

Technical Support Document

On-Water Recreational Boating Skills Standard – Human-Propelled

NATIONAL SYSTEM OF STANDARDS FOR RECREATIONAL BOAT OPERATION

Embrace the Standard • Design Instruction

Assess Performance • Make it Real

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Abstract

This Technical Support Document (TSD) has been developed to assist education providers, course developers, instructors, students, operator evaluators and operators in using the *On-Water Recreational Boating Skills Standard – Human-Propelled* for entry-level recreational skills instruction and assessment.

The information contained in this document enhances understanding and guides the application of the *On-Water Recreational Boating Skills Standard – Human-propelled* in the design and implementation of instructional programs, courses, and curriculum for **entry-level** recreational boat operation. The Standard has been developed and agreed to by recreational boating experts from around the United States and validated through comprehensive national surveys and field-testing programs. The objective is to help raise, on a national level, the overall quality and availability of skills-based training and instruction for entry-level recreational boat operation, with the primary goal being an increase in the level of safety and enjoyment boaters experience on the nation’s waterways.

Disclaimer

The content of this Technical Support Document (TSD) is advisory only. Its use is entirely voluntary. It represents, as of the date of publication, current understanding of best practices associated with designing and delivering recreational boating safety educational programming designed to incorporate content of the *On-Water Recreational Boating Skills Standard – Human-propelled (EDU-2 Skill-based Human-propelled Standard* as titled by The American Boat & Yacht Council)¹.

The National On-Water Standards (NOWS) Program, its subject matter experts and organizations involved in the development of this TSD assume no responsibility whatsoever for the use of, or failure to use, *On-Water Recreational Boating Skills Standard – Human-propelled*, this TSD, instructional materials promulgated by them, their adaptation to any instructional program, or any consequences flowing therefrom.

Users of this TSD are responsible for protecting themselves against liability associated with application of its content.

This TSD is a guide to achieving specific entry-level skills in recreational human-propelled craft operation identified within *On-Water Recreational Boating Skills Standard – Human-propelled* and is not intended to preclude attainment of desired results by other means.

¹ The title of the Standard is *On-Water Recreational Boating Skills Standard – Human-propelled*, however The American Boat & Yacht Council has titled the American National Standard as *EDU-2 Skill-based Human-propelled Standard to fit within its categorization system for standards*. Both titles are synonymous and may be used interchangeably in this document. Additionally, the capitalized word “Standard” is used throughout this document to refer to either title.

Contents

Acknowledgements	ii
Abstract.....	v
Contents	vi
Introduction	vii
Who Benefits?.....	vii
Reader Navigation.....	vii
Chapter 1. Embrace the Standard	1
Why have Standards?	1
How were the Standards created?	2
What does the Standard do?	2
What are the operating conditions?	3
How is the Standard organized?.....	3
Is it mandatory to use the Standard?	4
Is there a fee to use the Standard? Where can it be obtained?	4
Chapter 2. Design Instruction	5
Designing New Programs.....	5
Reviewing and Updating Existing Programs	8
Alignment of Knowledge and Skills	9
Design Instruction - Q & A	10
Chapter 3. Assess Performance	12
Rubrics - Definition and Purpose	12
Assessing Performance with Rubrics	12
Guidelines for Using Rubrics.....	14
Chapter 4. Make it Real	16
Standard Elements Details and Assessment Rubrics	16
Appendix A: On-Water Recreational Boating Skills Standard–Human-propelled	47
Appendix B: Standard Performance Assessment Checklist	54
Appendix C: Basic Boating Knowledge Standard – Human-propelled	109
Appendix D: Standard Compliance.....	110
Appendix E: Integrating TSD Information within Education Provider Materials	116
Appendix F: Additional Resources.....	117
Appendix G: Glossary of Terms.....	119

Introduction

This Technical Support Document (TSD) provides information that compliments the *On-Water Recreational Boating Skills Standard – Human-propelled* (hereafter referred to as the “Standard”) for recreational boat operation. The intent is to help educators (course developers, instructors, trainers) design and deliver high-quality education and training in entry-level skills for recreational boat operation. Detailed information about the Standard is included, as well as benefits and guidelines for applying the Standard to instructional programming.

Who Benefits?

Across the spectrum of recreational boating education, from a small seasonal program on a lakeshore, to the affiliates of a large national organization with year-round support, **education providers** will benefit from the Standard and this TSD because they help to establish a structure upon which to base a successful non-profit program or for-profit business. This structure can provide **education directors, school owners, program supervisors**, and other senior-level educators the ability to establish a consistently reliable and repeatable model for their program that will raise the overall quality of their offerings and enable satisfied customers and repeat business.

Course developers can use this TSD to help interpret and implement the Standard, as well as reduce course development cycle time and remove guesswork associated with designing training programs and curriculum. Whether creating a new program or refreshing an existing one, course quality can be significantly improved by using the Standard and this TSD.

Instructors and **trainers** will benefit from having course content available to them that has been designed using the Standard and this TSD. Their ability to deliver course material will be enhanced as they use research-based performance assessment/measurement rubrics to help assess the skills-based performance of students. Tips and suggestions from experts are also provided to allow instructors to get maximum benefit when applying the rubrics.

Students and **operators** will be able to determine and better understand the fundamental set of entry-level skills they need to learn and practice to become safer on the water and gain more enjoyment from their boating experiences.

Reader Navigation

This TSD is organized into four main chapters. To get the most out of the document, it is recommended that the following be used to determine which areas are applicable to the reader.

Introduction (this section).

Chapter 1. *Embrace the Standard* - Written in question / answer format and provides a brief history of the Standard and places it in the context of a national system of standards for recreational boat operation. Read this chapter to understand what the Standard is, why it was developed, and the process used to develop and validate it.

Chapter 2. *Design Instruction* - Information on how to use the standard to design, develop and implement courses, curricula, syllabi, and lesson plans. A question / answer section is included at the end of this chapter as well. Read this chapter to understand ways in which instructional programs may be designed and implemented using the Standard.

Chapter 3. *Assess Performance* - Guidelines for using performance assessment / measurement rubrics to design specific behaviors into programs that result in skilled entry-level boat operation. Read this chapter to learn about how to assess, develop and strengthen students participating in entry-level instruction in recreational boat operation.

Chapter 4. *Make it Real* – Information for how to bring the Standard to life for instructional programming. Provides:

- detailed information about the Standard **elements and assessment rubrics**,
- information for how to ensure instructional programming **complies** with the Standard, and
- information for **integrating Standard materials** within organizational document and publications.

Appendices:

- A. The **Standard**.
- B. The performance assessment **checklist** used in the on-water national validation of the standard and rubrics.
- C. **Knowledge Standard** for Human-propelled craft operation used to help design skills and knowledge integrate instructional programming
- D. **Standard Compliance**: Information for how to ensure instructional programming complies with the Standard.
- E. **Integrating TSD information** within Education Provider Materials.
- F. **Additional Resources** such as reference material. *
- G. **Glossary** of terms used in the Standard, the rubrics, and the TSD.

* This document is intended to be a resource that provides important information about the Standard, why and how it was developed, and how to use the Standard to design instructional programs and use performance assessment rubrics. ***This TSD is not meant to be a substitute for a textbook on instructional design.*** For those without training or experience in instructional design, please consider the resources provided in Appendix C.

Chapter 1. Embrace the Standard

Embrace - *verb* - em·brace \im-ˈbrās\ - to take up especially readily or gladly.

The On-water standards were created using public grant funding; therefore they belong to the public. All are encouraged to **embrace** the standards as their own and use them to the maximum possible benefit. The more educators use the standards, the more our waterways can be safe and fun for all boaters.

Why have Standards?

The mission of the National Recreational Boating Safety (RBS) Program of the United States Coast Guard (USCG) 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.²

For decades, the USCG has been collecting data on injuries, accidents and fatalities taking place during recreational boating on our nations waterways to understand the impact of boating safety efforts. Recreational Boating Statistics report data consistently show top causes of accidents to be operator inattention, operator inexperience, improper lookout, machinery failure, excessive speed, and alcohol use. Navigation rules violations, hazardous waters, weather, and the force of waves and wakes are also frequently occurring contributing factors.

