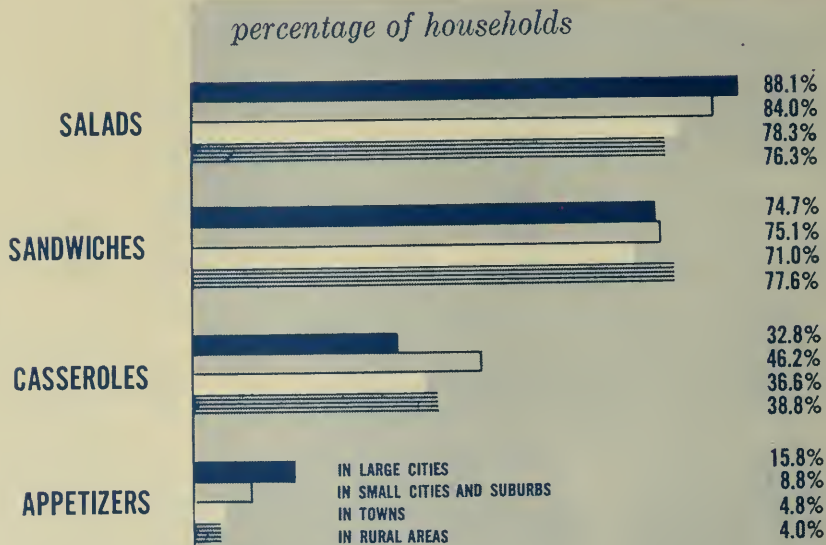
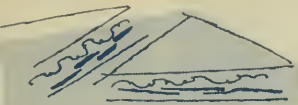
TOWNS

RURAL AREAS



some households served more than one type of canned product.

*canned tuna was served principally in
salads in urban and rural areas*



some households gave more than one way used.



salmon served in salads was preferred by housewives in large cities

percentage of households

■ IN LARGE CITIES

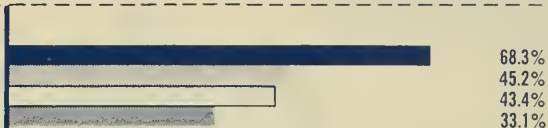
■ IN SMALL CITIES AND SUBURBS

□ IN TOWNS

■ IN RURAL AREAS



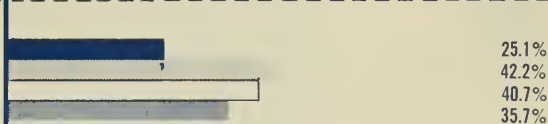
salads



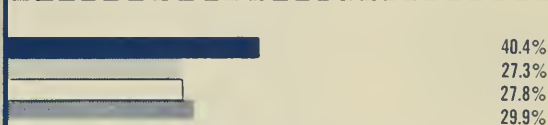
salmon cakes,
and patties



loaves



sandwiches





*canned sardines served on crackers
were most popular with households
in cities and rural areas*

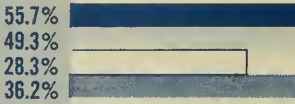


CRACKERS

PERCENTAGE OF HOUSEHOLDS



SANDWICHES



MAIN MEAL

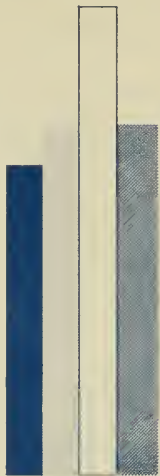


some households served canned sardines in more than one way.

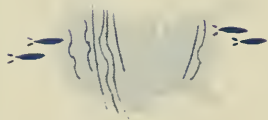
*more households
in large cities
preferred
imported
to domestic
sardines*



