



NATIONAL RECREATIONAL BOATING SURVEY

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If you are reading this document, you obviously care a great deal about the recreational boating experience and the people, assets and industries involved in this wonderful endeavor. Armed with passions for our nation's waterway treasures and safety of our people, we are kindred spirits. Recreational boating is one of the most widely enjoyed forms of outdoor recreation in the United States, and understandably so. Our nation's spectacular waterways, including the oceans, Gulf of Mexico, Great Lakes, thousands of inland lakes, reservoirs and the many river systems, offer breathtaking boating opportunities nationwide. In our continuing effort to protect and/or make your boating experience even better, the U.S. Coast Guard and our many partners strive to enhance both safety and enjoyment. Our focused effort begins by gaining the knowledge and understanding of who the boating community is, the assets they use, and defining the services and needs they desire. Through proper planning and insightful stewardship of limited resources, we seek to optimize those resources and align them to meet the boating community's needs and desires. This National Recreational Boating Survey is a foundational tool for doing just that. With the data gathered through this Survey, we now have valid scientific estimates of how many boats there are in our country, the types of boats, how many people participate in boating, and how much time is spent boating on the water. This data is then used to comply with the directions given to the U.S. Coast Guard by the Office of Management and Budget and through audits to assess the effectiveness of our programs and to normalize various performance measures so that we and our partners can determine which variables most significantly influence boating participation and safety (i.e. the weather, the economy, changes in lifestyle, and safety initiatives). You can locate this data both in this report and on our website (www.uscgboating.org). I encourage you to use it to support your efforts and ultimately to inform and enhance the public's safety and our boating experience.

Yours in appreciative and respectful service,

Capt. Francis T. Boross

Chief, USCG Office of Auxiliary and Boating Safety

INTRODUCTION



INTRODUCTION

In the maritime realm, the duty of safeguarding the lives of U.S. citizens including mariners and recreational boaters falls mainly to the U.S. Coast Guard (USCG). Marine safety responsibilities include ensuring the safe and environmentally sound operation of more than twenty million recreational vessels and hundreds of thousands of U.S.-flagged commercial vessels. The USCG partners with federal agencies, state, local, and tribal governments, marine industries, nonprofit organizations and individual mariners to improve boat safety at sea and on inland waters through complementary programs of mishap prevention and accident investigation. The USCG also has many other missions that it is responsible for in addition to marine safety, including maritime security, drug interdiction, aids to navigation, search and rescue, living marine resources, defense readiness, marine environmental protection, migrant interdiction, ice operations and other law enforcement.

NATIONAL RECREATIONAL BOATING SAFETY PROGRAM

The Federal Boat Safety Act of 1971 established the National Recreational Boating Safety (RBS) Program. The Act was designed to *"improve boating safety and to foster greater development, use, and enjoyment of all the waters of the United States by encouraging and assisting participation by the several States, the boating industry, and the boating public in development of more comprehensive boating safety programs.* The Act goes on to declare, *"the policy of Congress [is] to encourage greater and continuing uniformity of boating laws and regulations as among the several States and the Federal Government, a higher degree of reciprocity and comity*

among the several jurisdictions, and closer cooperation and assistance between the Federal Government and the several States in developing, administering, and enforcing Federal and State laws and regulations pertaining to boating safety." Currently, the Coast Guard's authority to carry out the National RBS Program is contained in 46 U.S.C. 13102.

The RBS Program is a leader in improving the boating experience of the maritime public by minimizing loss of life, personal injury, property damage, and environmental harm associated with this activity. The program accomplishes this through public education and awareness programs, law enforcement of boating laws, regulation of boat design and construction, approval of boating safety equipment, and vessel safety checks for compliance with federal and state safety requirements. Its success depends on working in partnership with all stakeholders within the waterways activity spectrum and across all modes of transportation.

In 2012, 95% (approximately \$108 million) of the RBS Program's total budget was used for grants to state boating safety programs and nonprofit organizations. Ninety-five percent of that funding pool went to state agencies. Grants to state boating safety programs can be used for the following:

- providing public boating safety education;
- purchase, operation and maintenance of facilities, equipment, and supplies for boating safety education and law enforcement;
- training personnel in skills related to boating safety and to the enforcement of boating safety laws and regulations;



- conducting boating safety inspections and marine casualty investigations;
- establishing and maintaining emergency or search and rescue facilities, and providing emergency or search and rescue assistance regarding recreational boating accidents;
- providing state recreational vessel numbering and titling programs;
- acquiring, constructing, or repairing public access sites used primarily by recreational boaters and;
- establishing and maintaining waterway markers and other appropriate aids to navigation.

RBS PROGRAM'S EFFORTS TO ENHANCE EFFICIENCY AND EFFECTIVENESS

The USCG is vigorously pursuing different means to increase the efficiency and effectiveness of the resources it has available to reduce boating-related deaths and injuries from accidents and to improve the quality of boating experiences. These efforts are important for a

number of reasons. First, the amount of money available to the RBS Program for both administration and grants was \$128 million in 2009, but decreased (by 12%) to \$113 million in 2012 meaning that, after adjusting for inflation, significantly less dollars were available to fund boating safety efforts. Second, decades ago, Congress directed the U.S. Coast Guard to conduct research in order to obtain valid data about boating activity and about which initiatives are effective in enhancing safety. Third, the executive office's agenda to improve the management and performance of the Federal government is emphasizing the importance of complete information for program monitoring and improving program results. The accuracy and reliability of program reports submitted by states and grantees using Federal funds are fundamental elements of good administration, and are necessary tools for maintaining and demonstrating system integrity.

Fourth, over the years, a number of different performance audits of the RBS Program have recommended





that it improve data needed to conduct program evaluations. A report titled "Audit of the Performance Measure for the Recreational Boating Program," conducted by the USDOT Office of the Inspector General, identified that the USCG had not established criteria for monitoring of the state's RBS Program efforts. Further, the report indicated that the formula for determining the state's allotted share of the appropriated RBS Program funds did not include the state's programs in reducing fatalities. Authors of that audit recommended that the USCG institute a plan for monitoring the effectiveness of state's boating safety programs in reducing fatalities that include prescribed criteria. Another report titled "Coast Guard: Marine Safety Assessment," conducted by the Office of Management and Budget, concluded that there was no evidence that the USCG had identified or systematically monitored the key drivers of the marine safety program performance. The report further recommended that the USCG should work to normalize its existing performance measures to reflect the effect of a changing boating population (e.g., number of boats, types of boats used, demographic aspects of boating participants) on the Program's performance.

Finally, federal regulations require operators or owners of boats used for recreational purposes to file a boating accident report when a person dies or disappears from the vessel under circumstances that indicate death or injury, or a person is injured and requires medical treatment beyond first aid. During the last 54 years, the USCG has used annual boating deaths and injuries as a measure of recreational boating safety effectiveness; and more recently, it added the five-year average num-

ber of deaths and injuries as an indicator of long-term performance trends. However, the USCG accepts that numbers of deaths and injuries alone are not an adequate measure for assessing the effectiveness of boating safety programs since numbers of boating fatalities and accidents are affected by many factors, including the number of boats that are used on the water during a given year, the number of hours that they are operated, and even the number of persons that are aboard when boats are out on the water.

There are countless different safety-related strategies (e.g., regulatory, education) that can be employed to reduce boating accidents and fatalities, but resources to fund them are limited. The USCG has recently initiated a number of integrated actions to enhance its capabilities to more validly and reliably assess performance and also to identify and assess trends that may have an impact on boating safety and therefore suggest adjustments in programs. To better assign its resources, the RBS Program, with support from the National Boating Safety Advisory Council and other partners, has created the Strategic Plan of the National RBS Program. The goals, objectives, and strategies in this Plan are designed to assist all partners in boating safety in working together to reduce the incidents of preventable, boating-related deaths, injuries, and property damage. This Strategic Plan contains the performance goals of the National RBS Program, and provides the USCG, states and other RBS partners with new ideas to reduce casualties and tools to measure their programs' effectiveness. The Strategic Plan concludes that to make informed policy decisions, it is essential to know the extent and compo-

sition of recreational boating activity and key facts and data relative to recreational boating accidents. The Plan recommends a number of different strategies including (1) to improve the quality, consistency, relevance, accuracy, and timeliness of accident reports, and (2) to collect reliable data (on the National Recreational Boating Survey) to develop valid and accurate exposure estimates for various types and lengths of boats.

A primary purpose of the National Recreational Boating Survey (NRBS) is to produce valid and reliable estimates of recreational boating exposure to be used to generate risk ratios. As defined by the USCG, recreational boats are craft that are operated out on the water for pleasure and recreation, not for commercial purposes. Recreational boats include: outboard, inboard and stern-drive power boats, jet boats, pontoon boats, houseboats, rowboats, canoes, kayaks, personal watercraft (e.g., jet skis), inflatable boats, kiteboards, sailboards, stand-up paddleboards and various types of sail boats. Recreational boats are also boats rented to be operated by the renter, but they do not include captained charter or party boats, ferries, cruise ships or toy boats.

A recreational boating exposure rate can be calculated and presented in the following ways:

- 1. Boat Day** - any day that a boat is used out on the water regardless of the amount of time that day it is used;
- 2. Boat Hours** - the number of hours a boat is used out on the water during a given period of time (e.g., a day, month, year);
- 3. Boat-Person Day** - an estimate of the number of

persons on a boat on the day that it is used out on the water;

- 4. Boat-Person Hours** - the total number of hours persons are aboard a boat in use out on the water. The "boat-person hours" definition is most commonly used to mean "exposure" or "recreational boating exposure hours" in this report.

Recreational Boating Risk Ratios are fractions with exposure rates (boat days/ hours, or boat-person days/ hours) as the denominators and either the number of recreational boating accidents or fatalities are the numerators. For example: number of recreational boating accidents/ boat-person hours or the number of boating fatalities/ boat-person hours.

Recreational Boating Risk Ratios provide a more valid and consistent measure that can be used to compare rates of boating accidents and fatalities across states and different types and sizes of boats. For example, based on 2011 exposure-hour estimates, boating deaths in states per 100 million exposure hours ranged from 3 to 130. Two states had 12 reported boating deaths in 2011, but the risk of boating-related deaths was very dissimilar. For one state, the rate was 121 deaths per 100 million exposure hours; and for the other, it was 82 deaths per 100 million exposure hours. Over the next several years, the RBS Program plans to utilize exposure-based risk ratios as a primary performance criterion that will be employed to evaluate the effectiveness of efforts to reduce accidents and fatalities.

2011 AND 2012 USCG NATIONAL RECREATIONAL BOATING SURVEYS

The USCG conducted National Recreational Boating Survey in 2011 and again in 2012. The primary purpose of both of these surveys was to develop a new system of surveys (e.g., recreational boating participants, boating trips) and methods (e.g., survey instruments, sampling, weighting) to produce reliable and valid measures of the effectiveness of elements of the RBS Program. The 2011 NRBS was designed as a system of two surveys — Participant Survey and Boat Owner Survey. The Participant Survey is a telephone, population-based survey of U.S. residents regarding their boating participation and related behaviors. The Boat Owner Survey utilized mail and telephone surveys to collect information concerning both registered and non-registered boats. Respondents were also asked if they and/or others in their household would be willing to participate in the 2012 monthly trip survey by providing information concerning the use of a specific, sampled boat.

In 2012, the Participant Survey was again conducted

by telephone using a similar survey instrument, but the Boat Owner Survey was not conducted. It was replaced by a monthly Trip Survey, conducted by telephone and web, that collected exposure-related data (e.g., whether the sampled boats were taken out on the water, the number of days out on the water, hours per day out on the water, and number of persons aboard). The monthly Trip Survey was considered a more reliable way to collect data about the number, timing, and duration of boating trips, as well as how much was spent on these trips. Conducting surveys about use of boats in the previous month reduced the recall period significantly, and most probably recall bias. The data collected on the monthly Trip Survey, along with some information from the 2011 Boat Owner Survey, were used to estimate 2012 exposure rates rather than the annual data that were used from Boat Owner Survey to estimate 2011 exposure rates. The 2012 Participant Survey was conducted once, in January 2013. So, coverage was for the entire year.

Table 1 illustrates the structure and schedule of the 2012 NRBS, while Table 2 describes the different survey populations, data collection methods used, and key analytic goals of each survey.

TABLE 1:
The 2012 NRBS Implementation Schedule

YEAR	QUARTER	2011 BOAT SURVEY	2012 TRIP SURVEY	2012 PARTICIPATION SURVEY
2011	1			
	2			
	3	X		
	4	X		
2012	1	X	X	
	2		X	
	3		X	
	4		X	
2013	1		X	X
	2			
	3			
	4			

TABLE 2:
Description of the Three NRBS' Components

SURVEY	DATA COLLECTION MODE	SAMPLE SOURCE(S)	UNIVERSE		RESPONDENTS
			Privately owned recreational boats in all States	Non-registered recreational boats in all States	Member of boat-owning household
Boat Survey	Phone	Random Digit Dial (RDD)	Privately owned recreational boats in all States	Registered recreational boats in all States	Member of boat-owning household
	Mail	Registry lists	Privately owned recreational boats	Registered recreational boats in States sharing lists	Registered boat owner
Trip Survey	Web and Phone	Panel	Privately-owned recreational boats		Boat owner panelist
2011 & 2012 Participant Surveys	Phone	RDD	Boating Participants	U.S. households	Any adult household member
				U.S. child (<16) boating population	Any adult household member (proxy)
				U.S. adult boating population	Adult boater
			Rented Boats		Adult boater: rented boat



DIFFERENCES BETWEEN THE 2011 AND 2012 NRBSs

There were some significant and noteworthy differences in certain estimates reported in the 2011 and 2012 NRBSs. Some modifications in the methods employed in 2011 and the 2012 NRBSs are important to recognize and take into account when comparing both the 2011 and 2012 participation and exposure estimates. The 2011 Participant Survey began prior to the end of the 2011 and continued until the end of January 2012 meaning that some respondents reported their boating activities for the full year while others reported only for less than a year. The number of U.S. households used in the 2011 and 2012 NRBS reports came from the 2010 U.S. Census of the population. However, the number of U.S. households used in 2011 (116,716,000) to estimate boating participants is smaller by 1,377,000 households than the number used to derive 2012 estimates because households in Puerto Rico were not included for 2011. The number of recreational boating exposure hours estimated for 2012 (3.58 billion hours) is about 21% higher than the 2011 estimate (2.97 billion hours). There are also differences in the 2011 and 2012 estimated exposure rate estimates for different types of boats (Table 3 and Table 4). This does not infer, and it should not be concluded that there was an increase in exposure hours from 2011 to 2012. The reasons for this caution are briefly mentioned below and will be discussed in depth later in the report.

1. The data used to estimate 2011 exposure rates came from the annual Boat Owner Survey that required respondents to recall and report boating that took place over 12 months, whereas 2012 exposure data were collected on a monthly basis.
2. The 2012 Trip Survey collected information (e.g., hours on the water, persons aboard the boat) for a particular boating day only from a person that was actually aboard the boat during the trip. On the 2011 Boat Owner Survey, respondents could report exposure-related information even if they were not actually aboard the boat on the days it was used.
3. The types of boats for which information was collected were slightly different between the two years and thus the number of boats used in estimating exposure rates was different in 2011 and 2012. Table 5 reports the number of different types of boats used to estimate 2011 and 2012 exposure rates.
4. The methods used to estimate exposure hours in 2011 and 2012 are different. In 2012, exposure hours were first calculated for each boat and then these numbers were extrapolated to the entire universe of recreational boats. A different method was used in 2011. Average number of boat use days, hours per use day, and persons aboard per use

day were calculated first for the type or entire population of boats. Then these were used along with data on the number of boats used in 2011 to estimate 2011 exposure hours. The average-based method used in 2011 was necessary since the data collected from many boat owners did not cover 2011 entirely making it impossible to calculate valid and accurate annual exposure hours at the boat level. The USCG is confident that these improvements in the 2012 NRBS resulted in enhanced exposure estimates, but not necessarily in the higher actual number of exposure hours.

TABLE 3:
Exposure Hours by Boat Type in 2011

BOAT TYPE	NUMBER OF BOATS IN THE U.S. (000)	BOATS USED (%)	AVERAGE NUMBER OF USE DAYS PER YEAR	AVERAGE NUMBER OF HOURS ON WATER PER USE DAY	AVERAGE NUMBER OF PEOPLE ABOARD PER USE DAY	BOATING PERSON-HOURS ¹ (000)
Power Boat	10,119	70.3	19.3	5.1	2.9	2,053,042
Sailboat	733	50.4	19.2	4.2	2.3	70,906
PWC	1,689	69.3	16.3	3.9	1.8	130,686
Canoe	2,505	50.1	8.8	3.9	2.1	90,350
Kayak	3,898	69.3	12.8	3.4	1.1	133,125
Pontoon Boat	854	83.4	21.8	4.5	4.3	301,209
Row/Inflatable/Other Boat	2,418	50.7	14.7	4.8	2.3	193,682
All Boats	22,217	65.5	16.7	4.5	2.4	2,972,999

TABLE 4:
Exposure Hours by Boat Type in 2012

BOAT TYPE	NUMBER OF BOATS ¹ (THOUSANDS)	AVERAGE NUMBER OF USE DAYS PER YEAR	AVERAGE NUMBER OF HOURS ON WATER PER USE DAY	AVERAGE NUMBER OF PEOPLE ABOARD PER USE DAY	BOATING PERSON-HOURS (MILLIONS)
Power Boat	10,147	12.0	6.0	2.7	2,035
Sailboat	735	11.1	7.8	2.4	154
PWC	1,704	11.0	4.7	2.3	212
Canoe	2,508	8.6	6.3	2.3	362
Kayak	3,916	11.2	4.6	1.3	280
Pontoon Boat	854	14.9	4.1	3.8	220
Row/Inflatable/Other Boat	1,747	10.0	6.8	2.4	322
All Boats	21,611	11.3	5.7	2.4	3,584

¹ This represents the estimated number of boats in 2012 in all 50 states, the District of Columbia, and Puerto Rico.

