

**National Safe Boating Council**  
**Skill-Based Boat Handling On Open Water Grant FY 2012**  
**Grant 1102.20**  
**Abstract**

The goal of this grant project was to develop the next step curriculum of “*Open Water Boat Control*” to follow-up after the successful National Safe Boating Council’s (NSBC) “*Essentials of Close-Quarters Boat Control*.” This curriculum focuses on the set of critical skills needed by a boat operator to proceed away from the comparative lower risk of protected water and venture into open water by increasing the throttle and cruising safely and efficiently. The NSBC Instructional team’s approach to boat control on open water is combined with a solid understanding of boat design, propulsion and environmental conditions that influence boat handling coupled with proper decision-making for the novice boater. Each skill was studied, practiced and observed with the goal to create a logical, easy-to-follow learning progression. This project supports Objective 3: Advanced and/or On-Water, Skill-Based Boating Education of the Strategic Plan of the National Recreational Boating Safety Program.

Through this grant, the National Safe Boating Council has provided a national hands-on skills training curriculum for use by the greater boating community. This curriculum is the foundation for a multiplier effect. As new instructors are certified, they will be able to train others. This increases the number of educated powerboat operators that will ultimately reduce boating accidents and fatalities (Performance Goal – Reduce Casualties, Strategic Plan of the National Recreational Boating Safety Program).

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**Final Report**

**Executive Summary:**

The goal of this grant project was to develop the next step curriculum of “*Open Water Boat Control*” to follow-up after the successful National Safe Boating Council’s (NSBC) “*Essentials of Close-Quarters Boat Control*.” This curriculum focuses on the set of critical skills needed by a boat operator to proceed away from the comparative lower risk of protected water and venture into open water by increasing the throttle and cruising safely and efficiently. The NSBC Instructional team’s approach to boat control on open water is combined with a solid understanding of boat design, propulsion and environmental conditions that influence boat handling coupled with proper decision-making for the novice boater. Each skill was studied, practiced and observed with the goal to create a logical, easy-to-follow learning progression. This project supports Objective 3: Advanced and/or On-Water, Skill-Based Boating Education of the Strategic Plan of the National Recreational Boating Safety Program.

**Project Details:**

It was important to build onto the fundamental knowledge of how a boat operates from the “*NSBC Essentials of Close-Quarters Boat Control*.” Keeping with the same terminology and equipment allows for a quicker progression and review of material. It actually assists in growing the curriculum.

**Objective 1: Designate a team of experts to develop the Open Water Boat Control curriculum**

The NSBC decided to utilize its current instructional team since they are familiar with the “*Essentials of Close-Quarters Boat Control*” and many of them worked on it. This would allow us to immediately go into the development mode without the need to provide background. These experts include team leader Emily King (NSBC Training Director), Doug Golding (retired from Ohio DNR Division of Watercraft), Betsy Woods (Tennessee Wildlife Resources Agency), Captain Jeff Gunn (retired United States Coast Guard & Instructor at Maritime Institute), Captain Ed Huntsman (United States Coast Guard), Captain Jim Battye (BoatHandler, LLC) and Cindy Bellar (Ohio DNR Division of Watercraft). The team had three development meetings and was given writing assignments on the various objectives between the development meetings.

The development of the On-Water Powerboat Standards and rubrics for recreational powerboat instruction by the US Sailing Association and their team of experts; slowed our process since we wanted to make sure that we included the major elements of their work. Their work was being developed at the same time that we were developing our curriculum.

**Objective 2: Develop the curriculum with goals, student performance goals, skill checksheets, lesson plans and an easy-to-use student training manual**

The curriculum provides a step-by-step approach to operating an open powerboat, less than 26 feet in length, wheel-steered, stern-drive (I/O) or outboard powered with either single or twin engines. This course is to be conducted during daylight hours in normal, calm conditions, as well as in light-to-gentle breeze conditions. There were three goals to accomplish in developing the curriculum. Each of these is listed below with further details.

**Goal 1: The development of the specific skills/objectives to maneuver a boat on plane.**

The team approached the course by narrowing the task to what skills are actually needed to operate a boat on plane in an open water area. The following were identified: transitioning from displacement mode to plane and back to displacement mode, steering straight, turns and stops. Then we needed to add in the safety and risk elements of proper lookout, applying the *U.S. Inland Navigation Rules*, adhering to navigation aids and limiting the students on how fast they are to go in this course by setting a minimum planning rpm. Then we needed to add the environmental factors of wind, wakes, waves and current. Finally, we compared the U.S. Sailing on-water powerboat standards and added the avoidance turn, emergency stop and man overboard rescue.

**Goal 2: The specific development of the step-by-step approach to teaching boat handling.**

The team took each of the above objectives and broke each skill down individually to make it an easy step-by-step formula. This breakdown is used to make the Student Checksheets and the Instructor Field Notes. The Instructor Field Notes is the on-water lesson plan and the assessment and evaluation product for the students. This provides the students a “training wheels” approach or a “cooking recipe” approach in teaching these skills by instilling confidence. The methodology takes each one at a time and builds on them until the student can implement them all together with the final maneuvers.

**Goal 3: Write the student training manual using the information developed from above and add the graphics for visualization of each of the skills.**

In the manual, it was important to write about boat design, propulsion and trim since they influence the boat’s operation. Next, we added each of the individual skills and described

how it is used on-the-water, along with step-by-step instructions and the graphic visualization. Then we added the sections on handling boats in wind, weather, wakes and current. The layout allowed space for information on safe boat operation, such as: responsibility, proper lookout, safe speed, risk of collision and action to avoid collision. In ending the manual, we added the sections on emergencies, rescues and “Heavy Weather.” The team thought it was important to remind boaters that trips may need to be postponed if the predicted weather and sea conditions are dangerous. You can read more in the (attached).

### **Objective 3: Test and finalize the curriculum**

In June 2012, the National Safe Boating Council field tested aspects of the Open Water Boat Control curriculum with NSBC staff and for the Ohio Department of Natural Resources, Division of Watercraft’s staff and interns. Two people had very limited experience operating boats and using the checklists, we were able to successfully take them through all of the skills. However, the team learned that we needed to place speed restrictions on students and not allow them to determine the speed for performing the various skills. This helped on keeping equipment working and also safety for the students and instructors.

In March 2013, the NSBC conducted the first Open Water Boat Control course. Jeff Gunn and Emily King taught the course to Wisconsin DNR, Texas Parks and Wildlife Dept. and the Lower Colorado Authority. The course was well-received by the students. They said we were right on target with the skills and they would be able to use this curriculum with their department training.

More courses were held in April, June and August of 2013. The input and critiques enabled us to polish the curriculum and manual. At the August Open Water curriculum workshop, we were able to edit the checklists and provide final comments on the “draft” student training manual. These things enhanced the final product. At our September and October courses, students embraced the Student Training Manual and found the information and graphics very useful to teaching this curriculum. The National Safe Boating Council is excited to continue teaching this course and making it available to others.