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Gasoline Consumption Attributable to Gasoline Powered Watercraft Use in Maine

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**Gasoline Consumption
Attributable to Gasoline Powered
Watercraft Use in Maine**

Prepared for

The Commission to Study Equity in the
Distribution of Gas Tax Revenues Attributable to
Snowmobiles, All-Terrain Vehicles and Watercraft

Submitted by

Margaret Chase Smith Center for Public Policy
The University of Maine

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Orono, Maine
November 20, 2001

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Preface

This report was prepared for the Commission to Study Equity in the Distribution of Gas Tax Revenues Attributable to Snowmobiles, All-Terrain Vehicles and Watercraft, pursuant to a Cooperative Agreement between the University of Maine and the Maine Office of Policy and Legal Analysis, Maine Department of Conservation, Maine Department of Inland Fisheries and Wildlife, Maine Department of Transportation, and Maine Department of Marine Resources, project number 2001160.

The authors wish to thank the Maine Departments of Conservation, Inland Fisheries and Wildlife, Transportation and Marine Resources and the Committee Chairs Senator Marge Kil Kelly, and Representative Joseph Clark, and Patrick Norton, Office of Policy and Legal Analysis, for their invaluable assistance. We also are grateful to the watercraft owners and operators who took the time to give thoughtful responses to the survey.

Gasoline Consumption Attributable to Gasoline Powered Watercraft Use In Maine

Executive Summary

*Prepared for the Commission to Study Equity in the Distribution of Gas Tax Revenues
Attributable to Snowmobiles, All-Terrain Vehicles and Watercraft
by the Margaret Chase Smith Center for Public Policy, University of Maine, November 2001*

This study was conducted by the Margaret Chase Smith Center for Public Policy (MCSC) of the University of Maine at the request of the Maine Legislature's Commission to Study Equity in the Distribution of Gas Tax Revenues Attributable to Snowmobiles, All-Terrain Vehicles and Watercraft. The Commission was created by the Legislature with a charge to collect and analyze information to determine an equitable distribution of gas tax revenues used in the enforcement and enhancement of programs supporting off-road vehicle use in Maine. The Commission concluded that snowmobiling, boating and ATV use has increased significantly over recent years and now constitutes an important part of the economies of many regions of the State. The Commission concluded that more information about the amount of gasoline consumed by boats, snowmobiles and ATVs should be collected before any action was proposed concerning the equitable distribution of gasoline tax revenues.

This report, the third of three, presents the results of a survey of gasoline powered watercraft users whose watercraft were registered in the State of Maine during 2001. In October of 2001, telephone interviews were completed with 647 randomly selected owners of watercraft registered in Maine. The study had a cooperation rate of 82% among persons who were successfully contacted. The survey data show that the operators of registered watercraft purchased an average of 69.3 gallons of gasoline (rounded to the nearest tenth) in Maine during the most recent one-year period ending in October 2001. Since there are 117,021 registered watercraft, this means that the total quantity of gasoline purchased in Maine for Maine-registered watercraft was 8,105,728 gallons in the one-year season ending in October 2001. The excise tax on gasoline imposed by the state of Maine is \$0.22 per gallon. Therefore, the operator of a Maine-registered watercraft pays *on average* \$15.24 per year, and operators of all Maine-registered watercraft pay \$1,783,260 per year in Maine gasoline fuel excise taxes.

Since these data were gathered from a random sample rather than the entire population of all Maine-registered watercraft, the quantity of average and total fuel purchased and average and total taxes paid are subject to error. This sampling error is typically quantified by confidence intervals based upon the sample data. A 95% confidence level means that in 95 out of 100 samples of the same size, the true average of fuel purchases for the population of all Maine-registered watercraft will be within the confidence interval. The confidence interval for average fuel purchased per Maine-registered watercraft ranges from 57.0 to 81.6 gallons per year. This translates into a 95% confidence interval for total gasoline purchased in Maine of 6,665,619 to 9,545,838 gallons per year in the year ending October 2001. The total quantity of gasoline excise sales tax by operators of Maine-registered watercraft ranges from \$1,466,436 to \$2,100,084 with the expected (mean) value of \$1,783,260.

Total gas tax collections for fiscal year 2000 were \$146,190,243 (Commission report, p. 9, 2000). Gas tax revenues attributable to Maine-registered watercraft, represent 1.2% of all State gasoline excise tax receipts. At the same time, the revenues returned to support watercraft programs represent 113.9% of the estimated revenues collected from Maine-registered gasoline powered watercraft. Additional gasoline excise taxes are paid by watercraft used in Maine but registered out-of-state or with the U.S. Coast Guard.

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Introduction

This study was conducted by the Margaret Chase Smith Center for Public Policy (MCSC) of the University of Maine at the request of the Maine Legislature's Commission to Study Equity in the Distribution of Gas Tax Revenues Attributable to Snowmobiles, All-Terrain Vehicles and Watercraft. The Commission was created by the Legislature with a charge to collect and analyze information to determine an equitable distribution of gas tax revenues used in the enforcement and enhancement of programs supporting off-road vehicle use in Maine. The Commission concluded that snowmobiling, boating and all-terrain vehicle use has increased significantly over recent years and now constitutes a significant and important part of the economies of many regions of the State. The Commission concluded that more information on the amount of gasoline consumed by boats, snowmobiles and ATVs should be collected before making any recommendations on the equitable distribution of gasoline tax revenues.

Survey Methodology

Gasoline purchases for Maine-registered boats was determined through telephone survey interviews with the owners or operators of a random sample of gasoline powered watercraft registered in Maine. The boats whose owners would be interviewed were selected randomly by the Margaret Chase Smith Center for Public Policy, using the file of vehicles with registrations for the year 2000 since the file of 2001 registrations was not complete at the time of the study. That file was provided by InforMe, a company that maintains the records for the State of Maine. The sample was an interval sample taken from vehicle registrations ordered by Maine's standard geocodes.¹ The result was a sample implicitly stratified by geography, which means that boats in all geographic areas of the state as well as those with addresses outside of Maine had a chance of selection directly proportional to the number of boats in their area. The interviews took place from October 11 through October 30, 2001.

It should be noted that this study was of boats registered in Maine and does not include boats registered in other states and for which gasoline was purchased in Maine. This includes those boats which come to Maine along coastal waters. In addition, this study does not include boats that are owned or operated in Maine and are documented with the U.S. Coast Guard. By federal law, commercial vessels over five net tons used on navigable waters must have Certificates of Documentation with the Coast Guard. Owners of pleasure boats over five net tons have the option of documenting those boats with the Coast Guard or of registering them with the State of Maine.

Questionnaire development

A list of potential question topics was developed by the Margaret Chase Smith Center for Public Policy, following a review of the literature on off-road vehicle use, discussion at Commission meetings, and the Center's experience with utilization studies of various types. It was revised

¹Geocodes are standard five-digit numeric codes for each Maine minor civil division. The first two digits represent the county in which the minor civil division is located.

following discussion at the August 23, 2001 Commission meeting. Most topics were reflected in the eventual survey instrument, and additional questions were included where clarification was deemed necessary for the analysis. The final survey questionnaire is given in Appendix 3.

Survey implementation

From the State's list of registered watercraft, a random sample of gasoline powered, registered watercraft was drawn. Unregistered boats were not included in the sample. Notification letters were mailed to sample members shortly before the interviewing was begun. These letters listed the sponsors, described the reason the study is being conducted and the use that will be made of the data (to measure the amount of gasoline consumed by registered boats). In addition, the letter described the role of the Margaret Chase Smith Center for Public Policy, and informed potential respondents that their participation would be voluntary and that their individual responses would remain confidential (see Appendix 2). This information was repeated at the beginning of each interview as part of the informed consent process.

The interviews were conducted by telephone from the Margaret Chase Smith Center for Public Policy at the University of Maine.

All interviewers participated in a three-hour training session designed specifically for this study, using a series of study-specific materials (see Appendix 4). They were provided background information on the project, the charge of the Commission, the purpose of the study, and how and when to contact respondents. Interviewers were provided a set of question-by-question instructions on the meaning and intent of each question, potential respondent concerns, and appropriate methods of handling those concerns. In addition, interviewers conducted practice interviews before implementation of the survey.

A protocol was developed specifying the number of contact attempts to be made on a schedule of varying times of day and days of the week to ensure that all potential respondents had optimal and equal opportunity to participate in the survey. Interviewers documented all attempts to contact respondents.

Data entry and verification

All data were double entered to check for input accuracy. Extreme values of fuel use were also verified by hand.² In particular, all reports of zero fuel use and fuel use of 200 gallons or more were verified to ensure internal consistency. As a result of this review, four records were identified to contain time of use, type of use and total gasoline consumption data that were not consistent. Accordingly, the gasoline consumption data for those records were not included in the analysis conducted for this report.

²In particular, the data were key entered using a data entry program that forces consistency in following skip instructions in critical portions of the questionnaire (so that gasoline use cannot be inadvertently double-counted), and disallows out-of-range codes (e.g., a code 5, when only codes 1, 2, or 3 are possible).

Survey Disposition and Response Rate

From InforMe, the Margaret Chase Smith Center for Public Policy obtained the Department of Inland Fisheries and Wildlife list of 126,478 boat registrations for the year 2000. From that list, 9,457 records were removed including: 8,606 records of non-gasoline powered boats; 92 records of non-active boats; 758 records with a geocode of "0" (mostly state and municipal boats); and one record with no data in the name fields³. From that list of 117,021 records, a random sample of 2,018 registered boats was drawn. The list contains no telephone numbers. Although they are collected on the registration application form, they are not key-entered. For the 2,018 registrations in the sample, possible phone numbers were identified using at least two different Internet search engines and Maine printed telephone directories for 1,599 individuals. From 1,599 individuals with identified phone numbers, a survey sample of 1,373 individuals was drawn. Attempts to contact sample members were made between 5:00 p.m. and 9:00 p.m. weekday evenings, from 9:00 a.m. to 5:00 p.m. Saturdays, and from 1:00 p.m. to 9:00 p.m. Sundays. Some sample members asked to be contacted during the daytime and contact attempts were made when specified. Similarly, attempts to contact boat owners identified as businesses included daytime calls.

A total of 4,182 contact attempts were made during the survey, which was conducted from October 11 through October 30, 2001. Three-quarters of the completed interviews were conducted within the first three call attempts. An average of 6.5 attempts were made for sample members whom interviewers were eventually unable to contact.

Table 1: Survey Sample Disposition

Outcome	Number	Percent of Sample
Completed an interview	647	47.1 %
Unable to contact	222	16.2 %
Refused	137	10.0 %
Wrong number	82	6.0 %
Ineligible	56	4.1 %
Ineligible - not registered in 2001	151	11.0 %
Disconnected, not in service	75	5.4 %
Terminated by respondent	3	.2 %
Total in sample	1373	100.0 %

During the course of attempting to contact sample members, 151 were determined to be ineligible for participation in the survey because they did not register the selected boat in 2001. Another 56 were determined ineligible to participate for other reasons such as the boat is propelled by an electric or diesel motor, the respondent was deceased or too ill to participate, or the respondent

³State and Municipal boat owners are entitled to a refund of the gasoline excise taxes, personal communication, Herbert Hartman, Deputy Director, Bureau of Parks and Lands, Maine Department of Conservation.

did not own the specified boat. Seventy-five phone numbers were either not in service or were disconnected and 82 were wrong numbers. An additional 222 sample members could not be contacted after multiple attempts on different days of the week and different times of the day. The final disposition of all survey sample members is given in Table 1.

Telephone contact was made with a total of 787 eligible individuals. Of those, 137 refused to participate in the survey and three were terminated at the respondent's request before completing the interview. Interviews were completed with 647 individuals resulting in a survey cooperation rate of 82%. See Table 2 for details.

Table 2: Outcome when Eligible Respondent was Contacted

Outcome	Number	Percent of Those Contacted
Completed an interview	647	82.2%
Refused	137	17.4%
Terminated by respondent	3	.4%
Total contacted	787	100.0%

Results from the Survey

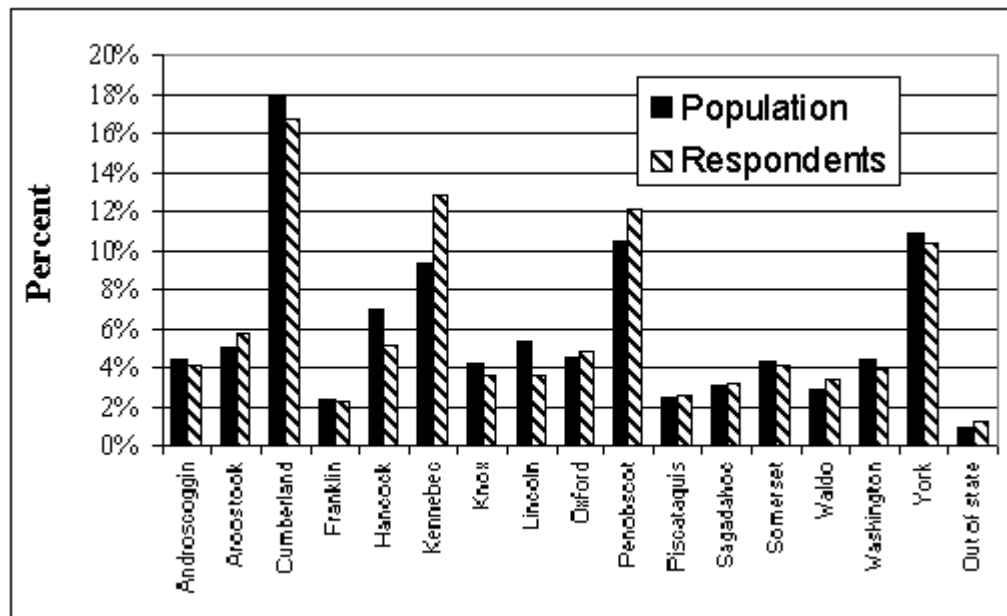
Geographic distribution of all Maine-registered boats

The geographic distribution of the owner-operators of all Maine-registered gasoline powered boats includes all 16 Maine counties as well as 1% from out of state. As is seen in Table 3 and Figure 1, this same geographic distribution is represented very well in the sample of 647 individuals who completed interviews. This means that our results represent the geographic diversity of boat owners.

