A Report on the Strategic Plan of the National Recreational Boating Safety Program



2012–2016

A plan developed in partnership with national boating safety organizations and the United States Coast Guard

The following partners in boating safety endorse this Strategic Plan:

American Boat & Yacht Council (ABYC)

American Canoe Association

Association of Marina Industries

American Sailing Association

Boat-Ed

Boater Exam

BoatU.S. Foundation

Boy Scouts of America

Forever Resorts

National Association of State Boating Law Administrators

National Boating Federation

National Boating Safety Advisory Council

National Drowning Prevention Alliance

National Marine Manufacturers Association

National Safe Boating Council

National Water Safety Congress

Personal Flotation Device Manufacturers Association

Revere Survival Products

Sea Tow Foundation

Spirit of America Foundation

United Safe Boating Institute

U.S. Army Corps of Engineers

U.S. Coast Guard

U.S. Coast Guard Auxiliary

U.S. Power Squadrons

U.S. Sailing

Volvo Penta

Water Sports Industry Association

Coordinated by the National Boating Safety Advisory Council and
the U.S. Coast Guard

Foreword

To America's Boating Community,

We are proud to present to you the Strategic Plan of the National Recreational Boating Safety (RBS) Program for the years 2012-2016. It builds upon successes and closes gaps identified in our first Plan for 2007-2011.

Since 1971, when the U.S. Congress created the National RBS Program, the estimated number of recreational boaters has more than doubled while the number of boating casualties has decreased by over 50%. While we are proud of the Program's progress, we have much work to do. The goal of the Plan is to continue this downward trajectory by achieving specific objectives and strategies. We have developed or are developing means of measuring each of these objectives to track our progress and will report our progress on an annual basis.

As with other modes of transportation and recreation, it is difficult to predict when an accident may occur. Please take a moment and use your preferred web browser to search the term "Boating Deaths." As you skim through accounts of these tragedies, ask yourself: if these were your friends or family, if you had been present before this accident occurred, what specific actions would you have taken? Then ask yourself, how can we work together to prevent these types of events from occurring? Perhaps you could help the operator better-understand the "rules of the road." Perhaps you could invite the occupants to wear a comfortable, lightweight, inflatable life jacket. Perhaps you could encourage the boaters to take a quick and often fun boating safety class and on-the-water boat operation training. By thinking through how you would influence these behaviors, you have now started your own strategic planning process.

This Plan is a product of collaboration between the U.S. Coast Guard and leaders of the nation's boating safety community, many of whom volunteered their organizations' time and their personal time to create and implement this Plan. Without the thousands of hours volunteered, this Plan would not be possible.

We want to thank these partners for their hard, smart work and we hope you will join us to help implement the ambitious strategies in this Plan.

James P. Muldoon, Chairman,
National Boating Safety Advisory Council

Fred Messmann, Chairman,
Strategic Planning Panel

M. D. Rizzo, CAPT
Chief, Office of Auxiliary and Boating Safety
U.S. Coast Guard

Executive Summary

This Report on the Strategic Plan of the National Recreational Boating Safety (RBS) Program, describes the goals, objectives, and strategies to reduce recreational boating injuries and deaths for the years 2012-2016. It serves as the primary framework for programmatic decision-making, budgeting, and program evaluation. This Plan builds upon the Strategic Plan for 2007-2011. While many of the objectives and strategies are similar, we have honed them based on lessons learned from the previous Plan.

It also contains a brief history of the National RBS Program, the need for a strategic plan, the process, future steps, and appendices with acronyms.

This Report is the result of efforts of many partners of the National RBS Program and was designed so that anyone interested in planning can learn from this process, and partners in boating safety can incorporate parts of it into their own organization's strategic plans.

Endorsers of the 2012-2016 Strategic Plan of the National Recreational Boating Safety Program



Photo taken at the International Boating and Water Safety Summit in Savannah, GA, March 7, 2011.

(From left to right) Standing: Scott Swanby, Revere Survival Products; William Griswold, USBI; Jim Vass, USCGAUX; Linda Nutt, Army Corps of Engineers; Larry Meddock, WSIA; Wade Blackwood, ACA; Virgil Chambers, NSBC; Robert Ogoreuc, NDPA; Jim Graybeal, NASBLA; Chris Edmonston; BoatUS Foundation; Kerry Moher, Boater Exam; Dorothy Takashina, PFDMA; Gary Owen, NWSC, Frank Dvorak, USPS; David Lumian, ASA; Gail Kulp, Sea Tow Foundation; Kurt Kalkomey, Boat-Ed; Skip Burdon, ABYC; Richard Jepsen, US Sailing; Jeff Hoedt, USCG.
Seated: Rear Admiral Kevin S. Cook, U.S. Coast Guard; James Muldoon, NBSAC; Captain Mark Rizzo, U.S. Coast Guard; Fred Messmann, NBSAC, Strategic Planning Panel; Keith Christopher, Boy Scouts of America; Cecilia Duer, SOA.

A Report on the Strategic Plan of the National Recreational Boating Safety Program 2012-2016

Congressional Mandate for the National Recreational Boating Safety (RBS) Program

The National RBS program was established by the Federal Boat Safety Act of 1971, which amended Title 46 of the United States Code (U.S.C.). 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.*"

In 1983, Congress revised, reorganized, and codified Title 46 U.S.C. Through this process, the Federal Boat Safety Act of 1971 was repealed and its provisions dispersed throughout the title. The Coast Guard's authority to carry out the National RBS Program is contained in Title 46 U.S.C. 13102.

Mission of the National RBS Program

The mission of the National RBS Program is "to ensure the public has a safe, secure, and enjoyable recreational boating experience by implementing programs that minimize the loss of life, personal injury, and property damage while cooperating with environmental and national security efforts."

Creation of the Strategic Plan

Generally speaking, recreational boating is a fun and safe activity; however, every year hundreds of boaters die in accidents and thousands more are injured. While these numbers are statistically low in light of the fact that approximately 82 million adult Americans and millions more youth participate in some form of recreational boating, these deaths and injuries are preventable. Although the National RBS Program has contributed to a significant decrease in deaths, there is still much room for improvement. To best-focus the resources of the Program, the National Boating Safety Advisory Council (NBSAC) (the Program's federally-mandated council that advises the Coast Guard on boating safety matters) recommended the creation of a strategic plan. The goals, objectives, and strategies in this Plan can help all partners in boating safety work together to reduce the incidents of these preventable deaths, injuries, and property damage.

Plan Developers

Federal law (46 U.S.C. 13110) mandates that the Secretary of the Department in which the Coast Guard is operating shall establish and consult with NBSAC on major boating safety matters. NBSAC created a Strategic Planning Panel comprised of representatives of the boating community. To provide as broad a representation of the boating community as possible, NBSAC invited members of the public, industry, boating organizations and associations, boating law administrators, and federal agency partners to participate. NBSAC selected the participants based on their expertise on boating safety, their experience within the boating community, and their willingness to share their knowledge.

Relationship between this Plan and the Plans of RBS partners

This Strategic Plan:

- Puts into action the mission of the National RBS Program;
- Provides states and other RBS partners with new ideas to reduce casualties and tools to measure their programs' effectiveness; and
- Contains the performance goal of the National RBS Program for the Coast Guard.

Transparency and Accountability

NBSAC and its Strategic Planning Panel created this Plan so everyone can understand how the RBS partners can achieve the ambitious goals, objectives, and strategies of the National RBS Program. As a federally funded program, the National RBS Program is subject to review under the Government Performance and Results Act (GPRA), which requires governmental programs to be measurable and accountable. The Program's performance is reviewed by the Office of Management and Budget (OMB) and the Government Accountability Office (GAO). This Plan allows anyone, including federal reviewers, to measure our successes and challenges.

Identifying Risks and Opportunities

To ensure the Panel addressed the actual problems, not just perceived ones, it employed Risk-Based Decision-Making to define the problems and chart the way ahead. The Panel:

- Studied the data from the Boating Accident Report Database (BARD) maintained by the Coast Guard's Boating Safety Division;
- Focused on the most frequent types of boating accidents and their underlying causes; and
- Brainstormed and considered initiatives (strategies) that could be effectively implemented to reduce boating deaths and injuries.

The Panel considered the following questions: How can we reduce risks? What variables can we influence directly and indirectly? How can we measure our progress? The Panel also determined that it needed to improve and incorporate measurements into the Plan. One lesson the Panel learned from the previous Plan is the need to be realistic in setting goals and targets. The Panel also learned that some strategies initiated in the near term may not actually influence behavior on the water in the time-horizon of the Plan, though it is critical to start now on what will make a difference in the future.

The Panel agreed to and used the following definitions to develop the goals, objectives, and strategies:

- **Goals:** the final outcomes desired (e.g. number of casualties). Goals must be measurable.
- **Objectives:** the interim outcomes desired to achieve the goals. Objectives must be measurable.
- **Strategies:** the programs implemented to accomplish our objectives.

Another way of thinking about these terms is:

- **Goals:** what do you want to achieve?
- **Objectives:** what subject areas do you want to tackle and how will you measure your progress?
- **Strategies:** what specific actions are you going to take to achieve your objectives and goals?

Plan Development

Members of the Strategic Planning Panel traveled across the country on several occasions to deliberate face-to-face about this Strategic Plan. Panel members also conducted many meetings using video teleconference technologies via the Internet. The volunteers who developed this Plan offered thousands of hours toward its development.

Approving and Signing the Strategic Plan — Spring 2011

In January 2011, in Arlington, VA, NBSAC unanimously approved the Plan. In March 2011, at the International Boating and Water Safety Summit in Savannah, Georgia, representatives of 24 leading boating safety partners signed the Strategic Plan thus paving the way for its implementation in 2012. Since then, many more partners have endorsed the Plan and we anticipate more will join.



Source: Harry Hogan

Prologue

This Plan presents the key performance goals of the program: to reduce fatalities and injuries via eleven objectives and specific strategies within each objective judged necessary to attain these goals. The Plan was drafted by a team consisting of members of NBSAC, the Coast Guard Office of Auxiliary and Boating Safety, and other subject matter experts.

In broad terms, the ultimate objective of the Plan is to foster the development of a robust "safety culture" among the boating public using an appropriate combination of educational outreach initiatives, regulation, and (where appropriate) enforcement. Regulatory approaches may prove necessary (and are included among the performance initiatives in this Plan), but even where these are recommended, the intent is to continue outreach activities to remind the boating public that regulations are designed to codify prudence and are no more stringent than necessary.

This Plan is in alignment with the Coast Guard's Marine Safety Performance Plan. It is the successor to the Strategic Plan for the period from 2007 through 2011 and incorporates the key lessons learned to date. Among the more important lessons learned is that greater focus is necessary. There are many arguably worthwhile initiatives that could be included in the Plan, but experience shows that it is inefficient to pursue all simultaneously.

This Strategic Plan is best described as evolutionary, rather than revolutionary. Most of the projected benefits of the Plan are derived from continuous improvement rather than performance initiatives. Nonetheless, analysis of the time trend in fatalities (thought to be the most accurate safety indicator) indicates that the historical rate of progress has slowed and that alternative approaches are necessary to address behavioral issues (e.g., boating under the influence, adherence to navigation rules, and wearing life jackets) rather than technical matters to effect continued safety improvement. Therefore, performance initiatives, such as a study of the costs, benefits, and feasibility of mandatory life jacket wear for occupants of certain types of boats and/or under certain circumstances are included in

the Plan. As another example, the Plan includes possible mandatory boating education—presently required by many, but not all states. The Plan allows adequate time for analysis of these options and recognizes that the benefits of such actions, if taken, will probably not occur during the planning horizon. However, opportunities to accelerate progress on initiatives with long lead times—and that save additional lives—will be sought.

The continuous improvements contemplated by this Plan are not merely the replication of older strategies. These reflect lessons learned and the exploitation of new technology. Thus, for example, the outreach and educational efforts included in this Plan include the use of social networks (e.g., Facebook, Twitter, and Internet options) as well as more conventional media.

Goals for boating fatalities and injuries were developed using both judgment of subject matter experts and statistical trend extrapolations. The Coast Guard and its boating safety partners are also fully committed to developing improved analytical tools to quantify the benefits of various strategies and initiatives. It may not be feasible in the short term to eliminate the need for subjective judgments, but the strategies included in the Plan will gather and analyze relevant data to develop more focused data-based objectives, strategies, and assessments of likely benefits.

Among the various characteristics of a robust safety culture (e.g., flexible, adaptive, reporting, learning, and informed) is that the system should have strong reporting and learning components. (see: James Reason's Managing the Risks of Organizational Accidents[1].) Strategies are included in this Plan to enhance the coverage, accuracy, and timeliness of accident reporting (the reporting component, which also includes outreach activities to share learnings) as well as the use of more sophisticated tools for data analysis (the learning component). Other key components of a robust safety culture are that it be flexible and adaptive, given this; it may be appropriate to make revisions to this Plan. Thus, the Plan is best thought of as a "living document" that will be revised as new information, data, needs, or opportunities become available.

The architects of this Plan are convinced that the overall Plan is sound—it involves the "right things." The goals for fatalities are believed realistic. They may appear modest, but recent experience shows the difficulty of reducing fatalities from present levels. The goals for injuries are more speculative, not because injuries are expected to increase, but rather because it is believed that there is significant under-reporting of certain accidents and the Plan includes efforts to increase reporting of accidents with injuries. Paradoxically, an increase in reported injuries may or may not be an indicator of Plan success.



Dorothy Takashina, PFDMA and Kevin S. Cook, Rear Admiral, U.S. Coast Guard, Director of Prevention Policy signing the Plan. (Source: Cecilia Duer, SOA.)

Finally, it should be noted that the success of this Plan depends upon many factors not under the direct control of the Coast Guard, including the continuation of program funding through the Sport Fish Restoration and Boating Trust Fund, the commitment and follow through of many Plan partners, and the public response to various initiatives and continuous improvements. If this Plan accomplishes its key goals, many partners should share the credit for success.

[1] Reason, James T., Managing the Risks of Organizational Accidents. 1997, reprinted 2001, Ashgate Publishing Ltd., Burlington, VT

Performance Goal–Reduce Casualties

The performance goal of the Strategic Plan of the National Recreational Boating Safety Program is to reduce recreational boating injuries and fatalities. The following numerical targets have been established for recreational boating casualties (the sum of deaths and injuries) for FY 2012 through FY 2016:

Fiscal Year	Number of Injuries	Number of Deaths	Total Casualties
2012	3,295	673	3,968
2013	3,212	668	3,880
2014	3,132	665	3,797
2015	3,054	662	3,716
2016	2,997	659	3,656

NOTES

1. Injuries, deaths, and casualties vary from year to year. To smooth out random variations, five-year moving averages are used as target values. Thus, for example, attainment of the target for injuries in FY 2016 would be determined by comparing the numerical goal, 2,997 injuries, with the sum of the injuries recorded in the years 2011 through 2015 divided by 5.
2. These targets were determined by a combination of expert judgment and mathematical extrapolation of prior time-series data. These reflect the assumption that the strategic initiatives employed in this Plan will have similar effects to those employed previously over the planning horizon. These targets provide for continued incremental improvement. Substantial discontinuous improvements (e.g., step changes) would require new laws or regulations (e.g., mandatory life jacket wear for a broader segment of the boating public, or a new awareness campaign or education program effectively impacting certain segments of the population). Such performance initiatives are included, but the projected benefits of implementation are not likely to occur before 2016.
3. In order to enable calculation of percentage changes, the specific numerical targets in these tables have not been rounded. The reader should not infer that targets can be determined with this precision.
4. Historically, estimates of injuries are believed to have been understated because not all recreational boating accidents (particularly those involving injuries not requiring hospital admission) are reported. This Strategic Plan includes initiatives to reduce under-reporting and otherwise improve the quality of accident statistics. No specific allowance for increased reporting is reflected in the injury targets given in these tables. Therefore, periodic revisions may need to be made.
5. As of publication of this Report, the Coast Guard is attempting to launch the Recreational Boating Survey—a vehicle to gather "exposure" data from a national sample of recreational boaters. These data may provide greater granularity of actual "risk" on the water and we may revise some of our measurements accordingly.

Sub-Tier Goal 1. Reduce Five-Year Average Annual Deaths

Reduce the five-year average of recreational boating deaths as illustrated in the following table from FY2012 through FY2016:

Fiscal Year	Number of Deaths
2012	673
2013	668
2014	665
2015	662
2016	659

NOTES
1. See notes accompanying the table "Performance Goal".
2. Unlike accidents with certain types of injuries, available data indicates that nearly all fatal accidents are reported.
3. This is a five-year moving average. Projected yearly deaths in each of the Plan years will be lower than the five-year moving average.

Sub-Tier Goal 2. Reduce Five-Year Average Annual Injuries

Reduce recreational boating accident injuries as illustrated in the following table from FY 2012 through FY 2016:

Fiscal Year	Number of Injuries
2012	3,295
2013	3,212
2014	3,132
2015	3,054
2016	2,997

NOTES
1. See notes accompanying the table "Performance Goal."
2. The actual number of injuries is greater than the reported injuries because available data indicate that not all accidents involving injuries are reported. These projections relate to reported injuries. In the event that efforts are successful to decrease the present rate of non-response, it may be necessary to adjust these numerical targets.

The Plan includes eleven *objectives* and seventy-six *strategies* that underlie the above projections of boating fatalities and injuries. In the 2007 to 2011 Strategic Plan these objectives were listed in an approximate order of priority. This Strategic Plan recognizes the interdependence and integration of these objectives. Therefore, no priority ordering is intended.