TABLE 5:

Number of registered boats and estimate of non-registered boats in the U.S. and numbers that were used to estimate 2011 and 2012 exposure rates

RECREATIONAL BOATS IN THE U.S.	U.S. TOTAL	USED TO ESTIMATE 2011 EXPOSURE	USED TO ESTIMATE 2012 EXPOSURE
Boats in Puerto Rico	65,000	0	65,000
Boats of type "Other/Unknown"	671,000	671,000	0
Boats of known type in 50 States & DC	21,546,000	21,546,000	21,546,000
Total number of boats in U.S.	22,282,000	22,217,000	21,611,000

ABOUT THIS REPORT

Section II provides more details about the 2012 Participant and Trip Surveys methodologies. The results of the 2012 surveys are presented in Section III. The last section offers some conclusions and discussion of when and how the RBS Program expects to conduct its next National Recreational Boating Survey.





SURVEY METHODOLOGIES



The National Recreational Boating Survey (NRBS) methodology was driven by the desire to (1) achieve comprehensive population coverage, (2) generate high quality measurement of a variety of boat features and boating activities, and (3) produce data to estimate different boating exposure rates. Although it is referred to as “the NRBS”, it is really a system of interrelated surveys. The 2012 NRBS consisted of the annual Boating Participant Survey and a monthly Trip Survey. Together these surveys comprehensively profiled boaters and the use of registered and non-registered boats of different types and sizes throughout the United States.



2012 BOATING PARTICIPANT SURVEY

The reference period for the 2012 survey was January 1, 2012 to December 31, 2012. In order to insure complete coverage for the reporting period, surveys were conducted during first quarter of 2013. A complex, stratified sampling design was employed to collect data about recreational boating participation from 52 jurisdictions, which included all 50 states, the District of Columbia, and Puerto Rico. Both landline (LL) and cell phone (CP) numbers were sampled via MSG Inc.'s Survey Genesys system. Households were the primary

selection unit (i.e., the entity with which the first survey contact was established). Basic demographic and participation data were collected for up to 10 members residing in contacted households. When available, one adult participant (age 16 or older) and one child participant were randomly selected from among the eligible (i.e., boating) household members to provide detailed, person-level participation data.

SAMPLING FRAMES AND STRATIFICATION

In order to obtain the residential telephone numbers necessary to contact households, two sampling frames were used as sources of phone numbers: the Random Digit Dial landline (RDD-LL) and cell phone (RDD-CP) frames. Both frames were list-assisted (meaning known businesses and nonworking numbers were removed) and included 1+ blocks (blocks of 100 phone numbers from which random sample of phone numbers was selected). The participant survey sample was allocated between the two frames to achieve a 75% - 25% landline-cell phone number distribution.

In order to produce accurate estimates at the state level, the sample was stratified by jurisdiction. Specifically, the sample was allocated to achieve a margin of error of $\pm 5\%$ for household-level estimates within each jurisdiction. Participation estimates produced by the 2011 NRBS were employed to determine the minimum number of individuals that must be interviewed in order to achieve the desired precision. Table 6 shows the sample allocation and number of completed participation interviews in each jurisdiction.

TABLE 6:
Allocation of the Phone (Number) Sample and Number of Completed Interviews for Different Jurisdictions

JURISDICTION	SAMPLE ALLOCATION			COMPLETES		
	LL	CP	Total	LL	CP	Total
United States	12,490	4,163	16,653	12,110	5,212	17,322
Alabama	227	76	302	213	95	308
Alaska	287	96	383	267	131	398
Arizona	195	65	259	190	82	272
Arkansas	258	86	344	242	104	346
California	210	70	280	206	88	294
Colorado	238	79	318	234	96	330
Connecticut	248	83	330	233	98	331
Delaware	217	72	289	202	88	290
District of Columbia	202	67	270	188	86	274
Florida	257	86	343	240	105	345
Georgia	229	76	306	217	92	309
Hawaii	232	77	310	222	97	319
Idaho	262	87	350	249	104	353
Illinois	233	78	310	219	99	318
Indiana	259	86	345	247	102	349
Iowa	247	82	329	238	102	340



TABLE 6: CONT.

JURISDICTION	SAMPLE ALLOCATION			COMPLETES		
	LL	CP	Total	LL	CP	Total
Kansas	218	73	291	211	95	306
Kentucky	255	85	340	240	105	345
Louisiana	240	80	320	231	94	325
Maine	288	96	384	266	118	384
Maryland	247	82	330	245	93	338
Massachusetts	253	84	337	245	101	346
Michigan	267	89	357	251	108	359
Minnesota	288	96	384	273	111	384
Mississippi	234	78	312	229	93	322
Missouri	260	87	347	252	103	355
Montana	277	92	369	260	110	370
Nebraska	246	82	328	240	103	343
Nevada	195	65	259	190	73	263
New Hampshire	282	94	376	283	104	387
New Jersey	211	70	282	202	84	286
New Mexico	177	59	236	171	75	246
New York	209	70	279	201	84	285
North Carolina	202	67	270	190	82	272
North Dakota	274	91	366	252	114	366
Ohio	245	82	326	233	93	326
Oklahoma	210	70	279	200	96	296
Oregon	254	85	338	241	106	347
Pennsylvania	234	78	312	237	100	337
Rhode Island	235	78	313	229	94	323
South Carolina	266	89	354	255	111	366
South Dakota	233	78	311	219	93	312
Tennessee	252	84	336	241	97	338
Texas	190	63	253	182	84	266
Utah	245	82	326	233	96	329
Vermont	281	94	374	267	116	383
Virginia	228	76	304	218	99	317
Washington	284	95	379	267	115	382
West Virginia	198	66	265	191	83	274
Wisconsin	288	96	383	278	118	396
Wyoming	263	88	350	264	107	371
Puerto Rico	163	54	218	316	185	501

WEIGHTING OF THE 2012 PARTICIPANT SURVEY SAMPLE

The Participant Survey responses were weighted to make data representative of all U.S. households and the general population. Data were collected at both the household and person levels; analyses were conducted at four different levels: (1) the household level, (2) adult level (16+ years old), (3) child level, and (4) the individual level (i.e., children and adults combined). This required the application of four weights: (1) a household weight (to represent all U.S. households), (2) adult weight (to represent all U.S. adults), (3) child weight (to represent all U.S. children), and (4) individual weight for all U.S. individuals. A more complete description of the weighting schemes is included in the 2012 NRBS Methodology Report available on the U.S. Coast Guard Boating Safety Division's website.

THE 2012 TRIP SURVEY

The 2012 Trip Survey was designed to be administered to a panel of households that owned a representative sample of boats and agreed to complete the trip surveys after completing their 2011 Boat Owner Survey. This is referred to as the 2012 Trip Survey Boat Panel since the information (e.g., number of hours on the water, number of persons aboard) that was collected concerned a specific boat, regardless of whom in the household took the boat out on the water. Repetitive monthly surveys concerning the use of the different size and types of boats comprising the panel was considered to be the most effective and efficient way to collect the accurate data needed to estimate the duration of trips taken on recreational boats throughout the year in the U.S. and Puerto Rico.

RECRUITMENT AND CONFIGURATION OF THE 2012 TRIP PANEL

To ensure an accurate representation of registered and non-registered vessels of different types and sizes located in different states, the 2011 Boat Owner Survey was conducted using two data collection modes: the telephone and the mail. A mail version of the Boat Owner Survey was administered to a random sample of the owners of registered and documented boats in 43 states, the District of Columbia and Puerto Rico that provided their boat registry information (i.e., the names and addresses of owners) to Info-Link Technologies, Inc. The sample was designed so that: (1) estimates of the total number of boats could be calculated with an error margin of ± 1 percent at the 95 percent confidence level, (2) estimates of the numbers of different types of boats could be calculated with an error margin of ± 3 percent at the 95 percent confidence level, and (3) at least 200 boats would be allocated to each state, the District of Columbia and Puerto Rico (i.e., 52 jurisdictions).

The mail version of the 2011 Boat Owner Survey was sent to the sample of registered and documented boat owners in November 2011 and December 2011. The completed questionnaires were received until the end of February 2012. Approximately 13,020 boat-owning households returned a completed questionnaire.

To gather the boat information for the seven states that did not provide their boat registry information, it was necessary to conduct telephone surveys of households in these states to find owners of registered boats. Telephone surveys were also necessary to identify non-registered boat owners in all 52 jurisdictions. A special Random Digit Dial (RDD) cell and landline survey of the general population was conducted which collected data from boat-owning households in all 50 states, the District of Columbia, and Puerto Rico. Respondents for households that owned registered, documents or non-registered boats of any type or size were asked to provide a roster of their boats and some basic information about each of them. If households owned just one boat, they were asked to provide detailed characteristics of that boat. Households owning multiple boats profiled one randomly selected boat. Rare boat types (e.g., very large sailboats and power boats) were sub-sampled at a higher rate than more common boat types. In states where mail Boat Owner Surveys were conducted, the emphasis was directed at collecting data about non-registered boats. Almost 19,550 households completed telephone interview between September 2011 and January 2012.

At the end of the 2011 Boat Owner Survey, respondents were asked if they would be willing to participate

in a panel and be contacted two to four times in the coming year to provide information about boating trips, and would be compensated \$5 each time they participated. The Boat Owner Survey collected contact information including name, mailing address, telephone number, and e-mail address. Those boat owners who agreed to join the panel became the sample for the

2012 Trip Survey.

A total of 32,568 mail and telephone Boat Owner Surveys were conducted of boat-owning households. The size and type of boats for which a Boat Owner Survey was conducted is shown in Table 7.

TABLE 7:
Number and Type of Boats

STRATUM	REGISTERED BOATS		COMPLETED BOAT SURVEYS ABOUT REGISTERED AND NON-REGISTERED BOATS		
	Listed	Selected for Mail Survey	Mail	Telephone	Total
Power Boat <16 ft	3,121,539	5,941	1,429	1,920	3,349
Power Boat 16–20 ft	4,562,441	8,708	3,184	4,474	7,658
Power Boat 21–28 ft	1,435,749	5,135	1,852	1,742	3,594
Power Boat >28 ft	270,313	2,021	929	466	1,395
Sailboat 25 ft or less	205,132	2,099	930	677	1,607
Sailboat 26 ft or greater	112,301	2,318	1,252	349	1,601
Pontoon Boat	801,466	2,811	1,410	904	2,314
Personal Water Craft (PWC)	1,279,095	4,806	1,083	1,339	2,422
Canoe			315	2,858	3,173
Kayak	7,176,201	2,287	270	2,684	2,954
Other Boat			366	2,135	2,501
Total	12,505,656	36,126	13,020	19,548	32,568

The Trip Survey panelists consisted of members of households that owned a variety of boat types and represented registered and unregistered boats in all 50 States, the District of Columbia, and Puerto Rico. The panelists' boats were selected to be proportionately representative of the number of boats in different states, Puerto Rico and District of Columbia in 2011.

Since only persons that owned boats in 2011 were surveyed in the 2011 Boat Owner Survey, the Boat Trip Panel was representative of the universe of boats owned in 2011. Boats purchased during 2012 were not accounted for on the Boat Trip Panel. However, since the proportion of different type and size boats registered in 2011 and 2012 were not statistically different, the Boat Trip Panel was considered to be representative of boats owned in 2012.

A total of 23,881 recreational boats comprised the Boat Trip Panel. Table 8 shows the distribution of the Panel boat sample by boat type and size. Table 9 shows the distribution of the Trip Survey panel sample across states and the other two jurisdictions. The number of boats in different states and the other two jurisdictions is shown in Table 9 and ranged from a low of 125 for the District of Columbia to a high of 1,113 for Minnesota and 1,088 for Michigan.

TABLE 8:
Types of different size and type boats comprising the Boat Trip Panel

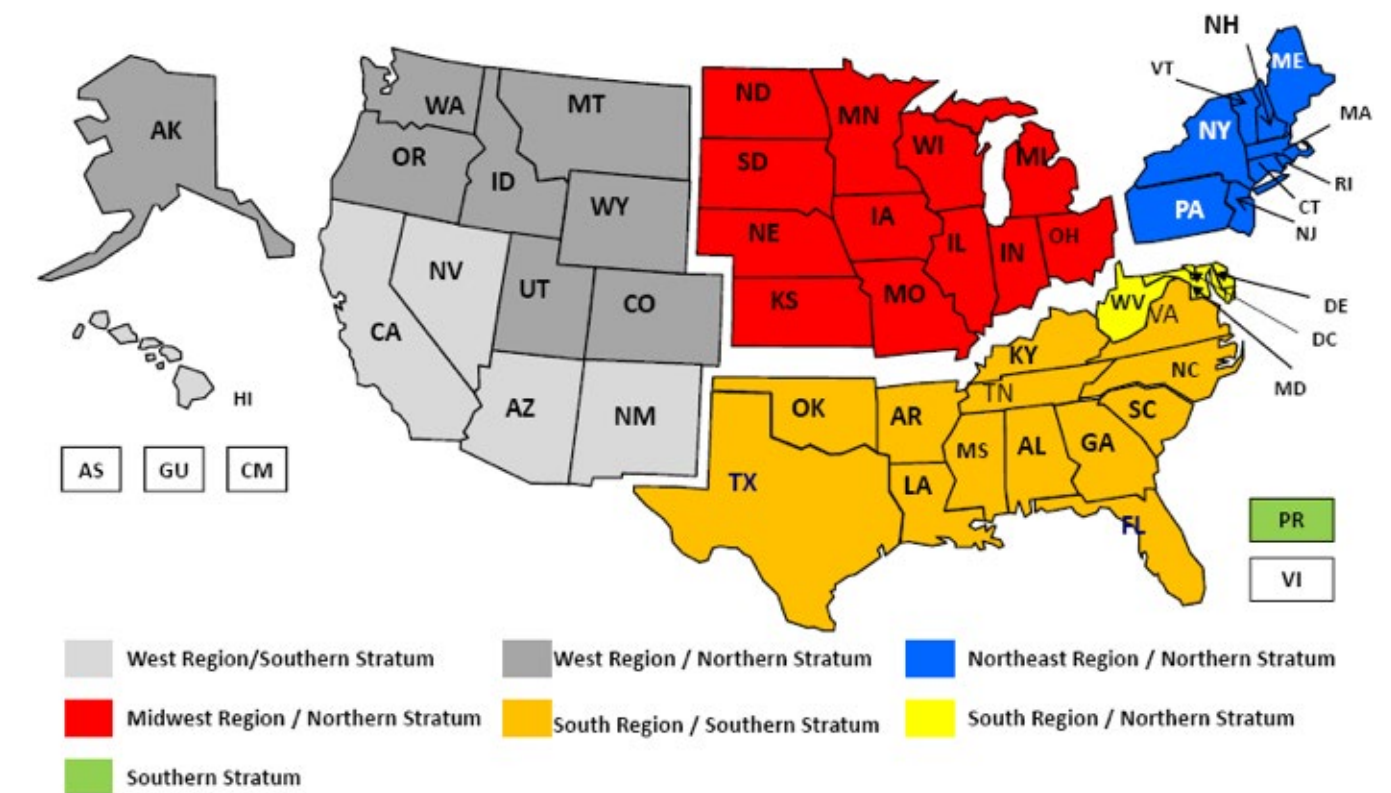
BOAT TYPE	NUMBER OF BOATS
Powerboat <16 feet	2,178
Powerboat 16–20 feet	5,477
Powerboat 21–28 feet	2,529
Powerboat greater than 28 feet	1,002
Sailboat 25 feet or less	1,137
Sailboat 26 feet or greater	1,198
Pontoon boat	1,559
Personal watercraft	1,684
Self-propelled	6,021
Other	1,096
Total	23,881

TABLE 9:
Boat Trip Panel Composition by Jurisdiction of Boat Registration

JURISDICTION	FREQUENCY	JURISDICTION	FREQUENCY
Alabama	531	Montana	372
Alaska	381	Nebraska	217
Arizona	253	Nevada	216
Arkansas	427	New Hampshire	298
California	551	New Jersey	377
Colorado	273	New Mexico	186
Connecticut	431	New York	683
Delaware	237	North Carolina	581
District of Columbia	125	North Dakota	284
Florida	1,011	Ohio	656
Georgia	494	Oklahoma	393
Hawaii	212	Oregon	562
Idaho	304	Pennsylvania	589
Illinois	540	Rhode Island	286
Indiana	385	South Carolina	729
Iowa	474	South Dakota	296
Kansas	287	Tennessee	531
Kentucky	372	Texas	569
Louisiana	559	Utah	282
Maine	534	Vermont	334
Maryland	507	Virginia	524
Massachusetts	540	Washington	625
Michigan	1,088	West Virginia	219
Minnesota	1,113	Wisconsin	978
Mississippi	463	Wyoming	223
Missouri	557	Puerto Rico	222
TOTAL		23,881	

The boats comprising the Boat Trip Panel were stratified into North or South Stratum depending on the state where they were registered for registered boats and the state in which their owners resided for non-registered boats. Figure 1 depicts which states in different regions were assigned to the North and South Strata.

Figure 1: Strata to which Trip Panel boats were assigned.



ADMINISTRATION OF THE TRIP SURVEYS

To maximize the likelihood of collecting boat trip data and to more fully represent the boating season, in different states and the other jurisdictions, the Trip Survey design called for panelists in the Southern Stratum to be sampled up to four times (once per quarter) over the course of 12 months, and for panelists in the Northern Stratum to be sampled up to two times over six months (for trips taken from April through September). To have a full-year account of boat trips in Northern Stratum, surveys conducted there in April collected information about trips taken from January to March 2012 and then,

in January 2013, about trips taken between October and December 2012. Once selected in a given quarter, the panel boats were not eligible to be surveyed again in that quarter. Following this selection protocol, boats selected in the first month of the first quarter were always selected in the first month of subsequent quarters. Likewise, boats selected in the second month of the first quarter were always selected in the second month of subsequent quarters. Table 10 shows the distribution of 52 jurisdictions between these two strata. The quarters and months that surveys were conducted in the two Strata are provided in Table 11.