Table 3: Geographic Location of Survey Respondents

County	Population		Respondents	
	number	percent	number	percent
Androscoggin	5,264	4.50%	27	4.17%
Aroostook	5,925	5.06%	37	5.72%
Cumberland	21,042	17.98%	108	16.69%
Franklin	2,766	2.36%	15	2.32%
Hancock	8,160	6.97%	33	5.10%
Kennebec	10,952	9.36%	83	12.83%
Knox	4,936	4.22%	24	3.71%
Lincoln	6,234	5.33%	24	3.71%
Oxford	5,371	4.59%	31	4.79%
Penobscot	12,278	10.49%	78	12.06%
Piscataquis	2,993	2.56%	17	2.63%
Sagadahoc	3,650	3.12%	21	3.25%
Somerset	5,082	4.34%	27	4.17%
Waldo	3,327	2.84%	22	3.40%
Washington	5,221	4.46%	25	3.86%
York	12,790	10.86%	67	10.36%
Out of state	1,111	0.95%	8	1.24%
Total	117,021	100.00%	647	100.00%

Figure 1: Geographic Location of Survey Respondents



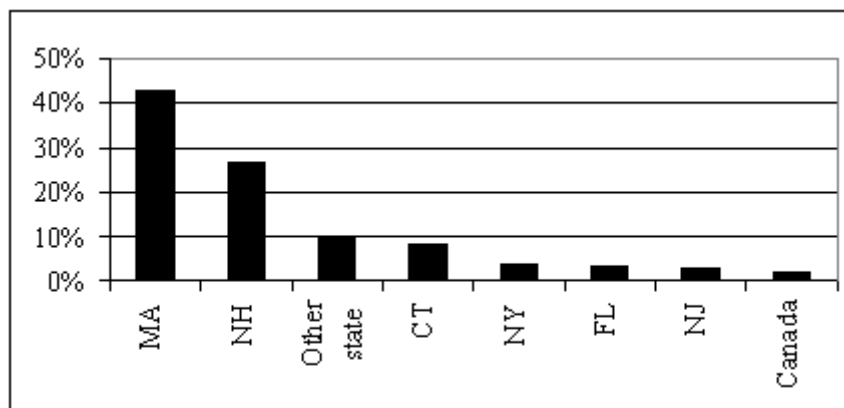
Geographic distribution of out-of-state owned, Maine-registered watercraft

As is shown in Figure 2, 43% of all boat owners with out-of-state addresses who registered their boats in Maine are from Massachusetts and 27% are from New Hampshire. Nonetheless, there are at least one or more boats registered in Maine from 28 states (including the District of Columbia) and Canada. Owners of boats not registered in Maine purchase gasoline in Maine, particularly along the coast. However, it was determined by the Commission that conducting a parallel survey of non-Maine-registered boat owners was beyond the scope of this study.

Table 4: Origin of Out-of-State Gas Powered Registrations

State	Total Count	Percent
Canada	23	2.07%
Connecticut	92	8.28%
Florida	38	3.42%
Massachusetts	476	42.84%
New Hampshire	296	26.64%
New Jersey	34	3.06%
New York	45	4.05%
Other States	107	9.63%
Total	1,111	100.00%

Figure 2: Out-of-State Gas Powered Watercraft Registrations



Gasoline use by watercraft

In our sample, the operator of an average registered watercraft purchased 69.3 gallons of gasoline (rounded to the nearest tenth) in Maine during the most recent one-year period ending in October 2001. Since our sample is a random sample of the population of all registered, gasoline powered watercraft in the State of Maine, we can estimate the total quantity of gasoline purchased in Maine for use in registered watercraft based on our sample. Given that there are 117,021 registered watercraft, this means that the total quantity of fuel purchased in Maine for Maine-registered

watercraft was 8,105,728 gallons in the one-year season ending in October 2001.⁴

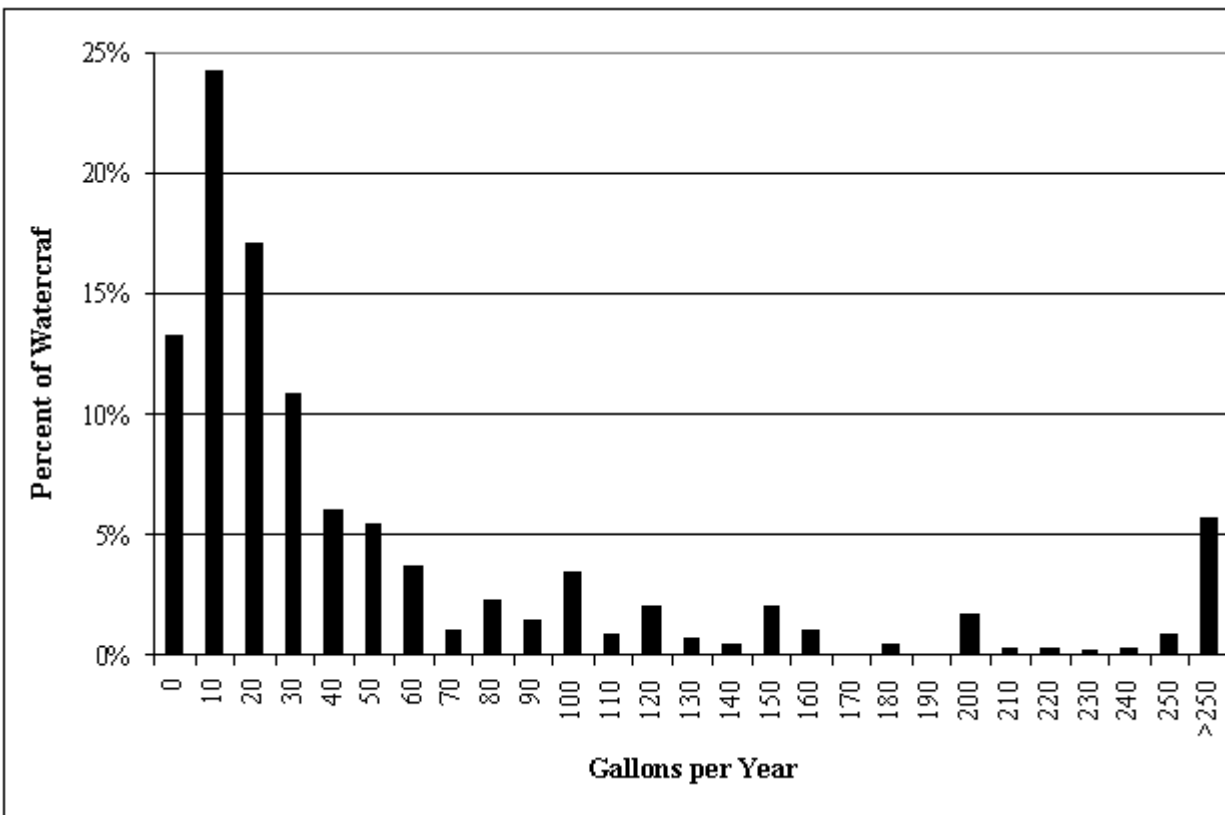
Since these data were gathered from a random sample rather than from the entire population of all Maine-registered watercraft, the quantity of average and total fuel purchased and average and total taxes paid are subject to error. This sampling error is typically quantified by confidence intervals based upon the sample data. A 95% confidence level means that in 95 out of 100 samples of the same size, the true average of fuel purchased for the population of all watercraft will be within the confidence interval. See Appendix 1 for additional details on statistical accuracy. The confidence interval for average fuel purchased per Maine-registered watercraft ranges from 57.0 to 81.6 gallons per year. This translates into a 95% confidence interval for total gasoline purchased in Maine of 6,665,619 to 9,545,838 gallons per year in the year ending October 2001.⁵ This estimate of gasoline use excludes purchases by out-of-state registered watercraft and those registered with the U.S. Coast Guard.

The distribution of annual gasoline purchases by operators of Maine-registered watercraft is shown in Figure 3. The average number of gallons purchased is 69.3 and it is clear that the average (or mean) reflects a large number of vehicles that use fewer than the average gallons of gas bought in Maine. A full 13% of contacted, registered boat owners indicated that they purchased no gasoline in 2001. A very small number use far more. To describe typical gasoline use by watercraft, the median is also helpful. The median for this distribution is 20.0 gallons. That means that half the vehicles use more than 20 gallons of Maine-purchased gasoline, and half use less.

⁴As discussed above, this number does exclude 758 state and municipal gasoline using watercraft. Including these watercraft would raise the total gasoline purchased in Maine by Maine-registered watercraft to 8,158,233 gallons. This assumes that state and municipal owners of watercraft use the average quantity of gasoline as calculated from private owners.

⁵Consistent with our earlier reports, gasoline use is derived from individuals' own estimation of their annual fuel usage. An alternative methodology is to calculate fuel use based on engineering estimates of fuel use per hour given the number of hours of use in a year, the power of the motor, and an estimate of the time at partial and full throttle (see for example, WF Surveys, "Gasoline Used For Pleasure Boating in Maine," 1988). We have found this method to be extremely sensitive to assumptions concerning the amount of time at full or partial throttle. Without very detailed information on patterns of throttle use, we believe this method is unreliable.

Figure 3: Size Distribution of Watercraft Gasoline Purchases In Maine



The excise tax on gasoline imposed by the State of Maine is \$0.22 per gallon. This means that the gasoline purchased in Maine for a Maine-registered watercraft contributes *on average* \$15.24 (rounded to the nearest cent) per year, and all Maine-registered watercraft contribute \$1,783,260 per year in Maine gasoline fuel excise taxes. Using the confidence interval for gasoline sales in Maine shown above, this means that the total quantity of Maine gasoline excise taxes paid by Maine-registered watercraft ranges from \$1,466,436 to \$2,100,084 with the expected value of \$1,783,260.

Total gas tax collections for fiscal year 2000 were \$146,190,243 with \$76,243 returned to commercial motor boat operators who filed for refunds, \$390,899 to the Department of Marine Resources, and \$1,563,597 to the Department of Conservation’s Boating Facilities Fund (Commission report, p. 9, 2000). Gas tax revenues attributable to Maine-registered watercraft, represent 1.2% of all State gasoline excise tax receipts. At the same time, the revenues returned to support watercraft programs represent 113.9% of the estimated revenues collected from Maine-registered gasoline powered watercraft. Additional gasoline excise taxes are paid by watercraft used in Maine but registered out-of-state or documented with the U.S. Coast Guard.

Salt and freshwater gasoline use

Among those who indicated that they *only* use their boats in saltwater (17%), the average fuel consumption is 138 gallons per year. Those who *only* use their boats in freshwater (38%) use an average of 44 gallons of gasoline per year.

Commercial versus recreational gasoline use

Among those who indicated that they used their gasoline-powered boat for commercial purposes (6.8%), the average fuel use per year is 195 gallons. Recreational boaters, 93.2% of boaters, use an average of 61 gallons per year.

Characteristics of boat-owning households

The sampling procedure used in this study targeted individual boats, not owners, households, or businesses. Therefore, questions about the household, the boaters, and other vehicles owned by persons in the household were included to provide a more complete picture of boat ownership and use in Maine. Forty-four of the 647 study boats are used at least occasionally for commercial purposes. Because relatively few of the boats are used for anything other than home-based activities, we refer here to boat-owning “households.”

Forty-four percent of the households in this study have more than one boat. The number of boats in the households and businesses interviewed ranges from zero (the selected boat was sold during the past season) to a high of forty-five, with an average (mean) of 1.7 boats per boat-owning household. The mean is affected by the case in which forty-five boats are owned by one respondent. Over half of the respondents (55%) have only one boat. The boats are used by an average of 1.7 persons per household.

The average age of boat users in the boat-owning households is 45.5 years, ranging from four-year-olds to age eighty-eight. Most (84%) of the respondents to the survey, who are the persons in whose name the boats were registered or the persons most knowledgeable about the selected boats, are male. They have been going out in boats for an average of 35 years, ranging from new boaters with less than one year of experience to a veteran of eighty-two years.

Fifteen percent of the respondents belong to a group related to boating. “Boating groups” in this study include groups such as fishing trade associations, recreational boating associations, and other groups to whom boat use is essential.

One-third of the households (33%) own one or more snowmobiles, and 25% own one or more all-terrain vehicles.

Characteristics of the selected boats

There are many boat manufacturers represented in the study. The most frequently occurring is Starcraft, at 9% of the boats. The distribution of manufacturers is shown in the copy of the survey instrument with data inserted, which appears in Appendix 3.

The information in the Maine registration records identifies the boats in the study according to type. Most (81%) of the boats in the study are an “open” type. Among the remainder, 5% are cabin boats, 5% are canoes with gasoline motors, 3% are personal watercraft (usually “Jet Skis”), 3% are sailboats with auxiliary motors, and 3% are designated as “other.”

Eighty-one percent of the boats have outboard motors. Six percent are inboards, 10% are inboard-outboards, and 2% have jet drives. The average (mean) horsepower is 62, with half the motors

having less than 28-horsepower motors. The horsepower of the motors in the study ranges from one to one thousand. Three-quarters (76%) have two-stroke engines.

Half the boats in the survey were manufactured in 1984 or later. More than one-third (37%) have been owned by their present owners more than ten years. Almost two-thirds (63%) have the original motor that was with the boat when the respondent bought it.

How the boats are used

In 51% of the households with more than one boat, the selected boat is used more than the other(s); in 16% it is used about the same; and in 33% it is used less than the others. Although one might expect that the three figures would be roughly equal for the sample, it is quite possible (although the question was not asked) that relatively fewer of the selected boats are used *less* than the other boats because a household's *least* used boat may not have a gasoline motor, and therefore would not have been eligible for the study.

Most of the boats in the study (93%) are used exclusively for recreational purposes. Five percent are used for both commercial and recreational purposes, and only 2% (11 boats) are used exclusively for commercial purposes.

Commercial use

Among the forty-four boats which are engaged in commercial activity (7% of all boats in the study), the most frequent use is fishing (including lobstering). Over half (54%) are at least sometimes used for fishing, and 15% are exclusively used for that purpose. Seventeen percent of the boats are at least sometimes used to take paying customers for such activities as sightseeing and fishing. Fifteen percent are used exclusively as a dinghy or skiff to go out to another boat. Fifteen percent are at least sometimes used to get to a place for commercial clamming, worming, and so forth.

In the Commission's deliberations, there was discussion of the utility of the state gasoline tax refund records as an indicator of the amount of gasoline used in boats engaging in commercial pursuits. In this study, only four of the forty-four respondents with commercially-active boats indicated they filed last year for a gasoline tax refund. Of those, three said they got a refund for less than the total amount of gasoline they bought.

Recreational use

Almost all (98%) of the boats are used at least sometimes for recreation. Although only 11% are used exclusively for recreational fishing, 80% are used at least sometimes for fishing from the boat, including trolling, deep sea fishing, and casting from the boat. Almost one-third (31%) use their boats to get to a place to fish (such as the shore), even though the fishing would not take place from the boat. Nine percent use their boat as a skiff or dinghy to get to another recreational boat. Three percent of boaters say they use their boats for racing. The most frequent recreational use of the boats is riding around for fun: 82% use their boats at least sometimes for that activity. (The percentages sum to more than 100% because boats are used for multiple recreational activities).

Where the boats are used

Just as the boats are used for multiple purposes, they are often used in both salt and fresh water, and in different fresh-water bodies. Less than one in five boats (17%) is used only in salt water, and 37% are used at least sometimes in salt water. Thirty-eight percent are used exclusively on inland lakes and ponds, and 80% are at least sometimes used there. While only 1% are used exclusively on rivers and streams, one-third (32%) are at least sometimes used there. (The percentages in this section sum to more than 100% because boats are used for multiple recreational activities).

As one would expect, summer is the time when the boats are used most. One-quarter (24%) are used only then, and 99% are used at least sometimes in the summer. Two-thirds are used at least sometimes in the spring, and almost that many (58%) are used at least sometimes in the fall. Use drops dramatically in the winter, of course, when only 3% of the boats see any activity at all.