These statistics identify target areas to address to further reduce the occurrence of avoidable injuries, accidents and fatalities on the national level. Accordingly, the National Boating Safety Advisory Council (NBSAC), which advises the USCG on matters of recreational boating safety, recommended a national strategy to broaden the approach used to educate boaters by including Objective 3 in its 2012-2016 Strategic Plan. Objective 3, entitled ‘*Advanced and/or On-Water, Skills-Based Boating Education,*’ aims to “Increase the number of boaters who have completed advanced and/or on-water, skills-based boating education.”³ “To measure our progress, we must also establish a baseline and develop guidelines and **standards.**”⁴

For the purposes of the Strategic 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 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.⁵

The Standard in this Technical Support Document serves as a primary source of information used to help raise and standardize the overall level of quality and availability of on-the-water, entry-level Human-propelled boat education across the country in order to further enhance the safety and enjoyment of our nation’s recreational boaters. This Standard also serves as a primary metric for monitoring our progress toward that objective.

² Source: *A Report on the Strategic Plan of the National Recreational Boating Safety Program 2012-1016*; <http://uscgboating.org/content/strategic-plan.php>

³ *ibid*; page 21

⁴ *ibid*; page 21

⁵ *ibid*; footnote, page 21

How were the Standards created?

The on-water skills standards were developed by the National On-Water Standards (NOWS) Program, which was funded through the USCG's non-profit grant program in support of Strategic Plan Objective 3; the outcome being American National Standards (ANS) within the context of the American National Standards Institute (ANSI). The standards were developed using the following *voluntary consensus* process:

- Engage a neutral facilitator to design and manage an inclusive and non-dominant process for developing and reaching consensus on the initial versions of the standards.
- Assemble a diverse core team of nearly 50 subject matter expert (SME) *volunteers* from across the recreational boating community to develop the initial content for the Standard.
- Gather input from additional SMEs from around the country on the content of the standards.
- Achieve *consensus* among the core SME team as to the fundamental skills individuals should be able to perform to be considered safe entry-level recreational boat operators.
- Validate the standards by field-testing them in different venues around the country using actual boats operated by real people.
- Confirm the final content of the standards using an ANSI-approved process.
- Make the standards freely available to course developers and instructors for their use in designing and implementing entry-level on-water instructional programs.

In total, over 3000 subject matter experts and recreational boaters from around the country were involved in the five-version process to produce the standards. The American Boat & Yacht Council (ABYC), an ANSI-accredited Standards Developing Organization (SDO), led the final stage of the process. The overall process resulted in the development, testing and consensus on 98 entry-level skills and over 1,100 specific safety-related behaviors associated with entry-level recreational boat operation, across the three domains of Power, Sail, and Human-propelled.

The 'products' of the NOWS Program are:

- *On-Water Recreational Boating Skills Standard – Power* (Appendix A of this document)
- *On-Water Recreational Boating Skills Standard – Sail*
- *On-Water Recreational Boating Skills Standard – Human-propelled*
- TSD for the *On-Water Recreational Boating Skills Standard – Power* (this document)
- TSD for the *On-Water Recreational Boating Skills Standard – Sail*
- TSD for the *On-Water Recreational Boating Skills Standard – Human-propelled*

What does the Standard do?

The Standard identifies entry-level, performance-focused recreational boating skills. While the Standard describes outcome-based skills (the “what”), it does not address the process used to teach or acquire them (the “how”), since that is a decision best made by the education provider.

The Standard includes a fundamental set of on-water skills in order for the operator to be considered safe at an entry-level. Some instructional programs may contain additional elements not listed in the Standard. Other programs may contain a subset of the Standard elements. Additionally, many instructional programs may contain knowledge components in addition to on-water skills.

Rather than being prerequisites for entering an instructional program, the skills contained in the Standard would typically be learned as a result of participating in a beginner-level on-water boating course, although they may have been obtained in other ways, such as personal experience.

The Standard contains entry-level skills for the operation of the craft⁶ from the point it is in the water and ready for pre-trip inspection. Other than departure and return to the shoreline, the Standard does not include launching or retrieving the craft with a trailer or hoist. Other than required items (e.g., life jackets, distress signals, etc.) to be carried aboard, it does not include the use of recommended items such as navigation charts, or a VHF radio, compass, anchor, etc.

Some elements in the Standard may require at least one other skill or knowledge element to be completed beforehand. In other words, some skills are progressive in nature and participants may need to be proficient in some elements prior to moving on to the next.

What are the operating conditions?

The Standard is organized into opening statements of maximum platform size and operating conditions followed by seven sections or *stages* of recreational boat operation. The opening statements are included in order to place the Standard within a uniform context applicable to the average conditions expected to be encountered during an instructional event. Additionally, the constraint of boat length is included to limit the size of platform upon which the skills would be expected to be accomplished. The platform characteristics and operating conditions are:

- Boat characteristics: A *paddle craft* is a vessel powered only by its occupant(s), using a single or double-bladed paddle as a lever without the aid of a fulcrum provided by oar locks, thole pins, crutches, or similar arrangements. A *rowing craft* is a vessel powered only by its occupant(s), using an oar as a lever with the aid of a fulcrum provided by oarlocks, hole pins, crutches, or similar arrangements.
- Wind / water conditions: Flat water, with current less than 1 knot, protected from the wind and waves.
- Operating conditions: Daytime with no restricted visibility or threatening weather.

The operations and skills in the Standard are intended to be carried out within all legal and good seamanship parameters for the operational environment. A statement to this effect is included, and reads:

“NOTE: For those recreational boat operations where the boat is underway, individual skills-based standard elements in this On-water HUMAN-propelled Standard are to be accomplished in accordance with any aids to navigation, navigational rules, and any regulations applicable to the location in which the skill is being executed.”

How is the Standard organized?

Individual skills are contained within seven sections or ‘stages of operation,’ which are:

1. Prepare to depart – the craft is in the water and secured.
2. Leave a departure point (e.g., dock, slip, shoreline, etc.) - the craft leaves from a particular point of departure such as a dock, slip, mooring, ramp or shoreline.
3. Maneuver in close quarters – the craft is operating in a limited or confined waterway.
4. Operate in open water – the craft is operating in an open waterway with plenty of room to maneuver.

⁶ Boats that are propelled using human energy are often called ‘craft.’ The terms ‘boat’ and ‘craft’ may be used interchangeably throughout this document.

5. Arrive at a destination (e.g., dock, slip, shoreline, etc.) making first contact – the craft makes first contact at a point of arrival such as a shoreline, dock, or slip.
6. Secure the boat (preparing to leave the craft unattended) – the craft is being readied to leave unattended.
7. Perform general safety/emergency procedures/maneuvers – skills that can be performed during any of the operations.

Each stage of operation contains a list of *Elements* or individual skills that are each described in two parts, following a leading stem phrase “*The operator will be able to...*”. The first part (Part A) is the skill, and the second part (Part B) is the condition, or ‘proficiency,’ associated with successful performance of that skill. For example:

4.2	<p><i>The operator will be able to:</i></p> <p>A: Turn the craft while maintaining forward motion... B: <i>90° to the right and left, and based upon a 360° scan of the surrounding area and using appropriate and effective strokes, while maintaining trim and balance of the craft.</i></p>
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It should be noted that the numerical identifiers (‘4.2’ in the above example) assigned to the Standard Elements are for ease of reference only, and do not imply any sequential process of skill learning or performance. In addition, because of the nature of the stages of operation, some elements may be repeated, or may appear to be similar to elements in another stage of operation. It should also be noted that individual elements are organized within the seven operations for ease of reference and that each element can be applied within operations during the design and delivery of instruction.

Is it mandatory to use the Standard?

All organizations and individuals that provide recreational boating instruction are encouraged to design and deliver courses using the Standard. However, there is currently no mandate to use the Standard.

Is there a fee to use the Standard? Where can it be obtained?