Objective 1: Safety Education Certificates and Successful Course Completions



Source: USCG

Increase the number of persons who complete a boating safety course or test that conforms to the National Boating Education Standards as recognized by the USCG.

Introduction

The Coast Guard's Accident Statistics indicate that approximately ten percent of boating fatalities occurred on boats where the operator had received boating safety instruction. This objective creates and maintains a database to track the annual number of boating safety education certificates issued and the number of successful course completions that conform to the National Boating Education Standards as recognized by the USCG. This information will be compiled on a state-by-state basis and reported to the Coast Guard.



Source: USCG

Benefits

Data on recreational boating accidents indicate that the majority of boating fatalities involve factors that could have been controlled by the boat operator. The importance of boater education has been stressed by the National Transportation Safety Board (NTSB),[2] National Association of State Boating Law Administrators (NASBLA),[3] and the Coast Guard.

As of April 2011, seven states still lack boating safety education requirements. Of the states that do have requirements, no two states are alike. This lack of uniformity makes compliance for boaters difficult, especially those who boat in more than one state. In addition, some states who require boating safety education include phase-in periods that may not make such requirements effective for decades. We currently collect data on the number of courses and certificates issued, though we currently lack accurate counts of course participants who successfully complete a course but aren't required to be provided a certificate.

Data on course completions and accidents can be used to assess and track the effectiveness of boating safety education efforts. Collecting data does not in itself save lives, but the collection and proper analysis of these data can be used to measure the effectiveness of boating safety education.

Note: Because of the complementary nature of the objectives in this Plan there is some overlap therein. For example, Strategy 2.3 addresses increasing access to boating safety classes and engaging and assisting organizations to provide boating safety education. Also, Objective 3 addresses Advanced and On-Water courses.

Strategy 1.1 – Track the Number of Certificates – States

Approved boating safety course providers who provide boating safety courses or tests that conform to the National Boating Education Standards as recognized by the USCG, will report both the number of boating safety education certificates issued and the number of successful course completions for each federal fiscal year to the Boating Law Administrator of that state.

Implementing Partners: Approved boating safety course providers, States.

Timeline: Annually.

[2] See e.g., http://www.ntsb.gov/speeches/s090311.htm.
[3] See e.g., http://nasbla.org/i4a/pages/index.cfm?pageid=3420.

Strategy 1.2 – Track the Number of Certificates – USCG

States will report to the USCG, on a federal fiscal year basis, the total number of boating safety education certificates issued as well as the number of successful course completions, as part of the Performance Report Part II reporting requirements.

Implementing Partners: USCG, States.

Timeline: Annually.

Figure 1.1 Total Reported NASBLA-approved Certificates Issued FY 2006 – FY 2010

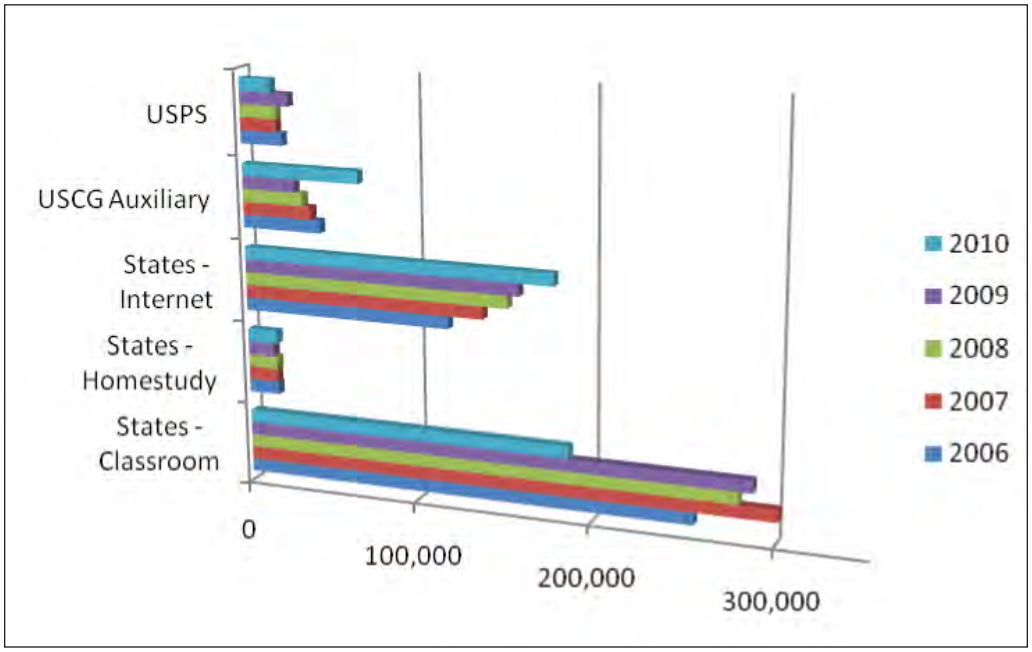


Table 1.1 Total Reported NASBLA-approved Certificates Issued FY 2006 – FY 2010

Year	States - Classroom	States - Homestudy	States - Internet	USCG Auxiliary	USPS
2006	256,393	17,546	119,414	45,353	24,129
2007	301,527	16,832	139,159	40,482	20,953
2008	280,286	17,321	153,192	35,604	21,000
2009	287,972	15,323	159,811	30,785	28,401
2010	187,455	17,472	179,309	68,299	18,125

NOTE: This table only accounts for known data. It does not take into consideration "other" boating safety certificates issued outside of those listed above, nor does it attempt to estimate the number of "unknowns".

Strategy 1.3 – Strengthen Boating Education Laws – States

Increase the number of persons who complete boating education recognized by the USCG as having met the National Boating Education Standards by encouraging states to strengthen boating education laws.

Implementing Partners: States, NASBLA, USPS, USCGAUX, course providers, outreach organizations.

Timeline: Ongoing.

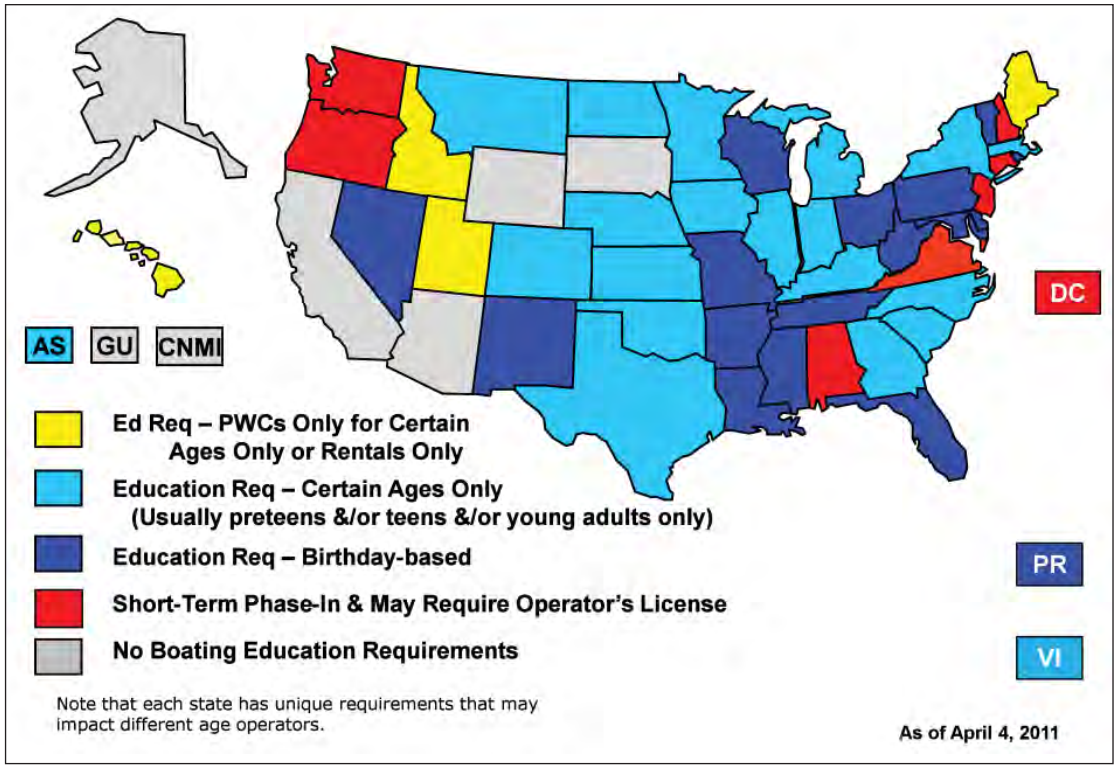
Strategy 1.4 – Strengthen Boating Education Laws – Federal

Pursue federal legislation for a national mandatory national boating safety education requirement to increase the number of educated boaters and to enhance reciprocity to ease the burden on boaters who move from state-to-state.

Implementing Partners: USCG.

Timeline: ASAP.

Figure 1.2 States Requiring Motorboat Operator or PWC Proof of Certification



Strategy 1.5 – Measure Effectiveness of Education Methods

Compare effectiveness of mandatory education vs. voluntary education to determine if there is a net change of behavior.

Implementing Partners: USCG, Sea Tow Foundation.

Timeline: Ongoing.

Table 1.2

Measurement (cite source and 'owner' of measurement)	– Maintain a database to track the number of boating safety education certificates issued and the number of successful course completions that conform to the National Boating Education Standards as recognized by the USCG's Performance Report Part II (PRP II). This information will be compiled on a state-by-state basis and reported to the USCG in PRP II. Owner: USCG, CG-5422
External Drivers & Trends What variables affect our success with this objective?	– Course providers not reporting to the states. – State budgets decreasing – impacts ability to gather and transmit data.
Data Gaps What other data do we need to support this objective?	– The NASBLA–Approved Boating Education Course Completion Database Pilot Project Final Report, June 1, 2009 surveyed only 14 states. The report found there is a gap between the number of courses completed at 65,389 and the number of certificates provided at 60,842. The difference could be because an unknown number of boaters volunteer to take the course without requirements and in these cases would not be issued a certificate or not reported under the state's mandatory education statistics. 65,389 boaters are educated in safe boating while 60,842 are counted as having the certificate of proof. – Need to distinguish how many courses are taken and not passed or completed such as courses conducted by the Coast Guard Auxiliary and reported directly to the USCG and the state BLA. – Need to make sure courses are not accidentally double-counted. – Currently no tracking of whether NASBLA is holding course providers to the terms & conditions document for reporting the number of persons & certificates issued within the time frames identified. – Determine method to distinguish data sets for voluntary vs. mandatory education (from Strategy 1.5).

Table 1.3 Team Members

	NAME
Objective Leader	Pamela Dillon
Working Group Members/Consultants	Cecilia Duer Gail Kulp
USCG Liaison	Wayne Stacey

Objective 2: Boating Safety Outreach

Deliver effective boating safety messages through various educational resources and media to reduce deaths and injuries of recreational boaters.

Introduction

Outreach must do more than simply catch boaters' attention; it must change their behavior. We want the boating public to be prepared to prevent and respond to accidents. This objective includes the development of communication solutions and initiatives using strategically targeted marketing and educational tactics such as: radio, television, print, outdoor advertising, web design, non-traditional or less-traditional (e.g., social media, law enforcement, grass roots and national educational organizations providing educational initiatives meeting the guidelines of the National Boating Education Standards, marine dealer network) media, market research, and coalition building between key stakeholders and industry. In addition, this objective supports various studies in support of measuring program effectiveness.

Delivering these messages will be based upon the USCG's national campaign "Boat Responsibly!", while utilizing the "Don't Wreck Your Summer" initiative as a common thread that will incorporate target focused messages. The "Boat Responsibly!" campaign is based on the following key elements: life jacket wear, non use of alcohol or drugs while boating, complete a boating safety course, and get a free vessel safety check. Additional emphasis will be placed on the knowledge of and adherence to the Navigation Rules and operator inattention. This objective also includes outreach strategies to communicate with segments of the boating public with limited English proficiency and continuing efforts to develop useful measures of effectiveness of outreach efforts.



Source: USCG

Benefits

Analysis of boating accident report data has identified the key causes of and contributing factors to accidents and effective mitigation measures (e.g., life jacket wear). These specific measures are identified and addressed in the various objectives of the Strategic Plan. Thus, it is very important that all outreach efforts and concepts throughout the Plan are in alignment with an established standard and are consistent throughout the Plan. Having a definitive set of unified messages and limited acceptable logos helps ensure that all partners speak with one voice and stay on message. It is extremely important to provide focus to enhance awareness and avoid confusion.

Under this objective, Strategy 2.2 establishes a National Outreach Work Group[4]. The intent of the work group is to provide assistance to USCG personnel in establishing timelines and deliverables as well as employing best practices in developing and executing a media strategy. In addition, efficient and useful measures of effectiveness will be developed and implemented. This difficult issue is not unique to evaluation of boating safety messages; similar difficulties have been experienced and useful lessons learned in highway safety media evaluation.[5] The lessons learned from similar studies in other safety awareness campaigns will be exploited in this strategy.

[4] See Strategy 6.5.

[5] For useful background references on the developments of measures of effectiveness for safety outreach campaigns, see http://www.austroads.com.au/pdf/TestMethod2/3._MAXIMISING_THE_ROAD_SAFETY_IMPACT_OF_ADVERTISING.pdf, http://eprints.qut.edu.au/16381/, http://www.ctre.iastate.edu/reports/chs.pdf, http://www.monash.edu.au/muarc/reports/muarc220.pdf, http://www.cdc.gov/MotorVehicleSafety/Impaired_Driving/massmedia.html, http://casr.adelaide.edu.au/casrpub_le/972/CASR074.pdf, http://www.infrastructure.gov.au/roads/safety/publications/1993/pdf/Edu_Media_1.pdf, http://www.grsproadsafety.org/themes/default/pdfs/good_practice/drinking/4-How%20to.pdf, http://www.icadts.org/t2004/pdfs/O65.pdf, and http://www.gao.gov/new.items/d08477.pdf.

This objective develops the specific criteria that the media messages must meet to increase awareness of major boating safety issues and, more importantly to be (in concert with law enforcement, manufacturers, and other boating safety partners) who impact boater behavior. Strategies contained in this objective use various distribution methods such as traditional mass media, social media, law enforcement personnel, and volunteer outreach efforts for those with limited English proficiency.

Part of the process of delivering the branded messages through social media is to use available measures to track impressions (e.g., Google Analytics[6]) and search for improved measures to test the campaign messages and the type of communications media to determine whether the campaign changed boaters' behavior, see Strategy 2.5. As the Internet has grown exponentially and is extremely popular with certain demographic groups, such as high school and college students,[7] it is also increasingly used by many other demographic subgroups (including seniors).[8] Data are available on the demographics of audiences of various sites,[9] so that messages can be targeted.

As part of this objective is to reach those with limited English proficiency, see Strategy 2.6, the partners will work to broaden safe boating campaigns. Improving access to services for persons with limited English proficiency is a sound objective and, moreover, subject of Presidential Executive Order 13166, dated 11 August 2000. A baseline and a measurement need to be established through Objective 10.

Strategy 2.1 – Develop a system for measuring the effectiveness of all media outreach efforts utilized within the first year of this Strategic Plan

Establish an advisory work group that will assist the USCG in developing useful measure(s) of effectiveness of the USCG's awareness messages. In addition, establish unified, outreach and marketing strategies for all partners to deploy.

Implementing Partners: USCG (lead) with support from advisory work group and contractor(s).

Timeline: Initial measure(s) of effectiveness to be developed by 2012.

Strategy 2.2 – National Outreach Work Group

Form a National Outreach Work Group to assist the USCG in identifying and prioritizing which of the branded messages are to be developed in support of reducing lives lost on the water. Work group members may include some of the members of the advisory work group mentioned in Strategy 2.1. The intent of the work group is to provide assistance to USCG personnel in establishing timelines and deliverables as well as employing best practices in developing and executing a media strategy.

Implementing Partners: USCG (lead), NBSAC, NASBLA, selected state personnel, subject matter experts.

Timeline: Establish National Outreach Work Group and have initial meeting no later than January 2012.

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[6] See http://www.google.com/analytics/.

[7] See, for example, http://www.cluteinstitute-onlinejournals.com/PDFs/450.pdf

[8] See, for example, http://www.kff.org/entmedia/entmedia011205pkg.cfm and http://seniorjournal.com/NEWS/SeniorStats/4-12-17SeniorsInternet.htm.

[9] See http://www.quantcast.com/facebook.com/demographics.

Strategy 2.3 – Deliver Boating Safety Education Messages through Grassroots Efforts

In addition to increasing the number of certificates and successful course completions under Objective 1 increase the number of persons who successfully participate in recreational boating safety education initiatives and/or community outreach programs by:

1. Increasing access to and knowledge of boating safety classes nationwide.
2. Engaging and assisting in enhancing community safety organizations on the grassroots level and through national safety education organizations, to provide boating safety education in their programs and initiatives and encourage those organizations to maintain the standards recognized by the USCG in the National Boating Safety Education Standards.
3. Expanding access to grassroots safety programs and initiatives (i.e.: boating safety festivals).
4. Capturing testimonials from persons whose lives were saved through education in an effort to encourage others to become educated.

Implementing Partners: USCG, course providers, outreach organizations, WSIA, Sea Tow Foundation.

Timeline: Ongoing.

Strategy 2.4 – Deliver Branded Messages through Traditional Mass Media

Deliver branded campaign messages through traditional mass media that include television, radio, public service announcements, and print materials. Find effective ways to deliver messages that attract attention and change behavior. Test the campaign messages and the type of communications media to evaluate the effectiveness of the campaign to determine whether behavior changed. Coordinate with partners on priority messages and funding for those messages.

