

2002 MARINER SURVEY

Principal Findings

June 2003

EXECUTIVE SUMMARY

The 2002 Mariner Survey is a follow-up to the first survey of merchant mariners conducted during 2001. The major focus of the 2002 survey effort was to update and expand information on key readiness and training issues. Of those who completed a survey, findings show that the majority of mariners:

- are working in the industry,
- are sailing or attempting to sail on ocean-going vessels, and
- are planning to serve at sea in the future and have or intend to obtain a Standards of Training, Certification, and Watchkeeping (STCW) 95 certificate.

In response to questions about volunteering for a National Defense emergency, the majority of mariners report that they:

- would volunteer for a National Defense mission,
- would be willing to serve for three months or longer, and
- would be willing to serve three or more tours and could report in nine days or less.

An indepth analysis of mariners' willingness to serve in a National Defense emergency based on their qualifications and recency of sailing is presented in a report entitled "Mariner Availability During a Total Prolonged Surge (TPS)."

BACKGROUND

The Maritime Administration (MARAD) contracted with the Bureau of Transportation Statistics (BTS) to conduct a follow-up to the 2001 Mariner Survey. The focus of the follow-up survey was to provide MARAD with:

- general information on mariners qualified for deep sea service;
- qualifications held by Mariners by license/documentation;



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- current status of meeting Standards of Training, Certification, and Watchkeeping (STCW) 95 qualifications;
- recency of sailing experience; and
- willingness to sail in an emergency.

The information provided by the survey will allow MARAD to:

- clarify the issues regarding the existence of mariner shortages,
- assess mobilization readiness,
- tailor training and recruitment programs to specific shortage areas, and
- justify resource needs.

The *2002 Mariner Survey* was developed with the additional goal of providing validation of some findings from the earlier study and offering a more detailed look at the difficulty of locating mariners.

METHODOLOGY

BTS and MARAD developed an 8-page, 36-item questionnaire¹ to collect information from a sample of merchant mariners. The first mailing of the questionnaire occurred on May 17, 2002. A second mailing was conducted on June 17, 2002 for nonrespondents whose questionnaires had not been returned as undeliverable by the postal service. Beginning July 22, 2002, a telephone follow-up was conducted for all nonrespondents (including mariners whose surveys had been returned by the post office). A third mailing was sent to nonrespondents who agreed to complete the questionnaire (see Table 1 for actual contact rates). Data collection was closed on September 6, 2002, ending a 16-week data collection period.

Sample Selection

The U.S. Coast Guard (USCG) is the lead federal agency for regulating, licensing, and documenting professional merchant mariners. The USCG's Merchant Mariner Licensing and Documentation (MMLD) system provides information on the qualifications and reported seafaring employment for both actively sailing and inactive mariners.

At the time of the survey, the MMLD contained information on over 200,000 individuals. From that file, a target population was identified of all mariners with documents appropriate for deep-sea employment who held an Unlimited License or who were unlicensed and who had completed a document transaction within the last six years.

The six-year time frame was selected because all mariners are required to renew licenses and documents on a five-year cycle. Extending the time frame to 6 years allowed inclusion of mariners whose documents were less than 12 months out of date on the assumption that some proportion of these mariners would renew before the 12-month window for renewal had elapsed.

The final target population contained a total of 78,921 mariners—18,394 Unlimited License (UL) Mariners and 60,527 Unlicensed Mariners. A sample of mariners was randomly selected from each of the two groups. Sample sizes were large enough to ensure sufficient numbers from each group to maintain 95% confidence intervals for subgroups (e.g., sailing status or specialty). Calculations included projected response rates for each group based on the response rates from the 2001 survey. The final sample included 1,796 UL Mariners and 3,479 Unlicensed Mariners.

¹ Available on the BTS website at http://www.bts.gov/omnibus/targeted/2002mariner_survey.

Reliability of the Estimates

The findings summarized in this report are estimates derived from a sample survey. There are two major components of error in a sample survey—sampling and nonsampling error.