The Standard and supporting documents are freely available for use by anyone wishing to design instruction or assess performance. The on-water standards for all three domains (Power, Sail, Human-propelled) are available on the following websites:

- National On-Water Standards Program: <http://www.onwaterstandards.org>
- [ABYC Ship's Store: http://www.abycinc.org](http://www.abycinc.org)

Chapter 2. Design Instruction

Design - *verb* - de·sign \di-'zīn\ - to make drawings, preliminary sketches, or plans; to plan and fashion the form and structure of an object, work of art, project, program, etc.

The On-Water Standards may be used to **design** effective instruction programs, or strengthen existing programs.

For the purpose of a discussion on *skills-based* instructional design, please consider the following definitions:

- **Novice:** a person who is new to an activity and typically has little or no knowledge or skills related to that activity.
- **Beginner:** a person who has begun a course of instruction or is learning the fundamentals.
- **Entry-level:** The proficiency reached by a person who has successfully completed the appropriate beginner instruction and is ready to pursue (or ‘enter’ **safely** into) the associated activity.

In the context of human-propelled craft skills instruction, the *novice* is someone who has decided they want to operate a human-propelled craft, but has perhaps never done so, or maybe tried it with supervision once or just a few times. The novice may have some notional concepts about human-propelled craft operation but will likely have few direct *skills*, if any.

The *beginner* has enough motivation to ‘take the plunge’ and obtain instruction for human-propelled craft skills. They may or may not hold a safe boating certificate issued by their state of residence, and they may have done a bit of research about boating, from books, magazines, videos, or Internet-based media.

The *entry-level operator* is a person who has successfully completed a beginner skills-based instructional program / course(s), or has sufficient personal experience, and is deemed ready to safely be in command of a recreational human-propelled craft, under certain conditions. This includes whatever complimentary knowledge is required to be able to perform the skills.

The Standard describes entry-level human-propelled craft operator skills.

The language structure of the Standard is outcome-based, meaning that the skills contained in the Standard describe the outcome as a result of completing On-Water skills-based boating instruction.

Designing New Programs

Like any quality product, an effective instructional program begins with sufficient planning and a viable foundation. One of main purposes of the *On-water Boating Skills Standard – Human-propelled* is to provide a solid foundation upon which high quality skills-based instructional programs for entry-level recreational human-propelled craft can be built.

Course developers are asked to consider the following recommended guidelines for designing their beginner human-propelled craft skills instructional program:

Decide first on the purpose and outcome skills for the instructional program.

Define and describe why the instructional program is being developed and what the student should be able to achieve as a result of participating in the program. This will help set the context for decision making about curriculum and course designs included within the instructional program.

- Begin with the end in mind. ⁷

The Standard identifies the outcome set of skills that an entry-level operator should be able to perform as a result of successfully completing a skills-based instructional experience in recreational human-propelled craft operation. Generally speaking, the outcome of the instructional program is an entry-level operator that is more likely to be safe because they are able to satisfactorily perform all of the skills.

Since the skills identified in the Standard are targeted at beginners, prerequisites are not necessary for a course that is designed using the Standard. However, course developers may choose to establish knowledge or skills prerequisites, based on their business model, equipment (boats), or environment (waterway or prevailing weather conditions).

Use the Standard to confirm that the instructional program will include the complete list of skills (the Elements) identified in the Standard.

The Standard contains the fundamental skills that have been determined by the subject matter experts to apply across the widest possible platforms and environments. Become familiar with the profile of all skills contained within the Standard before designing a curriculum or instructional program. Including additional elements in an individual program is certainly appropriate. Course developers and instructors are encouraged to add material to their offerings as applicable to their local markets, platforms, or waterways.

The Standard is not itself a course. Rather, it describes the desired outcome as a result of successfully completing one (or more) beginner human-propelled craft skills course(s). When the student completes the course(s), he or she should be able to perform all of the Elements contained in the Standard. Therefore, decisions should be made about how skills instruction could be delivered (e.g., one long course, multiple short courses, etc.).

The skills identified in the Standard are all independent from each other. They can be learned, demonstrated and evaluated in most cases as separate skills without dependency across multiple skills. Therefore, they can be designed into an instructional program without having to link or connect them during instruction. Student performance on each skill can be assessed independently as well. A student can be highly proficient at one and have little proficiency in another. Therefore, when designing a program, consider each skill as an individual learning opportunity to be designed, delivered and evaluated independently from each other.

Familiarity with all of the Standard Elements will enable a better understanding of the full set of skills students should be able to perform as a result of instruction. This will also better inform the course designer about how best to organize and sequence learning objectives and instructional activities to best meet the needs of students.

Once the high-level design of the instructional program has been established, determine the number and scope of the course(s) required to deliver the skills associated with the curriculum, Then, determine which courses will deliver which skills to what level of proficiency.

⁷ Covey, Stephen, The 7 Habits of Highly Effective People (Habit #2), 1989

Develop courses using a logical progression of skills development and experiential learning.

The Standard identifies the fundamental set of skills associated with entry-level recreational human-propelled craft operation but it does **not** prescribe the exact order or sequence in which the skills must be taught or learned. It is mainly up to the course designer or instructor to determine the order or sequence. However, there is a logical progression for some of the skills contained within the Standard making it more productive for a student to learn some of the skills before learning others. For example, it might make more sense for a student to learn the skill of ‘**Propel the craft forward**’ before the ‘**Propel the craft in a figure of 8 course**’ skill.

Manageable blocks of skills can be grouped together into learning modules. This is easily done, since the Standard elements are written as outcome-based, rather than technique-based. For example: a Standard Element for the skill of moving a human-propelled craft in a straight line would be written “The operator will be able to... **Propel the craft forward in a straight line**” rather than “the instructor will emphasize paddle control so the student effectively stays on a chosen heading.”

When skills development is the instructional focus, learning is best accomplished through experiential instruction *in situ* (i.e., the learning takes place in the actual environment that the boat would normally be operated). The Standard has been developed to target the skills-based outcomes for active, on-water, and hands-on approaches to recreational boating instruction.

Experiential learning is one of the most powerful ways to enable students to learn skills. Experiential learning occurs when a student engages in the process of learning through experiences and then reflecting on the learning they achieve.

One of the more powerful applications of experiential learning is the use of real (vs. realistic) experiences on a boat during the learning process. As a result, it is important to consider all of the human senses associated with the experience of recreational boating. Thought should be given to designing experiential learning activities so that students develop all their available senses as they learn to demonstrate skilled recreational boat operation. Experiences can take into account the feel of the wind, the sounds of other people and boats, as well as the mechanical steps and procedures associated with boat operation. Awareness of the speed of the boat through the water is often difficult for students to accurately perceive. Continual coaching on this aspect makes the learning of many other tasks much easier.

Because experiential learning is so powerful, the learning of several related skills can be combined into one activity or scenario. This has a synergistic effect that promotes efficiency and effectiveness of the instruction.

Design the instructional program so that the student is at the center.

The typically small class sizes in on-water recreational boating courses affords excellent opportunities for “student-centered learning.”⁸ This approach enables all students to complete the instruction with the ability to perform the same fundamental set of entry-level skills identified within the Standard, yet allowing students to learn at their own pace. Their rate of progression through the instructional program is determined by their capacity to perform the desired skills-based outcomes for each part of the program.

Additional characteristics of student-centered learning include:

⁸ <http://edglossary.org/student-centered-learning/>

- Teaching and learning is “personalized,” meaning that it addresses the distinct learning needs, interests, aspirations, or cultural backgrounds of individual students.
- Students advance in their education when they demonstrate they have learned the knowledge and skills they are expected to learn (proficiency-based learning).
- Students understand what they are expected to learn prior to entering learning experiences.
- Students have the flexibility to learn during nontraditional times, such as on weekends.
- Students are given opportunities to make choices about their own learning and contribute to the design of learning experiences.⁹

Allow sufficient time for students to learn more difficult or complex skills.

Some of the skills in the Standard are larger in scope and more comprehensive than others. For example, the ‘**Rescue a person in the water and capsized craft...**’ skill involves a number of different skills and behaviors put together to achieve a desired outcome - that is to quickly and safely maneuver the boat back to someone who is in the water. Whereas this comprehensive skill might be difficult to learn in the aggregate, it is an excellent learning opportunity that brings together several other individual skills.