Implementing Partners: USCG (lead), NASBLA, States, and other partners including BoatU.S. Foundation, Boat Manufacturers/Industry, NSBC, NWSC, Sea Tow Foundation, USACE, USCGAUX, USPS, US Sailing, WSIA.

Timeline: Ongoing.

Strategy 2.5 – Deliver Branded Messages through Non-Traditional/New/ Social Media

Use multiple social/causal marketing media (e.g. Internet, Facebook, Twitter, YouTube) designed to influence the behavior of various target audiences. Use available measures to track impressions (e.g., Google Analytics) and search for improved measures to test the campaign messages and the type of communications media to determine whether the campaign changed boaters' behavior.



Implementing Partners: USCG (lead), NASBLA, Sea Tow Foundation, WSIA.

Timeline: Ongoing.

Strategy 2.6 – Reach the Segment of the Boating Public with Limited English Proficiency

Broaden safe boating campaigns to reach those with limited English proficiency as per Executive Order 13166. Establish a baseline and a measurement under Objectives 9 and 10.

Implementing Partners: USCG, NASBLA, Sea Tow Foundation, States, WSIA.

Timeline: Ongoing.



Source: USCG

Strategy 2.7 – Deliver Messages via Law Enforcement Officers

Enlist law enforcement officers to help deliver branded messages through enforcement and outreach efforts. Each interaction between recreational boaters and law enforcement personnel offers the possibility for educational outreach. The intent of this strategy is to enlist the support of law enforcement personnel, provide them with applicable literature, and capture statistically the number of interactions and possible effects. One of the first steps included as part of this strategy is to define valid and easy to measure statistics (e.g., percentage of boardings free of citations, contacts made, number of stickers/brochures distributed to boaters, and number of presentations/participants).

Law enforcement officers or public information officers responding to the media relative to boating accidents should be trained to always answer three questions, whether they are "asked" or not. Additionally a training seminar should be developed for journalists to learn to ask the three questions.

1. Were life jackets available and/or worn and would it or did it make a difference regarding this accident?
2. Were alcohol or drugs a possible contributing factor you are investigating regarding this accident?
3. Were there possible violations of the rules of the road that are being investigated regarding this accident?

Implementing Partners: USCG, NASBLA, States.

Timeline: Measures to be defined no later than January 2012.

Strategy 2.8 – Deliver Messages via marine dealer network

The marine dealer network (including marine retailers) offers a potentially valuable distribution channel for boating safety messages. Develop a distribution plan (e.g., what is to be distributed and the channels of distribution [e.g., direct shipment, USCGAUX, USPS]) and relevant measures of effectiveness. Consider increased participation of USCG representatives on the marketing and public relations committees of retailers and such groups as: NMMA and AMI.

Implementing Partners: USCG, NMMA, WSIA, AMI, marine dealers.

Timeline: No later than January 2012.

Table 2.1

Measurement (cite source and 'owner' of measurement)	– Must determine whether "outreach" has changed behavior, not just impressions. Strategy 2.1 will develop (and revise as necessary) valid measures of effectiveness. This is not a simple task (as earlier efforts have demonstrated), but the importance of this strategy is recognized. – Possible measurements to determine the effectiveness of outreach: 1. Increase the number of boaters who successfully complete a VSC or boarding by x%. 2. Combine data from other strategies to determine how many boaters are "prepared" i.e. carrying required equipment, completed a boating safety course, decreasing the number of operators boating under the influence. 3. Increase the number of boaters who successfully complete a boating safety course.
External Drivers & Trends What variables affect our success with this objective?	– Lack of resources – new media resources/ technologies not supported for boating safety outreach. – New media – are both a plus and a minus. Public currently deluged with messaging, which leads to information overload. Though new media offer opportunities for targeting boaters, USCG and other partners not using as many as possible to share safety messages. – National RBS safety messages should be in/on every boating-related periodical, website, and blog (i.e., TradeOnly). – Lack of familiarization of partners in cohesion of messages
Data Gaps What other data do we need to support this objective?	– Need measures of effectiveness as per Strategy 2.1.

Table 2.2 Team Members

	NAME
Objective Leader	Larry Meddock
Working Group Members/Consultants	Alfonso Campos Dean Clarke Randy Edwards
National Outreach Work Group (Strategy 2.2) (USCG Liaison – John Malatak)	John Adey - ABYC Rachel Burkholder - NSBC John Dorton - NMMA, Grow Boating John Johnson - NASBLA Dave Marlow - Brunswick Boat Group Cyndi Pechous - NMMA Richard Moore - Florida BLA Cecilia Duer - NWSC/ SOA
USCG Liaison	Jo Calkin





Source: USCG

Objective 3: Advanced and/or On-Water, Skills-Based Boating Education

Increase the number of boaters who have completed advanced and/or on-water, skills-based boating education.[10]

Introduction

Ultimately we want to increase the number of boaters who successfully obtain the skills taught in an advanced and/or on-water, skills-based education course. To measure our progress, we must also establish a baseline and develop guidelines and standards.

There are objective data and analyses that demonstrate the safety benefits of basic boating education requirements.[11] It is likely that when it comes to training "more is better," however, research conducted by the American Camp Association indicates that the quality of skill-based instruction (provided by qualified staff, thoughtful schedule building, and a challenging lesson plan), was vital in greatly improving skills beyond an entry level.[12] Many boating education providers deliver some form of advanced boating courses and/or on-water, skills-based boating training. (These are distinct types of courses.) To date, there are no comprehensive data available on the available types[13] and numbers of these courses, students trained, qualified instructors, and other pertinent statistics. Moreover, there are limited objective data to measure the effectiveness of such training in reducing recreational boating casualties.



Source: Susan Tomczuk, USCG

The tasks associated with strategies included in this objective are designed to: (i) identify the major providers of advanced and on-water, skills-based boating education courses, (ii) survey these providers to estimate the types and numbers of courses provided, students trained, instructors and other pertinent statistics, (iii) coordinate the development, recognition, acceptance of, and participation in best practices for on-water, skills-based boating training courses, (iv) search for relevant data on the effectiveness/benefits of advanced and on-water, skills-based boating education,[14] and (v) set targets for the number of students completing advanced or on-water, skills-based boating courses in future years.

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[10] For the purposes of this Plan, the following definitions apply:
- Advanced Education means a course of instruction that meets and exceeds the National Boating Education Standards as recognized by the USCG.
- On-Water (Skills Based) Education means a course of instruction that is boat-based and on the water for skill development, regardless of the level of the course content.
Both types of courses are included in this objective. However, these may be treated separately in terms of any course targets set.

[11] Moreover, there are specific educational standards and a defined approval process for basic boating safety courses.

[12] "Innovations: Improving Youth Experiences in Summer Programs," American Camp Association, Inc., 2006, pages 9-11: http://www.acacamps.org/sites/default/files/images/research/enhance/Innovations.pdf

[13] The array of courses is certain to be diverse. Advanced boating education, for example, includes courses on navigation rules, seamanship, communications, coastal and celestial navigation as well as more focused courses on such topics as chart interpretation, GPS, and radar. HOT courses typically vary by type of craft (e.g., power boats, PWC, kayaks, canoes, and sailboats).

[14] This shares some of the content of Objective 10.

Benefits

Data from many other fields indicate that *hands-on training* (HOT)[15] is typically more effective than conventional (e.g., classroom instruction or facilitation) instruction in terms of student proficiency, retention, and confidence for both children and adults. Recognizing that advanced and HOT is likely to offer similar benefits for boat operators, many organizations, and commercial firms[16] developed additional advanced and HOT programs to increase operator proficiency[17] and safety.[18] NBSAC recommended that additional data on the identity, scope, performance, and number of such courses be collected. In parallel, NASBLA has developed a set of best practices for on-water, skills-based (HOT) courses.



Source: USCG

At present, it is premature to specify numerical targets for this type of training. Perhaps most important, it is necessary to search for data on the effectiveness of these programs. One logical starting point is to collect basic information on the types and extent of such training and to identify the key issues that need to be resolved if a program is developed (e.g., what are the best practices, how are programs currently certified, and what requirements are appropriate for instructors). Once key data and information are developed, measureable and realistic goals can be set. The strategies in this objective are designed to fill in these knowledge gaps using obtained data to analyze the potential for HOT programs to reach the goals of this Plan. Because this initiative is still in the exploratory stage, no specific numerical goals for lives saved are established. However, these will be set as this Strategic Plan is being executed when targets for the number of courses are set.

An emphasis on advanced knowledge and on-water, hands-on skills may prove to be a needed advancement in the RBS program to drive down boating casualties. Training of boat operators heightens operator confidence and boat control. On-water, hands-on practice reinforces good theory learned in the classroom and develops skills needed for hazard recognition and accident avoidance. It is valuable to note that aircraft pilots and motor vehicle operators must demonstrate (via flight and road tests) proficiency. The USCG does not require on-water proficiency checks, but the aviation and motor vehicle precedents underscore the value of hands-on training in addition to knowledge-based training objectives.

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[15] HOT is a commonly used term-of-art in the training field. For more on the relative effectiveness of HOT see http://www.handsontraining.org/results.html, http://www.ncrel.org/sdrs/areas/issues/content/cntareas/science/eric/eric-2.htm, http://www.ehow.com/about_5136211_benefits-handson-training.html, http://agr.wa.gov/PESTFERT/docs/P10PestNotes2002.pdf, http://www.resuscitationjournal.com/article/S0300-9572(05)00444-2/abstract, http://www.uab.edu/shrpot/Emily/Articles%20for%20OT%20606%20pdf/Articles%20for%20OT%20606/Articles%20for%20OT%20606%20pdf/The%20Effects%20of%20Hands%20on%20Occupation%20Versus%20Demonstration%20on%20Children's%20Recall%20Memory.pdf, http://pediatrics.aappublications.org/cgi/content/abstract/125/3/547, http://www.springerlink.com/content/9hc21htjpa9yg0r4/fulltext.pdf, http://www.giejournal.org/article/S0016-5107(04)02456-3/abstract.

[16] Here is one example http://www.learntoboat.net/.

[17] There is abundant anecdotal evidence that proficiency in answering multiple choice questions on a boating safety exam does not translate automatically into the development of boating skills. Anyone who has observed a novice boater attempting to dock a single-screw inboard in a moderate current or wind can attest to the difference between knowledge and skills. Many recreational activities involve, require, and/or benefit from HOT, such as SCUBA diving, hang gliding, downhill skiing, sport shooting, and horseback riding.

[18] It is reasonable to believe—though unproven—that superior operator skills and safety are correlated. Clearly there are certain accidents closely linked to lack of operator proficiency. However, it is also possible that more proficient operators might undertake more risky evolutions.

Several boating organizations have determined that there is no substitute for actual hands-on experience under the guidance of a trained instructor. (e.g. ACA, US Sailing, American Sailing Association, Boy Scouts). It is often the method preferred by new boaters to acquire boating safety skills. By encouraging and measuring this essential component of the National RBS Program, we can evaluate its future potential to reduce boating casualties.



Source: Susan Tomczuk, USCG

Strategy 3.1 – Track Participation in and Effectiveness of Advanced Education and On-Water, Skills-based Boating Education Courses

Identify providers of advanced and on-water, skills-based training programs. Survey these providers to estimate the number of instructors, students and student-instructors (e.g. instructor candidates) involved in these courses by tracking the following minimum participation information:

1. Type and number of courses taught
2. Number of students trained
3. Number of instructors involved in training
4. Number of certificates awarded for student course completion
5. Number of instructor-level courses taught
6. Number of certificates awarded to student-instructors

In parallel with the above activities, search for relevant data to assess the effectiveness of advanced and on-water training in order to evaluate the potential to use these existing programs to train boaters to a national standard of boating safety practices and performance.

Implementing Partners: USCG, course providers.

Timeline: Develop the key initial data by FY2012.

Strategy 3.2 – Coordinate Best Practices for On-Water, Skills-Based Boating Education Courses

USCG will assemble a group of implementing partners to identify best practices for on-water, skills-based education. Disseminate these best practices to marine retailers, marine dealers, and other organizations and potential course providers. Contact marine retailers and dealers to encourage customers to take on-water, skills-based training and a boating safety education course. Key tasks and milestones included in this effort include:

1. Development of relationships between key implementing partners and the importance of on-water training in advancing the RBS Strategic Plan.
2. Implementing partners to agree on best practices (review of NASBLA & other groups) by 2012 including the basis for course and instructor certification.
3. Determine which courses will be included in the numerical targets for future years by 2012.

Implementing Partners: USCG, USPS, USCGAUX, US Sailing, ACA, NSBC, NWSC, SOA, ASA, NASBLA, NMMA, Marine Dealer Certification Board, Boy Scouts of America.

Timeline: Starting FY 2012 and continuing.

Strategy 3.3 – Set Numerical Targets for Participation in Advanced Education and On-Water, Skills-Based Boating Education Courses

Based upon the results of the efforts in Strategies 3.1 and 3.2:

1. Set numerical targets for the types of courses included in the program and the numbers of students to be trained.
2. Establish communication and implementation strategies for instructors and instructor trainers.
3. Develop goals for lives saved.

Implementing Partners: USCG, USPS, USCGAUX, US Sailing, ACA, ASA, NSBC, NWSC, SOA, NASBLA, NMMA, Marine Dealer Certification Board, Boy Scouts of America.

Timeline: Goals to be set no later than 2013.

Table 3.1

Measurement (cite source and 'owner' of measurement)	– The Coast Guard will develop and populate a database with the number of hands-on and/or advanced boating education certificates identified from surveys and other reporting. – Measurements in Strategy 3.1: • Type and number of courses taught • Number of students trained • Number of instructors involved in training • Number of certificates awarded to student-instructors • Number of certificates awarded for student course completion • Number of instructor-level courses taught
External Drivers & Trends What variables affect our success with this objective?	– Availability of on-water, skills-based boating courses. – Challenges in collecting data from course providers.
Data Gaps What other data do we need to support this objective?	– NASBLA Subcommittee work identified primarily advanced and on-water, skills-based powerboat courses. Non-motorized courses need to be identified. – A database of course completions/certificates issued is not yet complete. A common measurement framework should be drafted and distributed to Implementing Partners and Course Providers to collect baseline data. *Note: The National Boating Survey does not seem to be the vehicle for this measurement. Only one question appears to vaguely address this:* *Have you ever taken a boat safety course?* • *YES NO DK (don't know) REF (refused)* – New question for possible inclusion in National Boating Survey: • Have you ever taken a hands-on, on-water, skills-based boating course? YES NO • If yes, indicate the following: • Where was the course taken? • What type of vessel was used (sail, canoe, outboard powered boat, etc.)? • What organization provided the training? – Other means of measurement must be identified and implemented. Implementing Partners should be included in the measurement discussion considering they are most likely the organizations teaching the courses.

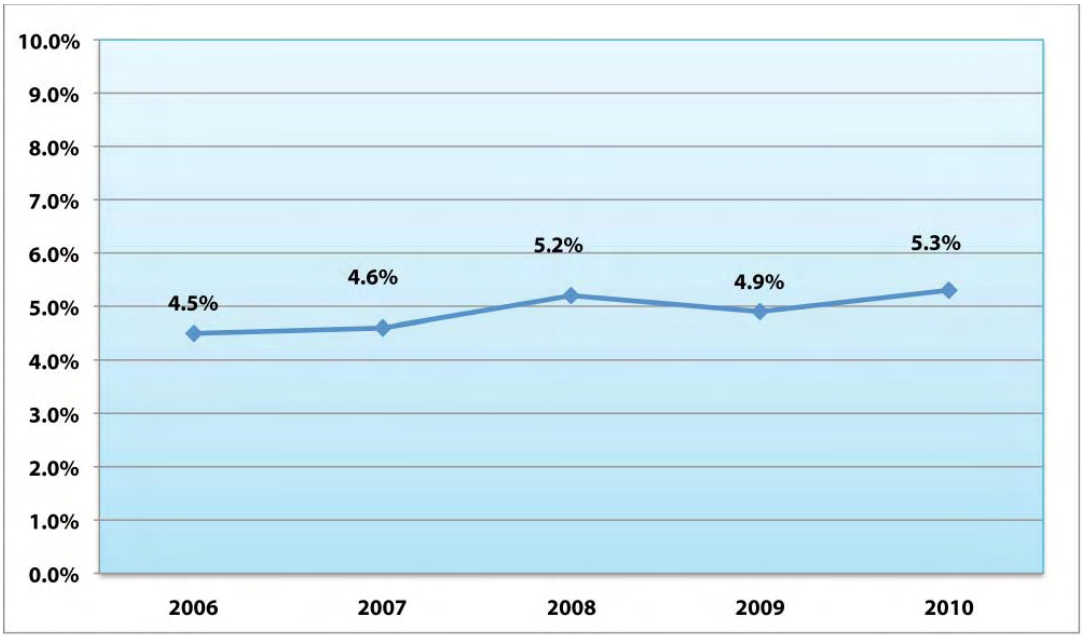
Table 3.2 Team Members

	NAME
Objective Leader	Cecilia Duer
Working Group Members/Consultants	Pamela Dillon Dr. L. Daniel Maxim Gail Kulp
USCG Liaison	Wayne Stacey

Objective 4: Life Jacket Wear

Increase adult life jacket wear rates nationwide. Targets: 1. Increase the observed adult life jacket wear rate in open motorboats by 3% from the previous year's wear rate. 2. Increase the observed adult life jacket wear rate on non-motorized vessels by 3% from the previous year's wear rate.