Sampling Error. Sampling error occurs because findings are based on a sample, rather than on the entire population. The total respondent pool for the mariner survey is 2,255 for an estimated sampling error of about $\pm 2\%$ at the 95% confidence level. This means that if a series of comparably sized samples were drawn from the current mariner population, 95% of the time results from those samples would fall within a range of $\pm 2\%$ of the results reported for the current sample. Sampling errors are larger for sample subgroups, such as Unlicensed Mariners ($\pm 3\%$), because the respondent pool is smaller.

Nonsampling Error. Estimates are subject to various errors during the survey process, such as data collection, response coding, transcription, and data-editing errors. These errors would also occur if a complete census was conducted under the same conditions as the sample survey. Explicit measures of the effects of these errors are not available. However, stringent quality control procedures were followed during data entry, and the questionnaire was reviewed and pretested in an effort to minimize nonsampling errors associated with data entry and questionnaire design.

Nonresponse error is a function of both the nonresponse rate and the differences, if any, between respondents and nonrespondents. Approximately 2,600 nonrespondents had telephone numbers in the database. About 900 of those mariners or their representatives were reached by phone. Of that group, 237 agreed to complete the survey, 327 refused to participate, and 391 were either not available (on a ship) or were physically unable to

participate. Of the 327 mariners who refused to participate, the majority disconnected from the interviewer without answering the questions about their future plans. However, data collected from nonrespondents during the 2001 survey showed little differences between respondents and nonrespondents on the critical issues addressed by the survey (see *2001 Mariner Survey: Comparison of Phone and Mail Survey Results*).

Response Rates

Final response rates for the survey were calculated using the American Association for Public Opinion Research guidelines (known as RR3) and are reported in Table 1.

Unlimited Licensed (UL) Mariners (63%) were much more likely than Unlicensed Mariners (33%) to complete a survey questionnaire. In addition, there is a substantial difference in the percent of mariners located during the survey. While 75% of UL Mariners were located, only 53% of Unlicensed Mariners were located which may, to some degree, account for the differences in response rate.

SURVEY RESULTS

Current Industry Status

About 80% of UL Mariners were working in the industry at the time of the survey (see Table 2). Over half (56%) of UL Mariners reported that they were either sailing or attempting to sail. An additional 24% reported that they were working ashore in a merchant-marine-related position.

In contrast, about 67% of Unlicensed Mariners reported that they were working in the industry. Slightly more than half (52%) reported that they were sailing or attempting to sail while 15% reported that they were working ashore in a merchant-marine-related position.

Table 1. Survey Response¹

	Unlimited License Mariners	Unlicensed Mariners	Total mariners
Response rates			
Mailed out	1,796	3,479	5,275
Ineligible (deceased)	9	15	24
Final eligible sample	1,787	3,464	5,270
Completed	1,124	1,131	2,255
Survey Response Rate	63%	33%	43%
Breakdown of nonrespondents			
Located—refused to participate	71	256	327
Located—agreed but did not return survey	52	134	186
Located—on a ship and could not complete survey	94	267	361
Located—disabled and unable to complete	2	28	30
No contact (wrong address/phone or no return)	444	1,648	2,092
Total located (completions/deceased/located)	75%	53%	60%

¹ Rates are calculated as follows: completed interviews [(completed interviews + partial interviews) + (refusals + Non-contacts + other) + e], where e is an estimate of the proportion of unknown outcomes that are eligible. e was calculated based on the number of returns or phone calls that indicated a sample member was deceased (0.5% of the total sample).

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Table 2. Current Industry Status

	Unlimited License Mariners	Unlicensed Mariners
Working in the industry	80%	67%
Sailing/attempting to sail	56%	52%
Working ashore	24%	15%
Not working in the industry	20%	33%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Those UL Mariners who were sailing or attempting to sail were more likely to report that they were sailing on ocean-going vessels (73%) than on inland vessels (11%), Great Lakes vessels (5%), or some other type of vessel (11%).

Unlicensed mariners who were sailing or attempting to sail were also more likely to report that they were on ocean-going vessels (see Table 3) than on other types of vessels.

Table 3. Vessel Assignment

Type of vessel	Unlimited License Mariners	Unlicensed Mariners
Ocean-going	73%	57%
Inland	11%	22%
Great Lakes	5%	6%
Some other type	11%	15%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Future Service to the Industry

About 7 out of 10 UL Mariners (72%) and Unlicensed Mariners (73%) report that they intend to serve at sea (or in a position for which the Coast Guard gives credit for sea time) in the future (see Table 4). About 6 out of 10 UL Mariners (63%) and 7 out of 10 (71%) Unlicensed Mariners report that they plan to work as a merchant mariner until eligible for retirement.