37.4%
41.9%
57.0%
42.2%



DOMESTIC



41.3%
37.8%
24.2%
14.5%

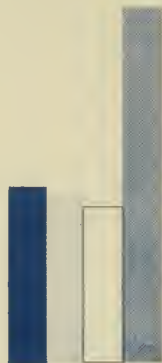
PERCENTAGE OF HOUSEHOLDS



IMPORTED



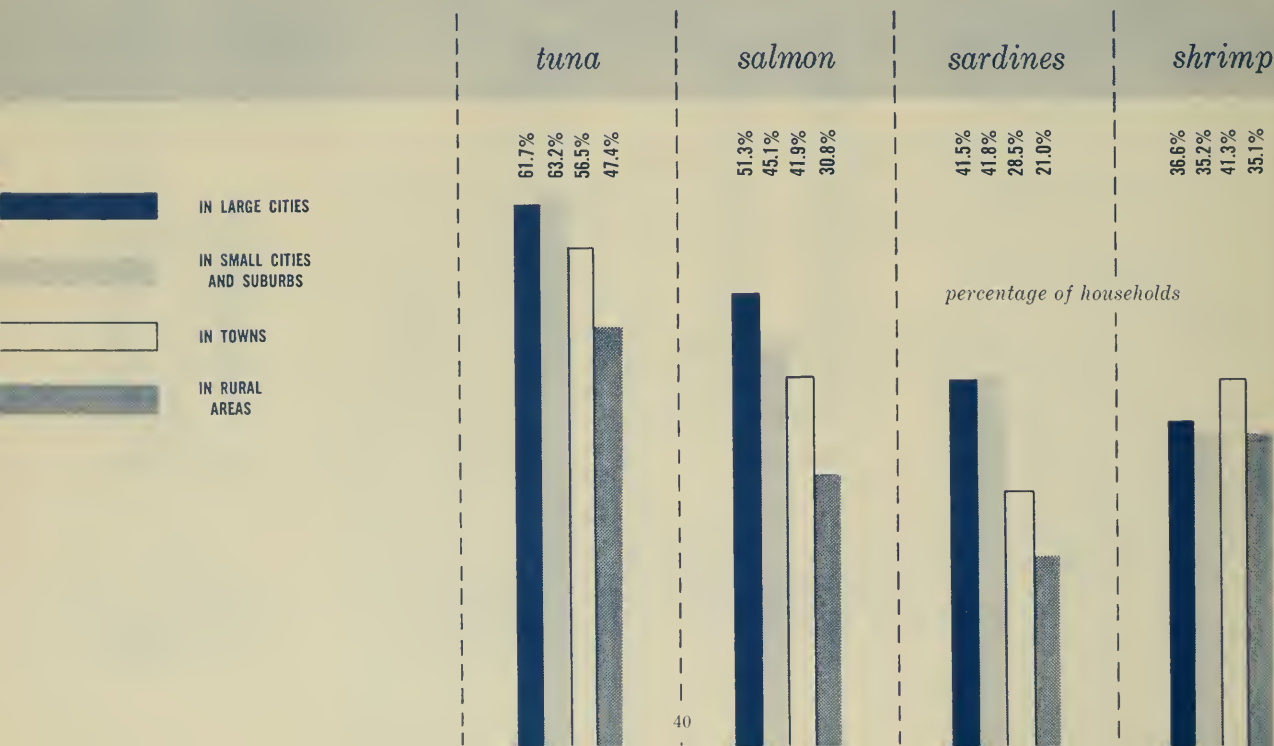
21.3%
20.3%
18.8%
43.3%



DON'T KNOW



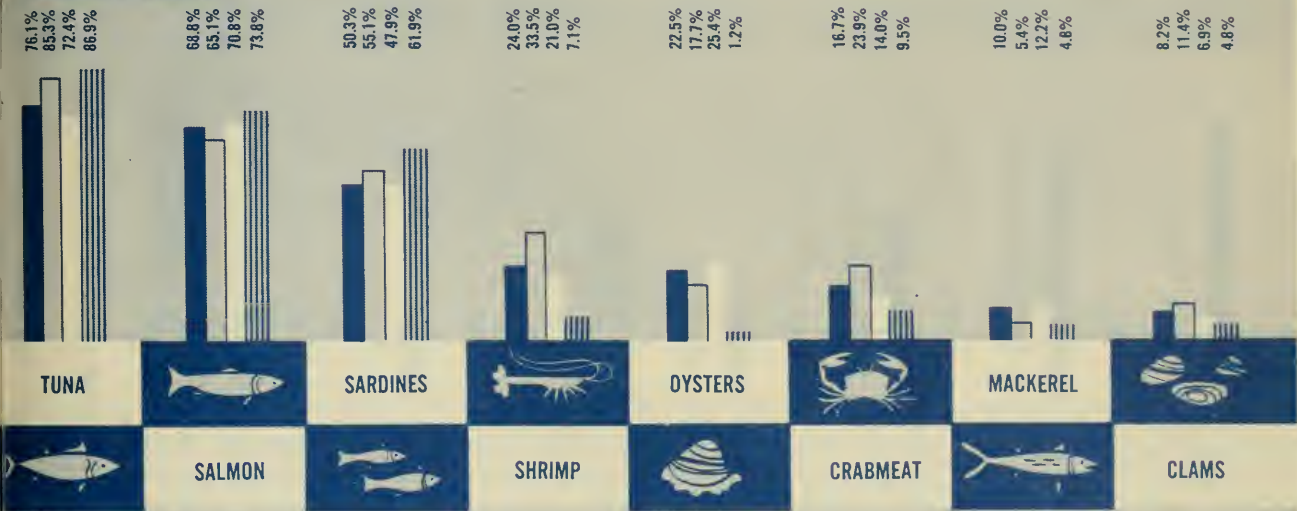
more households in cities than in towns or rural areas
looked for **BRAND NAMES** when buying canned fishery products