Most (83%) of the owners were through with their boats for the season at the time they were interviewed. Those who planned to continue using their boats a while longer expected to purchase an average (mean) 33 gallons of gas more this year. Half the continuing boaters expected to buy eleven gallons or less. The mean in this case is affected by a few continuing users who expect to purchase from 100 to 600 gallons of gasoline before they are through with their boats. (It is important to note that the data concerning gasoline purchase discussed elsewhere in this report reflect gasoline purchases in the last year, from October 2000 through October 2001. Therefore, it is not appropriate to add these expected purchases of gasoline to the totals of gasoline reported by these respondents.)

Trailing and storage

Slightly more than half the boats (54%) are put in and taken out every time they are used. The remainder stay in the water during the seasons in which they are used, with the exception of taking them out for repairs. Almost all (98%) are stored on land in the off-season. A third (34%) of the boats were taken out of the water only once in the past year, another third (34%) were put in and taken out six or more times, and twelve percent were in and out of the water more than twenty times.

About three-quarters (73%) of owners trailered their boats in the past year. The average number of miles traveled was 265, although that average is skewed by one boater who estimated a total travel distance of 15,000 miles. Half of the boaters estimated total trailer mileage of 60 miles or less, and 90% trailered their boats a total 570 miles or less. The total number of boat-miles traveled by the boats in the survey is 122,738.

Where boaters purchase gasoline

More than half (59%) of boaters say they usually buy their gas at the same place. Only fifteen respondents bought any gasoline outside of Maine. Of those, six bought all their gas outside Maine, four bought 20% to 50%, three bought ten percent, and two bought five percent of their gas outside of Maine. The questions in the survey about gasoline purchases emphasized gas purchases *in Maine*, so no post-interview adjustment in the total gasoline purchase figure was necessary. The low frequency of out-of-state-gas purchases means that most of the gasoline used by the boats in this study produces gasoline tax revenues in Maine.

Most (82%) of the respondents buy their gasoline at a gas station or convenience store, not at a marina where the hose goes down to the water to fill the boat. Ten percent buy their gasoline at marinas, and eight percent use both sources. Those who get at least some of their gas at a marina purchase an average (mean) of 69% of it there.

Boat use patterns: hours the boat was used

The boats were used an average (mean) of 26 days in the past year. Half the boats were used on 14.5 days or fewer. Ninety percent were used on sixty or fewer days. One in ten was used on only one day in the past year. The range of days that the boats were used was from zero to 250 days.

On days that the boat was used, the average period of use in the past year was 2.6 hours. The estimate of the total number of hours of use for the boats in the study is an average (mean) of 66 hours per boat, or a total of 40,915 hours of use for the boats in the study.

Those who purchase their gas exclusively at marinas used their boats an average of 139 hours last year, more than twice as much as those who bought their gas at convenience stores (61 hours), and more than those who bought their gas at both types of locations (85 hours).

Boat use patterns: was 2000-2001 a typical year?

For almost half of the boaters (48%), this last year was a typical boating year. Twelve percent used their boat a little (7%) or a lot (5%) more; and 14%, a little less, and 25%, a lot less.

Boat use patterns: operating time at or near full throttle

Most boat operation is done at less than half throttle. Over half (54%) say they operate at or near full throttle a lot less than half the time; and 23%, a little less than half the time. Less than a quarter (23%) of operators run their boats at or near full throttle more than half the time: 13%, a lot more than half the time; and 10%, a little more than half the time.

Improving boating

When given an opportunity to describe “one thing that would improve boating in areas where you use your boat in Maine,” boat owners had a variety of suggestions. The responses were grouped according to their themes. The most frequently mentioned theme (mentioned by 25% of respondents) concerned improvement of ramps and access points. The suggestions included ramps that are less steep, better designed ramps that were easier for those with small boats to use, and more parking for vehicles and boat trailers.

Next most frequently mentioned was the need for more education, greater observance of rules, and more common courtesy among boaters (13%). Almost as frequent (11%) was a specific suggestion to ban/regulate jet skis. Less frequently mentioned were addressing issues of water pollution including problems of invasive plants and pollution from fuels (8%); better markers, buoys, and navigation aids (6%); reducing the number of boats and traffic congestion (3%); providing more places to buy gas, and reducing the price of gas (2%); and improvements in fishing such as more stocking, or reserved areas (1%). An additional 21% of responses were sufficiently varied that none of them accounted for more than one percent of total responses.

When specifically asked to select the best one of four potential methods to assure boating safety in their usual areas of boat operation, almost half the boaters (49%) chose education. Nineteen percent selected law enforcement officers; 15%, marker buoys; and 8%, rules and regulations. An additional nine percent were unable to identify the single best factor among the four presented, or offered other items.

Although some boaters would like to see improvements to access areas, over one-third (35%) rated their closest place to put a boat in as excellent, and another 37% rated it as very good. Slightly more than one-quarter rated it as fair (17%) or poor (10%). In addition, two-thirds of boaters (67%) said the amount of public access near where they use boats is “about right.” Twenty-eight percent said there was not enough public access, and five percent said there was too much.

Plans for future boat purchases

About one-third (34%) of the boaters thought they would buy another boat in the next few years, and another ten percent said “maybe” they would. More than half (54%) of those who thought they would be buying new boats and motors described themselves as very likely to look specifically for one of the cleaner and quieter boats, and another 26% said it was somewhat likely they would do so. The remaining 19% thought it was somewhat unlikely (5%) or not very likely (14%) that they would be looking for the cleaner, quieter boats and motors.

Appendices

Appendix 1: Statistical Accuracy - A Note

Accuracy and confidence. All statistical studies are subject to error. The term “error,” as used in data analysis, does not mean “mistake.” Rather, it is a way of expressing the likelihood that the results obtained from a sample of a population are very similar to the results that would theoretically have been obtained if one were to collect data from absolutely every member of the population of interest (in this case, watercraft owners). The degree of certainty of results based on a sample is expressed as a confidence interval. The confidence interval shows that the results obtained from a sample of a certain number of randomly selected watercraft owners are likely to be within a specific margin of error of the results one would have obtained if an interview were completed with every watercraft owner in Maine. The level of confidence for this study has been set at 95%: that is, if we were to conduct this study 100 times, with samples of 647 persons all drawn in the same way, in 95 of the 100 samples the results will be very close to the results that would have been obtained if we had interviewed all the watercraft owners in the state. The actual width of the confidence interval for any particular data item depends upon the data distribution obtained from the study.

Appendix 2: Sample Notification Letter

Margaret Chase Smith Center
for Public Policy

5715 Coburn Hall
Orono, Maine 04469-5715
Tel: 207-581-1648
Fax: 207-581-1266
www.umaine.edu/mcsc

October, 2001

Length	Make	Horsepower	Registration #
First Name	Last Name		
Street, Town, State, Zipcode			

Dear Boat Owner:

No one really knows how much gasoline is used by all the off-road vehicles in Maine. We are trying to find out, and we need your help. We are conducting a study to estimate the total number of gallons of gasoline used by all the snowmobiles, ATVs, and boats in Maine. We have completed surveys of ATV and snowmobile owners and we are now calling the owners of a random sample of boats. **A boat registered to you is in that sample. It is the one identified on the label above.** An interviewer will probably call you soon to ask you to do a ten-minute interview over the phone.

This study is being done by the Margaret Chase Smith Center for Public Policy at the University of Maine. We were asked to do the study by the Maine Legislature's Commission to Study Equity in the Distribution of Gas Tax Revenues. The study is being paid for by the State of Maine Departments of Conservation, Inland Fisheries and Wildlife, Transportation, and Marine Resources. The Commission and the Legislature will use the information we gather to help decide how to allocate gasoline tax money fairly among all users of various forms of transportation.

We think you will find the interview interesting. The questions will cover topics such as:

- the features of your boat
- what kind of boating you like
- how much gasoline you bought in Maine for this boat in the past season.

We realize that you may not know right off hand how much gas you used in this boat. The interviewer will be ready to figure that out with you. **The interview will go more quickly if you think ahead of time about: (1) the number of hours you used this boat; and (2) how much gas you bought in Maine for the boat this year.**

The information that you give us will be kept confidential. We will not use your name in any way. Our report to the Commission will add everyone's answers together so no one can be identified. When our interviewer calls, we hope you will participate. In the interview, if we come to a question that you don't want to answer, you can just say so and the interviewer will move on to the next question.

We hope you will agree to be part of this effort to help the Maine Legislature better understand how much gasoline is used in Maine's off-road vehicles.

Yours truly,

Jonathan Rubin, Study Director

Appendix 3: Questionnaire with Frequency Results

How to read the frequencies, percentages, and other statistics inserted in this survey instrument

The univariate frequencies and percentages as well as some other statistics are inserted in the following copy of the survey instrument. The frequencies and percentages show the number and percentage of respondents who gave each of the possible substantive answers to the questions (i.e., the variables) in the survey. For some questions, where respondents give actual numbers (such as the number of watercraft they own), the appropriate measure of central tendency—mean, median, and/or mode—are shown, with the range of values (the lowest answer and the highest).

“Substantive answers” are those that contain information. Non-substantive answers are not included in the percentages. Known colloquially as “missing data,” although they are not “lost,” these include DK (the code assigned when respondents don’t know what answer to give, even after probes), NA (for questions in which the respondent declined to answer or the data were improperly recorded or implausible), and INAP (for questions that are not appropriate for an individual respondent and are correctly skipped by an interviewer according to the GO TO instructions on the questionnaire).

The results are shown in *italics*. Where two columns of numbers are shown to the left of the questions, the left column shows the number of persons giving each answer (the frequencies), and the right column shows the percentage of persons giving that answer. The missing data are not included in those percentages. In tables, the top number in each cell is the frequency, and the bottom number is the percentage.

Measures of central tendency are displayed in or near the question to which they pertain. They are in *italics*. We have selected an appropriate measure for each question. The *mean* is the familiar arithmetic average: the sum of all the answers, divided by the number who answered. The *median* is the answer value that divides the whole array of answers in half: half the persons gave an answer lower than that value, and half gave a higher answer. The median is useful to show a “typical” answer when there are some very large or very small answers that would distort a mean. The *mode* is the single value that is given by the highest number of respondents: it is the most frequently occurring answer.

Gasoline use in boats
Survey instrument

Hello, This is _____, calling from the Margaret Chase Smith Center for Public Policy at the University of Maine. May I speak with _____?

We are talking with boat owners to see how much gasoline they bought in Maine for their boats. Did you get a letter telling about the study? (IF YES, CONTINUE. IF NO: "Let me tell you about it"; IF R WANTS ANOTHER LETTER SENT, WE WILL DO SO). The Maine Legislature's Gas Tax Equity Commission asked us to find out how much gasoline is used in off-road vehicles. This study is sponsored by several government departments — Conservation, Inland Fisheries and Wildlife, Transportation, and Marine Resources. The Commission and the Legislature will use the information we get to see that gas tax money is allocated fairly. We've already done a survey of people who operate ATVs and snowmobiles. Right now we're talking with people who have boats registered in Maine.

Your participation is entirely voluntary, and your name will not be connected with your answers in any way.

Do you have any questions? May we proceed?
(ANSWER ANY QUESTIONS; PROCEED IF R CONSENTS.)

We randomly selected boats to ask about, and my instructions are that we have selected the (MAKE) _____ with registration number (READ NUMBER) _____. Are you the person who knows the most about that boat? (IF YES, PROCEED; IF NO, THEN ASK FOR THAT PERSON, AND START AGAIN AT THE TOP.)

1. ENTER TIME NOW: ____ : ____			
2. Do you still own this boat?			
<i>No. of cases</i>	<i>629</i>	<i>97.22%</i>	YES 1
	<i>18</i>	<i>2.78%</i>	NO 2
3. Did you have it registered this year, 2001 ?			
<i>647</i>	<i>100.00%</i>		YES 1
			NO 2
IF NO: FIND OUT WHAT HAPPENED:			
•IF BOAT WAS REGISTERED DURING SOME PART OF 2001, EVEN IF IT WASN'T USED, CONTINUE THE IW.			
•IF THE BOAT WAS NOT REGISTERED IN 2001 MAKE IWER NOTE AND TERMINATE: "Thank you, but we're only talking with people who had registered boats this past year. I'll make a note here." EXIT INAP (CODED 1 IN Q2) 0			
4. My records say it uses gasoline as fuel. Is that right?			
<i>647</i>	<i>100.00%</i>		YES 1
			NO 2
•IF NOT GAS, MAKE IWER NOTE AND TERMINATE: "Thank you, but we're only talking about boats that use gasoline in this study. I'll make a note of that here."			

5. Does it have an inboard motor, an outboard, an inboard-outboard, a jet drive, or what?			
41	6.34%	INBOARD	1
527	81.45%	OUTBOARD	2
62	9.58%	INBOARD/OUTBOARD	3
13	2.01%	JET DRIVE	4
4	0.62%	OTHER (VOL.) DESCRIBE _____	7
		DK	8
		NA	9

6. Counting this boat with Registration # _____, the _____ foot (INSERT MAKE), how many gasoline-powered boats do you have in your household? (COUNT THIS BOAT EVEN IF R HAD IT ONLY PART OF THE YEAR)

N=646; mean=1.71; range=0-45

ENTER NUMBER. (IF 1 GO TO Q8)	_____
DK	98
NA	99

7. (ASK ONLY IF THERE ARE OTHER BOATS IN THE HOUSEHOLD: Q6 IS MORE THAN ONE)

Does this boat **get used more**, about the **same**, or **less** than the other boats in your household?

145	50.70%	THIS ONE USED MORE	1
47	16.43%	THIS ONE ABOUT THE SAME	2
94	32.87%	THIS ONE USED LESS	3
		DK	8
		NA	9
		INAP (NO OTHER BOATS IN HOUSEHOLD)	0

8. How many people **in your household** operate (this/these) boat(s)?

N=647; mean=1.72; range=0-10

ENTER NUMBER:	_____
DK. (GO TO Q10)	98
NA. (GO TO Q10)	99

9. What are their **ages**? I don't need to know who they are, just their ages.

ENTER AGE, OR CODE FOR DK--98; NA--99; INAP--00

INCLUDE R IF R USES THE BOAT

N= 1,079 persons; mean= 45.51; range= 6-88

PERSON #	AGE	PERSON #	AGE
1		5	
2		6	
3		7	
4		8	

10. Does anyone in your household own a **snowmobile**? (IF YES: How many snowmobiles?)

Number with snowmobiles=211; of the 211, mean=1.86; range=1-8

ENTER # OF SNOWMOBILES	_____
NONE	00
DK	98
NA	99

11. Does anyone in your household own an **ATV -- all-terrain vehicle**? (IF YES: How many ATVs?)

Number with ATVs=160; of the 160, mean=1.28; range=1-4

ENTER # OF ATVs	_____
NONE	00
DK	98
NA	99

12. How many years have you yourself been going out in boats?

N=644; mean=34.97; range=<1-82

ENTER # YEARS (ROUND HALF YEAR TO NEAREST EVEN)	_____
LESS THAN ONE	00
DK	98
NA	99

13. Thank you. Now, let's **go back to that boat that we randomly selected**. That's the one with registration (READ REGISTRATION NUMBER) _____, the ____ foot boat. I need to check the registration file information we have....

That boat is a (MAKE/BRAND NAME), right?