Table 4. Mariners' Future Plans

Future plans	Unlimited License Mariners	Unlicensed Mariners
Serve at sea in the future		
Yes	72%	73%
No	28%	27%
Serve until retirement		
Yes	63%	71%
No	37%	29%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Mariners were asked to estimate how many more years they plan to work as a mariner before quitting or retiring. Over half (57%) of UL Mariners indicated they would spend less than 10 more years in the industry. In contrast, 58% of Unlicensed Mariners reported that they would stay 10 or more years (see Table 5).

Table 5. Length of Future Service

Time period	Unlimited License Mariners	Unlicensed Mariners
4 years or less	34%	24%
5-9 years	23%	18%
10-14 years	19%	19%
15-19 years	11%	14%
20 or more years	14%	25%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Current Document Status

Nine out of 10 UL Mariners (92%) and Unlicensed Mariners (94%) report that they have an active merchant mariner document (MMD or Z card). Two percent of UL Mariners and 3% of Unlicensed Mariners report that they have an expired card that they plan to renew.

Status of STCW 95 Certificates

About 9 out of 10 (92%) UL mariners who sail on vessels requiring an STCW 95 certificate report that they have obtained a certificate and an additional 6% report that they are planning to obtain one. Only 2% of UL Mariners report that they do not plan to complete the requirements to obtain their certificate (see Table 6).

Table 6. Current STCW 95 Status

STCW 95 status	Unlimited License Mariners	Unlicensed Mariners
Yes, I have one	92%	71%
No, but getting one	6%	19%
No, not getting one	2%	10%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

In contrast, only about 7 out of 10 (71%) Unlicensed Mariners who sail on vessels requiring an STCW 95 certificate had obtained certificates at the time of the survey. An additional 19% reported that they plan to obtain one and 10% reported that they did not plan to complete the requirements for the STCW 95 certificate.

Mariners who have or are pursuing an STCW 95 certificate were asked to identify the courses that they had already completed. The majority of UL Mariners have completed two of the three classes required of all UL mariners (see Table 7), and the majority of Deck Officers have completed their required courses.

Of the three required courses listed for Unlicensed Mariners, more than 9 out of 10 (96%) have completed Basic Safety Training while 41% have completed Advanced Firefighting and 13% report having completed Person-in-Charge training.

Table 7. STCW 95 Course Completion

Course title	Unlimited License Mariners	Unlicensed Mariners
Basic Safety	98%	96%
Advanced Firefighting	88%	41%
Person-in-Charge	57%	13%
Bridge Resource Management (Deck Officers)	97%	NA
ARPA (Deck Officers)	94%	NA
GMDSS (Deck Officers)	87%	NA

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Impact of Reemployment Rights

One out of two UL Mariners (50%) and one out of three (34%) Unlicensed Mariners report that the legal right to return to a regular job *would* influence their decision to volunteer for a position on a vessel with a national defense mission. Of those who would be influenced, about 9 out of 10 reported that they would volunteer.

Volunteering for a National Defense Mission

Overall, 77% of UL Mariners and 67% of Unlicensed Mariners indicated that they would volunteer in the event of a national defense emergency (see Table 8).

Table 8. Volunteering for National Defense Service

	Unlimited License Mariners	Unlicensed Mariners
Would volunteer	77%	67%
For commercial or government	58%	52%
For commercial only	17%	8%
For government only	2%	6%
Would not volunteer	23%	33%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Slightly less than half of UL Mariners (46%) and more than half (56%) of Unlicensed Mariners report that they would be willing to serve five or more months. The majority of UL Mariners (92%) and Unlicensed Mariners (90%) would like to have a break of one to four months between tours. Given their desired tour and break length, the majority of UL Mariners (67%) and Unlicensed Mariners (72%) would be willing to serve three or more tours.