religious affiliation and consumption of canned fish and shellfish



PERCENTAGE OF HOUSEHOLDS

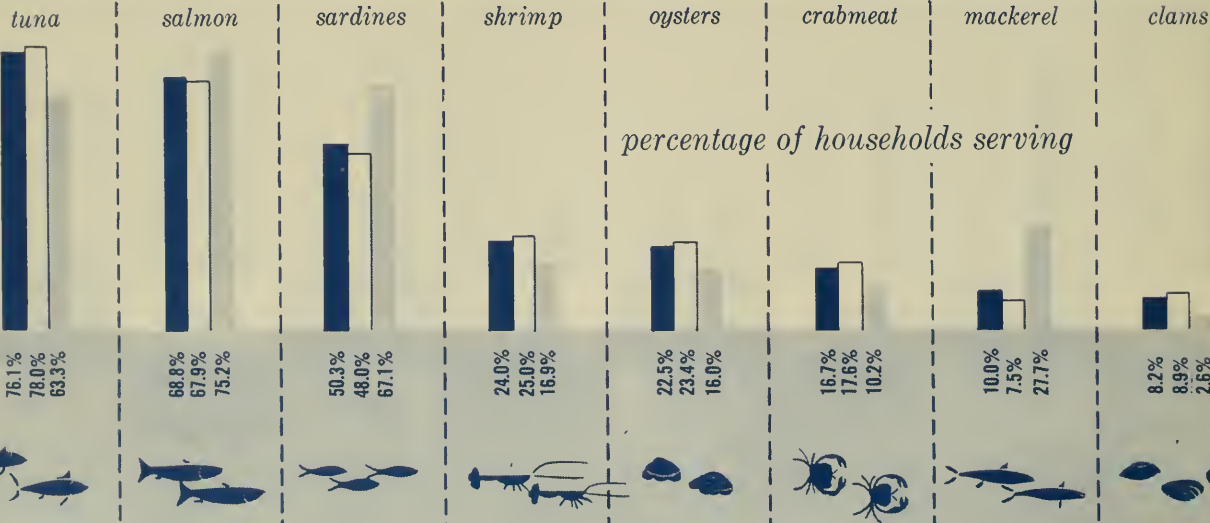


some respondents gave more than one answer.

CERTAIN DENOMINATIONS NOT SHOWN FOR STATISTICAL REASONS

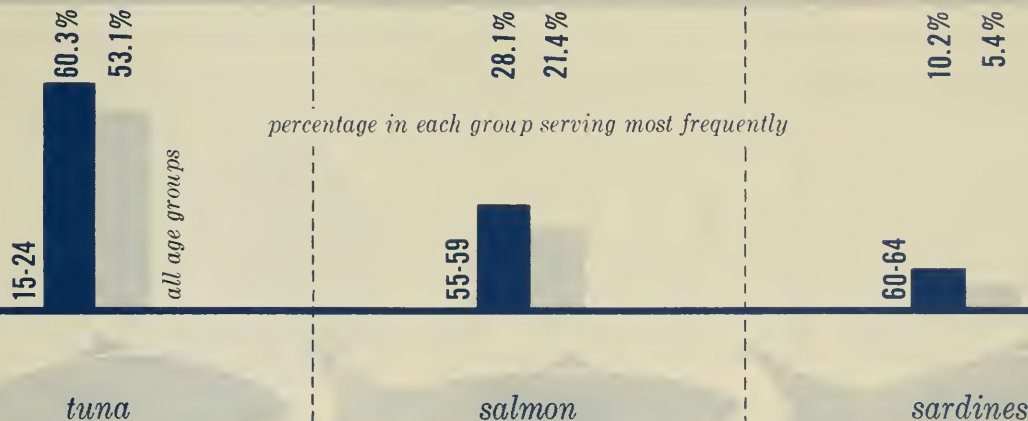
consumption of canned fish and shellfish among white and non-white households