These skills will likely take more design time, as well as more actual time to learn during instruction. Considerations for this include:

- Allow sufficient time to design more comprehensive skills.
- Consider parsing comprehensive skills into smaller components.
- Design experiences for learning portions of a larger skill prior to other parts.
- Plan to use more instructional time on those skills that are larger in scope.
- Be mindful about the type of boat used for learning comprehensive skills.

Reviewing and Updating Existing Programs

Existing human-propelled craft instruction courses may be reviewed and updated using the Standard. Many of the guidelines written in the preceding section apply, and in this case it is a matter of taking a look at the existing program to see how the course design and curriculum align with the Standard. Becoming familiar with content of the Standard is equally important whether designing a new course or updating an existing one. Additional guidelines include:

Gather information and ideas from instructors about existing courses and past student outcomes.

Since they are the ones who interact most frequently and directly with students, instructors often have valuable perspectives about existing courses and ideas on how they might be improved. Instructors can be briefed on the Standard and asked to compare the Elements with what they have experienced in genuine instructional scenarios. Instructors can help determine if there are areas of the existing program that need strengthening so that they better align with the Standard.

⁹ *ibid.*

Observe practical on-water exams during existing courses to determine if all skills elements are currently included.

The Standard may be used as a checklist of skills to see if all of the Elements are being included in existing skills practical exams. Using the checklist to observe skills can help quickly determine which ones are present and which ones are missing from the existing instructional course. For example, students consistently demonstrating low levels of performance on any one skill may indicate a potential problem with the instructional design or approach used to teach that particular skill.

Consider creating an alignment matrix to analyze the contents of an existing course.

The modules or individual components of an existing course may be placed into a column and lined up with the Standard Elements, which are placed in another column. This can enable a comparison between the contents of a course with the contents of the Standard. It also may reveal gaps, or areas within the existing course that need strengthening.

Determine what changes, if any, should be made to the existing course.

After performing the appropriate amount of analysis, as suggested in the previous guidelines, decisions can be made and priorities assigned to the areas that will have the most impact in successful student outcomes. Perhaps the course is sufficient as is and requires no change, since it already aligns with the Standard. Or, maybe some gaps were found between the existing course and the Standard Elements, in which case additional course content may need to be created or emphasized. In either case, by using the Standard, the existing program can be evaluated to determine its completeness and whether or not it should be changed.

Alignment of Knowledge and Skills

The primary focus of the Standard is on *skills* associated with entry-level recreational boat operation. However, *safe* recreational boat operation also requires *knowledge* (as well as good *judgment* and a positive *attitude*).

The National Association of State Boating Law Administrators (NASBLA) National Boating Education Standards Panel (ESP) is the organization responsible for the draft *BSR/NASBLA-101-201X Basic Boating Knowledge - Human-Propelled Standard*. Like the Skills Standard for Human-propelled, the Human-Propelled Knowledge Standard is in the process of becoming an ANS using the ANSI process.

Course developers and instructors can choose if, when and how to integrate knowledge and skills components into their instructional programs. It should be noted that Knowledge Standard Elements can be taught in a non-classroom setting as part of a skills-based course, particularly at an entry level.

Although the Knowledge and Skills Standards were developed at different times by different groups, the two Standards are complimentary and can be used together by course developers. A separate Technical Report¹⁰ is planned to be written for the Knowledge Standard, and that document will provide details of the how to use the Knowledge Standard. Appendix C of this document contains more information about Knowledge Standards.

¹⁰ A 'Technical Report' and a 'Technical Support Document' are essentially the same type of document used to provide additional information in support of an American National Standard.

Design Instruction - Q & A

Does a course need to be certified that it meets the Standard?

Although not required, education providers are encouraged to formally ensure that their instructional programming complies with the Standard. This verification process is called a conformity assessment in which explicit documentation is produced to verify that a course is designed to deliver the skills-based outcomes contained within the Standard. Verification can take place in three ways:

1. The education provider can conduct a verification process itself on its own instructional program to ensure it complies with the Standard.
2. Customers of the education provider can verify that the instruction delivers to the Standard.
3. An independent third-party can verify that an education provider's course or instructional program complies with the Standard.

The type of conformity assessment used is at the discretion of the education provider. See Appendix D for additional information about what it takes to engage in a conformity assessment.

Is a certified instructor required to teach a course that includes the skills identified in the Standard?

Although a non-certified instructor could theoretically teach skills identified by the Standard, it is important that instructors have appropriate experience, training and certification as required by the organization providing the education. If a course includes skills identified by the Standard, and that course requires certification, then all the necessary procedures and protocols need to be followed to acquire the appropriate certification for that course. It is also recommended that course developers receive training on how to design instructional programming.

How many Standard Elements are needed to ensure that a course is complete?

The Standard identifies the skills a recreational boat operator should be able to perform at an entry-level. For one course to comply with the entire Standard, it would need to deliver all the skills identified within the Standard. However, there is no pre-determined number of courses it should take to deliver all the skills within the Standard. Therefore, a number of different short courses could collectively comply with the Standard, even though each delivers only a subset of the skills identified within the Standard. The number of courses or instructional experiences required to deliver the complete set of entry-level skills is a decision to be made by the education provider, based on unique situations, curriculum design, etc. For example:

- Time limitations may necessitate the design and delivery of an introductory course, in which case using a subset of the skills from the Standard may be appropriate.
- An organization may require verification or certification of a specific course, which implies that all of the skills identified in the Standard may be needed in order to comply with that organization's certification specifications.
- Additional skills or learning experiences beyond the scope of the Standard may be needed to obtain a particular certification.

Can the Standard Elements be edited or changed?

The Standard has been designed to fit within a particular set of parameters such as boat size and wind/water conditions. When designing instruction that fits these parameters, the elements should remain intact and unchanged. However, when conditions are more challenging than those described in the Standard, the proficiencies within the Standard elements could be modified to fit the higher demands of

the situation. Safety parameters must continue to be present and the skill-level accomplishment needs to remain at a consistent level of challenge as is present for the current Standard elements. In other words, the bar has to be set at the level of challenge relative to the updated parameters. Appropriate precautions should be taken to ensure a safe learning environment and experience.

Can more skills than are currently in the Standard be included in a course?

Yes. The Standard contains the fundamental set of skills associated with safe recreational boat operation at the entry-level, as agreed to by experts looking at a national level. There may be other skills not contained within the Standard that are relevant to a specific location or learning environment and that impact safe boat operation. If these additional skills are relevant and important, then they should be added to the program.

Chapter 3. Assess Performance

Assess - *verb* - as·sess \ə-'ses\ to estimate or judge the value, character, etc., of; evaluate.

The rubrics that correspond to each element of the Standard make it easier to **assess** and measure the performance of a student or boat operator.

Rubrics - Definition and Purpose

The use of a standard for the design and implementation of instructional programming requires that performance against that standard can be assessed. Therefore, part of the Standard development process involved the creation of Rubrics.

A rubric is an assessment tool used to create deliberate and explicit clarity about the targeted outcome of learning. Rubrics are particularly helpful in learning situations where the focus is on physical education or training; i.e., skills development. Rubrics are an authentic approach to education in that they help instructors and evaluators design and assess student learning that takes place within the context of eventual use of skills. Specifically, rubrics are used to:

- Identify the priority characteristics of a desired outcome or final product of performance. In this case, for a particular boating skill, which is expressed by a Standard Element.
- Differentiate strong from weak performances.
- Make performance expectations known in order to increase the quality of learning.¹¹

Rubrics were developed for use with the Standard to:

1. Help course developers and instructors raise the quality of recreational boating education.
2. Assist in determining the effectiveness of the Standard to differentiate safe and unsafe recreational boat operation.
3. Provide observers with a way to distinguish different skill levels to determine if the level of difficulty identified within the Standard was at the entry-level.

The rubrics were created using the same development process as the Standard elements. The rubrics were also used to field-test the Standard as part of the on-water validation program.