Figure 4.1 – Adult Wear Rates on Open Motorboats* 2006-2010 (Weighted to 2006 Skiff-Speedboat Proportions for Each State)



(JSI Research & Training Institute, 2010 National Observational Life Jacket Wear Rate Study)

*NOTE: The Open Motorboat category is created by grouping "Skiffs" and "Speedboat/ Runabouts" together. Factors controlled for in this chart are Age (proportions of 18 to 64 and 65+ adults) and the proportion of Skiffs to Speedboat/Runabouts has been set in each year within each state to reflect the proportions observed in 2006, the year in which the Strategic Plan goals were first measured. In addition, each state's contribution to the national average is weighted to reflect the 2006 proportions.

Introduction

In 2010 almost 75% of all fatal boating accident victims drowned, and of those 88% were not wearing a life jacket. Of the boaters who drowned, 18% did not have life jackets on the boat.

This objective includes strategies to: (i) measure life jacket wear, (ii) continue the Wear Rate Tiger Team, a focus group of subject experts to identify potentially relevant initiatives to increase life jacket wear, (iii) continue outreach activities designed to educate the boating public about the benefits of inflatable life jackets, (iv) continue to improve life jacket testing and approval standards, (v) evaluate the benefits and feasibility of possible USCG regulations to mandate wearing of life jackets aboard certain boats or under certain circumstances (vi) evaluate various life jacket "loaner" programs to identify lessons learned and best practices, and (vii) encourage manufacturers to include life jacket information in boat owners' manuals.



Source: USCG

Benefits

Increased wear rates for life jackets, particularly among occupants of certain boat types (e.g., smaller open motorboats, canoes, kayaks, and rowboats) have the potential to effect a dramatic reduction in fatality rates. For this reason, strategies to achieve this goal are included in this and other objectives (e.g., Objective 2. Awareness of Safe Boating Practices). The available data and analogies with other safety-motivated outreach efforts (e.g., automobile seat belts and motorcycle helmets) suggest that initiatives to educate the public are important, perhaps even essential, but these *alone* have only limited effectiveness.

The strategies included in this objective are for the most part evolutionary and designed to effect continuous improvements. Additionally Strategy 4.5 is designed to evaluate the benefits and feasibility of possible regulations requiring that life jacket wear targets the at-risk populations identified in Strategy 4.2. This could impact certain types and sizes of boats, persons in various age groups, or during certain seasons. Mandatory life jacket wear (in concert with other outreach strategies) would be a "performance initiative" that (depending upon public acceptance) could result in a step change in boating fatalities. The lives saved from this initiative, based on probable lags associated with the analysis and rulemaking process, are likely to occur after the time period covered by this Strategic Plan.

The National Life Jacket Wear Rate Observation Study has been conducted on an annual basis for 12 successive years with no significant change in the wear rate. This presents a continuing challenge to us.



Source: USCG

Strategy 4.1 – Track and Evaluate Life Jacket Wear Rates

Utilize the National Life Jacket Wear Rate Observation Study (see Strategy 10.2) to measure life jacket wear rates and (in concert with other information) assess whether or not the collective strategies associated with this Strategic Plan are increasing life jacket wear by recreational boaters. Attention should be given to the following:

1. Conduct the National Life Jacket Wear Rate Observation Study at appropriate intervals. Conduct the Wear Rate Study annually in Wear It targeted campaign states and for special projects such as those of the U.S. Army Corps of Engineers.

2. Engage in periodic independent observations to validate life jacket wear rates and report the results to NBSAC.

3. Explore independent means of documenting life jacket wear rates through routine efforts made by implementing partners. Seek reports from those partners.

Implementing Partners: USCG, NBSAC.

Timeline: Ongoing.

Strategy 4.2 – Continue the Life Jacket Wear Rate Tiger Team



Source: USCG

The Wear Rate Tiger Team will make formal recommendations to implementing partners on how best to initiate programs and strategies aimed at increasing life jacket wear rates. This team should:

1. Expand active partner involvement in the national "Wear It" Campaign and report on progress.
2. Utilize BARD data provided by Objective 10 research to identify and track the at-risk recreational boating populations via activities, contributing factors, accident type, operation at the time of the accident, and demographic analysis (age, gender, operator experience, boating education and life jacket wear) that result in drowning fatalities in order to prioritize Tiger Team focus and recommendations for life jacket intervention.
3. Identify and promote specific efforts which will (or are most likely to) result in successful education of the at-risk population(s) about life jacket wear and change boater behavior.
4. Identify and document those people, programs and organizations most likely to influence a behavioral change by the identified at-risk population(s).
5. Engage a variety of influencers to participate in targeted efforts aimed at increasing life jacket wear within their sphere of influence. Report the results.

Implementing Partners: Life Jacket Tiger Team.

Timeline: Ongoing.

Strategy 4.3 – Engage all RBS Professionals in Public Demonstrations of Inflatable Life Jackets

Engage professionals within the recreational boating safety community to regularly demonstrate the wearing of inflatable life jackets and to capitalize on any opportunities to educate the boating public about the comfort and benefits associated with inflatable life jacket wear while boating. Examples include:

1. Vessel Safety Check examiners should wear an inflatable life jacket during inspections and discuss devices with boat owners.
2. Boating Safety Course instructors should wear inflatable life jackets while teaching public courses and engage students in discussion about the benefits of life jacket wear while boating. Instructors should also demonstrate inflation of a life jacket when possible.
3. Marine law enforcement officers should wear life jackets while on patrol and make an effort to discuss various life jacket technologies with boaters contacted while on patrol.
4. Boat show sales personnel should wear inflatable life jackets while discussing their product with potential buyers.
5. Retailers should wear and have their passengers wear life jackets (inflatable, where appropriate) while providing on-water demonstration rides.





Coast Guard active duty members and civilian employees participating in Ready, Set, Inflate.
Source: USCG

Measure the effectiveness of this strategy through periodic surveying of persons contacted to determine whether a change in behavior occurred, if inflatable life jackets were purchased, how often worn, if there are any barriers to willingness to wear, and the users' ability to properly re-arm and re-pack (if used). The measure of effectiveness should also include an assessment of whether the inflatable life jacket worn is properly armed and packed.

Implementing Partners: USCG, USCGAUX, USPS, NASBLA, States, NMMA, AMI, Sea Tow Foundation, marine dealers, marine retailers.

Timeline: Ongoing.

Strategy 4.4 – Continuously Improve Life Jacket Testing and Approval Standards

Promote innovation in USCG-approved life jackets through efforts aimed at enhancing wearer comfort, style, and increasing affordability of technologically advanced life jackets. This strategy will be accomplished by:

1. Ensuring a robust life jacket standards development process with active engagement of all stakeholders through an independent ANSI-accredited standards development organization.
2. Providing for competitive and streamlined processes of testing and evaluation of life jackets being submitted for USCG approval without compromising safety.
3. Modernizing and streamlining required production quality control and follow-up systems without compromising safety.
4. Expanding the selection of approved inflatable life jackets by taking regulatory measures to allow for approval of models for wear by persons under the age of sixteen
5. Encouraging standardization of inflation systems and inflation system components for inflatable life jackets, and encouraging innovation and creativity of inflation systems development.
6. Evaluating and updating current USCG regulations pertaining to life jacket carriage and wear requirements.
7. Supporting a wider array of USCG-approved life jackets for the recreational boater. This support should include, but not be limited to, adoption of ISO level 50 devices.
8. Investigating the anatomical characteristics of infants and children with a view to redefining the construction and performance requirements for child and infant devices currently defined by weight ranges.

Implementing Partners: USCG, PFDMA.

Timeline: Ongoing.



Kevin S. Cook, Rear Admiral, U.S. Coast Guard, Director of Prevention Policy, Students at Savannah Bible Baptist School, James P. Muldoon, NBSAC Chairman. (Source: Cecilia Duer, NWSC.)

Strategy 4.5 – Evaluate Mandatory Life Jacket Wear

Continue to evaluate and assess the benefits and feasibility of mandatory life jacket wear regulations that target the at-risk population(s) and report those evaluations and recommendations to NBSAC.

Implementing Partners: NBSAC (Life Jacket Working Group).

Timeline: No later than the Spring NBSAC meeting in 2012.

Strategy 4.6 – Evaluate Life Jacket Loaner Programs

Identify and evaluate life jacket loaner programs in the United States. Catalog and evaluate the programs, considering program design methodology, goals, objectives and strategies, as well as, measured outputs and outcomes. Rate the effectiveness of each program. Disseminate results, including key lessons learned and best practices. Help promote program types which show the greatest likelihood of success.

Implementing Partners: USCG, Boating Safety Grantee.

Timeline: Ongoing.

Strategy 4.7 – Address Life Jacket Wear in Boat Owners/Operators Manuals

Engage standards and certification organizations to ensure that boat builders have adequate information regarding the role of life jackets in preventing drownings to pass on to end users through owner's manuals and collateral literature.

1. Work with the American Boat & Yacht Council (ABYC) to include additional life jacket value and wear information to its Technical Information Report titled T-24 Owners/Operators Manuals.
2. Encourage the National Marine Manufacturers Association (NMMA) to incorporate ABYC T-24 in the NMMA Certification program.

Implementing Partners: ABYC, PFDMA, NMMA.

Timeline: 2013.

Table 4.1

Measurement (cite source and 'owner' of measurement)	– The wear rate for adults in open motorboats was: 2006 - 4.5% 2007 - 4.6% 2008 - 5.2% 2009 - 4.9% 2010 - 5.3% *Source: Life Jacket Wear Rate Observation Study, JSI* – In 2010 almost 75% of all fatal boating accident victims drowned, and of those 88% were not wearing a life jacket. Of the boaters who drowned, 19% did not have life jackets on the boat. *Source: BARD, USCG*
External Drivers & Trends What variables affect our success with this objective?	– Life jacket affordability, wearability, and the life jacket designs affect the boater's willingness to wear a life jacket. – Public generally unaware of new products such as inflatable life jackets. – Life jacket wear may be negatively perceived by the peer group and considered unfashionable.
Data Gaps What other data do we need to support this objective?	– A method to validate a compliance denominator and demonstrate confidence in the JSI Life Jacket Wear Rate Observation Study (completed). – Ability of Performance Report Part II to collect information to assist with this Objective. – Lack of standardization of data regarding Vessel Safety Checks.

Table 4.2 Team Members

	NAME
Objective Leader	Dorothy Takashina
Working Group Members/Consultants	Fred Messmann Richard Moore Margaret Podlich John Fetterman
USCG Liaison	Mike Baron

Objective 4 – Additional Background

Drownings can occur from accidents involving any type and length of boat. However, to date, efforts to increase life jacket wear rates have focused on occupants of open motorboats and more generally boats less than or equal to 21 ft. in length. The majority of boats in the U.S. are less than 21 feet.

To place this in quantitative perspective, out of 484 drownings associated with recreational boats in 2010, 213 (44%) occurred on open motorboats and 393 (80.7%) occurred on all types of boats less than or equal to 21 ft in length. Note: these figures do not include unknown boat type (6) or unknown boat length (33).

As noted above, approximately 90% of drowning victims were not wearing a life jacket at the time of the accident. Life jacket wear rates vary with the type and length of boat and age of occupants.

For example, according to the 2010 JSI study[19] life jacket wear rates for adults and youth combined in 2010 were 16.7% (excluding PWC) and 21.1% if PWCs are included. Among adult boaters the estimated life jacket wear rate was 7.8% (excluding PWCs).[20] This is down slightly from 2009 and is the lowest point since the observations began in 1999. Of particular concern, the life jacket wear rate among adults on open motorboats in 2010 was only 5.3%--barely above the 4.9% average for the five-year period from 2006 to 2010.

Thus, efforts to improve wear rates—the majority of which have relied on voluntary approaches—have not been successful. The strategies included in this objective were developed based on lessons learned and are believed necessary and appropriate by subject matter experts (SMEs). However, these alone are not expected to produce more than incremental improvements in terms of reduced fatality rates.

The Strategic Plan 2007-2011 envisioned a 3% per year growth rate in the life jacket wear rate. The observed growth rate depends upon the specific years chosen for comparison. For example, the compound average annual growth in life jacket wear rates over the five-year period from 2004 to 2008 is 2.02% per year; if the period from 2004 to 2009 is chosen, the improvement rate is only 0.41% per year. Going forward we assume a rate of 1% per year—which may overstate the rate of improvement based on recent data.

The potential benefits of substantially increased wear rates among occupants of small boats or open motor boats are substantial in relative and absolute terms, which is a major motivation for considering regulation mandating life jacket wear for certain boaters. To illustrate the possible benefits, consider the possible effects of a requirement to wear life jackets aboard open motorboats. In 2010, a total of 213 persons aboard open motorboats drowned, of which 184 were not wearing life jackets, 18 were wearing life jackets, and no information was available for 11 persons. In a study published in 1993,[21] the NTSB estimated (based on analysis of a sample of accidents in 1991) that use of life jackets would have saved the lives of 85% those who drowned.[22] For the 2010 open motorboat data, this means that if every occupant of open motorboats had worn a life jacket, than 85% of the 213 persons who drowned not wearing a life jacket, or approximately 181 incremental lives would have been saved. Even if only 50% of those wore life jackets 91 additional lives would have been saved—well more than the projected incremental lives saved associated with all objectives of this Strategic Plan combined. Thus, the potential "prize" associated with efforts to increase life jacket wear is substantial. And, in view of the limited success to date of voluntary approaches, some state and federal agencies are examining the possibility of putting regulations in place. The 1993 NTSB study referenced here is one method of estimating lives saved. Other estimates, such as one prepared by Dr. L. Daniel Maxim and presented to NBSAC in January 2011, are under consideration.

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[19] One reason that child life jacket wear rates are higher on average than for adults is that nearly all states have regulations mandating that life jackets are worn for children of certain ages (typically less than or equal to 13 years of age).

[20] Available electronically at http://homeport.uscg.mil/cgi-bin/st/portal/uscg_docs/MyCG_Editorial/20110116/2010%20JSI%20Core%20Report.pdf?id=3f3eda8d93b02c34144deca775baeb0aa87c6ef2.

[21] National Transportation Safety Board, (1993). *Safety Study: Recreational Boating Safety,* PB93-917001, NTSB/SS-93/01, Washington, DC.

[22] Objective 10 includes the development of a valid and accurate method for estimating lives saved through greater use of life jackets, but this authoritative estimate is used provisionally.

Objective 5: Operator Compliance, Navigation Rules

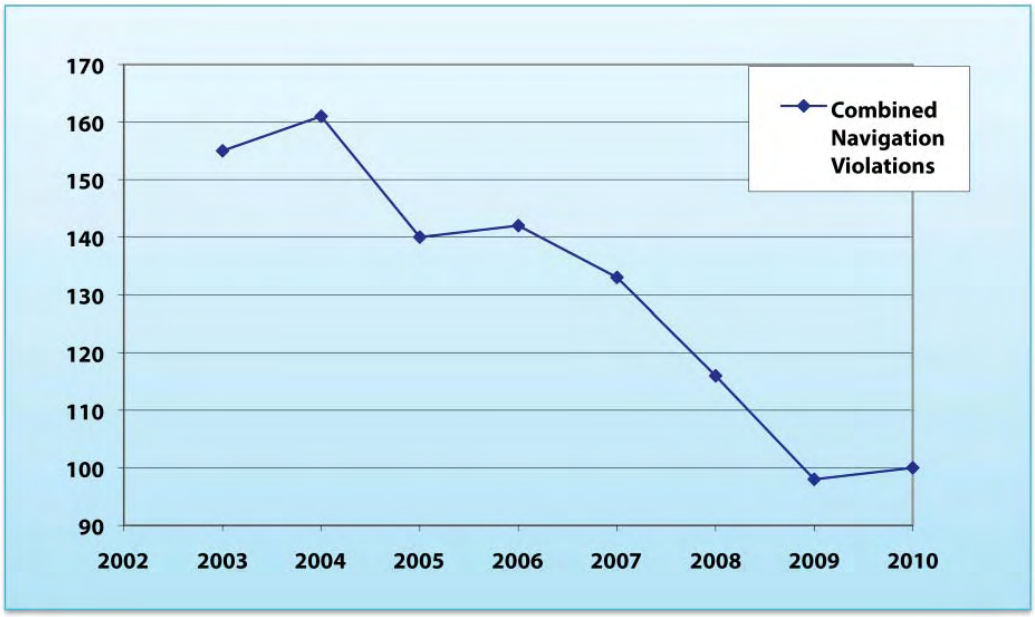
Reduce fatalities associated with Navigation Rules (NAVRULES) violations by 2% per year from the previous year.

Table 5.1 Navigation Rules Violations—Number and Percentage

Years	Number of Deaths Caused by Navigation Violations	Percentage of Deaths Caused by Navigation Violations	Total Deaths
2003	155	22%	703
2004	161	24%	676
2005	140	20%	697
2006	142	20%	710
2007	133	19%	685
2008	116	16%	709
2009	98	13%	736
2010	100	15%	672

Source: BARD

Figure 5.1 Navigation Rules Violations—Graphically represented



Source: BARD

Introduction

Boaters call Navigation Rules "The Rules of the Road"— the basic laws that govern how to steer or sail a vessel. To reduce injuries and fatalities boaters must know all NAVRULES, pertinent regulations, what equipment they are required to carry, and how to use it. To achieve this, both awareness and enforcement are necessary. These strategies are designed to promote awareness through both conventional and novel outreach initiatives.