Table 9. Length of Service

	Unlimited License Mariners	Unlicensed Mariners
Length of tour		
2 months or less	16%	18%
3-4 months	38%	26%
5-6 months	16%	19%
>6 months	30%	37%
Length of break between tours		
2 months or less	53%	71%
3-4 months	39%	19%
5-6 months	5%	6%
>6 months	3%	4%
Optimal number of tours		
1	6%	7%
2	27%	21%
3	18%	16%
4 or more	49%	56%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

About half (53%) of UL Mariners and two-thirds (67%) of Unlicensed Mariners report that the lowest billet they would accept for a national defense mission is their highest license or rating. An additional 34% of UL Mariners and 25% of Unlicensed Mariners indicate that they would accept a billet no more than one level below their highest status.

About 3 out of 10 UL Mariners (33%) and 4 out of 10 (38%) Unlicensed Mariners indicate that they could report for a national defense mission in less than 4 days (see Table 10). An additional 43% of UL Mariners and 40% of Unlicensed Mariners could report within 4 to 9 days.

Table 10. Reporting for National Defense Service

Days to report	Unlimited License Mariners	Unlicensed Mariners
< 4 days	33%	38%
4 - 9 days	43%	40%
> 9 days	25%	21%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

U.S. Passport Status

About 86% of UL Mariners and 57% of Unlicensed Mariners report that they have a current U.S. passport. Of those mariners with a passport, about 70% report that their passport does not expire until 2005 or beyond.

Active Duty Military, Reserve, and National Guard Status

About 11% of UL Mariners report that they are currently active in a Reserve or Guard unit and an additional 12% report that they are retired from such a unit. Less than 5% of Unlicensed Mariners are active or retired members of a Reserve or Guard unit.

Among UL Mariners with Reserve or Guard membership, the majority (77%) report that they are active or retired members of the Naval Reserve–Merchant Marine Reserve. An additional 17% are active or retired members of the Naval Reserve–Other.

Less than 2% of either group of mariners are currently members of the Active Duty Armed Forces.

Most Recent Physical Exam

Over 80% of both UL and Unlicensed Mariners underwent a physical exam during the last two years.

FINDINGS SPECIFIC TO UNLIMITED LICENSED MARINERS

Current Mariner License Status

About 85% of UL Mariners report that they have an active USCG issued license and an additional 13% report that they have an inactive license (renewed for continuity).

About two out of three UL Mariners (64%) report that they are either at the top of their license or that they will upgrade at some point in the future (see Table 11).

Table 11. Upgrade Plans for Active License

Days to report	Unlimited License Mariners
Cannot upgrade higher	36%
Yes, during 2002	8%
Yes, during 2003	11%
Yes, after 2003	10%
Not planning to upgrade	24%
Don't know	12%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Deck Licenses and Sailing Experience

The population of UL Mariners is fairly evenly divided by type of license with 47% holding a deck license, 49% holding an engineer license, and 4% holding both.

The most frequently reported type of Deck license held by UL Mariners is Master of vessels of any gross tonnage (38%) and the least frequently reported is Mate of limited tonnage vessels (2%) (see Table 12).

Table 12. Types of Deck Licenses Held by Unlimited Mariners

Deck license	Unlimited License Mariners
Master of any tonnage vessel	38%
Third Mate of any tonnage	31%
Master of limited tonnage	23%
Second Mate of any tonnage	17%
First Class Pilot License	17%
Chief Mate of any tonnage	13%
Mate of limited tonnage	2%

NOTE: Percentages sum to greater than 100% because respondents were allowed to mark all licenses that they held whether active, inactive, or expired.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

About three out of four (73%) UL Mariners holding a license as a First Class Pilot report that they have sailed under that license during the last four years (see Table 13). However, for the remaining Deck licenses, the majority of UL Mariners report that they have either never sailed under that license or their last experience is prior to 1999 (ranging from 50% to 76%, indicating that 50% or less of mariners report experience during the last four years).