22	3.43%	BOSTON WHALER	01
16	2.50%	GLASTRON	02
36	5.62%	GRUMMAN	03
15	2.34%	HOMEMADE	04
16	2.50%	LUND	05
31	4.84%	MIRROCRAFT	06
12	1.87%	OLD TOWN	07
14	2.18%	SEA NYMPH	08
23	3.59%	SEARS	09
57	8.89%	STARCRAFT	10
399	62.25%	OTHER BRAND (ENTER BRAND NAME _____)	11
		DK	98
		NA	99

14. And the motor -- what make is that?

(These data are recorded in text format and are not included here.)

ENTER MOTOR MAKE _____ AND CIRCLE "1"	1
DK	8
NA	9

15. Its **horsepower** is _____? (IF NECESSARY: PROMPT WITH HP ON LABEL)

N=638; mean=61.84; mode=6; median=28 range=1-1,000

ENTER HORSEPOWER	_____
997 HP AND HIGHER (ACTUAL HP=_____)	997
DK	998
NA	999

16. Is it a 2-stroke or a 4-stroke engine?			
476	76.16%	2-STROKE	1
146	23.36%	4-STROKE	2
3	0.48%	SOMETHING ELSE (VOL.) (What is it? _____)	7
		DK	8
		NA	9
17. Is this the original motor that was with the boat when you first got it?			
404	63.32%	YES	1
234	36.68%	NO	2
		DK	8
		NA	9
18. For how many years have you owned this boat? You can give me an estimate — I have some ranges here. (READ RANGES IF NECESSARY)			
56	8.68%	LESS THAN 2 YEARS	1
200	31.01%	3 - 5 YEARS	2
153	23.72%	6 - 10 YEARS	3
140	21.71%	11 - 20 YEARS	4
96	14.88%	21 OR MORE YEARS	5
		DK	8
		NA	9
19. Thank you. Now I have some questions about where and how you use this boat. First, do you use this boat as part of your job , for commercial purposes ?			
44	6.82%	YES	1
601	93.18%	NO (GO TO Q22)	2
		DK	8
		NA	9
20. Within the past year, did you file with the state for a refund of the state taxes paid on gasoline for this boat?			
4	10.00%	YES	1
36	90.00%	NO. (GO TO Q21)	2
		NEVER HEARD OF IT (VOL.). . (GO TO Q21)	7
		DK	8
		NA. (GO TO Q21)	9
		INAP (CODED 2, 8, or 9 IN Q19)	0
Q20a. Did you get a refund for all the gas you bought in Maine, most of it, or just some of it?			
1	25.00%	ALL	1
1	25.00%	MOST	2
2	50.00%	JUST SOME	3
		DK	8
		NA	9
		INAP (CODED 2, 7, 8, 9, or 0 in Q20)	0

21. I'm going to read you a list of ways that people use their boats **in their jobs**, and for each one, please tell me if you use it **only** for that purpose, or **often**, **sometimes**, or **never** use this boat for that purpose.

	ONLY*	OFTEN	SOMETIMES	NEVER
a. To take paying customers on. (SIGHTSEEING, FISHING, ETC.)	0 0.00%	4 9.76%	3 7.32%	34 82.93%
b. Fishing from this boat. (INCL. LOBSTERING)	6 14.63%	11 26.83%	5 12.20%	19 46.34%
c. To get out to and back from another commercial boat. (This boat is a skiff, dinghy)	6 14.63%	2 4.88%	3 7.32%	30 73.17%
d. To get to a place to take clams, worms, crabs, etc. for commercial purposes.	1 2.44%	2 4.88%	3 7.32%	35 85.37%
e. (UNLESS ONE ABOVE IS "ONLY") Any other commercial use?(What? DESCRIBE _____)	4 10.00%	4 10.00%	6 15.00%	26 65.00%

(*IF ONE ITEM IS "ONLY," THE REST SHOULD BE "NEVER.")

22. Do you (ever) use this boat for **recreation**?

628	97.67%	YES	.....	1
15	2.33%	NO	..... (GO TO Q24)	2
		DK	.....	8
		NA	.....	9
		INAP	.....	0

23. I'm going to read you a list of common recreational uses for boats. For each one I read, please tell me whether you **only**, **often**, **sometimes**, or **never** use this boat for that purpose.

	ONLY	OFTEN	SOMETIMES	NEVER
a. Recreational fishing from the boat (trolling, deep sea fishing, casting from the boat, etc.)	72 11.36%	239 37.70%	194 30.60%	129 20.35%
b. To get to a place where you fish for recreation, but not from the boat itself --such as from the shore.	2 0.32%	56 8.85%	140 22.12%	435 68.72%
c. To get out to and back from another recreational boat. (This boat is a skiff, dinghy)	1 0.16%	20 3.15%	37 5.84%	576 90.85%
d. Riding around for fun	69 10.88%	247 38.96%	201 31.70%	117 18.45%
e. Racing	0 0.00%	5 0.79%	12 1.90%	613 97.30%
f. (UNLESS ONE ABOVE IS "ONLY") Anything else? (What? DESCRIBE) _____	5 0.86%	45 7.71%	38 6.51%	496 84.93%

(*IF ONE ITEM IS "ONLY," THE REST SHOULD BE "NEVER.")

24. Now I'd like to know **where** you use this boat. For each place I read, please tell me whether you **only, often, sometimes, or never** use this boat there.

	ONLY	OFTEN	SOMETIMES	NEVER
a. How often do you use this boat on fresh water lakes and ponds. Only, often, sometimes, or never?	244 37.89%	205 31.83%	63 9.78%	132 20.50%
b. And on fresh water rivers and streams...	6 0.93%	70 10.87%	133 20.65%	435 67.55%
c. And on salt water...	112 17.39%	48 7.45%	78 12.11%	406 63.04%

25. Thinking of the **seasons** of the year you use this boat in Maine, do you use it only, often, sometimes, or never in the....

	ONLY	OFTEN	SOMETIMES	NEVER
a. ....summer?	153 23.76%	416 64.60%	66 10.25%	9 1.40%
b. ...in the fall?	1 0.16%	96 14.91%	276 42.86%	271 42.08%
c. ...winter?	1 0.16%	7 1.09%	14 2.18%	620 96.57%
d. ...spring?	3 0.47%	148 22.98%	279 43.32%	214 33.23%

(*IF ONE ITEM IS "ONLY," THE REST SHOULD BE "NEVER.")

26. Is this a boat that you **put in and take out** of the water almost every time you use it, or does it **stay in the water**, except for repairs or off-season storage?

350	54.43%	IN-OUT	1
293	45.57%	STAYS IN WATER	2
		DK	8
		NA	9

27. Do you store it on land in the off-season?

636	98.30%	YES	1
7	1.08%	NO	2
4	0.62%	THERE ISN'T ANY OFF-SEASON (VOL.)	7
		DK	8
		NA	9

28. About **how many times** this past year (if any) did you take this boat **out of the water**?

76	12.01%	NEVER TOOK IT OUT (ZERO TIMES). (GO TO Q30)	0
213	33.65%	ONCE	1
48	7.58%	TWICE	2
81	12.80%	3-5 TIMES	3
68	10.74%	6-10 TIMES	4
71	11.22%	11-20 TIMES	5
76	12.01%	MORE THAN 20 TIMES	6
		DK	8
		NA	9

29. In the past year, about how many **miles**, if any, was this boat **hailed over land** (on a trailer)?

N with >0 miles=463; mean=265.09; median=60; range=1-15,000

ENTER NUMBER OF MILES	_____
DK	88888
NA	99999
INAP (CODED 0 IN Q28)	00000

30. Are you through using it **in Maine** this season, or not?

533	83.28%	YES, THROUGH.....(GO TO Q32)	1
107	16.72%	NOT THROUGH	2
		DK	8
		NA	9

31. (IF NOT THROUGH) How much more gas do you think you'll buy **in Maine** before you put it up for the season?

N=54; mean=32.65; median=11; range=1-600

ENTER NUMBER OF GALLONS	_____
NOT GOING TO PUT IT UP (VOL.)	777
DK	888
NA	999
INAP (CODED 1, 8, OR 9 IN Q30)	000

32. Now I'm going to ask you some questions about buying gasoline for this boat — where you get gas, how much you use, how often you buy it, and so forth. In all these questions, **I'm asking just about this one boat, and about this past year; that is, from October 2000 until now.**

First, do you usually **buy gas** for this boat **at the same place**, or do you buy it at **different places**?

370	59.49%	USUALLY SAME PLACE	1
252	40.51%	DIFFERENT PLACES	2
		DK	8
		NA	9

33. In the past year, about **what percent** of the gas for this boat do you buy **outside of Maine**?

- NONE** BOUGHT OUTSIDE (ALL BOUGHT HERE) ENTER 000
- ALL** BOUGHT OUTSIDE OF MAINE (NONE BOUGHT HERE) ENTER 100, GO TO Q37, ENTER 0s THERE

N=15; mean=51; median=30; range=5-100

ENTER PERCENT OF GAS NOT BOUGHT IN MAINE	_____
NO GAS AT ALL, IN OR OUT OF MAINE (VOL.) (PROBE: IF 0, CIRCLE 777, GO TO Q37, ENTER 0s THERE)	777
DK	888
NA	999

34. (In Maine) how do you get the gas to the boat — do you gas up directly from a hose that goes down to boats in the water -- like a marina; or get it from a pump at a gas station or convenience store, or what?

57	10.02%	HOSE (MARINA OR BARGE)	1
465	81.72%	GAS STA., CONV. STORE. (GO TO Q37)	2
47	8.26%	BOTH	3
0	0.00%	OTHER (SPECIFY _____)	7
		DK. (GO TO Q37)	8
		NA	9
		INAP (CODED 777 IN Q33)	0

35. (IF BOTH) (In Maine) about **what percent** of your gas do you get from the hose that goes down to the boats in the water?

N=91; mean=69.03; median=95; range=1-100

ENTER PERCENT (GO TO Q37)	_____
DK	888
NA	999
INAP (CODED 2, 7, 8, 9, OR 0 IN Q34)	000

36. (IF R CANNOT GIVE A % ESTIMATE IN Q35) Would you say it is a little, some, or most of it (you get from the hose that goes down to boats in the water)?

1	50.00%	A LITTLE	1
1	50.00%	SOME	2
		MOST	3
		DK	8
		NA	9
		INAP (% OR 000 IN Q35)	0

IWER NOTE: NO GAS

IF R BOUGHT NO GAS AT ALL, OR NO GAS IN MAINE,

- ENTER 0s IN Q37
- GO TO Q45 (NEXT WHITE PAGE)

37. Now we are coming to some questions about **how much gas you bought in Maine for this boat in the past year**; that is, from (THIS MONTH 2000) until today. Then, we're also going to be looking for your best estimate of the number of hours you used the boat.

IWER NOTE: WE WANT REPORTS OF ONLY **MAINE-BOUGHT** GAS. IF R BOUGHT AT LEAST SOME GAS OUT OF STATE (Q33), OR HAS AN OUT-OF-STATE ADDRESS, SAY "We are interested only in the gas you bought in Maine — not gas bought outside of Maine."

Before I go any further — do you happen to **know how many gallons of gas** you bought for this boat in the past year (in Maine)?

- YES (How many is that?) ENTER#, GO TO Q45 (NEXT WHITE PAGE) . _____, _____
ENTER 0s IF "NO GAS" (CODE 777) IN Q33
- NO OR DK 99998
====>That's OK — we find that people often know some things that will help get to the number of gallons of gas. We can work with you to get there. I have my calculator ready here.

38. How do you think about the amount of gas you use in this boat? Do you usually think about the **hours of use time**, or do you think about the **gallons you buy each time**, or the **amount of money you spend**, or what?

- HOURS OF USE TIME. ==>GO TO Q39 (GREEN) 1
- GALLONS YOU BUY EACH FILL UP. ==>GOTO Q42 (PINK) 2
- AMOUNT OF MONEY SPENT. ==> GOTO Q43 (YELLOW) 3
- STATE GAS TAX REFUND (VOL). ==> GO TO Q44 (BLUE) 4
- OTHER (VOL.) EXPLAIN BELOW_____.==>GOTO CLOSEST METHOD 5
- DK (IF R IF NOT ABLE TO HELP CALC. GAS USE, GO TO Q45) 8
- NA (IF R REFUSES, GO TO Q45) 9
- INAP (KNEW GALLONS IN Q37) 0

The data from the questions concerning gasoline use were extracted from the responses given to questions Q37 to Q44. While there are several methods by which respondents could arrive at their estimates of the amount of gasoline they bought in Maine, only one estimate was obtained from each respondent. A summary of the derived measures is presented below.

Gasoline bought in Maine by watercraft operators

The mean number of gallons of gas bought in the 2000-2001 season by the operators of the watercraft in the study is 69.3 gallons, with a range of 0 to 1823 gallons. The gas usage calculations are based on 636 cases.

Hours the watercraft were operated

Respondents indicated the number of hours they operated their boats in Q40b or Q41b if they used hours of operation to calculate their gas use, as two respondents did. If respondents did not use that method to calculate their gas use, they were asked the number of days they used their boat in Q46 and the number of hours they used their boats, on average on those days, in Q47: 616 respondents provided estimates of the number of days and average daily hours of operation in response to those questions.

The sum of hours of use for the 616 respondents who provided that information in Q40b, Q41b, and Q47 combined is 40,915; the mean is 66.4 hours, and the range is 0 to 2,080.

GREEN PAGE #1

*****MAINE GAS ONLY*****

IF HOURS OF BOAT USE (CODED 1 IN Q38):

39. Would that be **hours you get per gallon**, or **gallons you use per hour**?

- HOURS PER GALLON 1
- GALLONS PER HOUR----> GO TO Q41 2
- DK--TRY ANOTHER METHOD 8
- NA--TRY ANOTHER METHOD 9

40. IF HOURS PER GALLON (CODED 1 IN Q39)

a. Approximately how many **hours per gallon**, on average, **did you get** from your boat in the last year?

ENTER # OF HOURS PER GALLON (A) _____ . _____

b. And about how many **hours did you use the boat** (in Maine)?

ENTER # OF HOURS (B) _____ , _____

B ÷ A = GALLONS

WORK: B÷A=GALS. CALCULATE: NUMBER OF HOURS (B) DIVIDED BY THE NUMBER OF HOURS PER GALLON (A). ENTER THE RESULT IN THE BLANK IN Q40c, BELOW:

c. If you got (A) hours per gallon, and drove (B) hours, then my calculation shows you used (B÷A) _____ gallons of gas over the past year (in Maine). **Does that sound right?**

YES. . •CIRCLE CODE -----> 1

•ENTER # OF GALLONS R SAYS
"SOUNDS RIGHT"

•GO TO Q45. _____ , _____

NO---->GO BACK AND CHECK FIGURES WITH R, MAKE ANY INCREMENTAL ADJUSTMENTS R THINKS ARE NEEDED, AND/OR TRY ANOTHER MEASUREMENT METHOD, UNTIL R IS SATISFIED THAT THE ANSWER REASONABLY REFLECTS THE NUMBER OF GALLONS OF GAS USED.