The focus of the rubrics is on entry-level behaviors that can be observed while skills are performed rather than on the process or method for teaching or accomplishing the skills. By providing additional clarity beyond the 'Part B' proficiency description in the Standard Elements, the rubrics enable:

- Course designers to have more information about what might be included within their curriculum to achieve desired performance outcomes.
- Instructors and evaluators to calibrate behavior observations and assess performance more easily.

Assessing Performance with Rubrics

Standard *Elements* are individual skills that are described in two parts, following a leading stem phrase "The operator will be able to...". The first part (Part A) is the skill, and the second part (Part B) is the condition or proficiency associated with successful demonstration of that skill.

11 Lund, Jacalyn L., Ph.d. (2000). *Creating Rubrics for Physical Education*. National Association for Sport and Physical Education.

Each Standard Element has a corresponding **Rubric** describing behaviors associated with the following three levels of performance:

- Level 3: Successful Performance
- Level 2: Needs Improvement
- Level 1: Unacceptable (Unsuccessful) Performance

An **Element** describes a **skill**, whereas the **Rubric** describes the qualities of **behaviors** and **actions** that might be observed during the performance of the skill.

Measurable characteristics (e.g., angles in degrees, distance in boat lengths, etc.) are included in the rubrics whenever possible to allow performance to be quantified, and help the evaluator select the appropriate level of performance. To help illustrate the difference between elements and rubrics, the example from Chapter 1 is revisited. Standard Element 4.2 is shown below, along with the corresponding rubric:

Element	4.2	<p><i>The operator will be able to:</i></p> <p>A: Turn the craft while maintaining forward motion... B: <i>90° to the right and left, and based upon a 360° scan of the surrounding area and using appropriate and effective strokes, while maintaining trim and balance of the craft.</i></p>
Rubric	Level	Proficiency description
	3 Successful Performance	<p><i>The operator:</i> Propels the craft in a forward motion. Scans 360 degrees before initiating turn. Turns craft 90 degrees to the right or left. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle).</p>
	2 Needs Improvement	<p><i>The operator:</i> Propels the craft in a forward motion. Does not scan a full 360 degrees before initiating turn. Turns craft within 30 degrees of a 90-degree turn. Keeps craft upright but may require sudden recovery motions. Uses inappropriate but effective strokes or appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle).</p>
	1 Unacceptable (unsuccessful) Performance	<p><i>The operator:</i> Does not propel the craft in a forward motion. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Does not scan. Does not turn craft. Falls in water or allows craft to capsize.</p>

In this example, the **skill** is written as:

[The operator will be able to:] **A: Turn the craft while maintaining forward motion...**

and the priority descriptor of **proficiency** is written as:

B: *90° to the right and left, and based upon a 360° scan of the surrounding area and using appropriate and effective strokes, while maintaining trim and balance of the craft.*

Some of the rubric for this element is derived directly from Part B and used in the three levels.

- Level 3: Turns craft 90 degrees to the right or left.
- Level 2: Turns craft within 30 degrees of a 90-degree turn.
- Level 1: Does not turn craft.

Additional behaviors are written into each rubric to help instructors coach students for further learning and skills development and to enable an evaluator to more effectively determine the level of performance. Following are the purpose and uses of the three levels:

- Level 3 Successful Performance - Identifies the successful level of proficiency with the Element. Contains key information from Part B of the Element and targets the desired level of performance. Helps instructors focus student attention on the desired outcome for a particular skill.
- Level 2 Needs Improvement - Describes a level of performance that is not quite at the targeted or desired level. Provides instructors with a means to identify and focus coaching opportunities for additional skills development.
- Level 1 Unacceptable (unsuccessful) performance - Identifies behaviors that are well below the desired outcome. Significant learning may need to occur to achieve successful performance.

It should be noted that the *behaviors and actions described in the rubrics are not exhaustive*. Additional performance criteria may be appropriate to include in certain situations, such as unique platforms or environments. While the rubrics are provided to assist with the assessment of student proficiency, the *instructor's judgment is ultimately what determines successful or unsuccessful performance* of each skill and overall.

Guidelines for Using Rubrics

Align performance assessment with the purpose and outcome of instruction.

The Standard and rubrics have been developed to assist education providers with teaching and evaluating skills associated with safe recreational boating. Rubrics are provided as a means to elaborate on behaviors associated with skills identified in the Standard. Student performance assessment should be aligned with the intended purpose and outcome of the instructional program. If these rubrics are not used, it is recommended to develop and integrate other rubrics aligned with the purpose and outcomes of instruction.

Use rubrics before, during and after a learning experience.

Before an instructional event, share the rubrics with students so that they know what they are being asked to learn and do. This process of establishing an *anticipatory set*¹² is a powerful approach to engage students more effectively in the learning process. When students are aware of what they will be expected to learn and do, they likely to be more ready for the learning experience.

During a course, use the rubrics to provide students with feedback about their current level of skills acquisition and to target additional learning needs. This is called **Formative Evaluation** and it provides an opportunity to adjust learning while there is still time to redirect toward a more successful outcome.

After the instruction is finished, use the rubrics to assess overall proficiency. This is known as **Summative Evaluation**, and is used to determine whether a student has successfully acquired the skills associated with the Standard and safe entry-level recreational human-propelled craft operation.

12 An anticipatory set is an instructional strategy that is intended to capture a students' interest in the beginning of a lesson.

Establish criteria for successful course completion, using the Standard and rubrics as source material.

A question many people have asked during the Standard creation and validation process is: *How does one determine if a student has passed or failed the Standard?*

The Standard and this TSD are source documents used to design instruction and assess performance. Neither the Standard nor the TSD is an instructional course and this means that a student cannot pass or fail the Standard. There is no set number of rubrics that have to be at Level 3 or Level 2 for a student to be considered a safe entry-level operator. It may be possible for a student to be assessed at Level 1 for certain skills, yet still be considered safe. Similarly, a student could be evaluated at Level 3 across the board and yet be considered unsafe, perhaps due to poor judgment or attitude.

For these reasons, while the rubrics are designed to support the work of assessing performance, the *education provider has the obligation to determine what level of proficiency constitutes the passing or failing of a course.* For example, it may be determined that a student needs to perform 100% of the skills at Level 3. Or perhaps 80% of the skills performed at Level 3 and 20% of the skills at Level 2 would be considered sufficient proficiency to pass, with the inclusion of an improvement plan. Likewise, the course provider will decide on the level of proficiency associated with failing a course, such as an assessment of Level 1 proficiency for one or more skills.

Modify rubrics, if appropriate, to accommodate local factors.

Some behaviors not currently in the rubrics may be relevant to a particular venue. In this case, the rubrics may be modified to include additional proficiencies applicable to unique circumstances, boat equipment, or waterway conditions within the local environment. When modifying a rubric, the quality should be raised, rather than lowered. In other words, changes to rubrics should be more comprehensive or make the outcome more challenging to achieve.

Train instructors and evaluators in the use of the Standard and rubrics.

To properly assess student performance, instructors should be trained to:

- Provide assessment during instruction to target feedback and coaching opportunities.
- Conduct an overall assessment of skills obtained to determine whether someone successfully demonstrates a level of proficiency on the profile of skills needed to be a safe entry-level recreational operator.
- Encourage continuous learning and development of students beyond their course experience.

Trained evaluators should be trusted to make detailed observations of performance and decisions about who successfully demonstrates safe and unsafe boat operation relative to the Standard. Instructors should rely on their expertise rather than numbers. This approach helps avoid the challenges often associated with pass/fail scoring systems in which the difference between pass and fail can be a single point.

Evaluators should pay particular attention to key performance measures that tend to be present in multiple skills, and are therefore included as rubrics with multiple Elements. Examples of this include:

- Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle).
- Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.

Chapter 4. **Make it Real**

Make - *verb* – meyk \ - 1. to bring into existence by shaping or changing material, combining parts, etc.
2. to produce; cause to exist or happen; bring about.

Studying the details behind each Standard Element can enable an education provider to more easily *make* available an effective On-Water recreational boating instruction program.

Standard Elements Details and Assessment Rubrics

This section contains detailed information in the form of ‘one-pagers’ for each element, providing additional details about the intent behind the element, the performance assessment rubrics, and any explanations or clarifications.