TABLE 10:
Distribution of Jurisdictions by Northern or Southern Strata

JURISDICTION	STRATUM	JURISDICTION	STRATUM
Alabama	Southern	Montana	Northern
Alaska	Northern	Nebraska	Northern
Arizona	Southern	Nevada	Southern
Arkansas	Southern	New Hampshire	Northern
California	Southern	New Jersey	Northern
Colorado	Northern	New Mexico	Southern
Connecticut	Northern	New York	Northern
Delaware	Northern	North Carolina	Southern
District of Columbia	Northern	North Dakota	Northern
Florida	Southern	Ohio	Northern
Georgia	Southern	Oklahoma	Southern
Hawaii	Southern	Oregon	Northern
Idaho	Northern	Pennsylvania	Northern
Illinois	Northern	Rhode Island	Northern
Indiana	Northern	South Carolina	Southern
Iowa	Northern	South Dakota	Northern
Kansas	Northern	Tennessee	Southern
Kentucky	Northern	Texas	Southern
Louisiana	Southern	Utah	Northern
Maine	Northern	Vermont	Northern
Maryland	Northern	Virginia	Southern
Massachusetts	Northern	Washington	Northern
Michigan	Northern	West Virginia	Northern
Minnesota	Northern	Wisconsin	Northern
Mississippi	Southern	Wyoming	Northern
Missouri	Northern	Puerto Rico	Southern

TABLE 11:
Quarters for which surveys were conducted in different Strata.

QUARTER 2012	SURVEY MONTHS	STRATUM SURVEYED
1	January 2012–March 2012	Southern
2	April 2012 – June 2012	Northern and Southern
3	July 2012 – September 2012	Northern and Southern
4	October 2012 – December 2012	Southern
QUARTER 2013		
1	January 2013	Northern



The owners of boats comprising the Boat Trip Panel were surveyed either by telephone or by web-based survey. Owners who provided a valid e-mail address upon completing 2011 Boat Owner Survey received web surveys. All emails that were provided were verified. The web sample was comprised of boats whose owners' e-mail addresses were checked to determine they were properly formed and that emails sent to these addresses were deliverable. The owners of boats on the panel that provided only telephone numbers were, obviously, interviewed by telephone. Boat owners who provided both an e-mail address and a telephone number were contacted first by e-mail, and if they did not respond, then an attempt was made to survey them by phone.

Each trip survey focused on only one specific boating day randomly selected from all reported days the particular boat was taken out on the water during the previous month. Information was gathered concerning the time during which the boat was out on the water during that entire day. Data collected included hours of boat use, safety behaviors, occurrence of negative incidents (e.g., accidents), and number of persons aboard. If the owner was not on board during the selected boating day, then he or she was asked to provide contact information for

a person that was on board the boat, and, if willing, that person was asked to provide the information concerning the use of the boat on that day.

Each time Trip Survey panelists completed the survey they received a gift code in the amount of \$5 redeemable at Amazon.com. The motive for using incentives was to minimize panel and survey attrition and promote prompt survey response. Prompt survey response is important because accurate recall of hours on the water is critical to achieving accurate exposure estimates.

A total of 82,431 trip survey interviews, each targeting information about one specific boating day, were initially allocated across 52 jurisdictions. The initial allocation was determined in order to gather information about approximately two boating days for each boat on the panel. Due to various factors (e.g., non-response) a total of 40,406 trip survey interviews were successfully completed; 25,447 of them were conducted by telephone while the remaining 14,959 were completed on a survey web site. Table 12 shows the number of trip surveys that were initially allocated and eventually completed in each state, District of Columbia and Puerto Rico. For example, at the outset, 649 trip surveys were allocated to Puerto Rico and 210 were successfully conducted.

TABLE 12:
Distribution of the Allocated and Completed Trip Interviews by State

STATE	SAMPLE		STATE	SAMPLE		STATE	SAMPLE	
	Initial Allocation	Completes		Initial Allocation	Completes		Initial Allocation	Completes
Alaska	1,111	579	Kentucky	1,095	532	New York	2,024	1,021
Alabama	2,327	1,029	Louisiana	2,373	969	Ohio	1,954	1,084
Arkansas	1,800	843	Massachusetts	1,627	870	Oklahoma	1,720	695
Arizona	1,121	567	Maryland	1,507	686	Oregon	1,678	1,048
California	2,400	1,031	Maine	1,544	746	Pennsylvania	1,793	960
Colorado	779	433	Michigan	3,209	1,533	Rhode Island	853	388
Connecticut	1,298	668	Minnesota	3,226	1,640	South Carolina	3,260	1,547
D.C.	347	258	Missouri	1,612	811	South Dakota	871	416
Delaware	706	330	Mississippi	2,045	946	Tennessee	2,381	1,210
Florida	4,508	2,006	Montana	1,067	583	Texas	2,451	1,111
Georgia	2,272	1,094	North Carolina	2,667	1,346	Utah	819	368
Hawaii	932	368	North Dakota	849	412	Virginia	2,432	1,280
Iowa	1,372	676	Nebraska	642	302	Vermont	981	500
Idaho	856	430	New Hampshire	866	384	Washington	1,883	1,079
Illinois	1,583	975	New Jersey	1,136	614	Wisconsin	2,882	1,464
Indiana	1,082	536	New Mexico	826	406	West Virginia	623	243
Kansas	842	473	Nevada	936	439	Wyoming	614	267



WEIGHTING OF THE TRIP SURVEY PANEL

Weighting of the sample data (completed surveys about trips [boating days] taken on Panel boats) was done to produce estimates similar to what would have been obtained if the target population (all boats in the U.S.) was surveyed in its entirety. Three different weights were devised and applied: (1) a boat weight ensured that the results reflect all boats owned in the United States on January 1, 2012; (2) a water-day (referred to as a boating day in this report) weight to ensure that the survey estimates reflect all days when the boat was taken out on the water; and (3) the docked-day weight to make survey estimates reflect all days when the boat was used at dock. A more detailed description of the procedures used to weight the trip survey data can be found in the National Recreational Boating Survey Methodology Report of the 2102 Trip Survey posted on the U.S. Coast Guard Boating Safety Program's website (<http://www.uscgboating.org>)



SURVEY FINDINGS

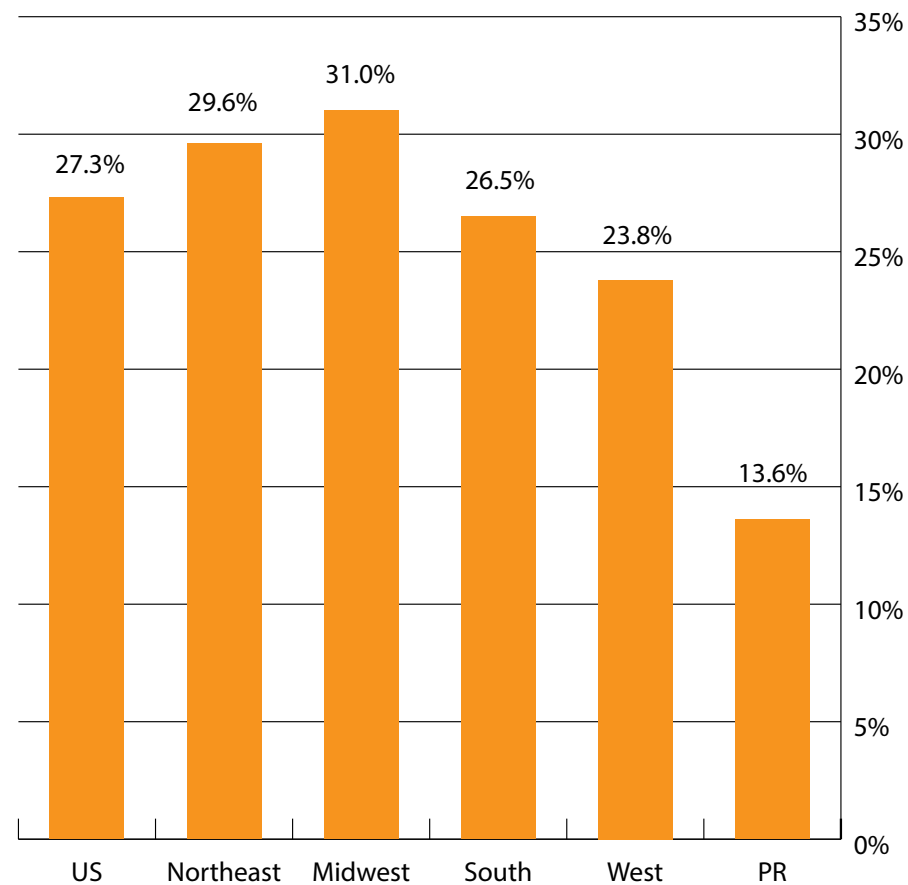
This section presents the findings of both the Boating Participation and Trip Surveys. Some of the findings include individual and household participation rates, age and gender of participants, popularity of various boating activities, boat ownership, and boating exposure hours. Also included are state boating risk ratios calculated using exposure hours and boating accident reports (e.g., casualties).

HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING

Previous research has shown that some individuals do not perceive fishing from a boat or canoeing/kayaking to be a form of boating and, as a consequence, answer “no” when asked if they had gone boating even though they went fishing from a boat, kayaked or canoed. Therefore, in this study, respondents were asked a general question if anyone in their household spent time on a recreational boat in 2012, and two specific questions: if anyone in the household fished from a boat and if anyone used a canoe or kayak in 2012.

About 27.3% or 32.3 million of the estimated 118.1 million U.S. households had at least one member who boated in 2012.

Figure 2: Household Participation in Recreational Boating in 2012 in U.S. Regions.



More than a third (35.8%) or 11.6 million of all boating households in the U.S. were located in the South region. (Figure 3, Table 13)

The overall household boating participation rate was highest in the Midwest, at 31.0%. The Midwest also had the highest percentage (20.8%) of households with at least one person who fished from a boat.

The Northeast region had the highest percentage (19.2%) of households with one or more persons who either canoed or kayaked in 2012. Canoeing and kayaking were especially popular in Maine (37.7% of households) and New Hampshire (35.9% of households) where at least one member participated in that form of boating.

Overall, 20.2% of all 118 million households owned a boat in 2012. The Midwest has the highest percentage of boat ownership of all regions, with 23.6% of the households owning a recreational boat. The South (20.7%) and the Northeast (19.8%) are very similar with respect to their ownership rates.

California (2.5 million) and Florida (2.1 million) had the highest numbers of households participating in boating, while Alaska (49.7%) and Minnesota (46.3%) had the highest overall percentage of boating households.

On the other hand, three states in Northeast – Maine (48.9%), New Hampshire (45.1%) and Vermont (42.9%) – had some of the highest proportions of household boat ownership in the United States. The fourth state with a very high proportion of households owning at least one boat was Alaska (44.1%).

TABLE 13:

Household Participation in Recreational Boating in 2012 in the U.S. Regions

REGION	U.S. HOUSEHOLDS (SOURCE: 2010 U.S. CENSUS)		HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING IN 2012				BOAT OWNERSHIP RATE (%)	
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)	Fished from a Recreational Boat (%)		Used a Canoe / Kayak (%)
United States¹	118,093	100.0	32,285	100.0	27.3	17.8	14.0	20.2
Northeast	21,215	18.0	6,286	19.5	29.6	16.3	19.2	19.8
Midwest	26,216	22.2	8,139	25.2	31.0	20.8	14.9	23.6
South	43,610	36.9	11,552	35.8	26.5	19.5	12.7	20.7
West	25,675	21.7	6,121	19.0	23.8	13.8	11.7	17.1
Puerto Rico	1,377	1.2	187	0.6	13.6	6.2	6.2	6.0

¹The United States total includes Puerto Rico, but excludes territories
²This represents the number of boating households per 100 households.

TABLE 14:
Household Participation in Recreational Boating in 2012 by State in the Northeast Region

NORTHEAST STATES	HOUSEHOLDS IN NORTHEAST REGION (SOURCE: 2010 U.S. CENSUS)		HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING IN 2012					BOAT OWNERSHIP RATE (%)
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ¹ (%)	Fished from a Recreational Boat (%)	Used a Canoe / Kayak (%)	
Northeast Region	21,215	100.0	6,286	100.0	29.6	16.3	19.2	19.8
Connecticut	1,371	6.5	438	7.0	31.9	20.2	21.8	23.6
Maine	557	2.6	255	4.1	45.7	29.8	37.7	48.9
Massachusetts	2,547	12.0	924	14.7	36.3	16.0	25.1	22.2
New Hampshire	519	2.4	224	3.6	43.2	23.6	35.9	45.1
New Jersey	3,214	15.2	745	11.9	23.2	16.9	16.1	17.2
New York	7,318	34.5	2,021	32.2	27.6	13.6	17.6	16.2
Pennsylvania	5,019	23.7	1,452	23.1	28.9	16.1	15.3	17.0
Rhode Island	414	1.9	111	1.8	26.8	17.0	18.2	23.3
Vermont	256	1.2	116	1.9	45.4	23.1	37.4	42.9

¹This represents the number of boating households per 100 households.

TABLE 15:
Household Participation in Recreational Boating in 2012 by State in the Midwest Region

MIDWEST STATES	HOUSEHOLDS IN MIDWEST REGION (SOURCE: 2010 U.S. CENSUS)		HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING IN 2012					BOAT OWNERSHIP RATE (%)
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ¹ (%)	Fished from a Recreational Boat (%)	Used a Canoe / Kayak (%)	
Midwest Region	26,216	100.0	8,139	100.0	31.0	20.8	14.9	23.6
Illinois	4,837	18.5	1,108	13.6	22.9	13.1	9.4	17.2
Indiana	2,502	9.5	775	9.5	31.0	17.6	14.2	20.8
Iowa	1,222	4.7	354	4.4	29.0	21.0	13.5	19.6
Kansas	1,112	4.2	278	3.4	25.0	13.4	7.3	19.1
Michigan	3,873	14.8	1,304	16.0	33.7	23.1	21.6	29.2
Minnesota	2,087	8.0	966	11.9	46.3	33.5	23.6	35.6
Missouri	2,376	9.1	788	9.7	33.2	22.2	14.3	23.4
Nebraska	721	2.8	207	2.5	28.7	22.1	10.3	19.1
North Dakota	281	1.1	119	1.5	42.3	36.0	14.2	34.7
Ohio	4,603	17.6	1,157	14.2	25.1	16.6	11.5	17.4
South Dakota	322	1.2	124	1.5	38.5	29.8	13.0	31.0
Wisconsin	2,280	8.7	958	11.8	42.0	32.6	21.2	35.9

¹This represents the number of boating households per 100 households.

TABLE 16:
Household Participation in Recreational Boating in 2012 by State in the South Region

SOUTH STATES	HOUSEHOLDS IN THE SOUTH (SOURCE: 2010 U.S. CENSUS)		HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING IN 2012					BOAT OWNERSHIP RATE (%)
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ¹ (%)	Fished from a Recreational Boat (%)	Used a Canoe / Kayak (%)	
South Region	43,610	100.0	11,552	100.0	26.5	19.5	12.7	20.7
Alabama	1,884	4.3	557	4.8	29.6	21.5	11.3	21.1
Arkansas	1,147	2.6	289	2.5	25.2	27.3	10.0	27.0
Delaware	342	0.8	93	0.8	27.3	19.5	13.0	21.9
D.C.	267	0.6	55	0.5	20.8	7.9	12.5	7.7
Florida	7,421	17.0	2,120	18.3	28.6	21.3	16.8	21.0
Georgia	3,586	8.2	1,061	9.2	29.6	19.3	11.6	15.8
Kentucky	1,720	3.9	437	3.8	25.4	22.6	9.6	23.0
Louisiana	1,728	4.0	525	4.5	30.4	26.8	9.1	24.5
Maryland	2,156	4.9	548	4.7	25.4	18.2	16.9	18.2
Mississippi	1,116	2.6	271	2.3	24.3	20.0	12.0	21.9
North Carolina	3,745	8.6	1,144	9.9	30.6	19.9	14.1	23.9
Oklahoma	1,460	3.3	390	3.4	26.7	21.2	8.4	22.7
South Carolina	1,801	4.1	525	4.5	29.1	17.4	12.9	23.6
Tennessee	2,494	5.7	642	5.6	25.8	18.7	11.7	21.2
Texas	8,923	20.5	1,876	16.2	21.0	17.0	9.9	19.2
Virginia	3,056	7.0	824	7.1	27.0	15.6	16.3	20.1
West Virginia	764	1.8	195	1.7	25.5	18.6	10.9	18.4

¹This represents the number of boating households per 100 households.



TABLE 17:
Household Participation in Recreational Boating in 2012 by State in the West Region

WEST STATES	HOUSEHOLDS IN THE WEST (SOURCE: 2010 U.S. CENSUS)		HOUSEHOLD PARTICIPATION IN RECREATIONAL BOATING IN 2012				BOAT OWNERSHIP RATE (%)	
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ¹ (%)	Fished from a Recreational Boat (%)		Used a Canoe / Kayak (%)
West Region	25,675	100.0	6,121	100.0	23.8	13.8	11.7	17.1
Alaska	258	1.0	128	2.1	49.7	42.5	27.6	44.4
Arizona	2,381	9.3	395	6.5	16.6	11.4	7.1	14.9
California	12,577	49.0	2,545	41.6	20.2	9.5	10.7	11.1
Colorado	1,973	7.7	441	7.2	22.4	13.9	9.2	19.4
Hawaii	455	1.8	104	1.7	22.8	9.3	16.5	17.1
Idaho	579	2.3	230	3.8	39.7	26.7	15.7	36.6
Montana	410	1.6	145	2.4	35.4	25.8	19.8	38.2
Nevada	1,006	3.9	183	3.0	18.2	8.9	4.8	13.8
New Mexico	791	3.1	91	1.5	11.5	9.0	5.3	10.5
Oregon	1,519	5.9	519	8.5	34.1	24.8	15.1	28.9
Utah	878	3.4	249	4.1	28.4	18.1	13.5	22.3
Washington	2,620	10.2	1,030	16.8	39.3	24.5	20.4	29.6
Wyoming	227	0.9	60	1.0	26.7	20.8	9.3	26.4

¹This represents the number of boating households per 100 households.



INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING

The tables in this section report the percentage of persons in the U.S. "who went out on the water on different types and sizes of recreational boats in 2012. Persons that went out on the water aboard boats are identified as boating participants". A small percentage (less than 10%) of individuals in the U.S. spent time aboard docked boats (e.g., socializing), and did not go out on the water. These are not considered to be boating participants and the time they spent on boats is not included in exposure estimates.

The participation rate of individuals was greatest in the Midwest, at 29.1% (as compared with the national participation rate of 23.5%). A quarter (25.6%) of the persons residing in states in the Northeast region went out on the water aboard recreational boats at least once during 2012. The South region had the largest number of boating participants, 26.3 million, which constituted over a third of all boating participants in the U.S.

States with highest individual participation rates included Maine (47.7%), Minnesota (45.7%), North Dakota (44.6%), and Alaska (43.9%). States with the lowest individual participation rates included New Mexico (7.7%), Arizona (13.0%), Nevada (15.0%), and Texas (17.1%).

Figure 3: Individual Participation in Recreational Boating in 2012 in U.S. Regions.

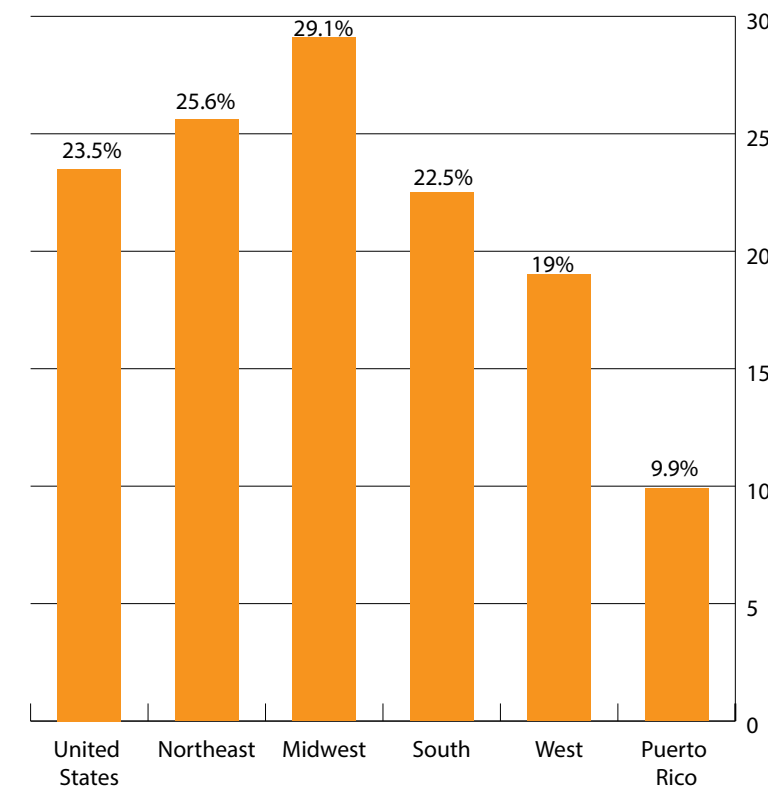


TABLE 18:
Individual Participation in Recreational Boating in 2012 in the U.S. Regions

REGION	U.S. POPULATION ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
United States	317,581	100.0	74,537	100.0	23.5
Northeast	55,761	17.6	14,290	19.2	25.6
Midwest	67,316	21.2	19,572	26.3	29.1
South	117,257	36.9	26,344	35.3	22.5
West	73,579	23.2	13,966	18.7	19.0
Puerto Rico	3,667	1.2	365	0.5	9.9

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population

TABLE 19:
Individual Participation in Recreational Boating in 2012 in the States in the Northeast Region

NORTHEAST STATE	POPULATION IN NORTHEAST ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
Northeast Region	55,761	100.0	14,290	100.0	25.6
Connecticut	3,590	6.4	937	6.6	26.1
Maine	1,329	2.4	634	4.4	47.7
Massachusetts	6,646	11.9	2,169	15.2	32.6
New Hampshire	1,321	2.4	535	3.7	40.5
New Jersey	8,865	15.9	1,783	12.5	20.1
New York	19,570	35.1	4,694	32.9	24.0
Pennsylvania	12,764	22.9	2,991	20.9	23.4
Rhode Island	1,050	1.9	288	2.0	27.4
Vermont	626	1.1	260	1.8	41.5

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population

TABLE 20:
Individual Participation in Recreational Boating in 2012 in the States in the Midwest Region

MIDWEST STATE	POPULATION IN MIDWEST ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
Midwest Region	67,316	100.0	19,572	100.0	29.1
Illinois	12,875	19.1	2,293	11.7	17.8
Indiana	6,537	9.7	2,006	10.3	30.7
Iowa	3,074	4.6	821	4.2	26.7
Kansas	2,886	4.3	625	3.2	21.7
Michigan	9,883	14.7	3,655	18.7	37.0
Minnesota	5,379	8.0	2,461	12.6	45.7
Missouri	6,022	8.9	1,956	10.0	32.5
Nebraska	1,856	2.8	515	2.6	27.8
North Dakota	700	1.0	312	1.6	44.6
Ohio	11,544	17.1	2,310	11.8	20.0
South Dakota	833	1.2	331	1.7	39.7
Wisconsin	5,726	8.5	2,287	11.7	39.9

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population



TABLE 21:

Individual Participation in Recreational Boating in 2012 in the States in the South Region

SOUTH STATE	POPULATION IN SOUTH ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
South Region	117,257	100.0	26,344	100.0	22.5
Alabama	4,822	4.1	1,307	5.0	27.1
Arkansas	2,949	2.5	808	3.1	27.4
Delaware	917	0.8	208	0.8	22.6
D. C.	632	0.5	119	0.5	18.8
Florida	19,318	16.5	4,607	17.5	23.8
Georgia	9,920	8.5	2,255	8.6	22.7
Kentucky	4,380	3.7	997	3.8	22.8
Louisiana	4,602	3.9	1,166	4.4	25.3
Maryland	5,885	5.0	1,348	5.1	22.9
Mississippi	2,985	2.5	662	2.5	22.2
North Carolina	9,752	8.3	2,367	9.0	24.3
Oklahoma	3,815	3.3	984	3.7	25.8
South Carolina	4,724	4.0	1,254	4.8	26.6
Tennessee	6,456	5.5	1,472	5.6	22.8
Texas	26,059	22.2	4,464	16.9	17.1
Virginia	8,186	7.0	1,932	7.3	23.6
West Virginia	1,855	1.6	394	1.5	21.3

¹Source: 2012 U.S. Census Bureau's current population estimates²This represents the number of boating participants per 100 individuals in the population**TABLE 22:**

Individual Participation in Recreational Boating in 2012 in the States in the West Region

WEST STATE	POPULATION IN WEST ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
West Region	73,579	100.0	13,966	100.0	19.0
Alaska	731	1.0	321	2.3	43.9
Arizona	6,553	8.9	853	6.1	13.0
California	38,041	51.7	5,571	39.9	14.6
Colorado	5,188	7.1	1,026	7.3	19.8
Hawaii	1,392	1.9	235	1.7	16.9
Idaho	1,596	2.2	615	4.4	38.6
Montana	1,005	1.4	344	2.5	34.2
Nevada	2,759	3.7	414	3.0	15.0
New Mexico	2,086	2.8	161	1.2	7.7
Oregon	3,899	5.3	1,248	8.9	32.0
Utah	2,855	3.9	781	5.6	27.4
Washington	6,897	9.4	2,260	16.2	32.8
Wyoming	576	0.8	136	1.0	23.5

¹Source: 2012 U.S. Census Bureau's current population estimates²This represents the number of boating participants per 100 individuals in the population

GENDER OF RECREATIONAL BOATING PARTICIPANTS

This survey also collected information about the gender of boating participants. A few of the survey respondents did not report their gender and as a result they were excluded from the calculations. Table 23 reports the gender of 312,526,000 of the 317,581,000 U.S. residents; 5,055,000 residents had unknown gender.

In 2012, women comprised just under half (45%, 33.3 million) of the almost 74 million U.S. boating participants. The rate of participation among females did not differ a great deal across different regions. In Northeast,

women of all ages represented 46.5% of participants; in Midwest, 46.3%; in South, 43.3%; in West, 45.0%, and in Puerto Rico, 48.8%.

Overall, 20.5% of adult women and 21.0% of women of all ages (compared with 27.1% of adult men and 26.5% of men of all ages) across the U.S. participated in boating in 2012. About 32.6 million females in the Midwest participated in boating, which is about 26.7% of females of all ages in the region.

TABLE 23:
Individual Participation in Recreational Boating in 2012 in the U.S. Regions by Gender

REGION	GENDER	U.S. POPULATION ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
		Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
United States	Female	158,891	50.8	33,316	45.0	21.0
	Male	153,635	49.2	40,681	55.0	26.5
	U.S. Total	312,526	100.0	73,997	100.0	23.7
Northeast	Female	28,126	51.4	6,620	46.5	23.5
	Male	26,614	48.6	7,627	53.5	28.7
	Northeast Total	54,740	100.0	14,247	100.0	26.0
Midwest	Female	33,558	50.6	8,968	46.3	26.7
	Male	32,721	49.4	10,402	53.7	31.8
	Midwest Total	66,278	100.0	19,371	100.0	29.2
South	Female	59,123	51.1	11,338	43.3	19.2
	Male	56,663	48.9	14,873	56.7	26.2
	South Total	115,787	100.0	26,211	100.0	22.6
West	Female	36,197	50.2	6,213	45.0	17.2
	Male	35,893	49.8	7,594	55.0	21.2
	West Total	72,091	100.0	13,807	100.0	19.2
Puerto Rico	Female	1,887	52.0	176	48.8	9.3
	Male	1,744	48.0	185	51.2	10.6
	Puerto Rico Total	3,630	100.0	361	100.0	9.9

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population



TABLE 24:
Adult Participation in Recreational Boating in 2012 in the U.S. Regions by Gender

REGION	GENDER	U.S. ADULT POPULATION ¹		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
		Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
United States	Female	124,763	51.2	25,547	44.2	20.5
	Male	118,702	48.8	32,216	55.8	27.1
	U.S. Total	243,464	100.0	57,763	100.0	23.7
Northeast	Female	22,181	51.3	4,982	45.3	22.5
	Male	21,097	48.7	6,017	54.7	28.5
	Northeast Total	43,277	100.0	10,999	100.0	25.4
Midwest	Female	26,476	51.3	6,897	46.0	26.1
	Male	25,094	48.7	8,096	54.0	32.3
	Midwest Total	51,570	100.0	14,993	100.0	29.1
South	Female	46,779	51.7	9,087	42.8	19.4
	Male	43,656	48.3	12,147	57.2	27.8
	South Total	90,435	100.0	21,234	100.0	23.5
West	Female	27,827	50.3	4,443	43.4	16.0
	Male	27,484	49.7	5,803	56.6	21.1
	West Total	55,311	100.0	10,246	100.0	18.5
Puerto Rico	Female	1,500	52.2	137	47.3	9.2
	Male	1,371	47.8	153	52.7	11.2
	Puerto Rico Total	2,871	100.0	291	100.0	10.1

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population

TABLE 25:
Child Participation in Recreational Boating in 2012 in the U.S. Regions by Gender

REGION	GENDER	U.S. CHILD POPULATION ¹		CHILD PARTICIPATION IN RECREATIONAL BOATING IN 2012		
		Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
United States	Female	31,404	49.0	7,447	48.1	23.7
	Male	32,726	51.0	8,048	51.9	24.6
	U.S. Total	64,130	100.0	15,496	100.0	24.2
Northeast	Female	5,400	52.2	1,601	51.5	29.7
	Male	4,946	47.8	1,510	48.5	30.5
	Northeast Total	10,346	100.0	3,111	100.0	30.1
Midwest	Female	6,547	47.9	1,963	47.4	30.0
	Male	7,130	52.1	2,178	52.6	30.6
	Midwest Total	13,677	100.0	4,142	100.0	30.3
South	Female	11,329	47.7	2,122	44.7	18.7
	Male	12,417	52.3	2,626	55.3	21.1
	South Total	23,746	100.0	4,747	100.0	20.0
West	Female	7,754	49.6	1,722	50.3	22.2
	Male	7,870	50.4	1,703	49.7	21.6
	West Total	15,624	100.0	3,425	100.0	21.9
Puerto Rico	Female	374	50.8	39	55.2	10.4
	Male	363	49.2	31	44.8	8.7
	Puerto Rico Total	737	100.0	70	100.0	9.5

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population



AGES OF RECREATIONAL BOATING PARTICIPANTS

This section reports survey findings and related estimates of boating participants in different age categories. The population reported in Table 26 is 308,237,000 whereas the U.S. population in 2012 was 317,581,000. The discrepancy of 9,344,000 is the number of persons whose ages were unknown and therefore they are not included in the estimates. Any discrepancies between numbers reported in different tables comprising this section are due to a combination of sampling errors and missing data (e.g. age and gender).

About 73.4 million persons representing almost a quarter (23.8%) of the U.S. population participated in recreational boating in 2012. This includes 57.9 million adults and 15.6 million children. Rates of participation ranged from 30.4% among persons aged 11-15 to a low of 15.5% of persons ages 0-5 years. Participation drops off substantially for persons aged 65+ (15.6%) compared to those aged 35 to 44 (27.5%).

Rates of participation among persons in different age categories are very different across the four regions of the U.S. For example, participation among persons 65 or older is 10.7% in the West region compared to 17.9% in the Midwest region.

Almost 42% of recreational boating participants are ages 35 to 64; 16.3% are 45 and 54 years old. Only 9.1% of boating participants are 65 or older.

Figure 4: Recreational Boating Participants in 2012 by Age

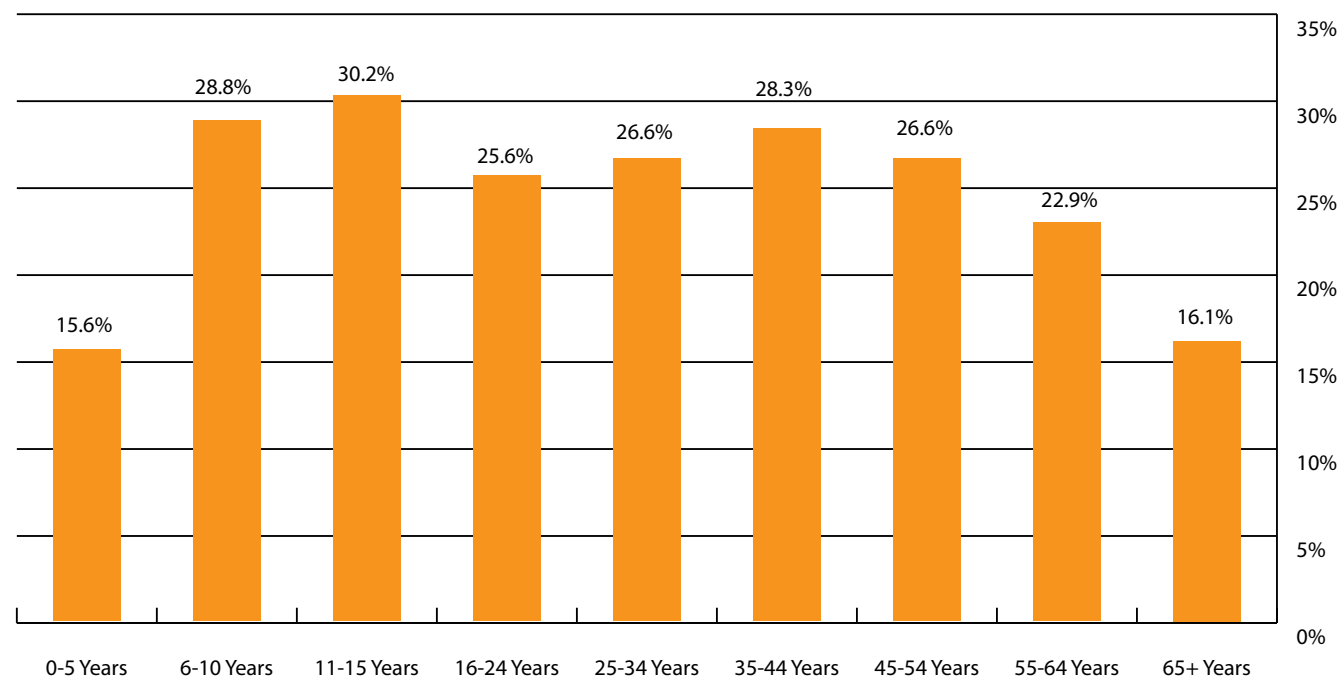


TABLE 26:
Individual Participation in Recreational Boating in 2012 in the U.S. by Age

AGE	U.S. POPULATION ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
All Ages	308,237	100.0	73,414	100.0	23.8
0 to 5	24,086	7.8	3,734	5.1	15.5
6 to 10	20,162	6.5	5,733	7.8	28.4
11 to 15	20,075	6.5	6,098	8.3	30.4
16 to 24	45,643	14.8	11,450	15.6	25.1
25 to 34	34,721	11.3	9,092	12.4	26.2
35 to 44	36,747	11.9	10,115	13.8	27.5
45 to 54	46,318	15.0	11,995	16.3	25.9
55 to 64	37,766	12.3	8,521	11.6	22.6
65+	42,718	13.9	6,678	9.1	15.6

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population.