Source: USCG

Recreational boating accidents related to NAVRULES accounted for approximately 37% of the accidents, 15% of the fatalities, and 40% of the injuries in 2010. For the purpose of this objective, NAVRULES violations[23] are defined as: excessive speed, no proper lookout, operator inattention, rules of the road infractions, and lack of proper navigation lights. This objective aims to reduce the fatalities resulting from these factors through a combination of strategies. These include: expanding the number of states with mandatory education for boaters who violate navigations rules, improving training of law enforcement personnel, and increasing public outreach efforts (Objective 2). Finally, this objective includes a strategy to improve identification and classification of NAVRULES-related contributing factors in BARD.

Benefits

The NAVRULES define the roles and responsibilities of all vessels [operators]. In principle, if all vessels [operators] obeyed these rules, many accidents could be avoided. And, indeed, there has been gratifying progress to date; over the years from 2006 to 2010, fatalities associated with the NAVRULES-related contributing factors have decreased from 142 to 100. However it is important to note that Careless/Reckless Operation was removed from this calculation for 2009 and 2010. The key goal of this objective is to continue this progress and reduce fatalities associated with NAVRULES contributing causes by 2% per year.

Note: Although the NAVRULES violations as a class account for 14.9% of the fatalities in 2010, their contribution to accidents (36.5%) and injuries (39.6%) is greater. Because of this it might be more appropriate to link NAVRULES goals to accidents or injuries. However, fatalities are believed to be known with greater accuracy and precision than either accidents or injuries.

Strategy 5.1 – Expand the Number of States with Mandatory Boating Safety Classes for NAVRULES Violators

Encourage states to adopt the NASBLA model act that requires NAVRULES violators to take a mandatory boating safety course that conforms to the National Boating Education standards as recognized by the USCG. By 2016 have 10% of the states and territories adopt the NASBLA model act for Mandatory Boating Safety Course for Certain Violations. Develop an optional (condensed) national course for navigation rule violators based on the current NASBLA model act for certain violations of navigation rules.

Certain violations for this strategy include, but are not limited to, excessive speed, no proper lookout, operator inattention, rules of the road infraction, lack of proper boat lights.

Implementing Partners: States, NASBLA, Course providers including Boat-Ed, Boater Exam.

Timeline: 2016.

[23] The contributing factor "careless/reckless operation" was removed in 2009 because it is so broad to render it meaningless for analytical purposes and it was believed that the public would not self-report a negative behavior.

Strategy 5.2 – Implement and Revise Curriculum for Officer Training to help ensure Strict Enforcement of NAVRULES

Modify PRPII to include collection of information regarding number of officers trained in NAVRULES. Target: 80% of state marine officers will complete formal training in NAVRULES enforcement by 2016. Ask the states to provide via PRPII the number of marine officers who completed training.

Implementing Partners: States, NASBLA, Course providers including Boat-Ed, Boater Exam.

Timeline: 2016.

Strategy 5.3 – Increase Navigation Rule Awareness Among Boaters

Increase NAVRULES awareness and compliance in conjunction with outreach in Objective 2. Identify trends in the NAVRULES-related contributing factors and share annually with providers of boating safety courses and NASBLA staff for their information in revising courses.

Implementing Partners: USCG, States, NASBLA, Sea Tow Foundation, Course providers, all partners in Objective 2.

Timelines: Annually.



Source: USCG

Strategy 5.4 – Improve Consistency in Recording NAVRULES violations as contributing factors in BARD

Work with appropriate NASBLA committees to achieve greater consistency in identifying/documenting NAVRULES violations and their coding in BARD. Any resulting changes in the list of contributing factors may impact the measures.

Implementing Partners: USCG, NASBLA.

Timeline: No later than December 2012.

Table 5.2

Measurement (cite source and contact/point person for measurement)	– BARD, Susan Tomczuk, USCG – MISLE, Jim Law, USCG – PRP II, Vann Burgess, USCG (See Table 5.1, Navigation Rules Violations—Number and Percentage)
External Drivers & Trends What variables affect our success with this objective?	– State funding for Officer Training
Data Gaps What other data do we need to support this objective?	– Note: Terms used to describe possible NAVRULES violations have changed over the years, and may change in the future as a result of work now underway to revise the boating accident notification and reporting procedures. Any changes in the definitions of contributing factors may result in changes in the total contribution of NAVRULES related contributing factors and may require adjustment of the numerical goals associated with this objective. – Actual numbers of combined navigation violations and decrease as a percent decrease. – Strategy 5.2 - PRPII – USCG collecting 2010 data from the states. (Many states currently cannot provide detailed data on navigation rules violations.) – Strategy 5.2 - Need to know the number of officers who have taken Officer Training. (V. Burgess will ask the states to include in PRPII) – Strategy 5.4 - Is homeland security curriculum having desired effect? Track data for 5-years to determine if incursions decrease. Examine MISLE data.

Table 5.3 Team Members

	NAME
Objective Leader	John Fetterman
Working Group Members/Consultants	Gail Kulp JJ Marie Larry Meddock Dick Rowe
USCG Liaison	Vann Burgess

Objective 6: Boating Under the Influence (BUI)

Achieve a 5% overall decrease in the number of deaths by CY 2016 (using a five-year moving average) where the use of alcohol or other drugs by a boat's operator and/or occupants was either a direct or indirect cause of the accident[24]. The five-year average for the 2005 to 2009 time period was 156.[25]

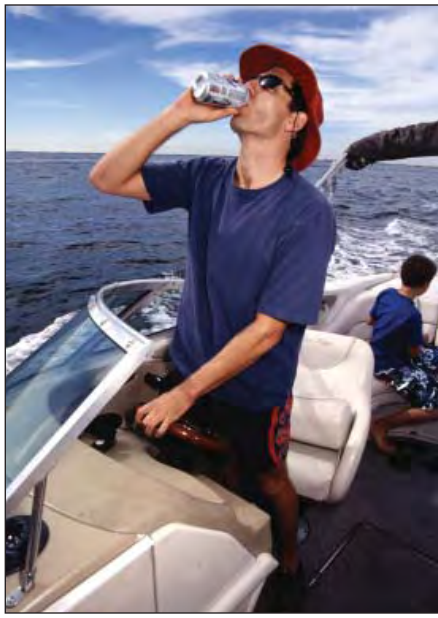
Introduction

Alcohol and/or drug use continues to be one of the most significant contributing factors in recreational boating casualties across the U.S. On average, fatal boating accident investigative reports indicate that alcohol and/or drugs play a role in 21 to 23 percent of fatal boating accidents for the five year period from 2006 to 2010.

This objective targets efforts intended to generate a measureable decrease in the number of casualties where the use of alcohol or other drugs by a boat's operator and/or occupants was either a direct or indirect cause of the accident. The consumption of alcohol and, to a lesser extent, other drugs by recreational boaters continues to be one of the single most significant contributing factors in boating accidents involving personal injury and death.[26] This objective sets targets related to the annual decrease of alcohol/drug-related casualties.

Benefits

Alcohol and/or drug-involved recreational boating accidents have been a target of state and national boating safety efforts for decades, both as a result of the data pointing to this as an area in need of intervention as well as public opinion. Previous attempts to gauge public sentiment suggest that impaired boat operators are a significant public concern in the U.S.[27], and the Code of Federal Regulations has long highlighted the need to place focus on addressing issues related to impairment while boating[28]. Accomplishing the strategies associated with this objective will lead to improvements in accident data collection, greater proficiency, and effectiveness on the part of marine law enforcement officers enforcing BUI laws and increased public awareness of the dangers of drinking/drug use while boating. Ultimately, accomplishment of these strategies will lead to lives saved and a safer boating environment.







Source: USCG

[24] It should be noted that the achievement of success in strategies 6.2 and 6.6 may, or may not, result in an increase in the accuracy of identifying and reporting alcohol or drug-use as a contributing factor in recreational boating fatalities.

[25] Data show that the intended outcome in the previous strategic plan was not attained (actually trend was increasing). This objective strives to reverse this trend and generate a 5-percent decrease in deaths over the span of this strategic planning period. The target for the average number of deaths for the five year period 2012 to 2016 is 148 or less.

[26] Based on Recreational Boating Statistics 2009, Page 18.

[27] Numerous state and national boating surveys.

[28] 33CFR 173.57, as one example.

Strategy 6.1 – Measure Alcohol and/or Drug Use in Recreational Boating

Measure and document trends in alcohol and/or drug use while boating using the following data sources:

1. BARD alcohol and/or drug "caused" accidents.
2. BUI violations from USCG Form 4100.
3. Performance Report Part II reports from the states.

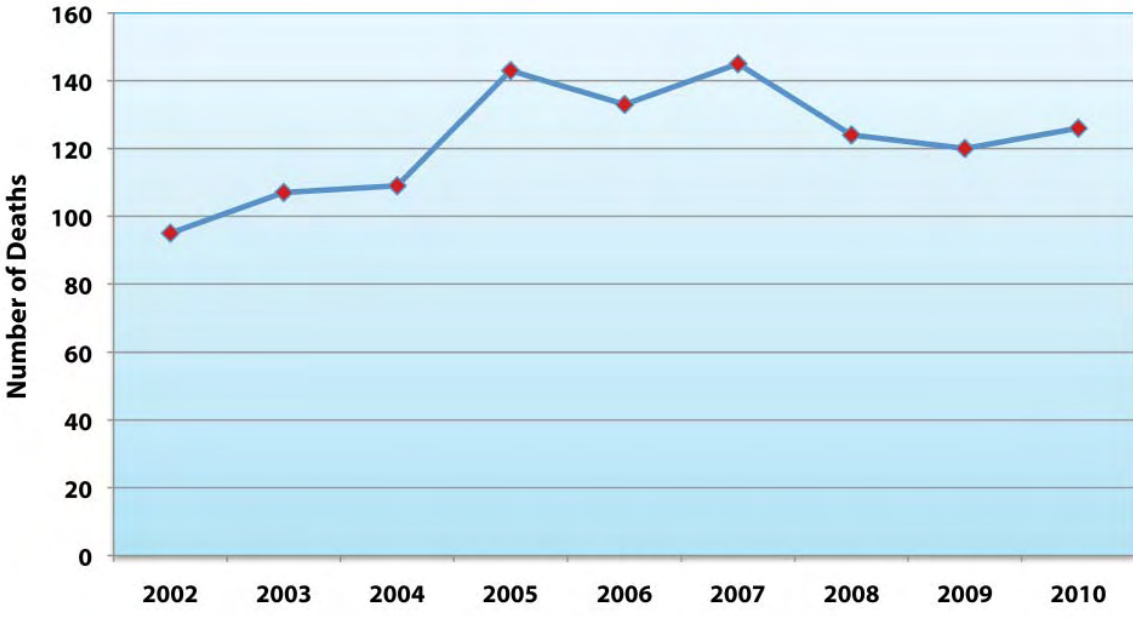
Implementing Partners: Accident investigators, USCG, States.

Timeline: Annually.

Table 6.1 Number of Deaths Where Alcohol Use was a Primary Cause of the Accident

Calendar Year	Deaths
2010	126
2009	120
2008	124
2007	145
2006	133
2005	143
2004	109
2003	107
2002	95

Figure 6.1 Number of Deaths Where Alcohol Use was a Primary Contributing Factor of the Accident by Calendar Year



Strategy 6.2 – Train Marine Law Enforcement Officers on BUI Detection

Ensure that all marine law enforcement officers within the U.S. are provided up-to-date training on the detection and apprehension of impaired boat operators by:

1. Maintaining a nationally recognized, standardized course curriculum and related training materials and resources.
2. Expanding "train-the trainer" course offerings.
3. Creating a tracking system for course delivery/officer participation and reporting that data annually.

Implementing Partners: USCG, NASBLA, States.

Timeline: End of 2012 fiscal year.





Source: NASBLA





Source: USCG

Strategy 6.3 – Expand Nationwide Use of the Validated Standardized Seated Sobriety Tests

Ensure that the seated sobriety tests are widely used and receive acceptance in courtrooms across the country through:

1. Training aimed at updating BUI instructors on the proper administration and evaluation of the tests.
2. Adequate support from researchers and prosecutors to help gain acceptance among our nation's courts.
3. Tracking court rulings that address use of these tests.
4. A coordinated effort with the National Highway Traffic Safety Administration (NHTSA) to inform our nation's law enforcement officers about the proper use of this test battery.

Implementing Partners: USCG, NASBLA, States, NHTSA.

Timeline: Ongoing.

Strategy 6.4 – Analyze Individual State Efforts to Link BUI Violations with Driver's Licenses

Prepare an analysis of the effectiveness of state efforts to:

1. Link BUI violations with the violator's driver license.
2. Enhance penalties for BUI violators with a high blood or breath alcohol concentration (BAC) level (usually 0.15 or higher).

If appropriate, initiate and report on an effort to persuade additional states to enact legislation to link violations to driver licenses and/or to enhance penalties for BUI violators with high BAC levels.

Implementing Partners: NASBLA, States, USCG.

Timeline: 2013.

Strategy 6.5 – Conduct BUI Awareness and Enforcement Campaign[29]

Engage our nation's marine law enforcement officers, boating safety partner organizations and the media in a nationwide campaign which blends targeted enforcement of BUI laws with a measureable increase in public awareness about the risks associated with BUI. Such an effort should include:

1. Targeted outreach to marine law enforcement agencies and their officers to enhance participation and reporting.
2. Development and distribution of single-theme media and public awareness products for use on local, state and federal levels.
3. A tracking mechanism to quantify participation and to measure media exposure.
4. A method to evaluate changes in public awareness and perception of the BUI problem.
5. Annual reporting of campaign activities.

Implementing Partners: USCG, NASBLA, States, Sea Tow Foundation, all partner boating safety organizations.

Timeline: Annually.

[29] Related to Objective 2

Strategy 6.6 – Improved Accuracy of Reporting Alcohol and/or Drug Use in Recreational Boating Accidents

Develop and disseminate a training module for all law enforcement officers to assist them in detecting and accurately documenting the contribution of operator and/or occupant impairment to recreational boating accidents during accident investigations.[30] This effort should:

1. Attempt to reach all law enforcement officers who may become involved in the reporting of recreational boating accidents and other BARD data entry personnel.
2. Maintain the training module as an ongoing resource for law enforcement officers and other BARD data personnel.
3. Track the delivery of the training and report participation data annually.
4. Identify trends in operator and/or occupant impairment (as identified in boating accident reports) and correlate that data (as applicable) to increased officer awareness and accuracy in accident reporting.

Implementing Partners: USCG, NASBLA, States.

Timeline: Annually.

Strategy 6.7 – Test and Evaluate a Pilot Project to Assist in Setting Future Targets (Measures)

Initiate a pilot project to test components of this objective and use the results to assist in setting long-term targets (measures). The initiative should include:

1. Analysis of local trends to select pilot project area(s) and establish pre-initiative baselines (Strategy 6.1).
2. Assurances that the marine law enforcement officers in the test area(s) have received up-to-date training in BUI detection (Strategy 6.2).
3. Use of the validated Standardized Seated Sobriety Tests throughout the test area(s), including documented support from the local prosecutor(s) (Strategy 6.3).
4. Initiation and tracking of a targeted, local BUI awareness and enforcement campaign in the test area(s) (Strategy 6.5).
5. Training marine law enforcement officers in the test area(s) to assist them in detecting and accurately documenting operator impairment in boating accidents (Strategy 6.6).

Implementing Partners: NASBLA, USCG, State and local marine law enforcement agencies in selected test area(s), Local prosecutors' office(s).

Timeline: Fall of 2012: Site selection and preparation; Fall of 2012- Fall of 2013: Implement; and Spring 2014 NBSAC meeting: Evaluate results and report findings.

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[30] It should be noted that success in achieving improved detection of alcohol-involvement and more accurate reporting of such will likely lead to an increase in the number of alcohol-involved accidents (deaths) being reported. Success in this area may result in a perceived failure to meet the overall target for this objective.

Table 6.2

Measurement (cite source and 'owner' of measurement)	– The five-year average in which the use of alcohol or other drugs by a boat's operator and/or occupants was either a direct or indirect cause of the accident was: – 2005 to 2009 = 156 – 2006 to 2010 = 155 *Source: Recreational Boating Statistics, Table 8. USCG*
External Drivers & Trends What variables affect our success with this objective?	– Ability to enlist active participation by all marine law enforcement officers. – News media engagement. – Funding to initiate aggressive education efforts and a tracking system for marine law enforcement officers. – Acceptance by individual judicial systems and prosecutors. – Improved accuracy and consistency of alcohol-involved accident report data. – Successful completion of a pilot project under Strategy 6.7.
Data Gaps What other data do we need to support this objective?	– BARD analysis to determine baseline for measure of alcohol-related casualties. – Highly unreliable accident report data related to alcohol involvement in boating accidents. – Data required to complete analyses of effectiveness of state laws linking BUI violations with driving privileges and enhanced penalties for high BAC levels. – Tracking system for court decisions on use of the new field sobriety test battery. – Tracking system for officers trained in area of BUI detection and enforcement. – Media exposure data for annual BUI enforcement and education campaign. – Analyses to identify appropriate area for pilot project.

Table 6.3 Team Members

	NAME
Objective Leader	Richard Moore
Working Group Members/Consultants	Herb Angell Marcia Kull
USCG Liaison	Joe Carro

Objective 7: Manufacturer Compliance

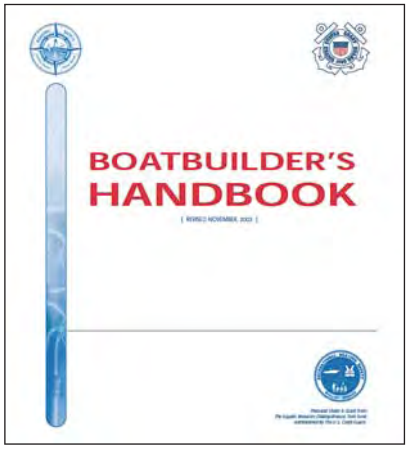
Decrease the recreational boat manufacturer ratio of discrepancies per factory inspection annually by 5% and keep boats with insufficient flotation off the market.