****MAINE GAS ONLY****

41. IF GALLONS PER HOUR (CODED 2 IN Q39)

This means that you use more than one gallon per hour, right?

a. Approximately how many **gallons per hour**, on average, did you use in your boat in the last year (in Maine)?

ENTER # OF GALLONS PER HOUR (A) _____ . _____

b. And about how many **hours did you use the boat** (in Maine)?

ENTER # OF HOURS (B) _____ , _____

A x B = GALLONS

IWER: A x B=GALS. CALCULATE: NUMBER OF GALLONS PER HOUR (A) TIMES THE NUMBER OF HOURS (B). ENTER THE RESULT IN THE BLANK IN Q41c, BELOW:

c. If you used (A) gallons per hour, and ran the motor (B) hours, then my calculation shows you used (A x B) _____ gallons of gas over the past year (in Maine). **Does that sound right?**

YES. . •CIRCLE CODE -----> 1

•ENTER # OF GALLONS R SAYS

“SOUNDS RIGHT” _____ , _____

•GO TO Q45.

NO---->GO BACK AND CHECK FIGURES WITH R, MAKE ANY INCREMENTAL ADJUSTMENTS R THINKS ARE NEEDED, AND/OR TRY ANOTHER MEASUREMENT METHOD, UNTIL R IS SATISFIED THAT THE ANSWER REASONABLY REFLECTS THE NUMBER OF GALLONS OF GAS USED.

42. GALLONS AT FILLUP (CODED 2 IN Q38)

REMIND R OF THE METHOD OF FILL UP: Now let me check — you said you usually (FILL THE BOAT IN THE WATER, DIRECTLY FROM A PUMP / GET GAS FROM SRVS STA-CONV STORE / BOTH...”).

a. About **how many gallons** do you usually get when you fill up?

ENTER # OF GALLONS (A) _____ . _____

b. About **how many times** did you **fill it** last year (in Maine)?

ENTER # OF TIMES (B) _____

A x B = GALLONS

OWER: MULTIPLY THE # OF GALLONS (A) BY THE # OF TIMES (B), AND ENTER THE RESULT IN THE BLANK IN Q42c BELOW:

c. My calculation shows that you bought about _____ gallons of gas for that boat last year (in Maine). **Does that sound right?**

YES. . •CIRCLE CODE -----> 1

•ENTER # OF GALLONS R SAYS

“SOUNDS RIGHT” _____ , _____

•GO TO Q45.

NO---->GO BACK AND CHECK FIGURES WITH R, MAKE ANY INCREMENTAL ADJUSTMENTS R THINKS ARE NEEDED, AND/OR TRY ANOTHER MEASUREMENT METHOD, UNTIL R IS SATISFIED THAT THE ANSWER REASONABLY REFLECTS THE NUMBER OF GALLONS OF GAS USED.

YELLOW PAGE

*****MAINE GAS ONLY*****

43. AMOUNT OF MONEY (CODED 3 in Q38)

a. Do you know **how much you spent** on gas for this boat over the past year (in Maine)? (What was that?) (ROUND CENTS TO NEAREST \$)

ENTER DOLLAR AMOUNT (A) ----->GO TO Q43e \$ ____ , _____
DK YEAR'S \$ AMOUNT 99998

b. IF NOT KNOWN: How much do you usually **spend** on gas when you **gas up**?

ENTER DOLLAR AMOUNT (B) \$ ____ , _____.
(ROUND TO NEAREST DOLLAR)

c. About **how many times** last year did you gas up (in Maine)?

ENTER # TIMES (C) _____

IWER: MULTIPLY THE \$ AMOUNT (B) BY THE # OF TIMES (C),
AND ENTER IN BLANK IN Q43d BELOW:

d. My calculations show that you spent about \$ _____ on gas for this boat last year (in Maine). **Does that sound right?**

YES: ENTER \$ (D) \$ ____ , _____
NO: GO BACK AND RE-FIGURE

e. The average price of gas in Maine was \$1.53 per gallon last year. I'm going to do some arithmetic here — **should I use \$1.53** per gallon, or should it be **higher** or **lower** to be close to the average you paid **where you fill up** (in Maine)? (IF HIGHER OR LOWER: What should I use for a price?)

ENTER PRICE PER GALLON USED (E) \$ ____ . ____
ROUND TO NEAREST CENTS (e.g., \$1.499 ==> \$1.50)

(A or D) ÷ E = GALLONS

IWER: DIVIDE \$ SPENT (A) or (D) BY THE PRICE PER GALLON (E). ENTER IN BLANK IN Q43f BELOW:

f. My calculation shows that you bought about _____ gallons of gas for that boat last year (in Maine). **Does that sound right?**

YES. . •CIRCLE CODE -----> 1
•ENTER # OF GALLONS R SAYS
"SOUNDS RIGHT" ____ , _____
•GO TO Q45.

NO---->GO BACK AND CHECK FIGURES WITH R,
MAKE ANY INCREMENTAL ADJUSTMENTS R
THINKS ARE NEEDED, AND/OR TRY ANOTHER
MEASUREMENT METHOD, UNTIL R IS SATISFIED
THAT THE ANSWER REASONABLY REFLECTS
THE NUMBER OF GALLONS OF GAS USED.

BLUE PAGE
*****MAINE GAS ONLY*****

44. AMOUNT OF STATE GAS TAX RECOVERED THROUGH GAS TAX REFUND
(CODED 4 in Q38)

a. Do you know **how much you got back** for gas for this boat in the last year from the State of Maine? (What was that?) (ROUND CENTS TO NEAREST \$)

ENTER DOLLAR AMOUNT (A) \$ ____ , ____
DK YEAR'S \$ AMOUNT 99998

$A \div .16 = \text{GALLONS}$


IWER: DIVIDE \$ REFUNDED (A) BY \$.16 (SIXTEEN CENTS). ENTER IN BLANK IN **Q44b** BELOW:

b. The state tax on gas in Maine is eighteen cents per gallon.
If you got \$_____ back, then my calculation shows that you bought about _____ gallons of gas for that boat last year (in Maine).
Does that sound right?

YES. . •CIRCLE CODE -----> 1
•ENTER # OF GALLONS R SAYS
"SOUNDS RIGHT"
•GO TO Q45.

NO---->GO BACK AND CHECK FIGURES WITH R,
MAKE ANY INCREMENTAL ADJUSTMENTS R
THINKS ARE NEEDED, AND/OR TRY ANOTHER
MEASUREMENT METHOD, UNTIL R IS SATISFIED
THAT THE ANSWER REASONABLY REFLECTS
THE NUMBER OF GALLONS OF GAS USED.

NOTE: THE TAX IS \$.18 PER GALLON, BUT THE REFUND IS \$.16.
THE DIFFERENCE IS NONREFUNDABLE.

45.  GIVE FEEDBACK: Thank you. That's very useful information.

IWER CHECK POINT

ON THIS SCALE OF 1 TO 4, HOW CERTAIN WAS R ABOUT HIS/HER ANSWERS TO THE GAS USE QUESTIONS?

426	66.36%	1--VERY CERTAIN	.....	1
170	26.48%	2--	.....	2
41	6.39%	3--	.....	3
5	0.78%	4--VERY UNCERTAIN	.....	4

IWER COMMENTS:

46. IF R HAS ALREADY GIVEN YOU HOURS THE BOAT WAS USED IN Q40b or Q41b, GO TO Q47.

About how many days in the past year — from early October last year -- 2000 --- until now — was this boat's motor used in Maine?

N=614; mean=25.52; median=14.5; range=0-250

ENTER NUMBER OF DAYS. . . . (IF 0 GO TO Q48)	.....	_____
DK	.....	888
NA	.....	999
INAP (HOURS GIVEN IN Q40b or Q41 b)	.....	000

47. On days when the boat's motor is in use, how many **hours is it run, on average?**

USE DECIMALS IF NECESSARY (USE CLOSEST QUARTER HR.):

15 MINS.= .25; 30 MINS.= .50; 45 MINS.= .75.

N=616; mean=2.57; median=2; range=0-12

ENTER NUMBER OF HOURS	.....	_____ . _____
DK	.....	8888
NA	.....	9999
INAP	.....	0000

48. Did you use this boat in Maine **more, less, or about the same as other years?**

--USED **MORE** THIS YEAR. ASK:

A lot more, or a **little** more?

33	5.20%	A LOT MORE THIS YEAR	.....	1
45	7.09%	A LITTLE MORE THIS YEAR	.....	2
305	48.03%	-- ABOUT THE SAME USE THIS YEAR	.....	3

--USED **LESS** THIS YEAR. ASK:

A lot less, or a **little** less?

91	14.33%	A LITTLE LESS THIS YEAR	.....	4
161	25.35%	A LOT LESS THIS YEAR	.....	5
		HAD IT ONLY A YEAR/LESS (VOL.)	.....	7
		DK	.....	8
		NA	.....	9

49. When this boat's motor is being used, is it **at or near full throttle** more than half the time, or less than that?

		--MORE THAN HALF THE TIME AT FULL THROTTLE	
75	12.61%	A lot more than half the time,	1
60	10.08%	or a little more than half the time?	2
		--HALF OR LESS OF THE TIME AT FULL THROTTLE	
136	22.86%	A little less than half the time,	3
324	54.45%	or a lot less than half the time?	4
		DIDN'T USE THE BOAT	7
		DK	8
		NA	9

50. If you could pick **one thing** that would improve boating in the areas where you use your boat (in Maine), what would that be?

DESCRIBE _____

DK			88
NA			99
59	11.46%	<i>Ban, further regulate jet skis</i>	
66	12.82%	<i>More education, courtesy among boaters; observe rules</i>	
7	1.36%	<i>Improvements for fishing (stocking, reserved areas)</i>	
9	1.75%	<i>More places to buy gas; less expensive marina gas</i>	
29	5.63%	<i>Better markers, buoys; navigation aids</i>	
15	2.91%	<i>Reduce number of boats; traffic congestion</i>	
130	25.24%	<i>Improve ramps and access points (less steep; better design for small boats; more parking for cars, trucks and trailers)</i>	
39	7.57%	<i>Address issues of water pollution (invasive plants, polluting motors etc.)</i>	
55	10.68%	<i>Nothing; no complaints; couldn't do anything to improve it</i>	
106	20.58%	<i>Other</i>	

51. Thinking of the **place closest to you to put a boat in**, how would you **rate** the facility — would you call it **excellent, good, fair, or poor?**

221	35.42%	EXCELLENT	1
231	37.02%	GOOD	2
109	17.47%	FAIR	3
63	10.10%	POOR	4
		DK	8
		NA	9

52. Thinking of public access to the water for boating **around where you use boats** (in Maine), would you say that there is **too much public access**, about the **right amount**, or **not enough public access** to the water for boating?

29	4.63%	TOO MUCH	1
423	67.46%	ABOUT RIGHT	2
175	27.91%	NOT ENOUGH	3
		DK	8
		NA	9

53. What do you think is the best way to make sure that boating is safe for everyone around where you use your boat, would it be (START AT RED STAR)			
95	15.25%	marker buoys	1
52	8.35%	rules and regulations	2
117	18.78%	law enforcement officers	3
305	48.96%	education?	4
54	8.67%	OTHER (SPECIFY) _____	5
		DK	8
		NA	9

54. Do you belong to any groups related to boating?			
99	15.33%	YES	1
547	84.67%	NO	2
		DK	8
		NA	9

55. Do you think you will buy another boat or motor in the next few years ?			
219	34.22%	YES	1
354	55.31%	NO (GO TO Q57)	2
67	10.47%	MAYBE (VOL.)	3
		DK (GO TO Q57)	8
		NA (GO TO Q57)	9

56. (IF YES OR MAYBE BUY NEW BOAT OR MOTOR) Some of the newest boats and motors are said to be quieter and run cleaner . How likely is it that you would be looking specifically for one of those boats — very likely, somewhat likely, somewhat unlikely, or not very likely?			
151	54.32%	VERY LIKELY	1
73	26.26%	SOMEWHAT LIKELY	2
14	5.04%	SOMEWHAT UNLIKELY	3
40	14.39%	NOT VERY LIKELY	4
		DK	8
		NA	9
		INAP (CODED 2, 8, OR 9 IN Q55)	0

57. And finally, in what year were you born ?			
<i>N=640; median=1947 (age 54); range=1913-1984</i>			
ENTER YEAR			
DK			8888
NA			9999

EXIT: Thank you. Those are all the questions I have. We really appreciate your taking the time to help us with this research project.

Enter time now ____ : ____ Circle: a.m. p.m.

DON'T FORGET TO COMPLETE THE IWER RECORD!

INTERVIEWER RECORD

Recorded, but not asked of respondent

<i>Respondent gender</i>	545	84.23%	<i>Male</i>
	102	15.77%	<i>Female</i>
<i>Respondent's mailing address</i>	577	89.18%	<i>Maine</i>
	70	10.82%	<i>Out of state</i>



APPENDIX 4: INTERVIEWER MANUAL

Survey of Gasoline Use among Users of ATVs, Snowmobiles, and Boats

Margaret Chase Smith Center for Public Policy
University of Maine

Boat Survey

A study conducted for the
Maine State Legislature
Commission to Study Equity in the Distribution of Gas Tax Revenues
Attributable to Snowmobiles, All-Terrain Vehicles, and Watercraft

October 2001



INTERVIEWER MANUAL
Survey of Gasoline Use among Users of ATVs, Snowmobiles, and Boats
Margaret Chase Smith Center for Public Policy
University of Maine
October 2001

Introduction to the study

Background and purpose of the study

This study is being conducted by the Margaret Chase Smith Center for Public Policy of the University of Maine at the request of the Maine Legislature's Commission to Study Equity in the Distribution of Gas Tax Revenues Attributable to Snowmobiles, All-Terrain Vehicles and Watercraft. The Commission was created by the Legislature with a charge to collect and analyze information to determine an equitable distribution of gas tax revenues which are used in the enforcement and enhancement of programs supporting off-road vehicle use in Maine.

The tax on gasoline imposed by the State of Maine, \$.22 per gallon, is used to support transportation infrastructure (highways, roads, trails, marinas, etc.) in Maine. It is to be allocated fairly among on-road vehicles (cars, trucks), and off-road vehicles (ATVs, snowmobiles, and boats), according to the proportion of the tax that is paid by the operators of those vehicles, according to state law. The State of Maine knows how much money is collected from the tax for all gasoline sales, but no one really knows how much of the tax is paid by the off-road operators. We are trying to find out. We have completed the interviews with ATV and snowmobile operators, and now are conducting the boat portion of the study.

Your role

Because we don't have the time or money to ask everyone, we have drawn a large random sample of registered boats from the Department of Inland Fisheries and Wildlife records. The registration records are maintained and disseminated by a company called InforME. You, as interviewers, will call the owners of those watercraft to interview them by telephone. You will use a structured questionnaire, called a survey instrument, to ask the questions and record the answers.

Sponsors

The study is a cooperative agreement among the University of Maine and the State of Maine Departments of Conservation, Inland Fisheries and Wildlife, Transportation, and Marine Resources. A cooperative agreement is a contract among the sponsors that recognizes that the University (in this case, the Margaret Chase Smith Center) and the state departments involved have a common interest in some research that will benefit them all. In this case, the state Departments and the Commission will use the results of the research to answer their public policy questions, and the Margaret Chase Smith Center will have an opportunity to participate with the Commission and learn more about transportation tax allocation policies and about gasoline consumption by those vehicles.