Table 13. Recency of Sailing Under a Deck License

Deck license	1999- 2002	Prior to 1999	None
First Class Pilot	73%	19%	8%
Mate-limited tonnage	50%	17%	33%
Chief Mate—any tonnage	47%	32%	21%
Second Mate—any tonnage	43%	38%	19%
Master—any tonnage	41%	32%	27%
Master—limited tonnage	37%	18%	45%
Third Mate—any tonnage	24%	31%	45%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

UL Mariners holding a Deck license were also asked to describe the recency of their sailing experience on nine specific types of vessels. For six of the nine vessel types, less than 10% of UL Mariners reported sailing experience in the last four years (see Table 14). The four vessels showing the highest levels of recent experience include tankers (24%), container ships (19%), roll-on/roll-off (17%), and oil-gas-mineral vessels (10%).

An additional 26% of UL Mariners reported that their most recent sailing experience had been on a type of vessel not listed in the survey. In their written comments, a number of mariners identified those other vessels. The most frequently mentioned were casino/cruise ships, ferryboats, hopper dredges, mobile offshore drilling units (MODU), research vessels, supply boats, and tugboats.

Table 14. Vessel Experience Using a Deck License

Types of vessels	1999- 2002	Prior to 1999	None
Tanker	24%	43%	33%
Container ship	19%	27%	54%
Roll-on/roll-off (RoRo)	17%	22%	61%
Oil-gas-mineral	10%	14%	76%
Ocean towing	9%	23%	68%
Bulk	9%	23%	68%
Break bulk	8%	41%	51%
Gas carrier	4%	5%	91%
Fishing	3%	13%	84%
Other vessels	26%	38%	36%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Engineer Licenses and Sailing Experience

UL Mariners who hold an Engineer's License are most likely to work on motor or steam vessels. For example, 85% of UL Mariners who hold a license as Chief

Engineer for a motor vessel also hold a license for one of the four engineering positions on a steam vessel. Table 15 provides the percentages of all Engineers who reported holding a particular Engineer License.

Table 15. Types of Engineer Licenses Held by Unlimited Mariners

Engineer licenses	Unlimited License Mariners
Motor vessels-any horsepower	
Chief Engineer	36%
First Assistant Engineer	14%
Second Assistant Engineer	10%
Third Assistant Engineer	37%
Steam vessels-any horsepower	
Chief Engineer	28%
First Assistant Engineer	15%
Second Assistant Engineer	10%
Third Assistant Engineer	35%
Motor vessels-limited horsepower	
Chief Engineer	11%
Assistant Engineer	2%
Designated Duty Engineer	4%
Gas turbine vessels-any horsepower	
Chief Engineer	19%
First Assistant Engineer	8%
Second Assistant Engineer	5%
Third Assistant Engineer	9%
Other Engineer License	4%

NOTE: Percentages sum to greater than 100% because respondents were allowed to mark all licenses that they held whether active, inactive, or expired.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

UL Mariners holding one of the following four engineering licenses are most likely to report recent (within the last four years) sailing experience: Second Assistant Engineer for a motor vessel of any horsepower (51%), Chief Engineer for a motor vessel of limited horsepower (45%) or any horsepower (44%),

and Assistant Engineer for a motor vessel of limited horsepower (see Table 16). For the remaining engineer licenses, the majority of UL Mariners report that they have either never sailed under that license or their last experience is prior to 1999 (ranging from 61% to 97%, indicating that 39% or less of mariners report experience during the last four years).

Table 16. Recency of Sailing Under an Engineer License

Engineer licenses	1999- 2002	Prior to 1999	None
Motor vessels-any horsepower			
Second Assistant Engineer	51%	15%	34%
Chief Engineer	44%	27%	29%
First Assistant Engineer	39%	20%	41%
Third Assistant Engineer	26%	29%	45%
Steam vessels-any horsepower			
Chief Engineer	34%	40%	26%
First Assistant Engineer	33%	36%	31%
Second Assistant Engineer	25%	46%	29%
Third Assistant Engineer	18%	37%	45%
Motor vessels-limited horsepower			
Chief Engineer	45%	33%	22%
Assistant Engineer	42%	29%	29%
Designated Duty Engineer	28%	24%	48%
Gas Turbine Vessels-any horsepower			
Chief Engineer	5%	1%	94%
Second Assistant Engineer	4%	5%	91%
Third Assistant Engineer	4%	5%	91%
First Assistant Engineer	3%	3%	94%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

UL Mariners holding an engineer's license were also asked to describe the recency of their sailing experience on nine specific types of vessels. Less than 10% of UL Mariners reported sailing experience in the last four years for five out of nine vessel types (see Table 17). The four vessels

showing the highest level of recent experience include tankers (23%), container ships (19%), RoRo (16%), and bulk vessels (13%). An additional 23% of UL Mariners reported that their most recent engineering sailing experience had been on a type of vessel not listed in the survey.