Introduction

In 2010 the Coast Guard counted 4604 accidents that involved 672 deaths, 3153 injuries, and approximately $35.5 million dollars of damage to property as a result of recreational boating accidents. In 20 deaths and 367 accidents "failure of boat or boat equipment" was determined to be the primary contributing factor of the accident. Therefore, successful existing programs must be continued and new strategies added to reduce this number.

This objective includes strategies to: (i) conduct in-person inspections of manufacturing factories to decrease manufacturer discrepancies with federal regulations, (ii) identify, test and commence remedial action for boats that fail to meet flotation regulations, (iii) conduct formal manufacturer outreach activities designed to ensure compliance with federal regulations and recommended voluntary safety standards, and (iv) conduct and support research to identify new products, new designs or new safety standards that would reduce boating injuries and deaths.

Benefits



Source: USCG

Recreational boating deaths have decreased significantly since the introduction of the Federal Boat Safety Act of 1971, and the implementing regulations addressing specific design and manufacturing requirements[31]. Incremental improvements, even 40 years after passage, still result primarily due to continued active involvement and enforcement activities by the Coast Guard. Although a direct correlation between manufacturer compliance and the BARD accident statistics is difficult, accidents attributable to hull, machinery, or equipment failures (areas typically associated with manufacturers) consistently represent the smallest percentage of accident causes in recreational boating deaths. While low, these numbers are still of concern.[32] Therefore, this objective recommends maintaining the successful factory visit and flotation testing (Strategies 7.1 and 7.2) programs. In addition, this objective includes new strategies to reach beyond the federal regulations and work with Implementing Partners to improve manufacturers' acceptance of and adherence to voluntary standards. While the Federal safety regulations are mandatory for manufacturers to comply with there are also voluntary consensus safety standards that many manufacturers also comply with. Specifically, Strategy 7.3 proposes new strategic outreach efforts utilizing ABYC voluntary safety standards. The ABYC standards include the Federal regulations but, in most cases, supplement the minimal Federal safety regulations. In Strategy 7.4, this objective moves, for the first time, away from the confines of enforcement of mandatory regulations and toward safety benefits obtained through new voluntary standards or new product development.[33] Because of the time lag in standards/new product design and introduction of these products in the

[31] Federal regulations pertaining to manufacture of recreational boats address the following areas: Manufacturer certification, Identification of boats, Display of capacity information, Safe loading, Safe powering, Flotation, Electrical systems, Fuel systems, Ventilation, Start-in-gear protection, Navigation lights and Backfire flame control.

[32] In 1999, BARD data attributes 50 of the 734 boating deaths to hull, machinery or equipment failures. In 2003, that number was 31 of the 703 deaths. In the 2008 BARD data, failures of hull, machinery or equipment are reported to have caused 39 of the 709 recreational boating fatalities.

[33] The drafters of this objective believe that underwriting grants to fund voluntary safety standard development and new product designs (including manufacturing techniques and user information) that reduce the likelihood of boating injuries and deaths will result in incremental lives saved.

field, these safety improvements will not likely generate measureable results for at least 5 years. The lives saved from this initiative, based on probable lags associated with new product design and distribution and standard development and implementation, are likely to occur later in the time period covered by this Strategic Plan and for years beyond it.

Finally, this objective assumes that manufacturer compliance with federal regulations creates safe boats, but not necessarily safe boating experiences. Objective 7, Manufacturer Compliance, is an integral part of the entire Strategic Plan, supplementing those strategies that increase boater awareness of safe boating practices, drug and alcohol enforcement and life jacket usage.

Subject Matter Experts believe that a good opportunity to save incremental lives will be achieved through new product design, manufacture, or information, and that Strategy 7.4 facilitates this activity. For example, recent testing by ABYC revealed that adding approximately 10 inches to boarding ladders below the waterline may result in a 75% decrease in propeller injuries during re-boarding. Drowning deaths may also be prevented as a result of people being able to actually climb the ladder and into the safety of the boat. No federal regulations apply to boarding ladders, and this action is taken by industry members and implementing partners solely to improve boating safety. This design change will become a voluntary standard with 2012 implementation date and measures of effectiveness should be implemented to validate the beneficial outcomes.

Other significant design work underway includes the Boating Industry Risk Management Council (BIRMC) instigated analysis of BARD data to determine the highest risks associated with the various boat designs, and to recommend uniform and appropriate product warnings/information to address those risks.



Source: USCG



Strategy 7.1 – Identify Problem Boats/Manufacturers

Continue USCG's comprehensive Factory Visit Program designed to decrease preventable accidents by inspecting recreational boat manufacturing facilities to ensure compliance with federal safety regulations, specifically those regulations that address fire and explosion, capsizing, sinking, and swamping risks. Implement corrective action as needed. The USCG will supervise personnel that conduct the visits and inspections:

1. The number of inspections conducted each year should be commensurate with the historic inspection rate, considering the number of active manufacturers, complexity and type of production, geography, and history of compliance.
2. The Coast Guard should investigate if there are more efficient schemes to determine the number and allocation of factory visits.
3. Seek to continue or improve 5% annual decrease in number of discrepancies per factory inspection.

Implementing Partners: USCG.

Timeline: Ongoing.

Strategy 7.2 – Test/Target Recreational Boats with Flotation Issues

Test recreational boats annually for compliance with flotation regulations as budget permits. Target those boats that have a high probability of failure. Use the Factory Visit Program to invite strategically selected boat manufacturers to submit boats voluntarily for flotation tests at the contractor's facility. Take corrective action as indicated. The Coast Guard should direct the contractor that coordinates and conducts the flotation testing to:

1. Select only questionable boats to purchase on the open market for flotation testing.
2. Attempt to find new models without signficant market penetration to prevent non-compliant boats from reaching consumers.
3. Facilitate flotation testing for those manufacturers that pose a high risk of non-compliance (high risk boats and limited resources).

Implementing Partners: USCG, NMMA, boat manufacturers.

Timeline: Ongoing.

Strategy 7.3 – Manufacturer Outreach

Challenge USCG, ABYC, NMMA, industry and others as appropriate to communicate actively with manufacturers on affirmative steps to ensure compliance with federal regulations, and also to adopt recommended voluntary standards through in-person outreach, written communications and web-based training. Specific steps will include:

1. Attend key industry meetings and boat shows to liaison with boat manufacturers.
2. Staff a USCG booth at IBEX each year.
3. USCG to provide yearly update to manufacturers at NMMA Annual Engineering Seminar outlining common discrepancies that led to federal recalls arising from the USCG factory visit program.
4. USCG to publish at least one Boating Safety Circular each year.
5. Maintain www.Safeafloat.com manufacturer outreach website. Obtain a 5% annual increase in number of visits to safeafloat.com website.

6. Conduct specific outreach to canoe/kayak manufacturers encouraging them to adopt ABYC Standards H-29, Canoes and Kayaks, and T-24, Owner/Operator's Manuals.

Implementing Partners: USCG, ABYC, NMMA, boat manufacturers.

Timeline: Ongoing.

Strategy 7.4 – Conduct and support research to identify new products, new designs or new safety standards that would reduce boating injuries and deaths.

Conduct research to determine whether changes to existing federal regulations or voluntary standards will reduce recreational boating injuries and deaths. Key implementing partners should:

1. On a yearly basis, create a minimum of one new and/or modify existing ABYC standard(s) to incorporate objective findings from research or other objective data into performance standards.
2. Using BARD data analysis, create five warnings/information pieces to address most significant contributing factors of boating accidents and, if appropriate, incorporate in ABYC standards and NMMA certification program.
3. Revise numbers 1 and 2 above periodically, as appropriate

Implementing Partners: ABYC, NMMA, boat and after-market equipment manufacturers.

Timeline: Ongoing.

Table 7.1

Measurement (cite source and 'owner' of measurement)	– See table below for measurements. – Note: Coast Guard, ABYC, NMMA, industry, and others as identified should conduct yearly reviews to ensure that the objective targets set forth in this Objective are achieved.
External Drivers & Trends What variables affect our success with this objective?	– Full compliance with federal regulations does not necessarily ensure that a boat is safe. Assuming new designs are effective in reducing the likelihood of boating injuries and deaths; it will likely be several years before these new designs (particularly if part of new boat construction) are in the marketplace. – Modifications to warning labels/boater information presume that warnings actually change behavior. Nevertheless, the USCG and implementing partners want to provide boaters with all the design and information enhancements it can in an attempt to positively influence a potential negative outcome.
Data Gaps What other data do we need to support this objective?	– In the 2010 BARD data, 20 reported deaths attributed to a failure of boat or boat equipment. At present we know these deaths are not related to compliance issues, but they could be related to defect issues not yet addressed.

Table 7.2 Team Members

	NAME
Objective Leader	Marcia Kull
Working Group Members/Consultants	Pete Chisholm John Adey Tom Marhevko Dave Marlow
USCG Liaison	Phil Cappel

Objective 7 – Additional Background

Strategy 7.1 – Identify Problem Boats/Manufacturers

This strategy is a direct carry over from the previous Strategic Plan. Its goal is to decrease preventable accidents by inspecting recreational boat manufacturing facilities to ensure compliance with federal safety regulations, specifically those regulations that address fire and explosion, capsizing, sinking, and swamping risks.

The Factory Visit Program re-commenced in pilot form in 2001 through the use of contractor personnel acting on behalf of the Coast Guard. The contractor is required to perform a specific number of visits each year. The frequency of visits to each manufacturer is based on the number of regulations that apply to the boats being manufactured, i.e. manufacturers building inboard boats less than 20 feet in length have more frequent visits. The contractor summarizes the findings of the factory visits in monthly reports, the data from which are compiled annually to produce an average number of discrepancies noted per factory inspection (d/i). The results since the inception of the measurement are shown in the following table as well as the percentage increase/decrease from the previous year.

FY10 - 0.7381 d/i (-8.9%)	**FY07 - 1.0873 d/i (-26.4%)**
FY09 - 0.8089 d/i (-20.3%)	**FY06 - 1.4780 d/i (-.31%)**
FY08 - 1.0145 d/i (-6.7%)	**FY05 – 1.4826 d/i**

Number of Visits, Discrepancies, and Resulting Safety Recalls:

Regulatory non-compliances discovered during the Factory Visit Program lead to "discrepancies" requiring corrective action by manufacturers. Where a discrepancy is discovered that seriously violates a federal regulation, a formal recall process is commenced under the Federal Boat Safety Act to remedy the regulatory non-complicate in the field.

Year	Number of Visits	Number of Discrepancies	Number of Recalls
CY 2001	**1164**	**2128**	**187**
FY 2006	**2028**	**1144**	**59**
FY 2007	**2019**	**760**	**66**
FY 2008	**2074**	**699**	**30**
FY 2009[34]	**1559**	**364**	**3**
FY 2010	**1785**	**355**	**19**

Strategy 7.2 – Test/Target Recreational Boats with Flotation Issues

This strategy is a carryover from the previous Strategic Plan with a change in measurement. Its goal is to decrease the number of boats on the market that fail to meet federal flotation regulations.

Ensuring adequate flotation in recreational boats under 20 feet in length is one of the most difficult manufacturing tasks presented to a boat builder. Actual flotation testing requires a test pool to conduct the test; most small to mid-sized manufacturers do not have these facilities. They depend, instead, upon mathematical calculations to meet the guidelines. Although calculations are acceptable for compliance purposes they are not as accurate as actual in-water testing. Also, some builder's math skills are much better than others.

[34] Staggered funding limited visits before a new contract was awarded.

The USCG flotation testing program Fills an important void in three ways:

1. purchasing suspect boats for testing off the open market;
2. requesting manufacturers to submit suspect boats identified during the Factory Visit Program; and
3. allowing small and medium volume builders without available testing facilities to submit boats voluntarily for testing.

A complete test report is generated after every test and provided to the manufacturer and employees of the manufacturer are invited to attend the testing. Historically, approximately 50% of all of the boats tested in this program do not pass the test – attempts are made to test new models before they are on the market. Voluntarily submitted boats have a higher percentage of passing and the strategically purchased/requested boats have a lower percentage. PLEASE NOTE: It is inappropriate to assign a failure rate as a measurement of progress because this is a non-random sample.

The Coast Guard Boat Testing (Flotation) Program was initiated in 1975. It consists of two parts: Purchase of suspect boats from the open market and Voluntary (or semi-voluntary) boats submitted for flotation testing. A five year sample of boats tested between 2004 and 2008:

- Volunteer Boats–210 Tested - 96 Failed Testing - 46% Failure Rate
- Purchased Boats–49 Tested - 39 Failed Testing - 80% Failure Rate
- Five Year Total Boats–259 Tested - 135 Failed Testing - 52% Failure Rate

As a result of findings from the Boat Testing Program, USCG has opened approximately 15 flotation related recalls each year affirmatively working to correct boats with insufficient flotation in the field.



Source: USCG

Objective 8: Operator Compliance – USCG Required Safety Equipment

Increase compliance levels for specific required safety equipment on recreational boats.

Introduction

According to the Marine Information for Safety and Law Enforcement system (MISLE), the USCG conducted approximately 51,000 boardings of recreational vessels in 2010. The primary violations were, in order of frequency: life jackets (no throwable PFDs/ insufficient wearable life jacket), certificate of number/ documentation, and no fire extinguisher on board.

According to PRPII, the states conducted over 1.6 million RBS compliance inspections of recreational vessels in 2010. The primary violations found by the States were, in order of frequency: life jackets (insufficient wearable life jackets/ no throwable PFDs), certificate of number/ documentation, and navigation rules.

Over the course of the past five years, several research projects have attempted to use existing data available from PRPII and MISLE to obtain compliance rates for recreational vessel carriage requirements. The state data in PRPII does not currently capture vessel boardings where no violations were detected. While MISLE does capture compliant boardings, it only captures enforcement data in areas where the Coast Guard operates and therefore no Coast Guard data is available for a large majority of the central portions of the country.

To address this gap, over the next several years, through the course of continuing programmatic improvements within the State RBS Grant Program and the PRPII, the states will be encouraged to gather more specific information. This may allow for the identification of true national compliance rates in the future. Further, similar improvements in Coast Guard data gathering via the MISLE system may help to validate state data. While we cannot ascertain a current correlation between recreational marine casualties and safety equipment compliance with the data available, with the planned improvements as identified above, we may eventually identify such a correlation.

The data currently available does allow for limited trend analysis in general terms of certain violations when compared to total vessels contacted. This data may be used to highlight possible areas of compliance concern indicating further investigation is warranted. It is in this manner that we will move forward with the strategies identified under Objective 8.

Remarkable effort has been put into this objective over the decades by an array of boating organizations, agencies, and authors. Virtually all of the safe boating pamphlets offered by state agencies and others emphasize required equipment and the importance of compliance. The question remains, with all this effort why don't we have better results?

Currently 14 items are on the federal required equipment list (depending on boat length and location). Of those, eight are not directly related to the reduction of deaths, injuries, or accidents (including certificate of number, state numbering, certificate of documentation, capacity plate, copy of navigation rules, oil placard, garbage placard and waste plan, marine sanitation device.) The remaining six are the required safety equipment that the boater must remember for each boat trip. They help prevent fatalities and accidents – and should be the focus of this outreach strategy (life jackets, throwable flotation devices, fire extinguisher and fire prevention [ventilation/backfire flame arrestor], visual distress signals, sound signals, and working navigation lights).

Education and point of sale work should be broadened to include a wider variety of boaters, not solely the new boat owner. The list of required equipment should be examined and open for possible changes. Strategies to improve compliance should be developed with the widest possible array of boating communities and communication opportunities.

Benefits

Boating agencies believe that carrying proper life jackets onboard has a direct influence on the number of fatalities on boats. Life jackets aside, compliance or noncompliance with the remaining required safety equipment is not considered a frequent contributing factor for accidents or fatalities. However, there is a suspected correlation between those boaters who take the time to carry this required equipment and those boaters who stay safe on the water. As a result, education and outreach on this topic are believed to bolster overall safe boating. In addition, some required safety equipment serves an ancillary role in helping protect boaters once an accident has occurred.



Source: USCG

Strategy 8.1 – Evaluate Incidents of Non-Compliance with Specific USCG Required Safety Equipment

1. Identify the number of incidents of non-compliance with safety equipment carriage requirements to determine trends from PRP II and MISLE data.
2. Ascertain when USCG Required Safety Equipment is carried, whether the additional requirements of accessibility, condition, and appropriate size are met.
3. Use NASBLA's Engineering, Reporting and Analysis Committee (ERAC) 2009 analysis and other available sources to pinpoint realistic means to gather and use non-compliance data.
4. Consider technological solutions and social media to gather and quickly analyze specific compliance data. (Note: For example, vendors of cartographic software are using smart phone applications to collect chart errors from their customer base and greatly reducing the costs of data surveys.)
5. Recognize that data gathering may require a variety of innovative means, including altering PRP II, using data from USCGAUX courtesy exams, enhancing Operation Drywater, and other sources.

Implementing Partners: USCG, USCGAUX, USPS, NASBLA, Sea Tow Foundation, States.

Timeline: Ongoing.

Strategy 8.2 – Analyze Required and Recommended Equipment

Using BARD, MISLE, and other sources determine what additional equipment would have made a difference in eliminating a fatality, injury, or accident. Attempt to answer the question: "How could this fatality have been prevented by the carriage of X required item, or by the incremental carriage of Y non-required item?"