TABLE 27:

Individual Participation in Recreational Boating in 2012 in the Regions by Age

REGION	AGE	POPULATION ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
		Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ² (%)
NORTHEAST	0 to 5	3,807	7.1	621	4.4	16.3
	6 to 10	3,221	6.0	1,179	8.4	36.6
	11 to 15	3,333	6.2	1,312	9.3	39.4
	16 to 24	7,873	14.7	2,011	14.3	25.5
	25 to 34	5,881	11.0	1,575	11.2	26.8
	35 to 44	6,292	11.7	1,839	13.0	29.2
	45 to 54	8,302	15.5	2,694	19.1	32.5
	55 to 64	6,803	12.7	1,523	10.8	22.4
	65+	8,184	15.2	1,357	9.6	16.6
	Northeast Total	53,697	100.0	14,111	100.0	26.3
	MIDWEST	0 to 5	5,066	7.7	1,240	6.5	24.5
6 to 10		4,317	6.6	1,424	7.4	33.0
11 to 15		4,380	6.7	1,504	7.8	34.3
16 to 24		8,979	13.7	3,130	16.3	34.9
25 to 34		7,682	11.7	2,489	13.0	32.4
35 to 44		7,523	11.5	2,321	12.1	30.9
45 to 54		9,843	15.0	2,895	15.1	29.4
55 to 64		8,814	13.5	2,594	13.5	29.4
65+		8,806	13.5	1,578	8.2	17.9
Midwest Total		65,411	100.0	19,175	100.0	29.3
SOUTH		0 to 5	9,099	8.0	1,020	3.9	11.2
	6 to 10	7,534	6.6	1,832	7.0	24.3
	11 to 15	7,171	6.3	1,914	7.4	26.7
	16 to 24	17,258	15.1	4,523	17.4	26.2
	25 to 34	12,856	11.2	2,786	10.7	21.7
	35 to 44	13,873	12.1	3,668	14.1	26.4
	45 to 54	17,049	14.9	4,454	17.1	26.1
	55 to 64	13,490	11.8	3,088	11.9	22.9
	65+	16,100	14.1	2,745	10.5	17.1
	South Total	114,430	100.0	26,031	100.0	22.7
	WEST	0 to 5	5,864	8.2	834	6.1	14.2
6 to 10		4,862	6.8	1,277	9.3	26.3
11 to 15		4,932	6.9	1,338	9.7	27.1
16 to 24		10,992	15.5	1,717	12.5	15.6
25 to 34		7,892	11.1	2,175	15.8	27.6
35 to 44	8,632	12.1	2,221	16.2	25.7	
45 to 54	10,603	14.9	1,914	13.9	18.1	

TABLE 27 CONT:

REGION	AGE	POPULATION ¹		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012			
WEST	55 to 64	8,203	11.5	1,287	9.4	15.7	
	65+	9,109	12.8	973	7.1	10.7	
	West Total	71,089	100.0	13,737	100.0	19.3	
	PUERTO RICO	0 to 5	250	6.9	18	5.1	7.3
		6 to 10	229	6.3	21	5.8	9.2
		11 to 15	259	7.2	31	8.6	11.9
		16 to 24	541	15.0	68	18.8	12.5
		25 to 34	410	11.4	66	18.3	16.1
		35 to 44	427	11.8	65	17.9	15.1
		45 to 54	521	14.4	38	10.5	7.3
		55 to 64	456	12.6	31	8.5	6.8
65+		518	14.3	23	6.5	4.5	
Puerto Rico Total		3,610	100.0	361	100.0	10.0	

¹Source: 2012 U.S. Census Bureau's current population estimates

²This represents the number of boating participants per 100 individuals in the population.



ADULT PARTICIPATION IN RECREATIONAL BOATING

For the purposes of this survey, an adult is defined as an individual who is 16 years old or older, while an individual 15 or younger is considered a child. A few survey participants did not report their age, making it impossible to categorize them as either adults or children. Due to missing age information for some respondents, the number of adults and children reported in Tables 28 - 32, which sum to 308,273,000, is smaller than the

2012 U.S. population (317,581,000). The difference represents individuals with unknown age.

Adult participation rates varied considerably across different regions of the U.S.. The rate of participation was greatest in the Midwest region, at 29.1%. Minnesota (47.1%), Maine (47.3%), and Alaska (44.2%) had the highest adult participation among the states.

TABLE 28:
Adult Participation in Recreational Boating in 2012 in the U.S. Regions

REGION	U.S. ADULT ¹ POPULATION ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
United States	243,950	100.0	57,886	100.0	23.7
Northeast	43,348	17.8	11,012	19.0	25.4
Midwest	51,657	21.2	15,016	25.9	29.1
South	90,636	37.2	21,274	36.8	23.5
West	55,436	22.7	10,293	17.8	18.6
Puerto Rico	2,873	1.2	291	0.5	10.1

¹Adults are individuals who are 16 years old or older
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 adults in the population

TABLE 29:
Adult Participation in Recreational Boating in 2012 in the States in the Northeast Region

NORTHEAST STATE	ADULT ¹ POPULATION IN NORTHEAST ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
Northeast Region	43,348	100.0	11,012	100.0	25.4
Connecticut	2,789	6.4	739	6.7	26.5
Maine	1,082	2.5	511	4.6	47.3
Massachusetts	5,264	12.1	1,703	15.5	32.4
New Hampshire	1,053	2.4	413	3.7	39.2
New Jersey	6,791	15.7	1,391	12.6	20.5
New York	14,914	34.4	3,579	32.5	24.0
Pennsylvania	10,114	23.3	2,234	20.3	22.1
Rhode Island	830	1.9	231	2.1	27.9
Vermont	512	1.2	210	1.9	41.1

¹Adults are individuals who are 16 years old or older
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 adults in the population

TABLE 30:
Adult Participation in Recreational Boating in 2012 in the States in the Midwest Region

MIDWEST STATE	ADULT ¹ POPULATION IN MIDWEST ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
Midwest Region	51,657	100.0	15,016	100.0	29.1
Illinois	9,735	18.8	1,767	11.8	18.1
Indiana	5,005	9.7	1,471	9.8	29.4
Iowa	2,351	4.6	650	4.3	27.6
Kansas	2,198	4.3	458	3.0	20.8
Michigan	7,647	14.8	2,724	18.1	35.6
Minnesota	4,105	7.9	1,933	12.9	47.1
Missouri	4,651	9.0	1,482	9.9	31.9
Nebraska	1,397	2.7	368	2.5	26.4
North Dakota	535	1.0	228	1.5	42.6
Ohio	8,976	17.4	1,956	13.0	21.8
South Dakota	633	1.2	244	1.6	38.6
Wisconsin	4,422	8.6	1,736	11.6	39.3

¹Adults are individuals who are 16 years old or older
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 adults in the population

TABLE 31:
Adult Participation in Recreational Boating in 2012 in the States in the South Region

SOUTH STATE	ADULT ¹ POPULATION IN THE SOUTH ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
South Region	90,636	100.0	21,274	100.0	23.5
Alabama	3,691	4.1	990	4.7	26.8
Arkansas	2,256	2.5	634	3.0	28.1
Delaware	704	0.8	167	0.8	23.7
District of Columbia	514	0.6	90	0.4	17.4
Florida	15,440	17.0	3,828	18.0	24.8
Georgia	7,538	8.3	1,817	8.5	24.1
Kentucky	3,304	3.6	757	3.6	22.9
Louisiana	3,579	3.9	935	4.4	26.1
Maryland	4,623	5.1	1,089	5.1	23.6
Mississippi	2,283	2.5	490	2.3	21.5
North Carolina	7,536	8.3	1,864	8.8	24.7
Oklahoma	2,937	3.2	776	3.6	26.4
South Carolina	3,716	4.1	1,015	4.8	27.3
Tennessee	5,072	5.6	1,189	5.6	23.4
Texas	19,562	21.6	3,816	17.9	19.5
Virginia	6,374	7.0	1,496	7.0	23.5
West Virginia	1,509	1.7	323	1.5	21.4

¹Adults are individuals who are 16 years old or older
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 adults in the population

TABLE 32:
Adult Participation in Recreational Boating in 2012 in the States in the West Region

WEST STATE	ADULT ¹ POPULATION IN THE WEST ²		INDIVIDUAL PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
West Region	55,436	100.0	10,293	100.0	18.6
Alaska	543	1.0	240	2.3	44.2
Arizona	4,743	8.6	676	6.6	14.2
California	28,797	51.9	3,906	38.0	13.6
Colorado	3,944	7.1	783	7.6	19.9
Hawaii	1,085	2.0	194	1.9	17.9
Idaho	1,189	2.1	459	4.5	38.6
Montana	769	1.4	244	2.4	31.7
Nevada	2,098	3.8	320	3.1	15.3
New Mexico	1,548	2.8	128	1.2	8.3
Oregon	3,016	5.4	986	9.6	32.7
Utah	1,983	3.6	487	4.7	24.6
Washington	5,277	9.5	1,756	17.1	33.3
Wyoming	443	0.8	113	1.1	25.5

¹Adults are individuals who are 16 years old or older
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 adults in the population



PARTICIPATION OF CHILDREN IN RECREATIONAL BOATING

This section presents information pertaining to the percentage of children (i.e., persons aged 15 or younger) in the U.S. who went out on the water aboard boats. The participation rate of children in Midwest in 2012 was 30.3% compared with the national average of 24.2%. South was the region with the lowest percent (20.2%) of children that went out on the water aboard recreational boats in 2012.

States with highest rates of children's participation in boating included North Dakota (56.1%), Maine (52.0%), Vermont (48.5%), South Dakota (46.5%), and Alaska (46.5%).

Conversely, states with the lowest recreational boating participation rates for children were New Mexico (7.2%), Texas (10.1%), Arizona (11.3%), and Hawaii (14.6%).

TABLE 33: Child Participation in Recreational Boating in 2012 in the U.S. Regions

REGION	U.S. CHILD ¹ POPULATION ²		CHILD PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
United States	64,323	100.0	15,565	100.0	24.2
Northeast	10,361	16.1	3,111	20.0	30.0
Midwest	13,763	21.4	4,168	26.8	30.3
South	23,804	37.0	4,766	30.6	20.0
West	15,658	24.3	3,449	22.2	22.2
Puerto Rico	737	1.1	70	0.5	9.5

¹Children are individuals who are 15 years old or younger
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 children in the population

TABLE 34: Child Participation in Recreational Boating in 2012 in the States in the Northeast Region

NORTHEAST STATE	CHILD ¹ POPULATION IN NORTHEAST ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
Northeast Region	10,361	100.0	3,111	100.0	30.0
Connecticut	686	6.6	173	5.5	25.2
Maine	233	2.2	121	3.9	52.0
Massachusetts	1,215	11.7	442	14.2	36.4
New Hampshire	234	2.3	109	3.5	46.8
New Jersey	1,735	16.7	357	11.5	20.6
New York	3,627	35.0	1,095	35.2	30.2
Pennsylvania	2,351	22.7	719	23.1	30.6
Rhode Island	183	1.8	48	1.5	26.1
Vermont	98	0.9	48	1.5	48.5

¹Children are individuals who are 15 years old or younger
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 children in the population

TABLE 35: Child Participation in Recreational Boating in 2012 in the States in the Midwest Region

MIDWEST STATE	CHILD ¹ POPULATION IN MIDWEST ²		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
Midwest Region	13,763	100.0	4,168	100.0	30.3
Illinois	2,621	19.0	515	12.4	19.7
Indiana	1,390	10.1	495	11.9	35.6
Iowa	623	4.5	149	3.6	24.0
Kansas	631	4.6	157	3.8	24.8
Michigan	1,972	14.3	844	20.3	42.8
Minnesota	1,113	8.1	450	10.8	40.4
Missouri	1,220	8.9	416	10.0	34.1
Nebraska	406	2.9	137	3.3	33.7
North Dakota	135	1.0	76	1.8	56.1
Ohio	2,326	16.9	328	7.9	14.1
South Dakota	178	1.3	83	2.0	46.5
Wisconsin	1,148	8.3	517	12.4	45.0

¹Children are individuals who are 15 years old or younger
²Source: 2012 U.S. Census Bureau's current population estimates
³This represents the number of adult boating participants per 100 children in the population

TABLE 36:

Child Participation in Recreational Boating in 2012 in the States in the South Region

SOUTH STATE	CHILD ¹ POPULATION IN THE SOUTH ²		CHILD PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
South Region	23,804	100.0	4,766	100.0	20.0
Alabama	953	4.0	246	5.2	25.8
Arkansas	619	2.6	162	3.4	26.2
Delaware	179	0.8	41	0.9	22.7
District of Columbia	91	0.4	24	0.5	25.8
Florida	3,491	14.7	725	15.2	20.8
Georgia	2,149	9.0	430	9.0	20.0
Kentucky	883	3.7	222	4.7	25.2
Louisiana	940	4.0	224	4.7	23.8
Maryland	1,183	5.0	254	5.3	21.5
Mississippi	662	2.8	172	3.6	26.0
North Carolina	1,998	8.4	491	10.3	24.6
Oklahoma	799	3.4	204	4.3	25.6
South Carolina	919	3.9	239	5.0	26.0
Tennessee	1,325	5.6	273	5.7	20.6
Texas	5,698	23.9	577	12.1	10.1
Virginia	1,585	6.7	410	8.6	25.9
West Virginia	330	1.4	71	1.5	21.6

¹Children are individuals who are 15 years old or younger²Source: 2012 U.S. Census Bureau's current population estimates³This represents the number of adult boating participants per 100 children in the population**TABLE 37:**

Child Participation in Recreational Boating in 2012 in the States in the West Region

WEST STATE	CHILD ¹ POPULATION IN THE WEST ²		CHILD PARTICIPATION IN RECREATIONAL BOATING IN 2012		
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Overall Participation Rate ³ (%)
West Region	15,658	100.0	3,449	100.0	22.0
Alaska	165	1.1	77	2.2	46.5
Arizona	1,428	9.1	161	4.7	11.3
California	8,105	51.8	1,633	47.3	20.1
Colorado	1,094	7.0	235	6.8	21.5
Hawaii	245	1.6	36	1.0	14.6
Idaho	363	2.3	144	4.2	39.6
Montana	189	1.2	85	2.5	45.0
Nevada	584	3.7	94	2.7	16.1
New Mexico	458	2.9	33	1.0	7.2
Oregon	732	4.7	199	5.8	27.2
Utah	794	5.1	288	8.3	36.2
Washington	1,385	8.8	444	12.9	32.0
Wyoming	116	0.7	22	0.6	18.6

¹Children are individuals who are 15 years old or younger²Source: 2012 U.S. Census Bureau's current population estimates³This represents the number of adult boating participants per 100 children in the population

BOATING PARTICIPATION ON DIFFERENT TYPES OF BOATS

About 70.4% of the 57.9 million adults who boated in 2012 did so at least once on a power boat, 29% in canoes, 32.7% in kayaks, and 26.1% on pontoon boats.

Figure 5: Adult' Participation in Recreational Boating in 2012 by Type of Boat Used out On the Water

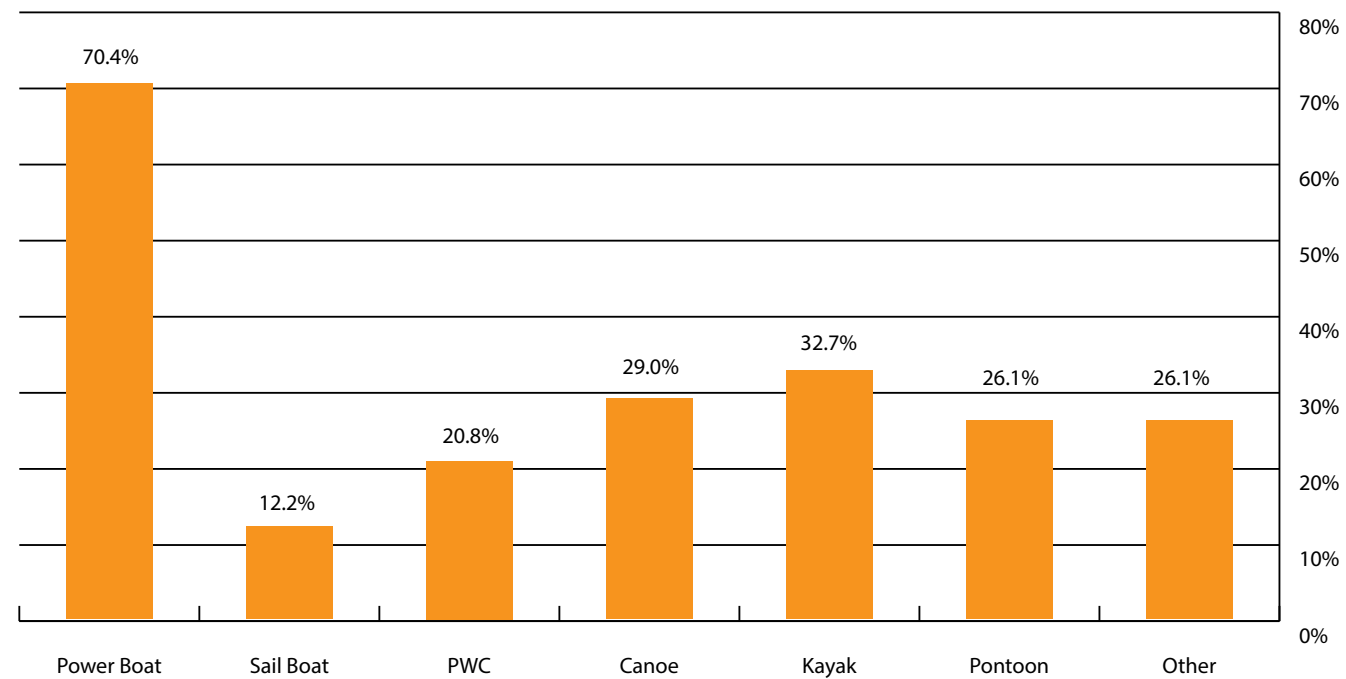


TABLE 38: Adult Participation in Recreational Boating in 2012 in the U.S. Regions by Type of Boat Used

REGION	ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012		ADULT PARTICIPATION IN RECREATIONAL BOATING IN 2012 BY BOAT TYPE						
	Number (thousands)	Percent (%)	Power Boats (%)	Sail boats (%)	PWCS (%)	Canoe (%)	Kayaks (%)	Pontoons (%)	Other (%)
United States	57,886	100.0	70.4	12.2	20.8	29	32.7	26.1	26.1
Northeast	11,012	19.0	65.9	21.5	16.2	36.6	46.7	14.1	22.1
Midwest	15,016	25.9	72.5	8.3	25	34	28.4	40.9	31.1
South	21,274	36.8	72.2	7.8	21.2	24.6	28.6	26.5	21.6
West	10,293	17.8	68.9	17	19.6	23.4	32.4	17.6	32.3
Puerto Rico	291	0.5	64.7	10.3	9	6.8	29.7	5.4	27.6



PARTICIPATION IN RECREATIONAL BOATING ACTIVITIES

Persons aboard recreational boats participate in a great variety of both active and passive recreational activities in boating. Relaxing alone or with friends was reported by 88.2% boating participants, followed next by socializing (84.3%), cruising (74.2%), and sightseeing and/or nature observation (70.6%). Other popular activities included swimming or diving (58.7%), and fishing or crabbing (56.6%). There was not strong regional variation in boating activities across different regions, except for Puerto Rico where some rates of participation significantly differ from the other regions. Waterskiing, wakeboarding, and tubing were more popular in the Midwest (47.6%) than the national average; and rowing was more popular in the Northeast (37.2%), as was paddling (40.5%).