The Margaret Chase Smith Center for Public Policy

The Margaret Chase Smith Center for Public Policy (MCSC) is a neutral, nonpartisan research unit of the University of Maine, reporting to the Vice President for Research. It is supported by a combination of University funds, and research grants and contracts from government agencies, foundations, and nonprofit organizations. It does research in the areas of environmental policy, health policy, economic and community development, and civic and community life. It publishes *The Maine Policy Review*, a peer-reviewed journal about critical public policy issues in Maine. The Center's mission is to improve the quality of public dialogue about state, regional, and national policy.

Your role as interviewer

The only acceptable role for an interviewer is that of a professional researcher. To depart from this role may introduce bias and compromise research objectives. You may not attempt to counsel a respondent or sell any goods or services to a respondent or enter into any but a professional interviewing relationship with a respondent. You must never ask for advice, counseling, or goods or services from a respondent or in any way exploit the research situation for personal advantage.

The careful respondent protection procedures observed by the Margaret Chase Smith Center for Public Policy will be undermined if you do not maintain professional ethical standards of confidentiality regarding what you learn from or about respondents. All information obtained during the course of the research that concerns respondents, their families, or the organizations they represent is privileged information, whether it relates to the interview itself or is extraneous information learned by interviewers during the performance of their work.

Because this is a random sample of public records, you may encounter persons whose names you recognize. You are to treat them as any respondent whom you do not know. You may not disclose the identity of the respondents with whom you speak.

You may discuss situations you encounter with other interviewers and with staff to help us all become better interviewers. When you have those discussions, be sure not to reveal details that would allow identification, or even speculation, about the identity of individual respondents. In processing the data, we will remove and destroy the identifying coversheets as soon as we are through with them.

You will be asked to sign a confidentiality agreement as a condition of your working as an interviewer. A copy of that agreement is included in your manual.

**Confidentiality Agreement
Statement of Professional Standards**

The Margaret Chase Smith Center for Public Policy and the interviewers share the responsibility for maintaining high professional standards.

As professional researchers, all interviewers must agree:

1. Never to attempt to bias respondents' answers by introducing their own beliefs or opinions or by implying that any response is more acceptable than another;
2. To record respondents' responses clearly, accurately, and thoroughly;
3. Never to use the interview situation for personal advice, counseling, or commercial purposes;
4. To take all necessary precautions to keep information confidential;
5. Not to provide any referral, advice, or counseling to any respondents except as instructed in the study procedures and protocols;
6. To inform respondents honestly of the study purposes and of the voluntary nature of responding;
7. To refrain from discussing the information obtained, including information about individual respondents, and information about overall study findings;
8. To avoid any discussion of who has and who has not responded to a study;
9. To represent the Margaret Chase Smith Center for Public Policy and the University of Maine in a professional and responsible manner.

The research staff members of the Margaret Chase Smith Center for Public Policy in turn, must agree:

1. To maintain the confidentiality of all information given us by interviewers and respondents;
2. To protect the rights of human subjects in study design and implementation;
3. To report all data in a manner that prevents identification of individual respondents.
4. To include interviewers as full partners in our research efforts, and to provide them with the skills and information they need to conduct their interviews in a responsible and professional manner.

I, _____, as an interviewer with the Margaret Chase Smith Center for Public Policy agree to maintain, in accordance with all the provisions stated above, high professional standards and to protect the rights of human subjects in all work that I do with the Margaret Chase Smith Center for Public Policy.

I, _____, as a professional researcher with the Margaret Chase Smith Center for Public Policy, agree to maintain, in accordance with all the provisions stated above, high professional standards and to protect the rights of human subjects in all our research.

Interviewer

Date

Project staff member
Date

Off-road Vehicle Gasoline Use Study Staff

At the Margaret Chase Smith Center for Public Policy

Jonathan Rubin, Ph.D., Principal Investigator, 1-1528

Suzanne Hart, Research Associate, 1-1631

Charlie Morris, Research Associate, 1-4135

Chris Boynton, Project Assistant, 1-1648

Eva McLaughlin, Administrative Associate, 1-1646

Ann Acheson, Ph.D., EpiInfo Programmer

Erin Bock, Graduate Assistant

At the Maine Legislature's Office of Policy and Legal Analysis

Patrick Norton, Project liaison, 287-1670

Emergency numbers at the University of Maine

You are in **Coburn Hall**.

Public Safety

EMERGENCY ONLY 911

Other business, Dispatcher 1-4040 or 311

Survey project supervisor, based in Room 22 (“the library”), Coburn Hall, x 1-3661.

Using the Boat Gasoline Use survey instrument

Reading the questions. Read the questions in the **numerical order** in which they are written, unless a GO TO instruction is associated with the particular answer given by the respondent. When there is a GO TO associated with the answer the respondent gave you, record the response and follow the instruction by skipping to the question indicated.

Read to the respondent the question text material in **regular upper and lower case** as it is written. Text in UPPER CASE is for your use as the interviewer, and it is not to be read to the respondent. It provides instructions, information, and summaries of expected possible answers.

Emphasize words in **bold** when you read the questions. The placing of emphasis helps to make administration of the questions uniform among all the interviewers.

Another section of this manual describes good interviewing techniques for reading the questions and dealing with respondents' questions of you.

Recording the answers. There are two columns on each page of the survey instrument. The questions and instructions are contained in the larger, left column. The right column is the **coding strip**, where you will record most of the answers by circling a code number or entering the digits of a numerical response. In some questions, you will record the respondent's answers in cells in a **table**. In those cases, the vertical line separating the coding strip and the body of the questionnaire is discontinued in the area of the table. When we enter the data into the computer, we will read it from the coding strip and the tables.

Some common abbreviations and terms used throughout the survey instrument

R = Respondent.

IW = Interview.

IWER = You. (Interviewer.)

DK = Don't Know. This means that the respondent says s/he doesn't know, even after you read the question again, and probe in a neutral fashion for an answer.

NA = Not Ascertained. This usually means that the respondent refused to give an answer, even though s/he may know what the answer should be. This response is rarely used. It is distinctly different from "Don't know." Respondents always have the right to decline to answer any questions they do not want to answer. NA is also used in the rare instances in which data are missing because of error in administration of the instrument or in processing.

INAP = Inappropriate. This means that the GO TO instructions have directed you to skip this question, based on a response or responses to earlier question(s). It does NOT mean that you or the respondent thought the question didn't apply. When you skip just one or two questions because of a GO TO, you can circle the code for INAP in the coding strip in the questions you skipped, or you can leave that for the editor/coder to do later. The editor will check for appropriate use of INAP codes.

VOL = An answer that we anticipate may be given by a few respondents, but which is not among the responses to be read to R.

EX = Example.

CODE = The number that you circle associated with the given response.

Q = Question.

ID = A unique number assigned to each sample member (respondents and nonrespondents).

General interviewing skills

Your job as an interviewer is to:

1. Be neutral.
2. Be accurate.
3. Help the respondent be accurate.
4. Be efficient.

How to be a good interviewer

Be accurate: Asking the questions

- Read the questions exactly as they are written.
- Read the entire question, and the answer choices if they are in upper/lower case.
- Ask the questions without explanation unless the respondent asks. If you need to clarify, do these, in order:
 - Restate for clarification.
 - Use emphasis to clarify.
 - Use the information in the QxQs.
 - Tell R “Whatever it means to you.”
- Use a steady pace.
- Speak clearly. Do not chew gum or eat while you are interviewing.

Be accurate: Recording the answers

- Circle the number of the response neatly and completely in the coding strip or table.
- Do not allow your circles to run over onto other adjacent codes.
- Write numbers and letters neatly.
- Make any numbers you write clear and simple: remember your First Grade teacher.
- If you abbreviate, use commonly accepted abbreviations, not your own inventions.
- In calculating gallons, be sure to show all your work in the spaces provided.
- Use your calculator carefully. Make sure your answers make sense.

Be neutral

- By your professional manner you will reinforce the neutral nature of this research project.
- A professional manner will reassure R that answers are kept confidential.
- Do not interject your own opinions and reactions, verbally or non-verbally.
- Give appropriate feedback and reinforcement for the task, not the content of the answers.
- Do not volunteer too much information about the study or about any particular question.
- Reinforce the respondent’s responding, not the responses themselves.
- Record most answers without comment. See the page with good and bad feedback for examples.

Help the respondent be accurate

- “I don’t know” is usually just a time-filler. Wait it out.
- Don’t take DK for an answer without an attempt to probe for a response.

- If you think R didn't understand the question, read it again.
- For numbers, if R gives a range and you need one number, probe: "Which is closest?" "What's your best estimate?" It's OK to say "I can't put a range here — what's your best estimate?"
- Silence on your part is a great probe. It's perfectly neutral. It lets R think, and R will feel compelled to fill the void.
- In calculating the amount of gasoline used, it's OK to start with one method of calculating and abandon it to start another.

Be efficient

- Know the interview script well.
- As you dial the phone, be ready to do the interview
- Focus on the interview and the business at hand. Model good interview performance for the respondent.
- Be pleasant, but not overly friendly or familiar.
- Provide appropriate feedback that rewards Rs for staying on task. Say thank you, emphasize the usefulness of the information.
- Discourage digression and long-winded or argumentative, hair-splitting answers: "I don't want to take up too much of your time tonight." Or, "Let me make a note of that." OR simply don't comment. Wait one second, enough to show that you are not going to comment, and then read the next question.
- Record the call disposition and fill in the interviewer's record quickly and accurately right after you finish the call.
- Move quickly and smoothly from one call to another.

Feedback Phrases for Acceptable Respondent Behavior

Good Feedback.....Use this!

Short

I see....
Uh-huh/Um-hmm.
Uh-huh/Um-hmm, I see.
Thank you.
Thanks.

Long

That's useful/helpful information.
It's useful to get your ideas/report/recollection on this.
Thanks, it's important to get your ideas/report/recollection on that.
I see, that's helpful to know.
It's important to find out what people say about this.
That's useful for our research.

Iwer task-related comments

Let me get that do wn.
I need to get that all down.
I want to make sure I have that right: (REPEAT ANSWER).
We may have touched on this before, but I need to ask every question in the order that appears on the questionnaire.

BAD FEEDBACK. DO NOT USE!

Great!	Cool.
Okay.	Way cool.
Right.	Ain't it the truth.
Right on.	Awesome!!
Me too.	
I'll say.	
You bet.	
I know.	
Good for you/him/her.	
I hear you.	
Oh, yeah.	
No way.	
You're kidding.	
You don't say.	
I know where you're coming from.	
I gotcha.	
I like that, too.	
I don't like that, either.	
Good.	
Excellent.	

Boat Gasoline Use

Question-by-question explanations and instructions

QxQs

Introduction

Read the introduction as closely as possible to the way it is written. You must include in your introduction:

- Whom you represent: the Margaret Chase Smith Center for Public Policy at the University of Maine
- For whom the study is being done: the Maine Legislature’s Gas Tax Equity Commission, and the Departments of Conservation, Inland Fisheries and Wildlife, Transportation, and Marine Resources. It’s OK to use this shortened form of the Commission name because the notification letter contains the full legal name of the Commission.
- That R’s participation is entirely voluntary.
- That the information from any individual is confidential. No one’s name will be used, and they will not be identified in any way.
- The question: May we proceed?

Do not ask “Is this a good time?” It makes you sound tentative. That gives the respondent a perfect excuse for putting you off, and you or someone else will have to call him/her back later. However, you should be ready to accept reasonable requests for scheduling a call-back (“I’m on my way out the door...” “We’re eating dinner.”) Say — “I see it’s a bad time. I can call you back in about forty-five minutes.” Suggest a definite time for a call back: a time when you know that interviewing will be taking place. You can schedule a call back for another shift even if you won’t be working that shift.

Make sure you get the person to do the interview who knows the most about the boat. If you need to speak with someone who is not home, find out when he/she will be home and schedule an interview. The person who is actually going to answer the questions must hear the whole introduction.

It is quite likely that some of the people you interview will be teenagers. That’s appropriate if the teenager is the one who knows the most about the boat.

What is a boat?

“Boats” in this study include any boats, commercial or recreational, that are propelled by a motor or engine. It includes personal watercraft (PWCs, or Jet Skis), sailboats that have an auxiliary motor for moving the boat in the harbor and for use in case the sailboat gets becalmed, and small boats and canoes that have motors for fishing. The sample includes only those boats whose owners say their motors use gasoline as fuel.

Question-by-question through the instrument

Q1. Enter the time. Use leading zeros if necessary (07:30). Don't worry about a.m./p.m. We'll know that from the ending time you'll enter later.

Q2. We have used last year's (2000) registration lists because the current year's list is not yet fully compiled. The registrations on the list we are using expired on December 31, 2000. Therefore, it is possible that the respondent does not still own the boat.

If R isn't the literal owner, but is the one who knows the most about the boat, record the answer with reference to the owner. For example, suppose the registration is in the name of a teenager's father, and the teenager is the one who knows the most about the boat's gas use. If the boat is still owned by the father, record 1 for YES and interview the teenager.

Q3. We need to ask if the boat was registered to this respondent (or surrogate) sometime in this year, 2001; that is, the owner renewed the registration after it expired last December. Conduct the interview if this R and/or someone connected to this household had the boat during at least some part of 2001. Some of these boats will probably have had no gas use. That is OK: continue the interview.

If R did not register the boat for use in 2001, circle the 2 for NO, make a note, thank R and terminate. Circling the interviewer instruction for termination (BOAT WAS NOT REGISTERED IN 2001) is sufficient for a note, unless further explanation is necessary.

Q4. The registration records record the type of fuel used. We have sampled from the boats that are recorded as using gasoline. We do not expect any boats that do not use gasoline, but we need to ask to make sure. The list includes sailboats, rowboats, etc. that use auxiliary gasoline motors.

Q5. An outboard motor attaches to the outside of the boat, usually on the transom at the stern (the back end), with the propeller held away from the boat. The whole motor, driveshaft, and propeller are outside the boat.

An inboard/outboard motor has the motor itself (where the gas combustion takes place) inside the boat, and the rest of the unit -- the driveshaft and the propeller -- outside. Inboard/outboards are also called "stern drive" engines.

An inboard has only the propeller on the outside.

A jet drive has no propeller. It uses an inboard engine to take water in, then discharge it at high pressure through a nozzle, thus pushing the boat forward. Jet skis have jet drives, as do some large boats. See the descriptions and pictures on the following pages.

Jet drives come in both inboard and outboard models, depending on the location of the motor. If the boat is a jet boat, circle the code for jet boat, not for the inboard or outboard location.

Q6. Insert the registration number, the length of the boat in feet, and the make of the boat in the question: "Counting this boat with registration number QB 1208, the fourteen-foot Starcraft, how many..."

Count all boats that are reasonably operational and are owned by the household, even if some of them were not used during the past season. Be sure to count the one that you're going to be asking about.

- Count both registered and unregistered boats.
- Count only those boats that are currently owned.
- Enter the number of boats in the blanks in the coding strip.

A household is the dwelling unit and all the related and unrelated people who live in it at least some part of the year. Let R be the judge of whether someone "regularly" lives there.