Items that might be considered include the following:

1. Re-boarding ladders.
2. Anchor and ground tackle (chain and line).
3. Very high frequency (VHF) radio.
4. Personal Locator Beacon (PLB)/ Emergency Position-Indicating Radio Beacon (EPIRB).
5. Personal lights.
6. Automatic extinguishers for gasoline-powered boats.
7. Automated External Defibrillator (AED).
8. Life Raft, Inflatable Buoyant Apparatus (IBA).
9. Different specification Personal Flotation Device (PFD).
10. Helmets (Personal Watercraft PWC).
11. Redesigned electronic charting man overboard function.

Examine the data with regard to the current required equipment list to determine adequacy of list.

Clearly communicate the conditions under which the current requirements are focused and what additional equipment would be called for in more challenging circumstances (rough water, offshore, cold water, limited rescue services, long duration).

Recommend alterations in the required equipment list or in education efforts as a result of these investigations, as appropriate.

Implementing Partners: USCG, NASBLA.

Timeline: Ongoing.

Strategy 8.3 – Assess effectiveness of current boater education outreach and law enforcement programs to achieve higher compliance rates with USCG Safety Equipment carriage requirements, including life jackets

Assess effectiveness of current programs. Based on this analysis, develop best management practices for future outreach efforts regarding required safety equipment to increase compliance further.

Implementing Partners: USCG, USCGAUX, USPS, US Sailing, BoatU.S. Foundation, NSBC.

Timeline: Ongoing.

Strategy 8.4 – Enhance Compliance Outreach

To increase compliance, identify those items that are missing from the boat, and those items that are vital to safety. This focuses the scope of outreach and enforcement conducted under this objective.

1. Work in conjunction with Objective 2 to maximize effectiveness of boating safety messages, and quantify effectiveness of same.
2. Target specific problem compliance areas, as reported in Strategy 8.1, through increased education and public awareness campaigns, including a wide array of methods to reach boaters.

3. Target compliance through increased awareness of USCG Required Safety Equipment with enforcement patrols.

Implementing Partners: USCG, States, NASBLA, Sea Tow Foundation.

Timeline: Ongoing.

Strategy 8.5 – Simplify the Message

The current list of required equipment includes many non-safety items and items already included by the boat-builder. To reduce confusion and increase compliance with lifesaving safety equipment, future efforts should be focused on the specific safety items that a boater is required to carry on his/her boat. Working with the advisory work group outlined in Strategy 2.2, consider narrowing the list of items using data from other strategies in this objective along with the following:

a. Separate the Federal Recreational Boating Equipment Requirements into four categories:

1. Portable safety items.
2. Pollution control items.
3. Boatbuilder [original equipment manufacturer (OEM)] items.
4. Documentation.

Discontinue the process of presenting these as a single long, hard to learn and hard to retain list.

b. Focus on the six portable safety items, not pollution control items, OEM items, or documentation:

1. Life jackets.
2. Throwable flotation.
3. Lights.
4. Sound (horn).
5. Visual Distress Signals (Flares, etc.).
6. Fire extinguishers.

Implementing Partners: USCG, boats and associated equipment manufacturers, NASBLA, States, Sea Tow Foundation**.**

Timeline: Ongoing.

Strategy 8.6 – Increase Boaters' Knowledge of Safety Equipment

Include a safety equipment checklist in boating education course workbooks (i.e. – pull-out page), posters for display at marine stores, and other points-of-sale that specify requirements, the justification for the requirements, and penalties for non-compliance. Include a safety equipment checklist as part of ABYC standard owner's manual, T24. Recommend inclusion of this information with state boat registration packets.

Utilize the widest array of communication opportunities for boaters for dissemination of this information (in coordination with Objective 2) including in-person networks like boat clubs, boat shows, boating organizations, USPS, USCGAUX, NMMA, AMI, dealers, marinas, boat supply stores. Incorporate social and virtual networks like internet, Facebook, Twitter, YouTube, and other mediums, and printed materials. Maximize work with partner organizations.

Work with the USCGAUX and USPS to obtain the best data available on boater safety equipment compliance. Use data to supplement other available information.

Utilize law enforcement and boardings as educational opportunities on this topic.

Conduct specific outreach to educate boaters about the proposed engine cut-off switch regulation. This new regulation will require vessel manufacturers, after a certain date, to install engine cut-off switches in all powered vessels less than 26ft in length, and require operators of any vessel equipped with an engine cut-off switch to use said device when in operation and maintain the device in good working order.

Implementing Partners: USCG, NASBLA, USPS, USCGAUX, NMMA, AMI, Sea Tow Foundation, boat dealers.

Timeline: Ongoing.

Strategy 8.7 – Encourage Purchase of Required Safety Equipment

Develop marketing strategy to promote purchase of required safety equipment, including encouragement for boat retailers and dealers to sell the required safety equipment within commissioning packages for boat owners.

Promote array of life jacket choices to boaters to help them become more familiar with life jackets that they are more likely to wear.

Implementing Partners: USCG, PFDMA.

Timeline: Ongoing.

Table 8.1

Measurement (cite source and 'owner' of measurement)	-The data currently available from PRPII and MISLE allows for limited trend analysis in general terms of certain violations when compared to total vessels contacted. This data may be used to highlight possible areas of compliance concern indicating further investigation is warranted. Sources: PRPII-Vann Burgess, MISLE, J Law Owners: States, USCG
External Drivers & Trends What variables affect our success with this objective?	– Funding for outreach and training – Effectiveness at reaching wide array of boaters. – Boater motivation to comply with law.
Data Gaps What other data do we need to support this objective?	– What data is available that will help determine compliance? – Is it possible to gather data to help determine compliance rates? – Are we able to ascertain carriage at accident sites? – Are the 'right' items required on boats?

Table 8.2 Team Members

	NAME
Objective Leader	Margaret Podlich
Working Group Members/Consultants	John Fetterman Chuck Hawley
USCG Liaison	Vann Burgess

Table 8.3 Federal Required Equipment

Required Equipment	Primarily help to reduce deaths/injuries?	Type of product
Certificate of number	No	Document
State numbering	No	Labeling
Certificate of Documentation	No	Document
Capacity Plate	Possible	Labeling
Copy of Nav Rules	Unknown	Document
Ventilation	Required (manufacturer and consumer issue)	OEM + boater maintenance on sterndrives and inboards
Backfire Flame Arrestor	Required (manufacturer and consumer issue)	OEM + boater maintenance on sterndrives and inboards
Oil Placard	No	Environmental
Garbage Placard & Waste Plan	No	Environmental
Marine Sanitation Device	No	Environmental
Sound producing	Yes	Safety
Navigational Lights	Yes	Safety
Throwable cushion	Yes	Safety
Life Jackets for each person	Yes	Safety
Visual Distress Signals (Flares, etc.)* see 33 CFR 187 for requirements	Yes	Safety
Fire Extinguisher & Fire Prevention (Ventilation, Backfire Flame Arrestor)	Yes	Safety

** See 33 CFR 187 for requirements*



Source: USCG

Objective 9: Boating Accident Reporting

Using the baseline BARD data from 2009, work towards a goal of 100% by 2016, for boat accident report completeness, accuracy and timely submission pursuant to 33 CFR 173 and 174.

Introduction

The information learned through analysis of boating accident data drives the entire National RBS Program; consequently, the complete, accurate, and timely submission of accident reports that generate a high confidence level for the BARD is essential. The strategies in this objective are designed to modify, clarify, simplify, and further standardize elements of accident reporting and the accident reporting system itself. In concert with several strategies in Objective 10, these strategies ultimately are intended to improve the quality, consistency, relevance, accuracy, and timeliness of the report data that are entered into BARD.

Objective 9 focuses on the quality of data and timeliness of data submission. It outlines how we plan to measure the accuracy, completeness, and timeliness of data received. Each of these three subjects requires different measurements and caveats.

ACCURACY

The latest five years of data through 2009 demonstrates that state law enforcement agencies have entered an average of 58 duplicate reports each year. This measurement was selected because having duplicate records (1 or 2 copies of a record) can drastically change the national statistics if duplicates are not identified. For example, if the same fire in 2008 that caused $6,000,000 damage to property were entered twice, the national tally of damage would be 11% higher than it actually was. The duplication of reports demonstrates the problem with inaccurate data and the subsequent analysis of that data. To measure accuracy, we will focus on the entry of duplicate accidents (1 or more copies of an accident record) in the BARD System. We will focus on reducing the number of duplicate records to 0 by 2016 by encouraging more stringent review by state staff and by providing tools within BARD to immediately identify duplicate reports.



Source: USCG

COMPLETENESS

The length of a vessel was selected because it is often used as a basis for regulations. The latest five years of data through 2009 demonstrates that between 3% and 6% of vessels that had known operators did not have a length listed. Some lengths are never known, such as hit and run accidents, where the length of a vessel would not be known because the operator never provided vessel characteristics. There also may be cases where the operator may be known but the length would not be known such as when a single boater disappears with his/her vessel, the vessel was not numbered or registered, and witnesses do not know the length of the vessel. Considering this we adjust the goal to have the length of vessels left unknown for no more than 3% of accidents for the years through 2016.

TIMELINESS

The Coast Guard conducted a study on the number of accident reports received over time for accidents that occurred in October 2008. USCG Staff found that one month after an accident had occurred, state law enforcement agencies entered roughly 63% of the deaths that occurred in October 2008. After two months, USCG staff had received roughly 80% of deaths that occurred, after three months they had received 90%, and after six months they had received 98%. Accident reports for injuries and property damage nationally since October 2008 are reported within 30 days by 50% of the reporting authorities, 70% within 2 months, 84% within 3 months and 99% within 6 months. The goal is to have casualty information submitted in BARD within 30 days from the date of the accident in compliance with 33 CFR 173 and 174. The measurement is the percent of accident reports received in BARD over the time that has elapsed between the accident date and the entry date.

BENEFITS

The benefits included in this objective are development of improved data on which to identify and quantify the effects of various intervention strategies in reducing recreational boating accidents, injuries, and fatalities, similar to those listed in Objective 10. However, while much of the work toward this objective is properly termed continuous improvement, one major work element described in Strategy 9.2 would change current boat operator/owner reporting requirements to a two-tier system of operator/owner notification and state authority investigation and reporting. Although multiple improvements in the Boating Accident Report (BAR) form have been implemented over the years, the form remains detailed and complex, making it difficult for a recreational boater to fill out accurately or at all. Limiting the accident information required by the operator/owner to notification, and shifting responsibility for accident investigation and more detailed reporting to trained personnel, alone, has the potential to bring about a step change in the quality and accuracy of accident reports and improve report response rates. Other aspects of Strategies 9.1 through 9.16 are intended to provide further and necessary regulatory and policy clarification and guidance to state reporting authorities, their designees, and boating accident investigators.

Strategy 9.18, calling for the link between the BARD and the Vessel Identification System (VIS) datasets, would further enhance the use of the report data in determining trends associated with vessel characteristics and allowing for cost benefit determinations for future regulatory proposals.

The strategies, activities, and tasks included in this objective do not *directly* save lives or reduce casualties. For this reason, no specific numerical target is set for lives saved or casualties avoided. Nonetheless, the strategies included in this objective are designed to improve the quality, relevance, accuracy, and timeliness of the key data necessary to evaluate and quantify benefits and to track the success of various initiatives proposed by the Coast Guard and its partners as part of other objectives included in the Strategic Plan. Thus, this objective should be viewed as an *essential component of the Strategic Plan.*

Strategy 9.1 – Recommendations of the "Regulatory Review and Accident Reporting Requirement Regulation" Task Force

Review and respond to the 15 recommendations (Strategies 9.2 through 9.16) of the "Regulatory Review and Accident Reporting Requirement Regulation" Task Force as approved by the National Boating Safety Advisory Council in April 2009, and address, as necessary, any USCG concerns relative to Policy, Regulation (CFR), or Statute (U.S.C.).

Strategy 9.2
Develop a two-tiered boating accident notification/reporting system requiring operator (or owner) notification of the accident to the state reporting authority or designee, with required state follow-up investigation and gathering and submission of all required report data by the state authority. Continually evaluate innovative technology for reporting (coordinate with Strategy 2.2).

Strategy 9.3
Clarify through policy and regulation, which watercraft qualify for boating accident reporting.

Strategy 9.4
Include exclusive state waters in accident reporting requirements.

Strategy 9.5
Clarify which boating-related injuries qualify for reporting by adopting OSHA standards for "medical treatment beyond first aid" as the standard for recreational boating injury reporting.

Strategy 9.6
Consider revising reportable boating accident criteria to exclude incidents where the vessel was underway and being used as a swimming platform or a person voluntarily leaves the vessel as the first event.

Strategy 9.7
Create a Decision Matrix that will simplify the boating accident and casualty reporting decision-making process for state reporting authorities, their designees, boating accident investigators and the boating public.

Strategy 9.8
Establish and enforce the responsibility and accountability of first responders for notifying of an accident or casualty and of state reporting authorities for investigating and submitting boating accident report data.

Strategy 9.9
Amend the *Code of Federal Regulations* (CFR) to specify the essential elements of information required to be included in the initial notification of a boating accident.

Strategy 9.10
Amend the *Code of Federal Regulations* (CFR) to abstain from including specific data elements and require that essential elements of boating accident report information be specified in a U.S. Coast Guard policy document.

Strategy 9.11
Revise the former guidance document CG-449, and make it available in a condensed version through electronic media.

Strategy 9.12
Examine the feasibility of harmonizing commercial and recreational boating accident cause data.

Strategy 9.13
Continue to research methods for statistical adjustment of accident totals to help extrapolate unreported accidents.

Strategy 9.14
Draft text for inclusion in *Boating Statistics* discussing possible errors and limits to interpretation of data extracted from BARD.

Strategy 9.15
Examine the suitability of additional models of accident causation (human factors) for use in describing fatal recreational boating accidents.

Strategy 9.16
Assist the states in conducting training, education and outreach efforts directed toward the boating public and accident investigators and regarding boating accident notification and reporting regulatory and policy revisions.

Implementing Partners for Strategies 9.1 – 9.16: USCG.

Timeline: To be completed on or before April 2016.

Strategy 9.17 – Vessel Identification System (VIS)
Increase states' participation in the Vessel Identification System (VIS).

Implementing Partners: USCG, States, NASBLA.

Timeline: Ongoing.

Strategy 9.18 – Link BARD to VIS
Link the Boating Accident Report Database (BARD) to the Vessel Identification System (VIS) and have all states using VIS to better ensure the accuracy and reliability of the data and the ability to uniformly analyze trend data to support interventions.

Implementing Partners: USCG, NASBLA, participating States.

Timeline: No later than April 2016.

Strategy 9.19 – Manufacturer Provision of Vessel Information
Establish a program for manufacturers to provide vessel information at the point of manufacturer to organizations such as NICB for possible incorporation into other databases, as appropriate.

Implementing Partners: NMMA, manufacturers.

Timeline: 2015.

Table 9.1

Measurement (cite source and 'owner' of measurement)	– See measurements under the headings "Timeliness", "Accuracy", and "Completeness". – USCG-Susan Tomczuk/ BARD - responsible for collecting data from state reporting authorities and compiling national statistics. – State reporting authorities - own the data and are responsible for accuracy and timely submission.
External Drivers & Trends What variables affect our success with this objective?	– Improving accident reporting may increase the numbers of accidents reported in the short term.
Data Gaps What other data do we need to support this objective?	– Based on the data the states submit, both USCG and NASBLA's ERAC committee have identified numerous issues with the data submitted by the states. For example, many accidents are not reported to the states and many of the reports are incomplete. Some reporters, local, state, and Federal may not understand the reporting requirements. Consideration of a manual with definitions or a reporting matrix has been discussed. Integration of training regarding accident investigation and BARD data entry should be considered.

Table 9.2 Team Members

	NAME
Objective Leader	Fred Messmann
Working Group Members/Consultants	Richard Moore Gary Haupt Ken Ripley Deb Gona
USCG Liaison	Susan Tomczuk Vann Burgess (Strat 9.17-VIS)







Source: USCG

Objective 10: Research and Development

Gather and analyze data relevant to recreational boating accidents and exposure.[35]

Introduction

To make informed policy decisions, it is essential to know the extent and composition of recreational boating activity and key facts and data relative to recreational boating accidents. This objective is designed to (i) assess and improve the quality of boating accident data, (ii) generate new data in areas where data gaps exist, (iii) provide quantitative estimates of key data elements, and (iv) use these data to evaluate and monitor the effectiveness of various strategies to reduce recreational boating injuries and accidents. Data to be analyzed include accident data, exposure data, and relevant demographic data.

At present data comes from four principal sources, BARs provided by owners or operators of recreational boats (for reportable accidents), MISLE, reports of investigations of accidents, and reports received from other media sources. The reports are reviewed and input into the BARD system by states for submission to the Coast Guard, and collated and disseminated in the Coast Guard's annual recreational boating statistics publication, titled *Recreational Boating Statistics*. This publication contains much useful data on the causes, circumstances, and demographics of recreational boating accidents. However, the BARD data reported in *Recreational Boating Statistics* does not contain information that would allow us to calculate risk estimates, thus, the lack of reliable exposure data prevents risk estimates (e.g., accidents, fatalities, or casualties per hour or day of use) from being made—this is referred to by the shorthand phrase the "denominator problem."

Many useful findings and conclusions are derived from analysis of the data reported in *Recreational Boating Statistics*, but most of the preparation effort has been expended on *producing and collating* reliable data, rather than on-going extensive analysis of these data. More analysis effort is justified and included in this objective.