Figure 6: Individual Participation in Specific Recreational Boating Activities in 2012

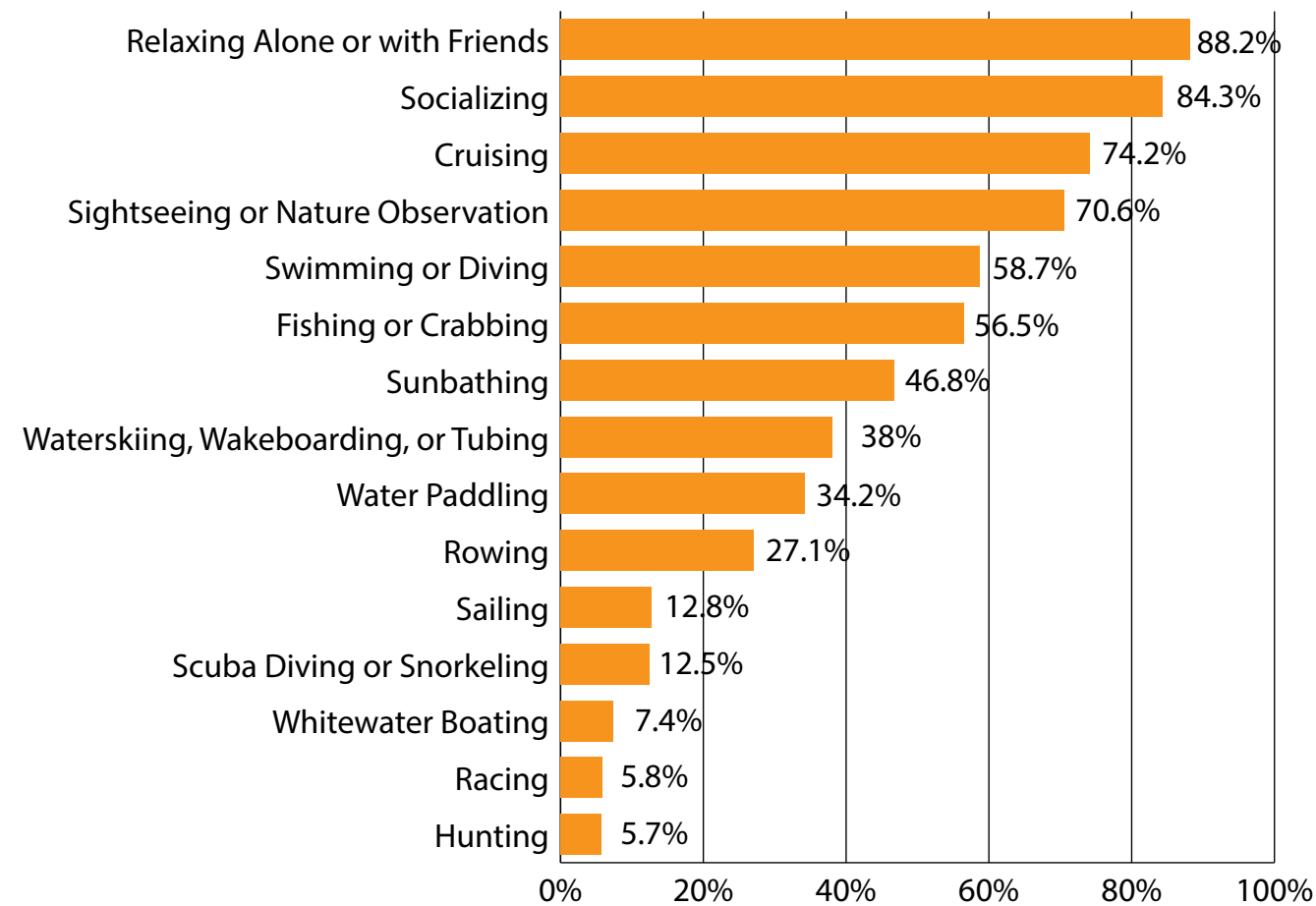


TABLE 39:

Individual Participation in Recreational Boating by Residence Region, and Boating Activity

BOATING ACTIVITY	INDIVIDUAL BOATING PARTICIPATION BY REGION					
	United States (%)	Northeast (%)	Midwest (%)	South (%)	West (%)	Puerto Rico (%)
Cruising	74.2	77.0	80.5	68.9	73.2	61.6
Fishing or Crabbing	56.6	48.1	61	61.0	51.2	31.8
Hunting	5.7	2.7	5.4	7.9	4.6	9.5
Sightseeing or Nature Observation	70.6	72.4	70.3	69.1	72.4	69.9
Water Paddling	34.3	40.5	34.7	33.0	29.6	32.8
Racing	5.9	7.0	7.4	5.6	3.0	5.8
Relaxing Alone or with Friends	88.2	90.7	91.8	84.1	88.7	87.4
Rowing	27.1	37.2	26.2	21.8	28.7	15.6
Sailing	12.7	22.2	8.5	8.8	16.6	12.7
Sunbathing	46.7	49.8	51.5	44.1	41.0	60.9
Scuba Diving or Snorkeling	12.6	14.1	8.1	15.0	11.9	33.2
Socializing	84.3	85.9	87.9	82.3	81.5	93.7
Swimming or Diving	58.7	58.6	65.4	56.3	53.6	66.6
Waterskiing, Wakeboarding, or Tubing	38.1	29.5	47.6	36.3	37.7	8.4
Whitewater Boating	7.5	6.3	6.3	7.1	11.2	2.3



DAYS AND HOURS OF RECREATIONAL BOATS' USE

On average recreational boats were taken out on the water an average of 11.3 days in 2012. This study made special effort to collect boat use data for non-registered boats. The results revealed that, on average, canoes were taken out on the water fewer days (8.6 days) in 2012 than other boat types. In comparison, kayaks were taken out an average of 11.2 days. Pontoon boats were taken out on the water more days (14.9) on average than any other boat type of boat.

Recreational boats were out on the water an average of 5.7 hours each day they were operated on the water with an average of 2.4 persons aboard. It is estimated that in 2012 there were 3.6 billion person-hours spent on board recreational boats taken out on the water. Power boats were by far the most used type of boat. Sixty percent (2.04 billion) of all boating person-hours in 2012 were spent on powerboats. About 4% (154 million) of all persons-hours aboard boat occurred on sailboats.

The survey results also verified the increasing popularity of recreational paddling as measured by participation rates, numbers of variety of paddle boats and boating

person-hours. About 29% of the recreational boats owned in the country were canoes and kayaks. Canoeists and kayakers logged 642 million hours on them during 2012.

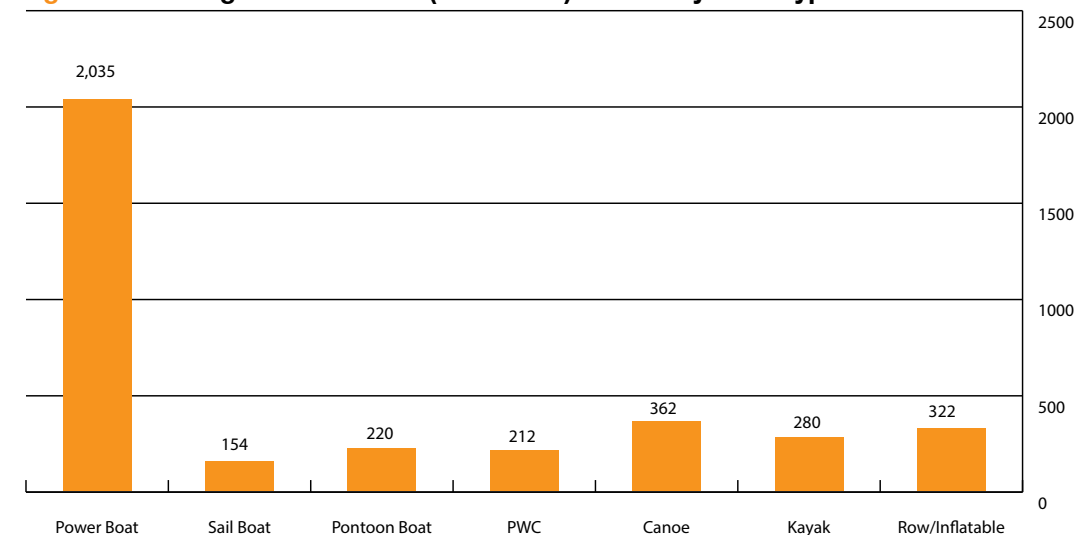
Personal watercraft (PWC) were taken out on the water an average of 11 days in 2012, and persons spent over 212 million hours aboard them. About 220 million person-hours were spent aboard pontoon boats while they were out on the water.

On average canoes were used on the fewest number of days (8.6) and an average of 6.3 hours the days they were used.

Canoes were used on the fewest number of days (8.6). They were out on the water an average of 6.3 hours with 2.3 persons aboard on the days that they were used. Kayaks were used more days (11.3) with an average of 1.3 persons aboard.

On average, a sailboat was used for 11.1 days in 2012, and boaters logged about 154 million person-hours on them.

Figure 7: Boating Person-Hours (in Millions) in 2012 by Boat Type



On average, a sailboat was used for 11.1 days in 2012, and boaters logged about 154 million person-hours on them. Canoes were used on the smallest number of days (8.6). They were also out on the water for an average of 6.3 hours.

TABLE 40:
2012 Boating Days and Hours by Boat Type in the U.S.

BOAT TYPE	NUMBER OF BOATS' OWNED IN THE US (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	PASSENGERS ON BOAT/ BOATING DAY
All Types¹	21,611	244,203	3,584	11.3	5.7	2.4
Powerboat	10,147	121,865	2,035	12	6	2.7
Sailboat	735	8,137	154	11.1	7.8	2.4
Pontoon Boat	854	12,694	220	14.9	4.1	3.8
PWC	1,704	18,728	212	11	4.7	2.3
Canoe	2,508	21,580	362	8.6	6.3	2.3
Kayak	3,916	43,741	280	11.2	4.6	1.3
Row/ Inflatable	1,747	17,458	322	10	6.8	2.4

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)



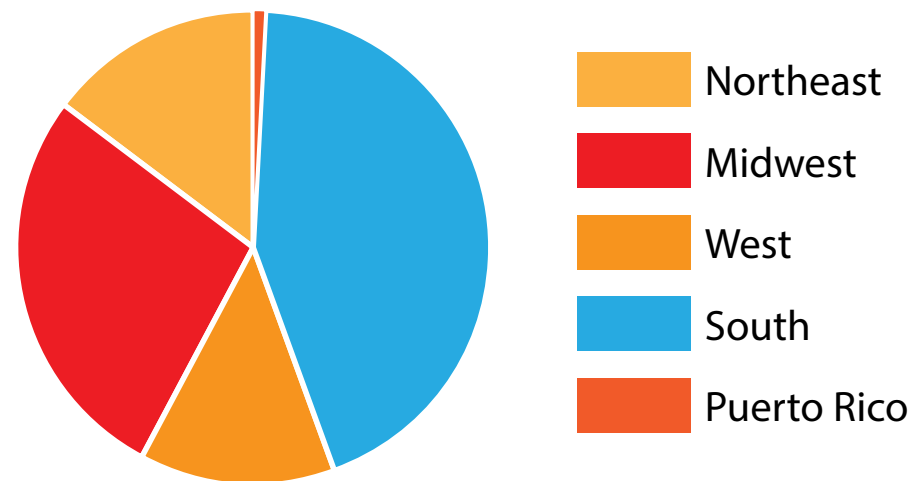
BOAT USE IN DIFFERENT REGIONS

The South region alone accounts for 43.5% of the total number of person hours aboard recreational boats in the United States followed by the Midwest (27.7%), the Northeast (14.5%), and the West (13.4%). Puerto Rico accounts for about 1% of that total.

About 1.6 billion boating hours were logged in the South region, where recreational boats were used for an aver-

age of 13 days and 6 hours per use day. It is estimated that 991 million person-hours of boating took place in the Midwest where boats were taken out on the water an average of 11 days and 5 boating per day. Approximately 521 and 479 million boating person-hours were logged in the Northeast and the West regions respectively.

Figure 8: Percentage of Boating Person-Hours in U.S. Regions



In the Northeast, New York and Pennsylvania account for 22.8% and 22.3% of the regional exposure hours. Following closely is New Jersey where 19.8% of the boating hours were logged.

About 21.5% and 17.3% of boating person-hours in the Midwest take place in Michigan and Wisconsin respectively. 14.5% of this regions In the South region, the state of Minnesota and Missouri also reported 14.5% and 13.3% of the regional boating hours.

The state of Florida represents nearly a quarter of all boating person-hours in the South. A distant second was Texas with only 10% of the hours in the South.

The State of California is the most dominant boating state in the West with approximately 37.2% of regional boating hours. Washington state, and Oregon are the next two with 15.4% and 11.1% of the total regional boating hours respectively.

TABLE 41:
2012 Boating Days and Hours by Boat Type in the Northeast Region

BOAT TYPE	NUMBER OF BOATS ¹ OWNED IN THE NORTHEAST REGION (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
All Types¹	3,552	39,732	521	11.2	5.3	2.2
Powerboat	1,323	16,192	250	12.2	5.8	2.7
Sailboat	193	1,800	33	9.3	7.6	2.5
Pontoon Boat	64	1,153	17	18.1	3.3	4.1
PWC	177	1,606	23	9.1	4.6	2.7
Canoe	538	4,150	65	7.7	6.6	2
Kayak	1,028	11,623	52	11.3	3.6	1.1
Row/ Inflatable	229	3,209	82	14	6.9	2.5

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)

TABLE 42:
2012 Boating Days and Hours by Boat Type in the Midwest Region

BOAT TYPE	NUMBER OF BOATS ¹ OWNED IN THE MIDWEST REGION (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
All Types¹	6,047	66,116	991	10.9	5.1	2.7
Powerboat	3,046	33,072	544	10.9	5.5	2.8
Sailboat	171	1,390	19	8.1	6.6	2.3
Pontoon Boat	423	6,935	106	16.4	3.6	3.7
PWC	436	5,546	79	12.7	5.1	2.8
Canoe	770	6,631	140	8.6	5.6	3
Kayak	770	8,288	56	10.8	4.7	1.3
Row/ Inflatable	432	4,254	46	9.9	4.2	2.6

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)

TABLE 43:
2012 Boating Days and Hours by Boat Type in the South Region

BOAT TYPE	NUMBER OF BOATS OWNED IN THE SOUTH REGION (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
All Types ¹	8,286	108,980	1,558	13.2	6	2.2
Powerboat	4,174	58,840	937	14.1	6.1	2.5
Sailboat	243	3,114	61	12.8	8	2.4
Pontoon Boat	316	4,323	89	13.7	5	3.7
PWC	709	9,420	84	13.3	4.3	1.9
Canoe	903	9,608	141	10.6	6.6	2
Kayak	1,403	18,233	135	13	5.1	1.4
Row/ Inflatable	538	5,442	112	10.1	9	2.1

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)

TABLE 44:
2012 Boating Days and Hours by Boat Type in the West Region

BOAT TYPE	NUMBER OF BOATS OWNED IN THE WEST REGION (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
All Types ¹	3,661	28,412	479	7.8	6.6	2.3
Powerboat	1,580	13,331	284	8.4	7.3	2.8
Sailboat	127	1,642	29	12.9	8.5	2.1
Pontoon Boat	51	283	8	5.6	7.2	4
PWC	368	2,029	25	5.5	5.3	2
Canoe	296	1,191	16	4	6.5	1.9
Kayak	695	5,393	34	7.8	4.8	1.2
Row/ Inflatable	544	4,543	82	8.3	6.7	2.3

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)

TABLE 45:
2012 Boating Days and Hours by Boat Type in the Puerto Rico

BOAT TYPE	NUMBER OF BOATS OWNED IN THE PUERTO RICO (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
All Types ¹	65	962	35	14.7	8.6	3.7
Powerboat	24	430	20	18.1	9.7	4.7
Sailboat	2	190	11	93.6	...	...
Pontoon Boat	...	...	...	...	...	...
PWC	14	127	2	9.1	5.5	2.1
Canoe	1	...	...	...	...	...
Kayak	21	205	2	10	...	...
Row/ Inflatable	4	...	...	...	...	...