ALL HOUSEHOLDS
 WHITE HOUSEHOLDS
 NON-WHITE HOUSEHOLDS



some respondents gave more than one answer

canned tuna served most frequently by homemaker in the **15-24** years age group, salmon in age group **55-59**, and sardines in **60-64** years age group



| AGE GROUP | U.S. | | | | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| | TOTAL | 15-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-OVER |
| TUNA | 53.1 | 60.3 | 58.9 | 55.0 | 59.6 | 55.2 | 52.4 | 48.8 | 49.4 | 45.9 | 40.2 |
| SALMON | 21.4 | 20.6 | 20.2 | 20.7 | 17.5 | 18.8 | 20.4 | 23.8 | 28.1 | 20.4 | 27.3 |
| SARDINES | 5.4 | 3.4 | 5.0 | 4.9 | 5.1 | 3.8 | 4.7 | 5.9 | 6.7 | 10.2 | 7.2 |

PERCENT OF TOTAL WITHIN EACH GROUP

4_{in} 10

*households owning cats served
canned pet food containing fish*

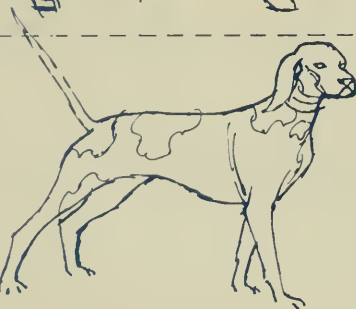
1_{in} 4

*households owning dogs served
canned pet food containing fish*

HOUSEHOLDS SERVING CANNED PET FOOD CONTAINING FISH.



all households owning cats



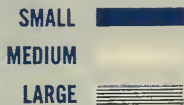
all households owning dogs





in each size group, about half of all households serving pet food containing fish, bought 5 or more cans at a time

percentage of households



| | | | | | |
|------|-------|-------|-------|-------|------|
| 5.3% | 9.5% | 20.0% | 11.6% | 52.6% | 1.0% |
| 5.4% | 11.5% | 25.7% | 14.7% | 42.1% | 6% |
| 4.9% | 9.8% | 20.6% | 19.6% | 43.2% | 1.9% |

number of cans

1 2 3 4 5+

DON'T KNOW

some households owned both a dog and a cat.

CONSIDERATION SHOULD BE GIVEN TO PACKING PET FOOD IN HANDY CONTAINERS OF 6 CANS EACH

table of contents

| | |
|---|----|
| Preface | II |
| Introduction | 1 |
| How the survey was planned | 1 |
| The interviewing | 3 |
| What the survey measured | 4 |
| Graphic presentations | 7 |
| Households serving canned fish or shellfish | 8 |
| Regional differences—canned fish | 9 |
| Regional differences—canned shellfish | 10 |
| Seasonal variations in serving | 11 |
| Brand advertising | 12 |
| Quantities bought at one time—tuna | 13 |
| Quantities bought at one time—salmon | 14 |
| Quantities bought at one time—sardines | 15 |
| Household inventory—tuna | 16 |
| Household inventory—salmon | 17 |
| Household inventory—sardines | 18 |
| Ways of serving—tuna | 19 |
| Ways of serving—salmon | 20 |
| Ways of serving—sardines | 21 |
| Income and households serving | 22 |
| Income and households serving—by species | 23 |
| Ways of serving salmon—by income groups | 24 |
| Income groups—domestic and imported sardines | 25 |
| Brand preference by income groups | 26 |
| Household size and canned fish served | 27 |
| Household size and frequency of serving—tuna | 28 |
| Household size and frequency of serving—salmon | 29 |
| Household size and frequency of serving—sardines | 30 |
| Household size and quantities bought at one time—tuna | 31 |
| Household size and quantities bought at one time—salmon | 32 |
| Household size and quantities bought at one time—sardines | 33 |
| Size of community and species served | 34 |
| Size of community and specialty products | 35 |
| Size of community and ways of serving—tuna | 36 |
| Size of community and ways of serving—salmon | 37 |
| Size of community and ways of serving—sardines | 38 |
| Size of community—domestic and imported sardines | 39 |
| Size of community and brand names | 40 |
| Religious affiliation and species served | 41 |
| Race and species served | 42 |
| Age groups and species served | 43 |
| Households serving canned pet food containing fish | 44 |
| Quantities of pet food containing fish bought at one time | 45 |

MBL WHOI Library Serials



5 WHSE 00104