Finally, even though owners/operators are required to report certain recreational boating accidents, not all comply with these requirements. The Coast Guard has determined that nearly all fatal accidents are reported and included in BARD. However, under-reporting of accidents is believed to be material for accidents that lead to injuries not requiring hospital admission or involving *property damage only* (PDO). Underreporting is potentially important because it leads to understatement of the social costs of recreational boating accidents and potential misallocation of resources. Efforts to increase accident reporting are included in other strategies included in this Plan (e.g., the development and dissemination of branded messages). However, this objective and related strategies also call for the examination of other ways to adjust or correct for missing data. The strategies included in this objective are designed to increase the quality and relevance of data and the use of various techniques to analyze these data.

Benefits

The strategies, activities, and tasks included in this objective do not *directly* save lives or reduce casualties. For this reason, no specific numerical target is set for lives saved or casualties avoided as part of this objective. Nonetheless, the strategies included in this objective provide the key data and analyses necessary to evaluate and quantify benefits

[35] In the 2007-2011 Strategic Plan Objective 10 was limited to measuring boating participation days and determining exposure hours, both of which are estimates to be developed from the analysis of data from the National Boating Survey. This Strategic Plan has been reorganized for improved clarity and certain strategies have been moved among objectives. Other strategies have been added.

and to track the success of various initiatives proposed by the Coast Guard and its partners as part of other objectives included in the Strategic Plan. Thus, this objective should be viewed as a*n essential component of the Strategic Plan*.

Strategy 10.1 – Conduct a National Boating Survey[36] at two-year intervals

Conduct a National Boating Survey at two-year intervals to develop reliable data on exposure and provide data to evaluate strategies included in other objectives of this Plan (e.g., Objective 2. Boating Safety Outreach).

Implementing Partners: USCG.

Timeline: Survey results expected in 2012**.**



Source: USACE

Strategy 10.2 – Conduct Life Jacket research[37]

1. Continue to measure life jacket wear rates.
2. Develop a valid and accurate method to estimate benefits (reduced drownings) associated with greater life jacket wear rates and evaluate the benefits of mandatory life jacket use regulations (see Strategy 4.5).
3. Gather relevant data and assess the effects of mandatory life jacket wear laws or regulations.
4. To support the Life Jacket Tiger Team's recommendations for life jacket intervention, use BARD data to identify and track the at-risk recreational boating populations via activities, contributing factors, accident type, operation at the time of the accident, and demographic analysis that result in drowning fatalities.

Implementing Partners: USCG (lead), USACE.

Timeline: Annually.

[36] This strategy was listed as Strategy 2.1 in the 2007-2011 Plan.
[37] Portions of this strategy were included in Strategy 4.1 in the 2007-2011 Plan.

Strategy 10.3 – Measure exposure[38]

Use the data generated by the National Boating Survey to develop valid and accurate exposure estimates for various types and lengths of boats. Seek and evaluate other data sources that might be used as surrogates. As part of this strategy, monitor available data on the size and demographics of the potentially exposed population.

Implementing Partners: USCG.

Timeline: 2012.

Strategy 10.4 – Assess, improve, and train on BARD data[39]

Use data from the 2005 through 2009 "baseline time period" to develop statistics on the percentage of fields that contain missing data and assess the importance of various data fields. Develop and implement a plan to redesign the accident reporting form (if necessary), clarify definitions associated with data fields, provide training and develop other means necessary to reduce the frequency of missing data fields and improve the overall quality and accuracy of the BARD data.

Implementing Partners: USCG (lead), NASBLA (ERAC), States.

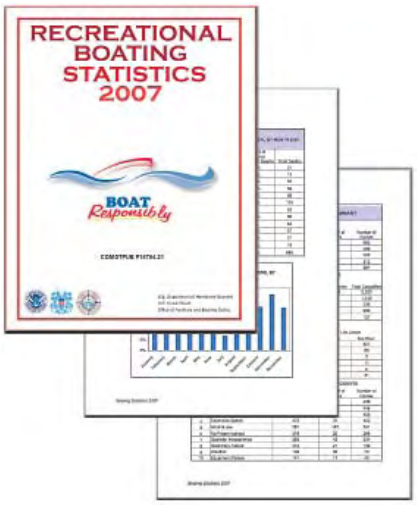
Timeline: 2012: Identify data gaps and develop a plan; 2013: plan implementation.

Strategy 10.5 – Analyze BARD data[40]

Continue to analyze BARD data to learn more about accident causes and circumstances in support of other objectives, existing USCG publications, and as suggested by boating safety partners. A key component of this effort is to provide the data and analyses to support strategies contained in other objectives, such as Strategy 6.1 (Measure Alcohol Use in Recreational Boating) and Objective 5 (Operator Compliance, Navigation Rules).

Implementing Partners: : USCG (lead) with Boating Safety Grant Recipients, NASBLA, NBSAC.

Timeline: Ongoing.



Source: USCG

Strategy 10.6 – Research methods to reduce or compensate for non-response[41]

Gather existing data and conduct new research to fill data gaps in BARD and for under-reporting to BARD.

Implementing Partners: USCG (lead), NASBLA, NBSAC.

Timeline: Ongoing.

[38] This strategy was listed as Objective 10 in the 2007-2011 Plan.
[39] This is a new strategy; portions of this are also included in Objective 9.
[40] This strategy was not explicitly identified in the 2007-2011 Plan.
[41] This strategy was not explicitly identified in the 2007-2011 Plan.

Strategy 10.7 – Assess priority for Non-compliance work

1. Using available data, derive estimates of accidents and fatalities in the last 10 years caused by or associated with deficiencies in required safety equipment carriage. Utilize these estimates to help determine the appropriate priority of work to be conducted under Objective 8 compared to other objectives. Provide an analysis of money spent to date.
2. Consider that enforcement agencies working on smaller budgets will not necessarily have the extra time to invest in this data gathering. Recognize that funding or technology may have to accompany additional data requirements.
3. Involve boating safety organizations including non-governmental organizations to help promote carriage of required safety equipment.

Implementing Partners: USCG (lead), NASBLA (ERAC), NBSAC.

Timeline: Ongoing.

Strategy 10.8 – Examine available data on boaters with limited English proficiency and develop measures of effectiveness for outreach efforts

Objective 2 contains an outreach Strategy 2.6 (Reach the Segment of the Boating Public with Limited English Proficiency). This strategy is fully consistent with Presidential Executive Order 13166, dated 11 August 2000. In order to craft meaningful measurements and targets for initiatives linked to this strategy, it is necessary to learn a great deal more about the population of boaters with limited English proficiency. This strategy includes gathering potentially relevant data on persons with limited English proficiency (e.g., from the Bureau of the Census), searching for demographic information on the involvement of this population subgroup in recreational boating, and identifying data gaps and candidate sources. If justified, consideration will be given to making modifications in the BARD reporting system to capture English proficiency and preferred language.

Implementing Partners: USCG (lead), NASBLA, Minnesota[42] and other selected States.

Timeline: Report to be prepared no later than December 2013.

Strategy 10.9 – Review Performance Report Part II

The objective leader will assemble subject matter experts (SMEs) to review (together with personnel from the USCG) the performance measures reported by the States in PRP II and make recommendations to the Coast Guard for improvements and continuation of successful grant programs. Non-profit organization grants that use a measurement from PRP II will work with NASBLA and the Coast Guard to determine the efficacy of the measurements as part of the grant. Measurements and their efficacy are the focus of this strategy in Objective 10. Objective 11 addresses possible enhancements to the grants program.

Implementing Partners: USCG, NBSAC, States, NASBLA.

Timeline: Annually.

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[42] Minnesota is mentioned specifically here because of their multilingual outreach efforts. For example, their basic brochure on Boat & Water Safety is published in Cambodian/Khmer, Hmong, Laotian, Spanish, and Vietnamese, as well as English.

Strategy 10.10 – Reduce the regulatory backlog for rules affecting the Boating Safety Division

The USCG, through the NBSAC, has conducted a regulatory review and developed recommendations to edit and update the recreational boating safety program. Over the last several years, many of those recommendations have not been implemented.

1. Assign a NBSAC advisory work group to identify, prioritize, and deliver recommendations for a comprehensive regulatory modernization rulemaking based upon the recommendations of NBSAC in 2002 and 2003 for 33 Code of Regulations (CFR) parts 95, 100, 173, 174, 175, 177, 181, 183, and 46 CFR parts 25 and 58.
2. Include with this prioritization, any actionable recommendations from the regulatory review of the boating accident reporting system under Objective 9, and forward to the Coast Guard for review.
3. The Coast Guard will provide NBSAC recommended regulatory proposals to the Coast Guard's Marine Safety and Security Council for consideration and prioritization.

Implementing Partners: USCG, NBSAC.

Timeline: Ongoing.

Table 10.1

Measurement (cite source and 'owner' of measurement)	– The National Boating Survey: Philippe Gwet – Boating Accident Report Database (BARD): Susan Tomczuk – Life Jacket Study: Jeff Ludwig
External Drivers & Trends What variables affect our success with this objective?	– Public attitudes and awareness of accident reporting requirements affect the extent of non-response regarding submittal of accident reports. – Public attitudes and response to media strategies affect life-jacket wear rates. – State budgets impact the number of qualified investigators.
Data Gaps What other data do we need to support this objective?	– Survey data, especially critical exposure data.

Table 10.2 Team Members

	NAME
Objective Leader	Dr. L. Daniel Maxim
Working Group Members and Consultants	Richard Moore Fred Messmann
USCG Liaison	Philippe Gwet







Source: USCG

Objective 11: Effectiveness of Non-Profit Organization Grants

Improve the effectiveness of and increase access to the grant products of the national non-profit organizations.

Introduction

The Strategic Planning Subcommittee of NBSAC will develop teams of subject matter experts to review the national non-profit organization grant recipients' Final Report or Executive Summary or Deliverable. The reports will be compiled by the Office of Auxiliary and Boating Safety and distributed to members of NBSAC and will attest that the effectiveness, goals, and objectives of the National Strategic Plan are being met. NBSAC will then provide advice for possible improvements regarding the delivery of the grant deliverables.

This objective will do the following:

1. Facilitate public distribution of effective grant products and deliverables.
2. Ensure NBSAC members are aware of grant products which will inform their policy recommendations.
3. Provide the Coast Guard with actionable feedback about the effectiveness of its grant programs to ensure the goals and objectives of this Plan are met.
4. It will hold NBSAC and the Implementing Partners accountable for the implementation and direction pursuant to the Plan.

Benefits

The Coast Guard spends an average of $6 million annually on national non-profit organization grants—a sum large in both absolute and relative terms. These grants should provide useful data, information, and products in support of the objectives of the Strategic Plan and help to guide the Office of Auxiliary and Boating Safety in identifying new opportunities to fulfill our mission. Therefore, it is particularly important that the process of grant administration be measurement based, effective, transparent, and hold grant recipients accountable for the quality and relevance of their deliverables. The strategies included in this objective are designed to help ensure that these objectives are realized. These strategies do not contribute directly to reducing fatalities or casualties, which is why there are not specific numerical targets specified for this objective.

Strategy 11.1 – Review Non-Profit Organization Grants

Prior to each NBSAC meeting, the Coast Guard will provide the Objective 11 leader with the final executive summaries submitted by the non-profit grant organization recipients for review. The Objective 11 leader will discuss the results of this review with the USCG and report to NBSAC. NBSAC will make recommendations to USCG for improvements to the programs and possible future grant projects. The USCG will include an analysis of effectiveness and linkage to the Strategic Plan.

Implementing Partners: USCG, NBSAC.

Timeline: Semi-annually.

Strategy 11.2 – Provide public access to effective grant products

Each non-profit organization grant proposal should include a plan for distribution (include who target audience is and method for distribution).

The USCG will make available through appropriate means each grant product or product materials for use by the public, Implementing Partners and their constituents, and media outlets. The USCG will also publicize the availability of grant opportunities to encourage broader participation. The USCG will do so via the USCG's website and social media outlets. Grant recipients will use their media outlets to distribute information.

Implementing Partners: USCG, NBSAC.

Timeline: Ongoing.

Table 11.1

External Drivers & Trends What variables affect our success with this objective?	– Dollar amounts available to grant recipients may vary from year to year. External "political" environment may impact priorities.
Measurement (cite source and 'owner' of measurement)	– Objective leader will form team or teams to review each grant product and determine whether it helped drive down deaths and injuries or created data to facilitate such reductions or measurements of such. Teams should provide advice on what measurements to focus on. – Summary report & metric analysis from Boating Safety Division. (Grant manager) – Metric as part of solicitation? – Provide PRPII for state data. (CG-54222)
Data Gaps What other data do we need to support this objective?	– Need to define "effective" and create a measurement or measurements. – Explain definition of effective as related to state grants. (CG-54222)

Table 11.2 Team Members

	NAME
Objective Leader	JJ Marie
Working Group Members/Consultants	Cecilia Duer Margaret Podlich Bruce Rowe
USCG Liaison	Pavlo Oborski/Carlin Hertz

Future Steps

To continue to support our strategic planning process into the future, partners of the National Recreational Boating Safety Program are taking five new steps.

1. NBSAC Created Strategic Planning Subcommittee

NBSAC revised its committee structure to create a Strategic Planning Subcommittee that will carry on the work started by the Strategic Planning Panel. The Strategic Planning Subcommittee joins NBSAC's two existing subcommittees: Boats and Associated Equipment and Prevention through People. The Subcommittee will use the following tools to measure its progress: the PRP II from each state, reports on the grants of the national non-profit public service organizations, the National Recreational Boating Survey, and BARD.

2. Award of Grants for National Nonprofit Public Service Organizations tied to the Strategic Plan

The Coast Guard's Boating Safety Division has evolved the grant evaluation process for national non-profit public service organizations. Grant applicants are encouraged to link their projects to specific objectives or strategies of the Strategic Plan and develop measurements of effectiveness for each project.

3. Implementation Plan

For each objective, the Chairman of NBSAC, James Muldoon, established NBSAC member working groups comprised of a chairperson and at least two members. The Boating Safety Division assigned a staff liaison for each working group. The objective leaders will work closely with the Coast Guard assigned liaisons and report on the progress of each strategy to the Subcommittee Chair who will then present the progress at the NBSAC meetings. The working group members will connect with the RBS partners to implement each of the objectives and strategies and will monitor and maintain performance measures.

4. National Recreational Boating Survey

The Coast Guard's Boating Safety Division is expecting to launch the National Recreational Boating Survey. The results of the Survey should provide scientific information about boaters' behavior on the water to compare to fatality and injury data to identify the greatest risks. The Survey is planned to be administered every two years.

5. Assess and Update Plan Every Five Years

The Strategic Plan will be reviewed every five years to:

- Determine our progress. (Are we meeting our goals?)
- Analyze our measurements. (Are we measuring the right things? Can we measure them better?)
- Consider new objectives and strategies. (What new actions can we take to decrease deaths and injuries?)
- Conduct new research and development. (What data do we need to make more informed decisions?)

Challenge to Our RBS Partners and the Boating Public

- What will you do to decrease recreational casualties?
- Will you ensure your friends and families get boating safety education?
- Will you ensure all persons on board vessels wear life jackets and avoid alcohol and drugs?
- Will you be sure all required safety gear is on board before you get underway?

If your national organization would like to show its support by endorsing the Strategic Plan, helping implement these strategies, or if you have feedback or questions about this Report, please contact:

Strategic Plan
Office of Auxiliary and Boating Safety (CG-542)
Boating Safety Division (CG-5422)
U.S. Coast Guard
2100 Second St. S.W.
Washington, DC 20593
Phone: 202-372-1062

You can find this Report and other strategic planning-related documents on our website at www.uscgboating.org.



Source: USCG

Acronyms

AED	Automated External Defibrillator
BAC	Blood Alcohol Concentration
BAR	Boating Accident Report
BARD	Boating Accident Report Database
BLA	Boating Law Administrator
BUI	Boating Under the Influence
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EPIRB	Emergency Position-Indicating Radio Beacon
HOT	Hands-On Training
IBA	Inflatable Buoyant Apparatus
IBEX	International Boatbuilders Exhibition and Conference
LE	Law Enforcement
MISLE	Marine Information for Safety and Law Enforcement
NAVRULES	Navigation Rules
OEM	Original Equipment Manufacturer
PDO	Property Damage Only
PFD	Personal Flotation Device
PLB	Personal Locator Beacon
PRPII	Performance Report Part II
PWC	Personal Watercraft
RBS	Recreational Boating Safety
SME	Subject Matter Expert
U.S.C.	United States Code
VHF	Very High Frequency
VIS	Vessel Identification System
VSC	Vessel Safety Check

Abbreviations of Organizations

ABYC	American Boat and Yacht Council
ACA	American Canoe Association
AMI	Association of Marina Industries
ANSI	American National Standards Institute
BIRMC	Boating Industry Risk Management Council
ERAC	Engineering, Reporting, and Analysis Committee (of NASBLA)
ISO	International Organization for Standardization
JSI	JSI Research and Training Institute, Inc.
MRAA	Marine Retailers Association of America
NASBLA	National Association of State Boating Law Administrators
NBSAC	National Boating Safety Advisory Council
NHTSA	National Highway Traffic Safety Administration
NMMA	National Marine Manufacturers Association
NSBC	National Safe Boating Council
NSRE	National Survey of Recreation in Environment
NTSB	National Transportation Safety Board
NWSC	National Water Safety Congress
OSHA	Occupational Safety and Health Administration
PFDMA	Personal Flotation Device Manufacturers Association
SCRI	Southern California Research Institute
SOA	Spirit of America
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USCGAUX	United States Coast Guard Auxiliary
USPS	United States Power Squadrons
WSIA	Water Sports Industry Association