... Sample size is too small or estimate has large sampling error

¹These numbers exclude boats reported in the type category "Other," but include boats owned in Puerto Rico

²This ratio represents the number of boating days per boat owned (not per boat used)



TABLE 46:
Boating Days and Hours in 2012 by State

STATE	NUMBER OF BOATS ¹ OWNED IN THE U.S. AND PUERTO RICO (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
U.S.	21,611	244,203	3,584	11.3	5.7	2.4
NORTHEAST	3,552	39,732	521	11.2	5.3	2.2
CT	272	3,052	36	11.2	5.3	2.1
MA	565	6,560	59	11.6	4.2	1.9
ME	254	2,969	28	11.7	4.1	2.2
NH	230	2,642	30	11.5	4.5	2.5
NJ	385	4,971	103	12.9	6.4	2.3
NY	980	10,808	119	11	4.9	2.2
PA	638	6,271	116	9.8	6.9	2.4
RI	101	1,080	14	10.7	6.2	1.9
VT	127	1,379	16	10.8	4.9	2.3
MIDWEST	6,047	66,116	991	10.9	5.1	2.7
IA	297	2,552	45	8.6	6	3.1
IL	638	5,200	73	8.2	5.5	2.5
IN	473	5,405	66	11.4	4.2	2.7
KS	161	1,459	20	9.1	6.5	2.2
MI	1,182	14,757	213	12.5	4.9	2.7
MN	976	11,055	144	11.3	4.8	2.6
MO	511	5,301	132	10.4	6.3	3.1
ND	85	730	10	8.6	5	3.1
NE	108	1,048	23	9.7	6.8	2.7
OH	539	5,237	83	9.7	5.2	2.7
SD	75	753	12	10	6.2	2.3
WI	1,002	12,617	171	12.6	4.9	2.8
SOUTH	8,286	108,980	1,558	13.2	6	2.2
AL	374	6,018	73	16.1	4.7	2.3
AR	334	4,209	48	12.6	5.2	2.1
DC	8	122	1	14.9	4.5	1.5
DE	77	706	12	9.2	5.9	2.7
FL	1,636	25,414	370	15.5	6.4	2.2
GA	792	9,747	123	12.3	5.5	2.1
KY	281	3,374	69	12	7.4	2.6
LA	404	6,350	104	15.7	7.1	2.2
MD	342	2,597	41	7.6	6.3	2.5
MS	284	3,436	42	12.1	5.6	2.1
NC	742	10,841	134	14.6	5.3	2.2

TABLE 46 CONT:

STATE	NUMBER OF BOATS ¹ OWNED IN THE U.S. AND PUERTO RICO (THOUSANDS)	NUMBER OF BOATING DAYS (THOUSANDS)	NUMBER OF PERSON-HOURS (MILLIONS)	NUMBER OF DAYS / BOAT ²	NUMBER OF HOURS / BOATING DAY	MEAN NUMBER OF PERSONS ABOARD/ BOATING DAY
OK	233	3,490	92	15	9.2	2.7
SC	609	9,411	101	15.5	5.1	2
TN	445	4,966	73	11.1	5.3	2.6
TX	1,054	11,585	164	11	5.5	2.3
VA	534	5,600	99	10.5	6.8	2.4
WV	136	1,112	14	8.2	5.7	1.8
WEST	3,661	28,412	479	7.8	6.6	2.3
AK	97	973	21	10	7.7	2.7
AZ	238	1,731	32	7.3	7.4	2.2
CA	1,365	11,869	178	8.7	6.3	2.3
CO	264	1,713	22	6.5	5.6	1.9
HI	30	484	8	16.2	7.3	1.8
ID	174	1,253	17	7.2	5.4	2.3
MT	174	1,008	21	5.8	6.3	2.7
NM	...	...	...	...	...	...
NV	117	837	14	7.2	7.3	2.3
OR	372	2,555	53	6.9	8	2.4
UT	166	957	31	5.8	8.3	3.4
WA	604	4,669	74	7.7	6.4	2.3
WY	57	340	7	6	6.8	2.6
PUERTO RICO	65	962	35	14.7	8.6	3.7

... Sample size is too small or estimate has large sampling error



BOATING SAFETY EQUIPMENT ONBOARD BOATS

Boaters carry various safety equipment onboard their recreational boats during boat trips. A fire extinguisher was present on boats on almost 90% of the days that all recreational boats they were taken out on the water and this differed little across the four regions of the country. Conversely, the safety equipment that was present on the fewest (13.2%) boating days was the Emergency Position Indicating Radio Beacon (EPIRB).

In 2012, the Midwest had the lowest proportion of boating days during which boats had safety equipment onboard. The first-aid kit was onboard for an average of 66% of the days boats were used in the Midwest, compared to the national average of 77% of days. Boats in the Midwest had an EPIRB onboard on only 7.7% of days they were used, whereas the national average was 13.2% of days.

Figure 9: Boating Days with the Specified Safety Equipment Onboard the Boats in the U.S. in 2012

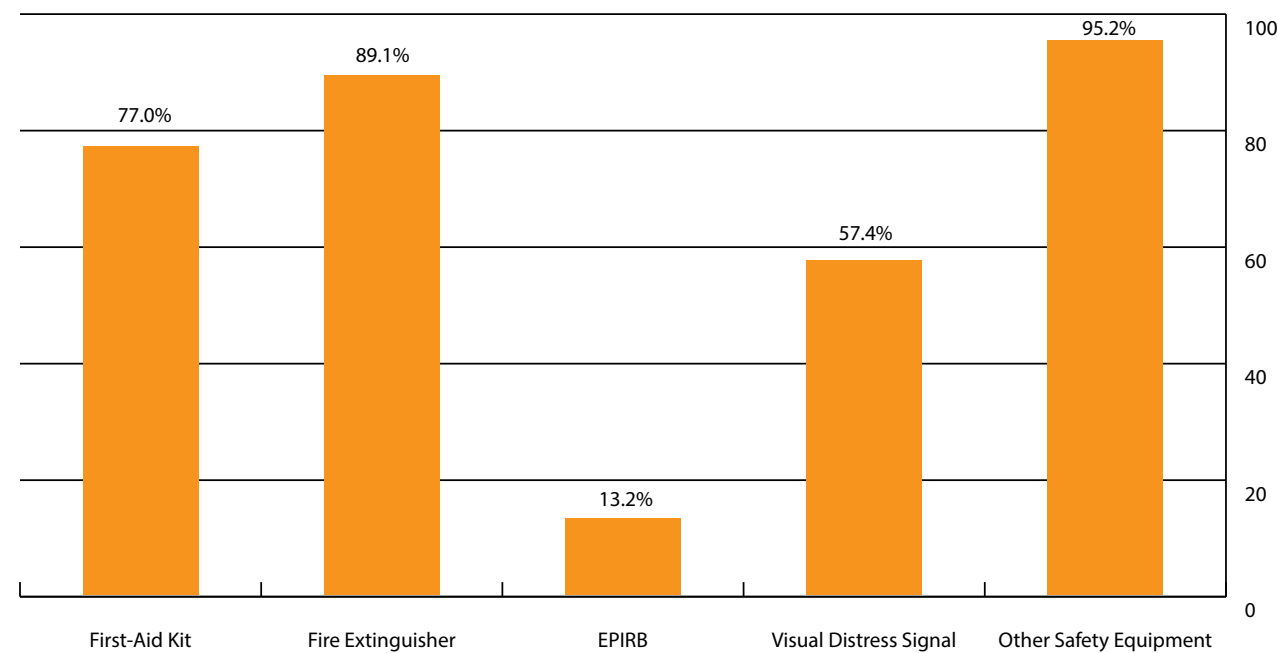


TABLE 47:

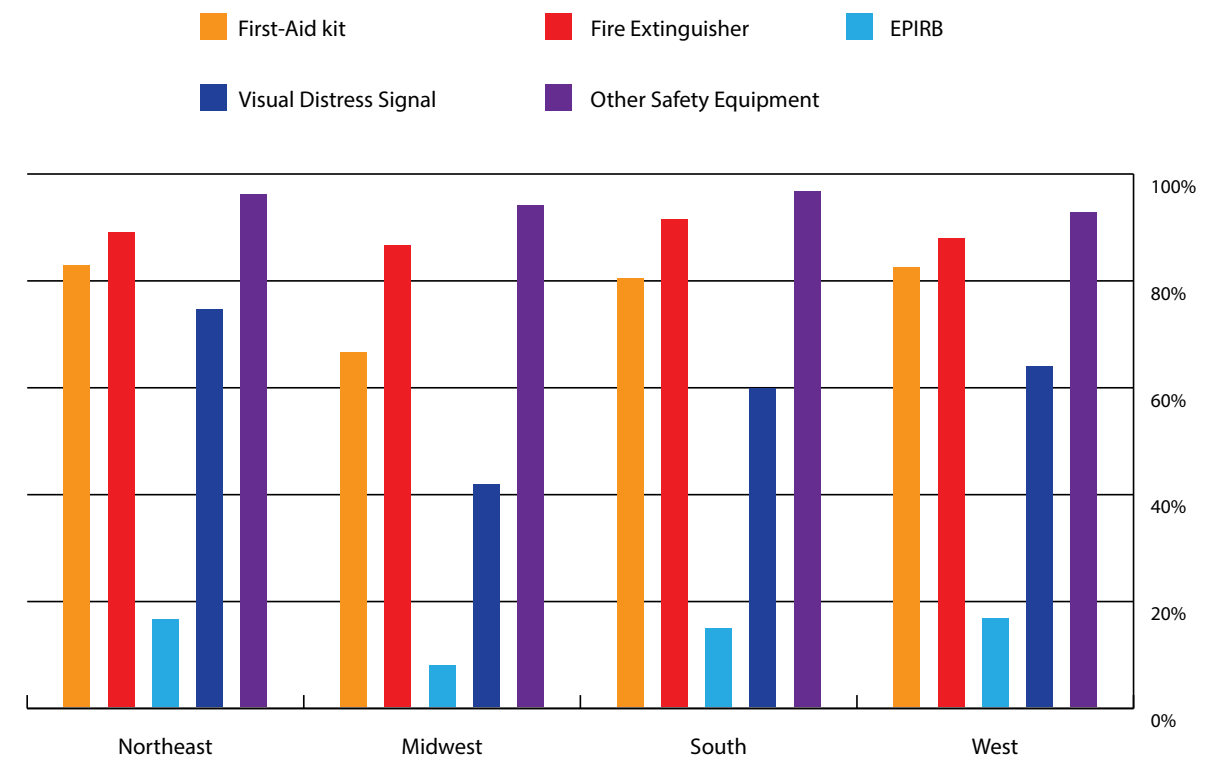
Boating Days with the Specified Safety Equipment Onboard the Boat in 2012 in the U.S. Regions

REGION	BOATING DAYS (THOUSANDS)	FIRST-AID KIT (%)	FIRE EXTINGUISHER (%)	EPIRB ¹	VISUAL DISTRESS SIGNAL (%)	OTHER SAFETY EQUIPMENT (%)
United States	244,203	77.0	89.1	13.2	57.4	95.2
Northeast	39,732	82.7	88.8	16.4	74.4	95.9
Midwest	66,116	66.4	86.4	7.7	41.7	93.9
South	108,980	80.2	91.3	14.7	59.6	96.5
West	28,412	82.3	87.6	16.5	63.8	92.6
Puerto Rico	962	95.1	98.0	25.4	98.5	99.4

¹Emergency Position Indicating Radio Beacon

Figure 10:

Boating Days with the Specified Safety Equipment Onboard the Boat in 2012 in the U.S. Regions²



² The numbers associated with Puerto Rico are too small to yield reliable statistics, and are therefore not reported here.

TABLE 48:
Powerboats' Boating Days with the Specified Safety Equipment Onboard in the U.S. Regions

REGION	NUMBER OF BOATING DAYS (THOUSANDS)	FIRST-AID KIT (%)	FIRE EXTINGUISHER (%)	EPIRB ¹	VISUAL DISTRESS SIGNAL (%)	OTHER SAFETY EQUIPMENT (%)
United States	121,865	80.4	91.7	14.8	61.8	97.3
Northeast	16,192	88.4	93	18.5	78.8	97.6
Midwest	33,072	70.2	89.4	9.9	47.7	95.9
South	58,840	82.5	92.0	15.7	63.5	97.8
West	13,331	86.3	93.7	17.6	66.0	97.8
Puerto Rico	430	99.6	99.6	39.3	99.6	100

¹Emergency Position Indicating Radio Beacon

TABLE 49:
Sailboats' Boating Days with the Specified Safety Equipment Onboard in the U.S. Regions

REGION	NUMBER OF BOATING DAYS (THOUSANDS)	FIRST-AID KIT (%)	FIRE EXTINGUISHER (%)	EPIRB ¹	VISUAL DISTRESS SIGNAL (%)	OTHER SAFETY EQUIPMENT (%)
United States	8,137	80.0	81.4	23.6	79	90.8
Northeast	1,800	89.1	90.3	16.6	91.1	97.2
Midwest	1,390	65.5	65.5	12.7	56.6	80.1
South	3,114	75.1	76.9	27.3	73.4	87.3
West	1,642	89.7	91.7	37.0	93.4	98.7
Puerto Rico	190	98.8	98.8	...	98.8	100

¹Emergency Position Indicating Radio Beacon

... Sample size is too small or estimate has large sampling error

TABLE 50:
Pontoon Boats' Boating Days with the Specified Safety Equipment Onboard in the U.S. Regions

REGION	NUMBER OF BOATING DAYS (THOUSANDS)	FIRST-AID KIT (%)	FIRE EXTINGUISHER (%)	EPIRB ¹	VISUAL DISTRESS SIGNAL (%)	OTHER SAFETY EQUIPMENT (%)
United States	12,694	72.5	90.7	5.0	37.3	95.4
Northeast	1,153	79.9	95.6	...	60.6	100.0
Midwest	6,935	61.3	84.9	...	24.7	91.5
South	4,323	86.3	98.3	7.3	48	99.9
West	283	90.6	91.3	...	62.4	98.1
Puerto Rico	...	...	...	...	...	...

¹Emergency Position Indicating Radio Beacon

... Sample size is too small or estimate has large sampling error

TABLE 51:
PWC's Boating Days with the Specified Safety Equipment Onboard in the U.S.

REGION	NUMBER OF BOATING DAYS (THOUSANDS)	FIRST-AID KIT (%)	FIRE EXTINGUISHER (%)	EPIRB ¹	VISUAL DISTRESS SIGNAL (%)	OTHER SAFETY EQUIPMENT (%)
United States	18,728	61.2	94.1	4.3	39.9	92.8
Northeast	1,606	60.5	93.4	...	62.4	97.0
Midwest	5,546	59.6	94.1	...	35.4	92.2
South	9,420	62.8	94.8	...	36.1	92.8
West	2,029	58.8	91.1	10.5	47.2	90.8
Puerto Rico	127	73.6	96.2	...	100	98.0

¹Emergency Position Indicating Radio Beacon

... Sample size is too small or estimate has large sampling error





RECREATIONAL BOAT OWNERSHIP IN 2012

This section provides statistics on recreational boats owned on January 1, 2012. These statistics are based on data obtained from boat component of the National Recreational Boating Survey. The primary objective of the boat survey was to collect detailed information concerning both registered and non-registered recreation boats that will be owned and available for use on January 1, 2012.

This survey was also conducted to build a panel of recreational boats that were tracked monthly throughout the year 2012 to gather exposure hours. The boat survey was conducted in the fourth quarter of 2011, prior to the reference date of January 1, 2012, but it was assumed that all boats owned during the data collection period were still owned as of the reference date.

This report summarizes key findings of the boat survey. A more detailed statistical profile of the universe of boats in the U.S. can be found in the 2011 National Recreational Boating Survey report.

OWNERSHIP OF DIFFERENT TYPES OF RECREATIONAL BOATS

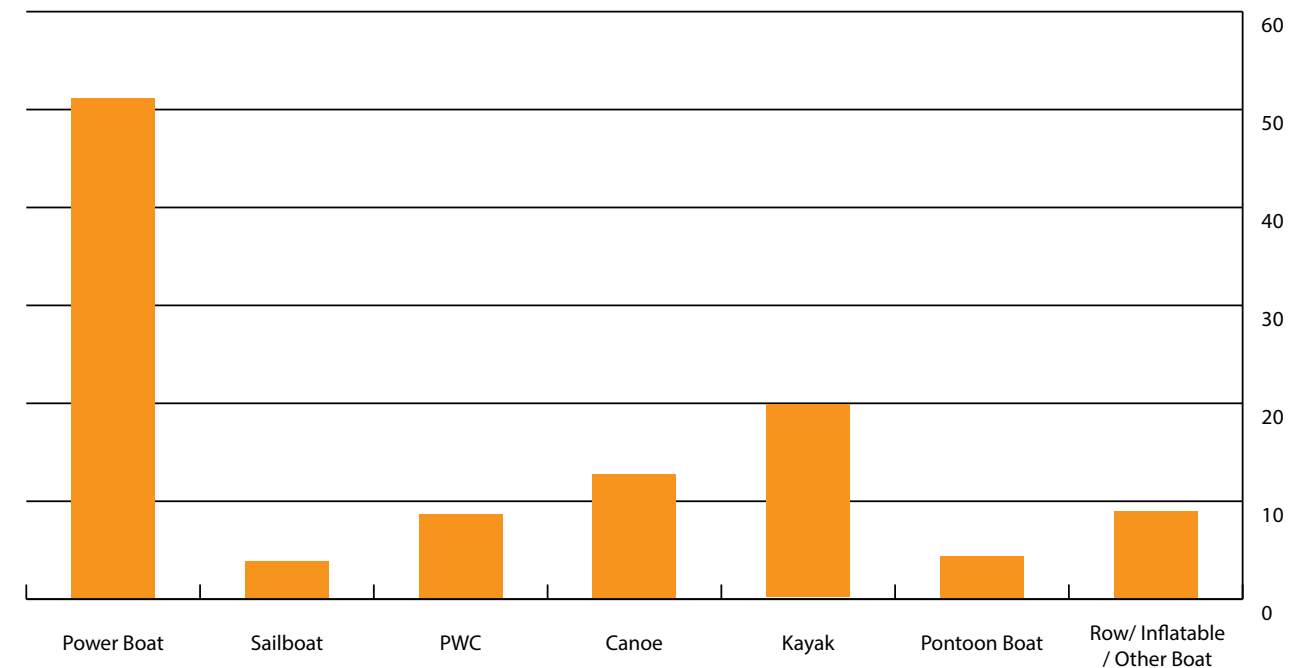
About half (51%) of boat-owning households owned power boats, 3.7% owned sailboats, 8.5% owned personal watercraft (PWCs), 12.6% owned canoes, 19.7% owned kayaks, 4.3% owned pontoon boats, and 8.8% owned row boats or inflatable boats.