Each element is followed by:

- An **Understanding the Element** section that indicates why the element is included in the standard and any clarifications needed such as definitions of words or phrases, or additional detail not written in the element.
- A **Designing Instruction** section, which includes things to be considered when designing instructional programs, as well as tips for teaching the skill.
- An **Assessing Performance** section, which contains the Rubrics used for performance measurement.

They are organized by the same seven stages of recreational boat operations used to develop and organize the American National Standards, which are:

1. Prepare to depart
2. Leave a departure point (e.g., dock, slip, shoreline, etc.)
3. Maneuver in close quarters
4. Operate in open water
5. Arrive at a destination (e.g., dock, slip, shoreline, etc.) making first contact
6. Secure the boat (preparing to leave the craft unattended)
7. Perform general safety/emergency procedures/maneuvers

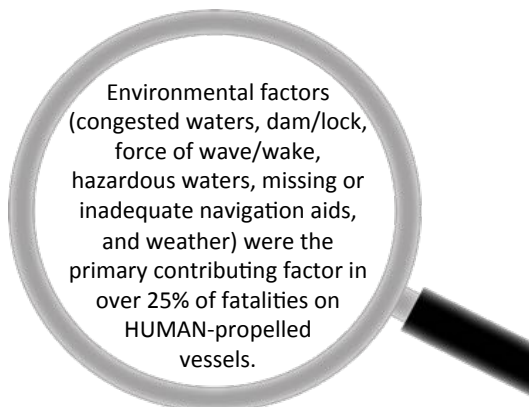
Operation #1 Prepare to Depart

Element # 1.1: The operator will be able to: **A: Obtain (recite), weather conditions, forecasts, and evaluate hazards to navigation and other environmental factors...** B: assessing if conditions are favorable for the voyage for length/time of trip.

Understanding the Element

It is important to properly assess the risks posed by weather conditions prior to undertaking a voyage.

- Consider including actual and forecasted weather (visibility, wind and sea state, air and water temperature), traffic (amount and type), tides and currents, Aids to Navigation (ATONs) out of position or exhibiting wrong characteristics, and other potential hazards to navigation (e.g., presence of dams, locks).
- The operator should know where and how to get this information.
- The operator should be able to consult weather forecasts (such as by use of marine weather radio) and evaluate hazards to navigation (obtainable from nautical charts), and notices to mariners if applicable.
- Judgment is required. The experience of the operator is an important factor to consider. Some conditions, such as a small craft advisory, call for a “no go” decision. The domain of application specifies acceptable weather conditions for boat type and size.
- Environmental factors include, but are not limited to, water quality and temperature, water levels, hazards such as rip-rap and breakwaters, currents, man-made structures, and areas with restricted navigation due to law enforcement or military activities.



Designing Instruction

- Ensure operator has considered appropriate safety factors for the trip before departing.
- Identify/understand factors that might make a trip unsafe.
- Forecasts should extend beyond the length of the trip.
- Include examples of appropriate information and how to obtain that information both before and during the trip.
- Discuss the importance of gaining current information during long trips. Recognize that conditions may suddenly change.
- Incorporate multiple sources of information, ranging from traditional observation of weather and water patterns to advanced technology.

Assessing Performance

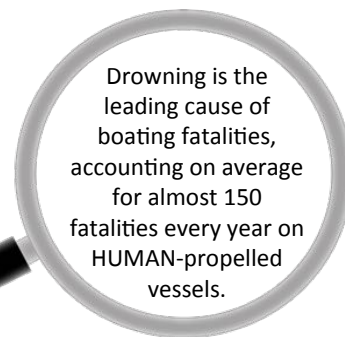
Level	Proficiency Description
3 Successful Performance	The operator: Obtains and recites detailed weather conditions (wind speed and direction, air temperature, precipitation, cloud cover, water conditions). Obtains and recites forecasts for length/time of trip. Identifies hazards to navigation for the length/time of trip. Identifies other environmental hazards. Accurately assesses conditions for the trip before (making appropriate go/no go decision) and throughout the trip.
2 Needs Improvement	The operator: Obtains and recites limited weather conditions. Obtains and recites incomplete weather forecasts for length/time of trip. Obtains limited environmental information.

1 Unacceptable (unsuccessful) Performance	The operator: Does not obtain or recite weather conditions. Does not obtain or recite forecast. Does not identify hazards to navigation for the length/time of trip.
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Element # 1.2: The operator will be able to: **A: Put on a life jacket...** B: ensuring it is serviceable, fits properly, and is appropriate for the boat/activity.

Understanding the Element

Studies consistently show that wearing a life jacket dramatically increases the chances of survival in the event that a person falls overboard. Properly selecting and wearing an appropriate life jacket is critical to keeping the wearer afloat. This element affords the opportunity to encourage life jacket wear at all times while boating.



- The element does not indicate whether a life jacket should be worn; it only focuses on the ability to select and properly put one on.
- ‘Serviceable’ means the life jacket has no rips, tears, or holes, and that all seams, straps, and buckles are in good condition. There should be no signs of waterlogging, mildew, or shrinkage of the buoyant materials.
- ‘Fits properly’ means the life jacket is sized correctly for the wearer, i.e., fits comfortably snug. A correctly fitting life jacket is designed not to ride-up on the body when in the water. To check the buoyancy of a life jacket in the water, the wearer should relax their body and tilt their head back. The life jacket should keep the chin above water and the wearer should be able to breathe easily.
- The USCG publishes a useful guide on selection and proper fitting of appropriate life jackets. See: http://www.uscgboating.org/images/howtochoosetherightlife_jacket_brochure.pdf

Designing Instruction

- As a result of instruction on this Element, the operator should be able to:
 - Comply with boating laws regarding choice of life jacket.
 - Choose a life jacket that will do the job it is intended to do.
 - Properly put on and fasten (buckle) a life jacket and adjust life jacket to a snug fit.
 - Identify an appropriate life jacket for the activity/craft because not all life jackets are universal for every application
- It is recommended that operators be instructed in this element prior to going out on the water. Ensure the operator has properly fastened the life jacket ashore before boarding the boat, to help avoid simply draping a life jacket over the shoulder.
- Instructors should wear their life jackets during the instruction of this skill to model a successful outcome and demonstrate the importance of wearing life jackets during recreational boating.
- Identify / provide examples of different types of life jackets used for different boating applications.
- Show where to find the buoyancy range of a given life jacket to ensure it fits the body type/size of the user.
- Provide examples of life jackets which are NOT in serviceable condition (not USCG approved, torn fabric, missing buckles, etc.).
- Instruction of this skill can be linked to instruction of the skills in Element 7.4 (**Avoid cold water shock and hypothermia...**) and Element 7.5 (**Rescue a person in the water and capsized craft...**).

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Chooses life jacket appropriate for the operator's body type and size, boat and activity. Ensures life jacket is in good working order. Puts on life jacket. Adjusts life jacket to proper fit.
2 Needs Improvement	The operator: Chooses life jacket appropriate for the operator's body type and size, boat and activity. Ensures life jacket is in good working order, but may miss non-critical flaws (e.g., torn pocket) that do not affect flotation. Puts on life jacket. Adjusts life jacket too loose, improper fit, such that boater may float but is unable to purposefully swim.

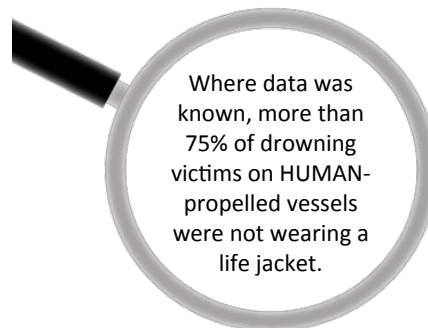
<p>1 Unacceptable (unsuccessful) Performance</p>	<p>The operator: Chooses life jacket not appropriate for the operator's body type and size, boat or activity. Does not ensure life jacket is in good working order. Does not put on life jacket. Does not adjust life jacket to fit (e.g. Life jacket slips off boater, or is so loose that boater has difficulty breathing or swimming).</p>
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Element # 1.3: The operator will be able to: **A: Confirm all others on the craft put on their life jackets...** B: ensuring life jackets are serviceable, fit properly, and are appropriate for the boat/activity

Understanding the Element

Studies consistently show that wearing a life jacket dramatically increases the chances of survival in the event that a person falls overboard. Properly selecting and wearing an appropriate life jacket is critical to keeping the wearer afloat. This element affords the opportunity to encourage life jacket wear by all occupants at all times while boating.