Q7. In this question we want to know how much this boat is used relative to others in the household. Be aware of the response to Q6 before you ask this one. Ask this question only if the household has more than one boat. If the household has only one boat, select INAP (INAPPLICABLE) because there are no other boats in the household with which to compare this boat. We may have selected the boat that is used the least, which will be puzzling to some Rs. Explain that we took a random sample, and that to make the results useful, we really do need to know about that particular boat.

Q8. Count as people in the household those who live there at least some part of the year. For example, a college student who lives in a dorm most of the year, but who is home for vacations and summers is a member of the household. If R is in doubt about whether to count someone as a member of the household, you should ask: "Do you want me to count him?"

Q9. We want to know the ages of persons who use boats to better understand the characteristics of people who use them, and to help plan recreational facilities.

In the table, enter the ages of the persons in the household who use the boats in the household. Make sure that R knows you don't want or need names.

Q10. Count any reasonably operable snowmobiles. Enter 00 if no one in the household has one.

Q11. Count any reasonably operable ATVs. Enter 00 if there are none.

- Q12. This question refers to R alone, not to other members of the household. If R says “All my life,” you can say “How many years should I put down here?”

If the answer is exactly a half year — 8 and a half, say — then round to the nearest even year, in this case, 8. Enter with a leading 0 as 08. If R has been going out in boats exactly one half year, round to the nearest even, and enter 00. If the fraction of a year is less than half, round down; more than half, round up.

Examples of rounding exact halves to the nearest even number:

- 4.5 becomes 4 (4 is the nearest even number to 4.5);
- 5.5 becomes 6 (6 is the nearest even number to 5.5).
- 5.3 becomes 5 because .3 is not an exact half (only .5 is an exact half), so you round to the nearest whole number;
- 5.7 becomes 6 because .7 is not an exact half, so you round to the nearest whole number;
- 4.7 becomes 5 because .7 is not an exact half, so you round to the nearest whole number.

If R gives a range, tell him/her you can enter only one number, and ask how many years you should “put down here.”

- Q13. From this point, you will be asking about the selected boat only, until after you get past the gasoline use questions. Read the registration tag number from the label in the blank in the question.

Read the make of the boat (not the motor) from the label and circle the code on the list. If it is a make not on the list, circle the code for “other” and write in the make. If the make differs from the label, use the make that R says the boat is. If a boat has been modified to include parts of several makes, ask R which make to record.

There is a “homemade” make, which is not a commercial brand, for boats that are designed and built by individuals.

- Q14. Ask for the make of the motor (engine) and record it in the blank. It may be the same as the boat, but usually is not.
- Q15. Horsepower is a measure of engine power. There are horsepowers from very small motors (2-3 HP) to a very few very large ones, apparently over 999. There are only three spaces to enter the digits for the answer. If you encounter a very large engine, 997 HP or greater, circle the 997 and write the real HP. After the data have been entered, we will look up those cases with codes of 997 and enter the real answer by computer (better than entering a lot of leading zeroes for the sake of a case or two).
- Q16. A 2-stroke engine burns the lubricating oil and gas together. In older and/or smaller motors, you mix the gas and oil by pouring them together in the gas tank. In newer and/or larger ones, an oil injection system mixes them.

A 4-stroke engine is more like a car. The lubricating oil and the gas are kept separate. Two-stroke engines emit more pollutants than 4-stroke engines.

- Q17. We want to know whether this is the original motor that R had when s/he got the boat. If R got the boat first, then later got a motor, circle the 1 for YES because it is the first motor that R had for the boat. NO means that R has replaced the first motor s/he had with the boat. For an inboard or similar engine, a NO means that the whole engine (the part that creates the combustion from the gas to make the shaft turn) has been replaced.
- Q18. Enter the code for the range of years R has owned the boat. Read the ranges if necessary.
- Q19. This question is the lead for one or both of two sections, one about commercial uses of the boat (Q20, Q20a, and Q21), and one about recreational uses (Q22 and Q23). The boat may be used for either or both purposes. If the boat was not used at all in the past year, ask R to tell you how the boat was used when it was being used.
- Q20. Maine state law allows a refund of most of the state tax paid on gasoline purchased in Maine for commercial motor boats. Applications for refunds are filed on special forms, following the instructions of the Maine Revenue Services. Don't try to give advice here if R hasn't heard of this or wants details. If necessary, you can give R the number of the Maine Revenue Services office that works with fuel taxes: 207-624-9734.
- Q20a. Requests for refunds are of course voluntary, and can be filed monthly. Refunds are applicable only to commercial uses of the boat. Therefore, R may not have requested refunds for all the gas s/he bought in Maine. If R filed for refund(s) in the past year, we want to know roughly for how much of R's Maine-bought gas s/he got a refund.
- Q21 In Q21 we want to know the ways in which the selected boat is used for commercial purposes. If the boat is used ONLY for a specific purpose, the other purposes must logically be NEVER. Make sure you read all the type-of-use categories before you accept ONLY as a response. As you read the categories, R may be reminded of some use that s/he didn't think of before. These categories are not mutually exclusive. One could fish from the boat (b), and sometimes take people out for sightseeing (a).

Be cognizant of the difference between (b) fishing from the boat, and (c) using the boat as a skiff to get out to and back from the fishing boat, which may stay anchored or moored away from shore.

(a) "To take paying customers on" includes ferrying paying riders to islands; sightseeing on lakes, rivers, or the ocean; whale-watching; deep-sea fishing for sport; providing Maine guide services to people who hunt and fish; party boating, etc.

(b) "Fishing" includes hauling lobster traps (or pots, depending on what part of the coast you're on), diving for sea urchins, dragging for scallops, etc.

A deep-sea fishing boat that takes customers out to sport-fish is (a) "To take paying customers on," not (b) "Fishing from this boat." "Fishing from this boat" means that the primary purpose is to take fish, not provide recreation.

In (d), the boat is a means to get to the clam flats, mud flats, etc., to harvest clams, worms, etc.

“Other” commercial uses might be tending salmon pens, delivering goods to islands, etc.

- Q22. If R uses the boat commercially, insert the word “ever” in Q22. If R has said there is no commercial use, then you don’t need the “ever.” You should make sure that even a clearly commercial boat is never used for recreation before skipping the recreational boating questions. For example, many lobster boats are raced a time or two in the summer, or may be used for family excursions.
- Q23. Distinguish between hired recreational uses (such as sight-seeing, whale-watching, deep-sea-fishing) that are commercial uses for the boat owner, and recreational uses, which are uses that the owner pursues in his/her own boat.

In (a), the fishing must be done from the boat itself. In (b), R uses the boat to get to the fishing spot, but does not actually fish from the boat.

(d), “Riding around for fun” is what people do who sightsee, cruise around the lake, travel from boat to boat visiting their friends in the harbor, use the boat to travel out to islands for fun, have floating parties, ride a Jet-ski, tow a water skier, etc.

(d) “Racing” can be a formal race, or informally playing around with friends.

- Q24. This question is about the waters in which R uses the boat. Most boats are used with in fresh or salt water, but some are used in both. The “fresh water” parts of the question distinguish between lakes and ponds (a) and rivers and streams (b). The coastal mouths of the rivers are likely to be “brackish” (a mix of salt and fresh water). If R isn’t sure how to classify those waters, find out if R is really on the river, and happened to go into brackish water (which is more like “b”), or was on the ocean and happened to go into area where the river started to dilute the salinity of the ocean (which is more like “c”). However, if the boat travels up and down the coast and sometimes goes up the rivers, you will probably mark “sometimes” or “often” for fresh water rivers.
- Q25. Some boats, especially commercial ones, are used year-round. Note that the question asks about use in Maine. Some boats are here in the summer, then cruise to warmer climates for the rest of the year. We are interested only in use in Maine. The seasons here have common-sense definitions tailored to Maine. Winter starts when the snow comes (late November), and lasts until the snow goes. Spring starts when the snow leaves, and ends around Memorial Day. Summer lasts until Labor Day. Fall starts on Labor Day and lasts until the snow arrives.

Q26-Q31 are about the way R uses the boat. We want to know whether this is a boat that is usually kept on land and hauled around to various (or the same) places for use; or whether it stays in the water for a season (usually the summer), then is taken somewhere and stored; or whether it is in the water (whether used or not) most of the year.

- Q26. Note that the “in-out” answer is typical of boats that are either taken around to various (or the same) places and put in and taken out for (almost) every use, or perhaps kept on the land in front of a camp when they aren’t being used. Boats that stay in the water are

anchored or moored, kept tied to a dock, etc., and rarely are taken out of the water except for the end of a season, or to be repaired on land.

- Q27. “Storing the boat on land” means storing it anywhere but in the water: in a boathouse, at a storage facility, in the back yard, etc. If the boat is used all year, there may be no “off-season”-- for those cases, circle code 7.
- Q28. The boat may have been taken out of the water for several reasons: to take it somewhere else over land; to store it between uses; to put it up for the season; to repair it during the season. Even a boat that is kept in the water may be taken out for some purpose. Even if you know the boat is one that stays in the water all the time (e.g., a commercial fisherman’s boat), you must ask this question, because the boat may have been taken out of the water for repairs.
- Q29. Enter the number of miles the boat was hauled over land on a trailer. It may be 00000, even if the boat was taken out of the water, because the boat may be stored at the place where it is used (e.g., it may be used at a camp and taken of the water at the end of the season and put in a boathouse or garage on the property.)

If the boat was hauled over land to a boat storage facility, be sure to count the miles in the round trip to and from the storage place.

- Q30. This question about being through using the boat in Maine for the season is prompted by the fact that the season for recreational boating is ending just as we are starting to interview. You may already have a very good idea by this point in the interview whether the respondent’s boat use is seasonal or not. You must make sure, however, that you know whether the boat’s use in Maine is over for the season. It is possible that boats used year-round are taken to other (warmer) places for use in the rest of the year.
- Q31. If R is not through using the boat, ask how much more gas R will buy in Maine before putting it up for the season or taking it away from Maine waters.

- Q32-Q49. From this point through Q36, we will be asking some very specific questions that will help us find out about gasoline bought in Maine. Make sure that R is talking about the boat we selected.

Ask all the questions carefully. The answers are crucial to our ability to estimate the overall amount, in gallons, of gasoline bought in Maine in all the boats that we selected for this survey.

- Q32. In Q32, we want to help R start thinking about buying gasoline. An easy way to do this is to think about the places s/he buys gas.

The most important part of this question is the introduction. It tells R what you are going to do, and gives the frame of reference. We want R to understand that we are asking about this boat only, and this past year only: October 2000 to now. Use these prompts liberally in asking all the gasoline questions where they are indicated, and whenever you think R may need to be reminded, even if the frames of reference are not indicated in the questions.

- Q33. We want to be able to account for the gallons of gas bought out-of-state. Therefore, we want to know how much of the gas used in the selected boat is bought outside of Maine. The question asks for the percentage of gas bought OUTSIDE of Maine. Therefore, if R never buys gas out-of-state, the answer is 000. If R buys all gas out-of-state, the answer is 100.

If R bought no gas at all in the past year, or no gas in Maine, make sure to probe that response (“Let me make sure. You didn’t buy any gas at all (in Maine) for this boat in the past year, from October 2000 to now. Is that correct?”). If R agrees that is the case: •circle the code 777 in Q33

•GO TO Q37 (the question for people who know how much gas they used without calculating it), and enter a string of 5 zeroes there. (You will skip Q34-Q36, and they will be coded INAP). Then go to Q45 and rate R’s confidence in giving the answer about the amount of gasoline used.

Use probes to help R arrive at an estimated percentage of the percentage of gas bought out-of-state. If you’re given a range, use “Which is closest?” or a variant. Do not just take the midpoint of the range. Tell R you have room for just one number — you can’t write down a range.

- Q34. This question is the first in a series that will help us estimate how much gas is sold at Maine marinas and similar facilities that have pumps on land or on the docks, and a gas hose (and usually also a diesel pump and hose) going down to the water which fills boats or gas cans at the water’s edge, usually while the boat stays in the water. Although it is theoretically possible to gas up a car from some marina pumps, it is awkward and expensive (gas sold at marinas costs more).

Boaters can also buy gas at regular service stations or convenience stores by filling a gas can and taking the can to the boat. If the boat is on a trailer, some people fill the gas tank

directly from the pump. The important distinction is between (CODE 1) gas bought at marinas and (CODE 2) gas bought at regular gas pumps used by cars and trucks.

- Q35. If R gets gas from both marinas (hose-down-to-the-water) and regular (car/truck) pumps, we want to know the percentage of the gas obtained at the marina. Make sure you and R are talking about Maine marinas. Most marinas are on the coast or the rivers. There are a few on the larger lakes.
- Q36. If R cannot give a percentage in Q35, and you can't arrive at one with appropriate probes (e.g., "Was it about half, or more or less than half?" (IF LESS THAN HALF) "More than a quarter?"), ask Q36 to get a verbal description of how much gas is bought at Maine marinas. Note that NONE should not be an option, since those Rs should have gone to Q37, based on their response in Q34.

IWER NOTE BOX: NO GAS. This highlighted box is meant to let you check whether R bought gas in Maine last year, or not. If not, the box is a reminder to enter zeros in Q37, the first gas question, where you record the answer if R knows how much gas s/he used. Then go to Q45 and rate R's confidence in the estimate.

It is always appropriate to check with R: "I'm coming to some questions about how much gas you bought for this boat in Maine last year. You have said that you never put your boat in this year. Is that correct? (IF YES) Did you buy **any gas at all** for it this past year, that is, from October 2000 to now?" If the answer is still NO GAS, then record that in Q37 (00000) and go to Q45.

- Q37. In this question you explain clearly to R what we want to do in the study. You will be using this language to explain where you're going with the questions. That will help R follow along with you in the interview.

There is an additional clarification to be read to Rs who have, or may have, bought gas out-of-state. If you are interviewing an out-of-stater, or someone who bought some gas out-of-state, read the part of the question that emphasizes that we want to know only about gas bought in Maine. Use an out-of-state address and comments that R may have volunteered as clues to the possibility that R may have bought gas out of state.

There is a crucial component to Q37. It is the point at which you ask R if s/he knows how many gallons of gas s/he has used in this boat in the past year. Both recreational and commercial boaters may keep logs of their trips and their gas use. It is quite possible that R already knows the number of gallons of gas s/he has used. Because R has been alerted to the purpose of the survey by the advance letter, you may be pleasantly surprised by a clear and definitive answer to that question at this point. If so, you may skip all the "calculation" questions on the colored pages, and go directly to Q45 where you will

record your impression of the readiness with which R answered the question about the amount of gas used.

If R doesn't know gallons of gas without further questions, use the language below "NO OR DK" to assure R that you and s/he will work together to arrive at an estimate. Do not let R go on about having "no idea" because s/he will just reinforce to him/herself that the task is too difficult.

Circle the 99998 code for DK.

Be prepared to use probes to help R narrow a range if s/he gives a range in answer to Q37. Explain "Thank you. I have space here for just one number, and I can't record a range. Do you think it was closer to X or Y, or somewhere in between?"