The distribution of all boats owned by households across the United States was similar, with power boats representing 45.5% of all boats; sailboats about 3.3%; PWCs 7.6%, canoes about 11.3%, kayaks 17.5%, pontoon boats 3.8%, row/inflatable boats 7.9%, and other boats 3%.

The Northeast had the lowest percentage of power boats (36.7%) and PWCs (4.9%) in comparison with other regions, and had the highest percentage of canoes and kayaks (43.4%) and sailboats (5.4%).

The Midwest and the South had the highest proportions of power boats at 48.6% and 48.5% respectively.

Figure 11: Distribution of Households by Type of Recreational Boat Owned



OWNERSHIP OF DIFFERENT SIZES OF BOATS

About 48% of the 22.2 million recreational boats owned in the U.S. of known size (without Puerto Rico and territories) were less than 16 feet long and about 85% were less than 26 feet. The size of 12% of the boats was unknown. Small boats were particularly common in the Northeast, with more than half (56.5%) being less than

16 feet in length. This is consistent with the high percentage of boats in this region that were not registered. Boats 40 feet or longer comprised less than half of one percent of all recreational boats in the U.S.

Figure 12: Distribution of Recreational Boats in 2011 by Boat Type

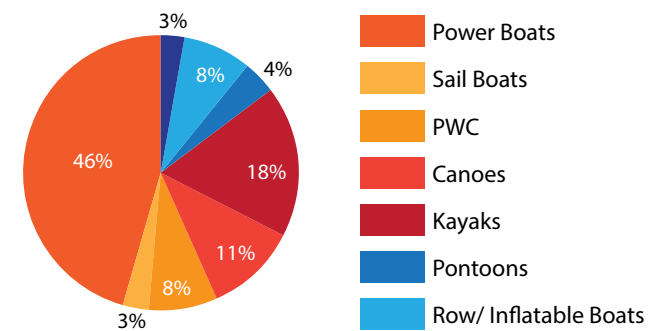


Figure 13: Distribution of Recreational Boats in 2011 by Boat Size

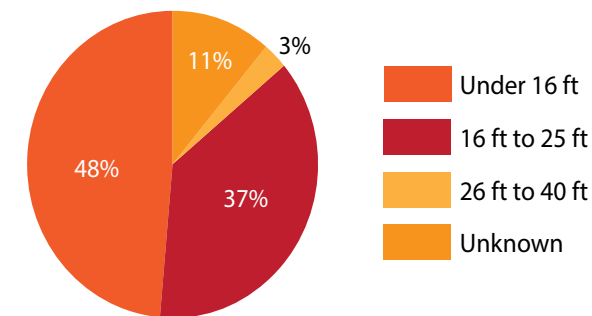


TABLE 52: Distribution of Recreational Boats in 2011 in the United States by Boat Type and Size³

BOAT TYPES	BOAT SIZE								ALL BOATS	
	Under 16ft		16ft to 25ft		26ft to 39ft		Unknown		Number (thousands)	Percent (%)
	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)	Number (thousands)	Percent (%)		
All Boats	10,636	100.0	8,262	100.0	684	100.0	2,536	100.0	22,217	100.0
Power Boats	3,250	30.6	5,840	70.7	463	67.7	495	19.5	10,119	45.5
Sail Boats	336	3.2	262	3.2	94	13.7	16	0.6	733	3.3
PWCs	1,194	11.2	134	1.6	...	...	362	14.3	1,689	7.6
Canoes	1,276	12.0	908	11.0	...	...	319	12.6	2,505	11.3
Kayaks	3,155	29.7	389	4.7	...	...	354	14.0	3,898	17.5
Pontoons	42	0.4	614	7.4	119	17.4	77	3.0	854	3.8
Row/Inflatable Boats	1,383	13.0	115	1.4	...	...	243	9.6	1,747	7.9
Other	...	...	...	...	...	...	671	26.4	671	3.0

... These numbers and percentages are not reported because of the low numbers of responses for these types and sizes of boats.
³Some boat sizes are not reported on this table due to low numbers of responses.



REGISTERED AND NON-REGISTERED BOATS

State boat registration requirements (e.g., size, types of boats that must be registered) differ considerably from state to state. Registration requires the payment of a fee, and the issuance of a registration number and decal that must be affixed to the vessel. In all States, all recreational boats powered by a motor or engine of some sort are required to be registered, and other vessels may be required to be registered as well. In some States, only boats with mechanical propulsion must be registered, but in States such as Ohio all boats must be registered.

Nearly 12.75 million, or 57% of the estimated total number of recreational boats in 2011, were registered. It is estimated that about 9.5 million of the recreational boats owned in the country were not registered. Non-registered boats comprise more than half (55.9%) of all boats in the Northeast and about half of all boats in the West. In comparison, two-thirds of boats owned in the Midwest region were registered.

Figure 14: Recreational Boat Registration Status in 2011 in U.S. Regions

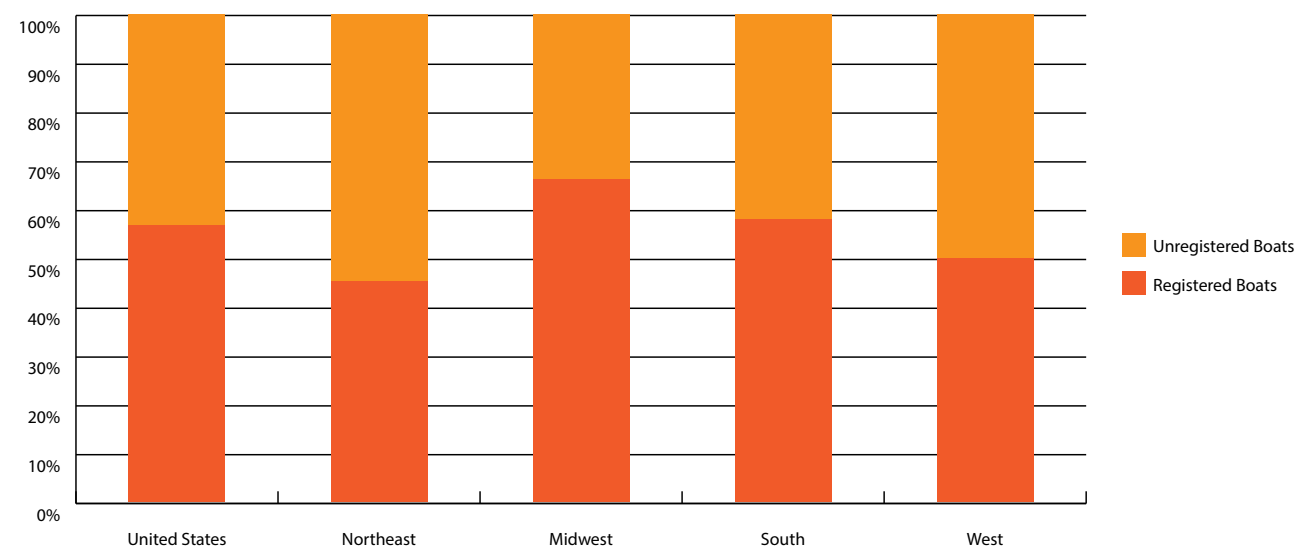


TABLE 53:

Distribution of Recreational Boats in 2011 in the U.S. Regions by Registration Status.

REGION	REGISTERED BOATS ¹ (THOUSANDS)	UNREGISTERED BOATS ² (THOUSANDS)	TOTAL (THOUSANDS)
United States	12,749	9,468	22,217
Northeast	1,592	2,014	3,606
Midwest	4,211	2,047	6,258
South	5,059	3,544	8,603
West	1,887	1,863	3,750

¹ For registered boats, the region represents the region of registration. The state of residence was used when respondents did not know the state of registration or the owner refused to reveal it

² For unregistered boats, the region represents the region of boat owners.





EXPOSURE RATES AND RISK RATIOS

As previously discussed in the introduction, the U.S. Coast Guard is committed to producing and applying more valid and reliable performance measures including boating exposure rates and risk ratios. The survey produced necessary information to estimate boating exposure hours reliably. These estimates are similar in some ways to the Department of Transportation's Federal Highway Administration's estimate of Vehicle Miles Traveled. VMT is the total number of miles driven by all vehicles within a given time period and geographic area. The Federal Highway Administration estimates monthly national VMT with highway traffic volume counts and it also conducts the National Household Travel Survey that collects more specific information about VMT and Americans' driving habits. VMT is used to set various policy and program objectives and as a measure of performance.

The risk of boating-related casualties and deaths is a function of different factors, including the number of days and hours boats are operated and the number of persons aboard boats. If over a certain period of time the number of boating deaths or casualties decreases

5% (e.g., in a particular state), and during that same period the number of boating exposure hours stays relatively stable (e.g., similar number of boats owned, boats used, and boating days) then the risk of deaths and casualties would be reduced. In this situation, it may be valid to attribute the decrease in deaths and casualties to greater effectiveness of boating safety efforts. Currently, the number of deaths and casualties are commonly employed as a stand-alone standard, or as the numerator in a ratio with the number of registered boats as the denominator (e.g., 4 (deaths) /93,000 (registered boats)). However this does not take into account either use rate or non-registered boats. Recently, in some states the number of registered boats has declined in contrast to increases in the numbers of various types of non-registered boats.

The last table includes: exposure hours estimated for every state, Puerto Rico and the District of Columbia, 2012 reported boating accidents, casualties, injuries and deaths, and risk ratios which are the number of deaths and casualties per 100 million (person) exposure hours. This information exposes why, given differences

in the amount of boating activity (e.g., number of boat days, exposure hours), that number of deaths and casualties alone are not sufficiently comprehensive measures for the purpose of assessing or comparing either trends or performance that are in keeping with recommendations (e.g., audit reports) that the USCG develop and employ new criteria for validly evaluating the effectiveness of boating safety programs. For example, one state had 4 reported boating deaths in 2012 and it is estimated that there were 12 million boating exposure hours or 35 deaths per 100 million exposure hours. In comparison, another state also had 4 deaths, but 30 million exposure hours, and a risk ratio of 13 deaths per 100 million exposure hours. The risks of boating casualties and/or deaths in various states can be significantly different even when the number of deaths and casualties are the same, depending on the number of exposure hours. Similarly, risk can decrease even if the number of deaths or casualties remains relatively constant if boating exposure hours increase.

The average risk ratios for the U.S. (including Puerto Rico) in 2012 were 18 deaths/100 million exposure

hours and 101 casualties/ 100 million exposure hours. Average death and casualty risk ratios were lowest in the Midwest region and highest in the West. Alaska had the highest risk of death ratios – 103/100 million exposure hours. The highest risk of casualties were in Nevada (350/100 million exposure hours) and Idaho (345/million exposure hours). Indiana had the lowest risk of death ratio (3/100 million exposure hours) and the risk of casualties was lowest in North Dakota (30/100 million exposure hours).

Exposure hours, estimated for various types of boats, can be utilized to calculate boat-type-specific risk ratios (e.g., canoes, kayaks) since death and casualty reports are required to include the type and size of the boat(s) involved in the incident. These boat-specific risk ratios can assist in allocating available resources to efforts aimed at boats with the highest and or increasing risk ratios. Exposure hours can also be employed to track boating safety-relevant boat use trends such as relative rates of use of specific boat types as well as registered vs. non-registered boats.

TABLE 54:

Boating Casualty Numbers and Ratios per 100 Million Exposure Hours for 2012 by State (also DC and Puerto Rico) and Region

STATE	EXPOSURE HOURS (MILLIONS)	ACCIDENTS	DEATHS	INJURIES	CASUALTIES	DEATHS / 100 MILLION EXPOSURE HOURS	CASUALTIES / 100 MILLION EXPOSURE HOURS
US Total	3,584	4,497	648	2,987	3,635	18	101
Northeast Region	521	610	81	384	465	16	89
CT	36	49	6	26	32	16	88
MA	59	68	17	40	57	29	97
ME	28	48	6	28	34	22	123
NH	30	40	4	22	26	13	87
NJ	103	115	7	80	87	7	85
NY	119	197	27	127	154	23	129
PA	116	59	11	45	56	9	48
RI	14	31	3	15	18	21	129
VT	16	3	0	1	1	...	...
Midwest Region	991	851	122	582	704	12	71
IA	45	33	11	25	36	25	81
IL	73	101	17	77	94	23	129
IN	66	43	2	23	25	3	38
KS	20	27	2	13	15	10	74
MI	213	103	16	65	81	8	38
MN	144	84	15	70	85	10	59
MO	132	141	12	96	108	9	82
ND	10	10	1	2	3	10	30
NE	23	45	8	47	55	35	240
OH	83	136	11	83	94	13	114
SD	12	18	4	12	16	35	139
WI	171	110	23	69	92	13	54
South Region	1,558	2,033	270	1,365	1,635	17	105
AL	73	71	17	47	64	23	88
AR	48	68	8	50	58	17	121
DC	1	2	0	2	2	...	...
DE	12	13	2	7	9	17	78
FL	370	662	50	398	448	14	121
GA	123	111	13	80	93	11	76
KY	69	47	8	22	30	12	44
LA	104	116	25	84	109	24	105
MD	41	145	11	123	134	27	330
MS	42	57	12	39	51	28	121

TABLE 54 CONT:

STATE	EXPOSURE HOURS (MILLIONS)	ACCIDENTS	DEATHS	INJURIES	CASUALTIES	DEATHS / 100 MILLION EXPOSURE HOURS	CASUALTIES / 100 MILLION EXPOSURE HOURS
NC	134	145	23	97	120	17	90
OK	92	71	15	56	71	16	78
SC	101	108	14	85	99	14	98
TN	73	147	21	99	120	29	165
TX	164	162	32	104	136	19	83
VA	99	89	15	63	78	15	79
WV	14	19	4	9	13	28	90
West Region	479	1002	173	656	829	36	173
AK	21	23	22	5	27	103	126
AZ	32	99	4	77	81	12	252
CA	178	365	49	249	298	28	168
CO	22	46	9	36	45	41	207
HI	8	28	5	6	11	65	143
ID	17	66	11	47	58	66	345
MT	21	17	10	5	15	47	71
NM	0	18	1	13	14	...	...
NV	14	57	4	46	50	28	350
OR	53	70	19	30	49	36	92
UT	31	99	8	66	74	26	241
WA	74	105	30	63	93	41	126
WY	7	9	1	13	14	14	192
PR	35	1	2	0	2	6	6

... Unreliable number due to large statistical error



CONCLUSION



The 2012 NRBS produced a great amount of data about recreational boats and boating on different types and sizes of boats in the country. While comparisons will certainly be made between the results from the NRBS with other boating surveys, it is important to comprehensively understand the methods (e.g., sampling and sample sizes, modes of data collection, survey instruments, weighting) employed in both the Participant and Trip Surveys that collected the data that produced the results presented in this report. While various organizations either regularly or periodically collect boating data, it is highly improbable that they collected the identical data for the same time period, or employed the same collection and analysis methods as the NRBS.

The USCG is committed to efforts to collect accurate and reliable information that can be used to identify and analyze long-term trends and to assist in evaluating the performance of different boating safety-related programs. It is determined to conduct research that

produces valid and reliable exposure estimates and to enhance boating and accident statistics (e.g., accuracy, completeness, timeliness) to be used to calculate Recreational Boating Risk Ratios. It recognizes that this will require a concerted effort to: keep costs down and to produce data that is viewed to be valid, reliable, meaningful and conveniently accessible. This cooperation will include sharing data, data collection instruments and methods with other federal and state agencies (e.g., U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, NOAA,) and organizations (e.g., National Boating Safety Advisory Council, National Association of State Boating Law Administrators, National Safe Boating Council, U.S. Power Squadrons,) that collect and/or use recreational boating data.

The USCG expects to conduct its next NRBS in 2015. In an effort to reduce costs while continuing to enhance the accuracy of the data that are produced, the USCG will entertain applications from qualified nongovernmen-

tal organizations primarily in existence to provide public service. A Funding Opportunity Announcement titled Boating Safety Data Collection and Analysis (DHS-US-CG-2014-002) that was released in January 2014 includes requirements for the 2015 survey, and outlines the survey requirements and expected outcomes.

The 2012 National Boating Survey produced a variety of different data much of which are currently being analyzed or remain to be analyzed. The spending data that were collected as part of the Trip Survey are now being analyzed for possible use in a new web-based boating economic impact tool. The survey produced data on boat use for many different types of boats around the country along with information (e.g., socioeconomics) about their owners. There are also many opportunities to conduct methodological studies including statistical comparisons between survey data collected on telephone and web surveys and comparing the different statistical methods for estimating exposure rates. The USCG is interested in facilitating other agencies, organizations and universities to conduct analyses using the data. The databases, survey instruments and methodologies can be downloaded from the U.S. Coast Guard Boating Safety Division's website, www.uscgboating.org.