- The element does not indicate whether a life jacket should be worn; it only focuses on the ability to select and properly put one on.
- ‘Serviceable’ means the life jacket has no rips, tears, or holes, and that all seams, straps, and buckles are in good condition. There should be no signs of waterlogging, mildew, or shrinkage of the buoyant materials.
- ‘Fits properly’ means the life jacket is sized correctly for the wearer, i.e., fits comfortably snug. A correctly fitting life jacket is designed not to ride-up on the body when in the water. To check the buoyancy of a life jacket in the water, the wearer should relax their body and tilt their head back. The life jacket should keep the chin above water and the wearer should be able to breathe easily.
- The USCG publishes a useful guide on selection and proper fitting of appropriate life jackets. See: http://www.uscgboating.org/images/howtochoosetherightlife_jacket_brochure.pdf



Designing Instruction

- The operator must be responsible for ensuring the life jackets are used as intended and are successful, if called to do so, in keeping persons in water afloat, to give them a chance to survive until rescue.
- Life jackets can often be seen by non-boaters as clunky, uncomfortable or ‘not-cool’. It is important that the operator be persuaded to be a good role model because life jacket use is the single biggest contributor to surviving capsized or person in water situations.
- Adjustments and sizing are partners. No amount of adjustment will make a wrong sized life jacket fit and even the perfect size life jacket will not work if mis-adjusted.
- Choosing, donning, adjusting a life jacket for crew should be done well in advance of departure. This is easy to forget until after the boat has departed.
- Consider zipper lube on the life jacket zippers every six months in saltwater environments.
- Students might tend to ‘either’ snap a buckle or zip a zipper. Be on the lookout for that and insist that the life jacket is only worth wearing when it is fully and properly secured. This might be needed in the middle of training.

Additional Information: Include explanations for the Rubric (if needed)

- Stay current with changes in life jacket regulations – not just wear and inventory rules, but manufacture rules; especially given the recent USCG regulation changes for categorization and labeling of life jackets.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: 1.3a Confirms all others on the boat have chosen a life jacket appropriate for the boat/activity. 1.3b Confirms life jackets are sized correctly. 1.3c Ensures life jackets are serviceable. 1.3d Confirms all others on boat have put on life jackets. 1.3e Confirms all others on boat have adjusted life jackets to fit.

<p style="text-align: center;">2 Needs Improvement</p>	<p>The operator: 1.3a Does not confirm all others on the boat have chosen life jackets appropriate for the boat/activity. 1.3b Ensure life jackets are sized correctly. 1.3c Ensures life jackets are in good working order, but may miss non-critical flaws (e.g., torn pockets) that do not affect flotation. 1.3d Confirms that all others on boat have put on life jackets. 1.3e Confirms that all others on boat have adjusted life jackets to fit, but one or more may be adjusted too loosely or in a way that may affect ability to swim.</p>
<p style="text-align: center;">1 Unacceptable (unsuccessful) Performance</p>	<p>The operator: 1.3a Does not confirm all others on boat have chosen an appropriate life jacket. 1.3b Does not ensure life jackets are sized correctly. 1.3c Does not ensure life jackets are serviceable. 1.3d Does not confirm that all others on boat have put on life jackets. 1.3e Does not confirm that all life jackets are adjusted for proper fit (e.g. one or more life jackets may slip off, affect breathing, or inhibit swimming).</p>

Element # 1.4: The operator will be able to: **A: Inspect craft systems and safety equipment...** B: by completing a pre-departure checklist noting state, federal, and manufacturer requirements for the intended voyage and weather.

Understanding the Element

- Inspection of boat systems and safety equipment reduces the risk of failure, ensures the vessel is legally compliant, and helps the operator locate essential gear, particularly in case of an emergency.
- Using a written checklist helps avoid missing items during the inspection.
- The skill is the use of a checklist to inspect the boat, not the development of a checklist.

Designing Instruction

- Ensure operators can recognize key systems in their craft and how to ensure they work correctly.
- Ensure operators can recognize required and recommended safety equipment [for example, signaling devices (e.g., whistles and other sound producing devices, lights, radios, etc.), navigational tools (e.g., charts, maps, etc.) rescue equipment (e.g., throw bags, pumps, spare paddles, pin kits, paddle floats, slings, etc.) and communication (paddle/oar and whistle signals)].
- For information about rules and regulations associated with craft systems and safety equipment, download a free copy of the U.S. Coast Guard Navigation Rules and Regulations Handbook at: <http://www.navcen.uscg.gov/?pageName=navRuleChanges>.
- Ensure operators can recognize appropriate manufacturer’s recommendations for their craft
- The school or instructor should have a checklist appropriate to the boat being used and set an example by consistently using the checklist prior to every departure.
- Instruction should include both discussion and hands-on use of systems and equipment.
- Samples of pre-departure checklists should be provided.
- Discussion should include, but not be limited to, the craft’s owner’s manual.

Additional Information: Include explanations for the Rubric (if needed)

- Links to state and local boating law requirements for the local region should be included.

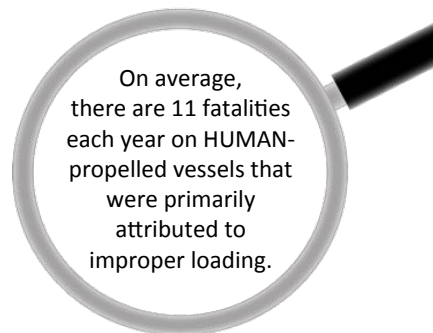
Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Inspects craft systems and safety equipment using a written or memorized pre-departure checklist. Matches systems and equipment to the intended voyage. Matches systems and safety equipment to the anticipated weather.
2 Needs Improvement	The operator: Does not fully inspect craft systems and safety equipment using a written or memorized pre-departure checklist. Matches systems and equipment to the intended voyage. Matches systems and safety equipment to the anticipated weather.
1 Unacceptable (unsuccessful) Performance	The operator: Does not fully inspect systems or safety equipment checklist. Does not match systems and safety equipment to the intended voyage. Does not match systems and safety equipment to the anticipated weather.

Element # 1.5: The operator will be able to: **A: Prepare the craft for departure...** B: readying equipment (e.g., secured, appropriate load, craft balanced, etc.) and individuals (e.g., safety equipment, plan, etc.) for intended departure.

Understanding the Element

- Proper preparation reduces the risk of capsize and other accidents and helps ensure a safe and enjoyable trip.
- Properly stowed equipment is less likely to drift away after capsize.
- Properly stowed equipment contributes to correct trim.
- Proper preparation includes insuring individuals in a group are personally prepared and the group has gear and expertise needed for the intended voyage.



Designing Instruction

- Instruction should discuss appropriate safety and navigation equipment, including but not limited to signaling devices (whistles and other sound producing devices, lights, radios, ...), navigational tools (charts, maps, ...), rescue equipment (throwbags, pumps, spare paddles, pin kits, paddle floats, slings, etc....) and communication (paddle/oar and whistle signals).
- Students should practice storage techniques that help keep equipment dry to the extent possible, secured to the craft, and accessible when needed.
- Students should be provided a list of appropriate equipment.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Securely stows equipment in/on craft/person. Ensures craft is balanced with appropriate load. Completes pre-departure review of equipment (e.g., general use, safety equipment) and plans (e.g., for departure, safety). Confirms all individual(s) have all necessary equipment.
2 Needs Improvement	The operator: Places equipment in craft but equipment is not securely stowed in/on craft/person. Balances craft but is overloaded with weight, OR loads appropriate amount of weight but craft is unbalanced. Performs incomplete pre-departure review of equipment (e.g., general use, safety equipment) and plans (e.g., for departure, safety). Does not confirm all individual(s) have all necessary equipment.
1 Unacceptable (unsuccessful) Performance	The operator: Does not place equipment in craft. Overloads craft with weight causing capsize or equipment to fall out. Does not perform pre-departure review of equipment and plans. Individual(s) do not have necessary equipment.