Table 17. Vessel Experience Using an Engineer License

Types of vessels	1999-2002	Prior to 1999	None
Tanker	23%	46%	31%
Container ship	19%	27%	54%
Roll-on/roll-off (RoRo)	16%	24%	60%
Bulk	13%	27%	60%
Break bulk	7%	35%	58%
Ocean towing	6%	14%	80%
Oil-gas-mineral	4%	10%	86%
Gas carrier	3%	7%	90%
Fishing	3%	7%	90%
Other vessels	23%	33%	44%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

FINDINGS SPECIFIC TO UNLICENSED MARINERS

Current Mariner Rating Status

About 75% of Unlicensed Mariners reported their current rating. Of the 21 ratings listed in the survey, 9 ratings accounted for 86% of the mariners who reported ratings (see Table 18). Detailed information on the other 12 ratings are available on request, but the number of mariners selecting these individual ratings is too small to provide reliable information for the population as a whole.

Table 18. Ratings for Unlicensed Mariners

Rating	Unlicensed Mariners
Wiper	55%
Ordinary Seaman	53%
Food Handler	40%
Steward	26%
Able Seaman-unlimited	24%
Cook	12%
Qualified Member of the Engineering Department (QMED)-Oiler	11%
Able Seaman-limited	7%
QMED-Fireman/Water Tender	6%
Remaining 12 ratings account for less than 4% of mariners reporting ratings.	

NOTE: Percentages sum to greater than 100% because respondents were allowed to mark all ratings that they held.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

The most frequently selected ratings were Wiper (55%), Ordinary Seaman (53%), Food Handler (40%), Steward (26%), and Able Seaman, unlimited rating(24%). They accounted for over 70% of the mariners reporting a rating.

Among all Unlicensed Mariners who responded to the survey, 13% did not provide information on their plans to upgrade their current rating, and an additional 14% reported that they did not hold a rating. Of the remaining Unlicensed Mariners, 20% reported that they did not plan to upgrade, and an additional 16% were not sure (see Table 19). Less than half of Unlicensed Mariners report that they are either at the top of their rating or that they will upgrade at some point in the future.

Table 19. Upgrade Plans for Unlicensed Mariners

Upgrade plans	Unlicensed Mariners
Cannot upgrade higher	8%
Yes, in 2002	13%
Yes, in 2003	10%
Yes, after 2003	8%
Not planning to upgrade	20%
Don't know	16%
No rating/no response	27%

NOTE: Percentages sum to greater than 100% because respondents were allowed to mark all ratings that they held.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

Unlicensed Mariners and Sailing Experience

Unlicensed mariners are much more likely to report recent sailing experience (sailed in the last four years) than are UL Mariners (see Tables 13, 16, and 20). The majority of Unlicensed Mariners with ratings of Able Seaman-unlimited (88%), Able Seaman-limited (85%), QMED-Oiler (68%), and Cook (65%) have sailed under those ratings in the last four years. In addition, almost half of Stewards (46%) and Ordinary Seaman (45%) have sailed under those ratings in the last four years.

Table 20. Recency of Sailing for Unlicensed Mariners

Rating	1999-2002	Prior to 1999	None
Able Seaman-unlimited	88%	13%	9%
Able Seaman-limited	85%	11%	4%
QMED-Oiler	68%	21%	11%
Cook	65%	20%	15%
Steward	46%	15%	39%
Ordinary Seaman	45%	24%	31%
Food Handler	34%	25%	41%
Wiper	29%	27%	44%
QMED-Fireman/Water Tender	16%	47%	37%

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics and Maritime Administration, *2002 Mariner Survey, Principal Findings*, Washington, DC.

The Office of Survey Programs, Bureau of Transportation Statistics, produced this report. Additional information can be obtained by contacting the Maritime Administration's Office of Public Affairs at (202) 366-5807.