A response of zero gallons is appropriate if R didn't buy any gas in Maine. That can happen if R did not use the boat, did not use it in Maine, or bought gas over the state line in New Hampshire or Canada. Enter 00000, GO TO Q45, and continue the interview with this R who didn't buy any gas in Maine.

- Q38. Respondents do best when we can use their own way of thinking to do tasks that require recall. You will use this question text, and you may have to discuss the task with R by describing the ways he/she can help you do the calculations. It's OK to start with a method and see how far you get, and try something else if it isn't working. Tell R that you will work with him/her to arrive at an answer that sounds right to him/her. If R is unwilling to try to calculate gas use (actually refuses) then thank R and GO TO Q45. Make notes on this page about why R doesn't think s/he could arrive at an answer.

Note the "STATE GAS TAX REFUND (VOL.), code 4. Some commercial boat operators may file for tax refunds (see Q20 and Q20a). If so, the amount of money refunded may be used to calculate the gallons of gas used. If R has the refund forms to look at, s/he will find the number of gallons on them, and you can enter the number of gallons in Q37, above, instead of doing the calculation in Q44.

- Q39-Q44. These are the "calculation" questions. Along with Q33 (percent of gas bought outside Maine), they are the most important part of the interview from the Commission's perspective. It is extremely important that these questions are asked carefully and that the responses are as close as we can possibly come to R's gas use during the past year. In these questions you will help R be as accurate as possible.

There is a phrase "(in Maine)" added to some of the questions to help you remind R that we are interested only in gas bought in Maine. Use it when you are speaking with a R who may have bought gas elsewhere. Be particularly careful when you are speaking with someone who takes his or her boat out of state in Maine's off-season. It is never wrong to include the clarifying phrase, no matter with whom you are speaking.

The instructions are contained on the pages with the questions. Practice following them until you are very comfortable doing all variations of the calculation.

There are some techniques you can use to help R think carefully and accurately.

- Silence on your part is a very effective probe.
- Letting R get a pencil and paper or a calculator may help.
- Letting R tell a story out loud about the number of trips taken, or the number of hours spent in the boat may help jog R's memory. While we don't need a travelogue here, some of that apparent digression is actually R thinking out loud. Listen for cues, and try to make the cues concrete. "You usually ride around the lake a couple of times on weekends? How often do you have to get gas — every weekend, or less often?" "How many hours can you go before you know you'll need to fill up again?"
- If R responds with a range, help him/her arrive at an answer that is one number that you can put in the answer blank in the coding strip. You can say "I need to put just one number here. Do you think it was closer to 50 or to 75, or somewhere in the middle?" If R says "closer to 50," you can ask "Was it between 50 and 60?" and so forth until you both agree on a number. Do not just enter "50" as the final answer until you have made sure that R has settled on that number.
- Respondents can ask others at their end of the line for help.

Make this a puzzle the two of you can solve.

It is very important that you enter the numbers you use in calculations in the blanks.

When R agrees that an amount "sounds right," circle the code 1 in the coding strip and enter in the blanks the number of gallons that represents R's "final answer." Don't do all the work of arriving at an estimate and then forget to write it down!

- Q45. Be sure to thank R for working through the numbers to get a solution. Remember not to say "Great!" or "Excellent!" or anything that rewards the answer content. Reward the effort and the contribution to the study.

Indicate *in your judgment* how certain R was about the final answer chosen, using the scale of 1 (very certain) to 4 (very uncertain). Do not read this question to R or comment upon it.

In the "comments" space, write any notes that you think will help us analyze the data for this respondent. The notes could include mention that R consulted a log of gas use, or that he asked someone else in the household to help estimate (that's OK), or that this year was a really unusual one for his boat use. It is not required that you put any notes here.

If you recorded the number of hours R used the boat in Q40b in calculating the gasoline use, and if that method was the one that actually resulted in R's final answer about gas use, skip to Q47.

- Q46. This question is for those who have not already told you how many hours the selected boat was used in the past year. Use the techniques described above to help R arrive at one figure for an answer.

If necessary, be ready to help R with some neutral probes. You can help a respondent who is not sure by asking questions (not making assertions) that help R arrive at an accurate

answer. For example, if you know the boat is used only in the summer, you can ask R which months and how many weeks s/he used the boat this past summer, then ask the number of days in a typical week, and then the number of hours in the typical day. It is important that this number be reasonable and as accurate as you and the respondent can make it.

- Q47. In this question we are looking for an estimate of the hours (or fractions thereof) the motor is actually running on the days the boat is in use. Count hours the motor is idling as well as the hours it is propelling the boat.
- Q48. We know that for some respondents this year may not have been typical of other years. Note that this is a two-step question. First, you ask if the amount of riding was typical, more, or less than other years. Then, if MORE or LESS, you ask how much more or less. If it was ABOUT THE SAME, don't forget to circle code 3.
- Q49. "Full throttle" means "wide open," or as fast as the motor can go, given the conditions. We want to know a rough estimate of the amount of time that the boat is run at top power.

Now that you have R's estimate of the gallons of gas used, the hours the motor was operated, and how much of the time it was used at full throttle, take a moment to consider the reasonableness of the answers you have. If the answers do not seem to fit together, review those elements with R to make sure you have the situation recorded correctly.

- Q50. This is an open-ended question. Encourage R to pick **one thing**, not several. If R begins a long description, you can say "I have just enough space here to write down a couple of words. If you could pick **one thing**, what would it be?" Record the single response clearly in the blank provided. We will code the responses later.
- Q51. This question refers to the closest place to where R usually goes out in a boat. The facility can be a private or public launching area, or a beach that is not a formal "facility." It may have a crane and a cradle for lifting big boats out of the water, or just be a place you drop the motorboat in. If R asks for a definition of the rating terms ("excellent," etc.), you can say "Whatever it means to you." Sometimes "in general" also seems to clarify those terms for Rs.
- Q53. There are many ways to increase safety. These are some that are frequently mentioned. We want R to pick the one that is "best," whatever "best" means to R. This question has a "START AT RED STAR" instruction. Read the red starred item first, then the one below it until you reach the bottom of the list (do not read the OTHER, DK, etc. responses), then go to the top of the list and read down until you reach the item before the red star. Using this method will randomize the order in which the answer options are presented, to ensure that all the items have an equal chance to be the first and last items read. If R picks a combination, try to get R to select the one that is best. If having heard the list, R mentions an item not on the list, write it in the OTHER (SPECIFY) space.

If R mentions something very close to the items on the list, ask R if it is OK to use the list item. For example, if, after hearing the list, R says “We need more Coast Guard patrol boats,” you can say: “If you had to choose, which would it be -- marker buoys, rules and regulations, law enforcement officers, or education?” If R still chooses the Coast Guard patrol boats, then circle CODE 5 and write the choice in the blank. If R chooses “law enforcement officers,” which is probably quite close to R’s idea, then circle the code # for that answer choice.

Q54-Q57. These questions are about R. We ask them to make sure that our sample represents all the boat users in the state. If necessary, assure R again that we won’t identify him/her in any way. We will put all the answers together from all the people who took part in the survey, and will report only the pooled statistics.

Q54. Boat clubs and associations are formal membership organizations formed for the purpose of promoting and enjoying boats, or for looking out for the interests of those who use boats. Groups of boaters are not clubs unless they have actually formed a formal organization. Commercial co-ops (such as lobster co-ops) and trade associations are considered a group related to boating, since boat use is essential to their activities.

Q55. The boat or motor (either or both) could be a replacement for a current one, or an additional one. It need not be a replacement for the one whose registration we selected for the sample. Purchasing a new boat can mean buying a used boat — the question means new to the respondent, not necessarily brand new.

Q56. The major manufacturers are beginning to offer models that are built to reduce noise and exhaust emissions. We want to know to what extent those factors are specifically considered in the decision about which boat to purchase. There are of course many other factors to consider in a purchase.

Q57. We ask R’s year of birth. That is a reliable way to obtain R’s age.

THANK YOU. Be sure to tell R when the interview is over, and thank R for taking the time to speak with you.

Do not ask R if s/he wants a copy of the results. However, some may spontaneously mention wanting a copy. You can say that copies of the report can later be obtained from the Legislature’s Office of Legal and Policy Analysis when the Commission issues the report. You can also tell R that it will be on the Margaret Chase Smith Center’s website once the Commission has reviewed it. If R wants, you can take down his/her name and address on another piece of paper, not on the coversheet, and we will mail a copy or see that it is mailed by someone else.

The interviewer record

After you finish the interview, fill in the information required on the last page of the survey instrument.

QA. The length of the interview in minutes can be determined from the starting and ending time of the interview, which you should have recorded as you started and ended the interview.

- QB. Enter the four-digit ID number from the upper left corner of the label on the coversheet.
- QC. Enter the three-digit exchange (the first three digits of the respondent's local telephone number; e.g., 989) at which the interview was conducted; or, if this is an out-of-state call, the respondent's area code. We can later tell the difference between a Maine exchange and an out-of-state area code by using the answer to QI, below.
- QD. The respondent's gender. Note that this is not necessarily the same person whose name appears on the label. For example, the boat might have been registered to the husband in a family, but the person who knows the most about its gas use is his wife who is the primary operator of the boat.
- QE. From the coversheet, count the number of times that the phone was dialed to obtain this interview, including the call you just concluded.
- QF. Record the number of the month in which the interview was done (October=10).
- QG. Record the date on which the interview was done (October 13 = 13).
- QH. Enter your interviewer number.
- QI. Circle the code for the location of R's address.

Don't forget to put a "C" for "Completed" in the Disposition column of the coversheet. Staple the coversheet to the completed instrument.

Using the Cover Sheet

The coversheet is a log of all the attempts that have been made to contact and interview each person in the sample. It is also a record of notes that will help you or another interviewer to complete and interview with the person who knows the most about the selected boat.

Keep the coversheet separate from the rest of the instrument until after you have completed the interview. **When you have finished an interview, staple the coversheet** to the completed instrument, and complete the entries on the coversheet and the interviewer record at the end of the instrument. The supervisor will pick up the completed instruments from you as you finish, or you can take them to the box in the supervisor's room as you accumulate a pile of them.

Parts of the Coversheet

Information about the respondent and the boat. The coversheet has a label in the upper-left corner which has information that you will use to contact the respondent and to conduct the interview. It includes:

- a *case identification* number (ID), which was generated by us for use in this study;
- a *code for the town or city* where R lives (GEOCODE), which is a standard state of Maine code for each town or city in Maine;
- the *name* of the person you are to contact;
- his or her address;
- the *year* of the boat (YR), as recorded in the State's records;
- the *length* of the boat in feet (LTH), as recorded in the State's records;
- the *make* of the boat (MAKE), as recorded in the State's records;
- the *horsepower* of the motor (HP), as recorded in the State's records;
- the *type* of boat (TYPE), as recorded in the State's records, where types can be open, cabin, sail, canoe, houseboat, pontoon, personal watercraft (e.g., Jet Ski), and other;
- the *registration number* (Reg#) assigned by the State; and
- a handwritten *telephone number* that represents our best attempt to find contact information for this respondent.

Information about the call attempts. If someone has already tried to contact this R, you will find notes made by the interviewer(s) about those attempts, perhaps including good times to call, definite appointments for calls, new phone numbers, and so forth. Log each call attempt as described below. Use as many lines as you need on the sheet.

Call slot. Call slots are the times at which calls are attempted. By distributing call attempts across varying times of the day and days of the week we maximize the chances of finding someone at home to be interviewed. The supervisor will use the slots to identify work to be done for each shift. The slots are numbered as follows:

- #1. Early evening on a weekday, 5:00-7:00 p.m.
- #2. Late evening on a weekday, 7:00-9:00 p.m.
- #3. Saturday, 9:00 a.m.-1:00 p.m.
- #4. Saturday, 1:00-5:00 p.m.
- #5. Sunday, 1:00-5:00 p.m.
- #6. Sunday, 5:00-9:00 p.m.
- #7. Monday--Friday, daytime (before 5:00 p.m.)
- #8. Additional call in any time slot (used only at direction of supervisor).

Day of the week. Enter the abbreviation of the day of the week on which the call was dialed.

Date. Enter the month and day: 5/2 for May 5th.

Time. Enter the time of day that the call was made. Indicate a.m. or p.m.

Notes. Use this field to make notes about anything that will allow you, another interviewer, and the supervisors to know when and how to reach R. If R says "call back at 7:30," then write that in the notes. Other kinds of notes may be "Saturdays are not good," or "R very interested, hard to catch. Works nights."

If R refuses, write why in the notes.

Disposition (Disp.) code. These codes tell what the outcome ("disposition") was for each call attempted. Use the codes described below, and make notes to explain further if that will clarify the situation for the next interviewer.

C A completed interview. The best!

Ref A final refusal, in which R states clearly that s/he does not want to be interviewed. You can usually avert a refusal by being sensitive to R's time, questions, and concerns, and by answering R's objections. Not to be confused with a situation in which R is busy right now, and we will call back later. In the notes, explain why R refused.

NA No answer. (Let telephone ring 10 or more rings.) Do not call more than a couple of times in one call slot. It may be that R is sleeping, watching TV, ignoring the telephone, or children are home alone and instructed not to answer the phone (in which case, repeated calls will frighten them).

CB Respondent says Call Back at a specific time, or is busy now and will probably do the interview later. Try to arrange a specific time to call back. In your notes, indicate the appointment time ("Call back at 7:30 Thursday"; "Try later this evening (Monday)"; "Call next Sunday after 3:00 p.m.").

- BZ** Phone line (not the respondent!) is busy. Try again in about fifteen minutes. Someone's home, and that's a good chance to get a "C."
- Mach** Answering machine or voice mail. The first time you reach a machine or voice mail, do not leave a message. Try again later. After the first time, leave a message: "This is (IWER NAME) calling from the University of Maine to do a research interview about gas use in your boat. Sorry we missed you earlier this evening. We'll try again." Make a note about whether you did, or did not, leave a message. Do not call repeatedly and leave a string of messages. That annoys respondents and jams the capacity of answering machines.
- DISC** Got a recorded phone company message. Try again in a day or so. If a new number is given, record it in the notes and try that number.
- NIS** Not in service. May mean that there is trouble in the phone line. Try again that day or the next.
- WR#** Wrong number. Try to get the correct one or any clues to it, if you can. Make sure you dialed correctly. In some cases, you will get a recording that the number has been changed to a new number, which the recording then gives you. If you get a Fax machine (long piercing tone), or a computer line, note that and try again soon. A one-line phone may have been switched to the Fax or computer position.
- DA** Dead air. Nothing happens. Try again right off, and then in a few minutes.
- Iwer #.** Put your interviewer number on the log.

Information about processing the data. At the top of the page are some items that indicate steps in data processing. As an interviewer, you don't need to pay attention to these. However, we will ask some of you to help with these tasks as interviews are completed. "Logged" means that the case has been checked off as having a final disposition in the project master log. "Edited" means that someone has checked the completed instrument for completeness and clarity of the information as it was recorded by the interviewer, the INAP codes have been checked, and that the arithmetic in the gas use section has been checked. "Coded" means that any open-ended ("write-in") answers have been assigned codes. (Usually we do editing and coding in one step.) "Entered" means that the data have been entered into the computer, and "Verified" means that the data have been entered a second time to assure accuracy.