Element # 2.1: The operator will be able to: **A: Enter and launch the craft...** B: using appropriate techniques for the venue (e.g., kneeling on a SUP during departure, etc.), keeping the craft upright with minimal wobbling or loss of control.

Understanding the Element

- Entering and launching a craft in a controlled manner is fundamental to an overall safe outing.
- Safe departure sets the tone for the rest of the trip.
- Capsize on departure, in shallow water or near a pier, has a higher risk of injury than in deeper water away from structures.
- Departure can be from any appropriate site (e.g., dock, slip, shoreline), as long as fundamental principles are followed.

Designing Instruction

- Ideally, several different sites would be utilized in a course.
- Sites should be chosen so as to minimize the risk of injury during departure.
- Level departure points, such as a sandy beach, require different techniques than a high dock or steep shoreline.
- Care should be taken to avoid damage to shorelines during departure.

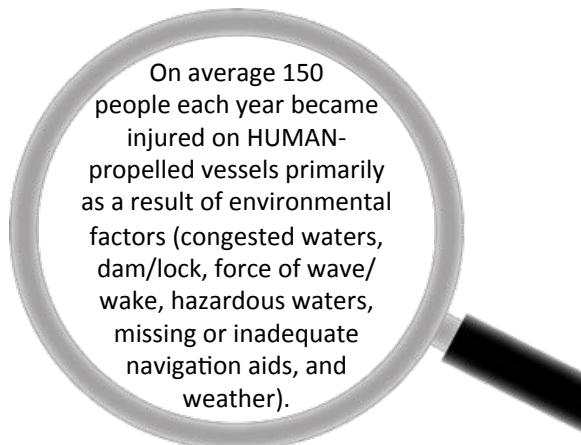
Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Enters/boards the craft keeping craft upright with minimal wobbling or loss of control, and no sudden recovery motions while boarding/entering and launching. Launches from departure point (e.g., dock, slip, shoreline, etc.) using appropriate technique for venue.
2 Needs Improvement	The operator: Enters/boards the craft keeping craft upright but may require sudden recovery motions while boarding/entering and launching. Launches from departure point (e.g., dock, slip, shoreline, etc.) using inappropriate technique for venue.
1 Unacceptable (unsuccessful) Performance	The operator: Does not enter/board craft. Falls in water or allows craft to capsize while boarding/entering and launching. Launches causing damage to craft or injury to person. Does not launch craft.

Element # 2.2: The operator will be able to: **A: Check for a clear departure...** B: using a 360-degree scan to confirm a clear path of departure with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that departure is not a hazard for others underway.

Understanding the Element

- Checking for clear departure is essential given it often takes place in a situation where other boats and or objects are in close proximity, increasing the risk of collision.
- Collisions should be avoided. Do not depart into the path of oncoming traffic.
- Safe departure sets the tone for the rest of the trip.
- Hazards should be recognized and avoided on departure.



Designing Instruction

- Content should include discussion of navigational rules, and their applicability to human-powered craft.
- This skill should be practiced under various conditions of wind, current, and proximity to other boats.
- Operators should identify blind spots and high-speed traffic areas.
- Operators should constantly maintain a high degree of situational awareness. A 360-degree scan is not a one-time event and must be repeated throughout the departure maneuver, especially in a crowded area.
- Whenever possible, choose departure locations that allow good visibility.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Performs complete 360-degree scan of the launch area. Shows evidence all hazards that can cause harm or damage to person or craft are identified prior to launch.
2 Needs Improvement	The operator: Performs an incomplete scan (less than 360 degrees) of the launch area. Shows evidence some but not all hazards that can cause of harm or damage to person or craft are identified prior to launch.
1 Unacceptable (unsuccessful) Performance	The operator: Does not complete a scan of the launch area. Does not show evidence hazards that could cause harm or damage to person or craft are identified prior to launch.

Element # 3.1: The operator will be able to: **A: Propel the craft forward...** B: while maintaining proper grip and paddle/oar orientation along with trim and balance of the craft.

Understanding the Element

- Forward propulsion is the primary means by which the operator makes progress toward a destination.
- Proper grip and paddle/oar orientation minimize risk of injury to operator and improve efficiency of the technique.
- Proper trim and balance reduce the risk of capsize and improve stroke efficiency.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully drive the boat forward.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from propelling the boat.
- Properly trimmed boats may have a relatively neutral waterline, and will have controlled pitch, roll and yaw while underway, thereby demonstrating proper balance and stroke efficiency.

Designing Instruction

- Operators can maintain directional control by using a range (lining up two distant fixed points).
- Rowers should periodically look over their left and right shoulders to see where they’re going and check for obstacles in their path, but they should not look over their shoulders all the time. This is done on the “drive” phase of the stroke. Paddlers will generally be facing the direction of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and operator’s body type should be considered when determining proper stroke technique. However, the stroke path generally should be a front to back / bow to stern motion
- Operators should be able to combine this skill with stopping, pivoting, and moving forward on an arc.
- The operator should use large torso muscles as much as possible for added strength during propulsion, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft forward. Has proper paddle/oar grip with blades facing the correct direction. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft forward. Propels craft using improper grip and/or paddle/oar orientation. Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft forward. Does not use proper grip or paddle/oar orientation. Falls in water or allows craft to capsize.

Element # 3.2: The operator will be able to: **A: Stop the craft...** B: within two boat lengths, using the appropriate and effective strokes, while maintaining trim and balance of the craft.

Understanding the Element

- Stopping the craft is critical for avoiding hazards and collisions; for approaching beaches, docks and piers; and for performing rescues.
- Proper trim and balance reduce the risk of capsize and improve stroke efficiency.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully stop the boat’s momentum within two boat lengths.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from stopping the boat.
- Properly trimmed boats will have a relatively neutral waterline, and will have minimal pitch, roll and yaw while underway, thereby demonstrating proper balance and stroke efficiency.

Designing Instruction

- Operators can maintain directional control by using a range (lining up two distant fixed points)..
- Craft freeboard and beam, type of paddle/oar, type of craft, and operator’s body type should be considered when determining proper stroke technique.
- Operators should be able to stop while travelling forward, backwards or sideways.
- During the stop, the craft might spin (e.g., for a turn stop), but trim and balance will be maintained throughout the maneuver.
- The operator should use large torso muscles as much as possible for added strength during stopping maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Stops the craft. Stops craft within two boat lengths. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Stops the craft. Stops craft within 2-4 boat lengths. Uses appropriate but ineffective strokes. Or uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not stop the craft. Stops craft in more than 4 boat lengths. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Falls in water or allows craft to capsize.

Element # 3.3: The operator will be able to: **A: Turn the craft from a stationary position...** B: 180° to the right and left, within 1-2 boat lengths, based upon a 360° scan of the surrounding area, using appropriate and effective strokes, while maintaining trim and balance of the craft.

Understanding the Element

- Turning 180-degrees to the right and left is sometimes called “pivoting” the craft.
- Pivoting in place allows the operator to change the boat’s heading toward a desired direction.
- Pivoting in place may allow the operator to more easily scan the surrounding area, particularly if mobility issues exist.
- Pivoting is important for close quarters maneuvers, to allow proper positioning relative to other craft and to natural and man-made features.
- Proper trim and balance reduce the risk of capsize and improve stroke efficiency.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully spin the craft with limited fore or aft motion.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from spinning the boat.
- Properly trimmed boats will have a relatively neutral waterline, and will have minimal pitch or roll while spinning, thereby demonstrating proper balance and stroke efficiency.
- Operators should be encouraged to complete a 360-degree scan before initiating a pivot. However, in some cases, mobility issues might prevent a complete scan until after the pivot begins.

Designing Instruction

- Operators generally should look in the direction of the turn.
- Craft freeboard and beam, type of paddle/oar, type of craft, and boater’s body type should be considered when determining proper stroke technique. Several different stroke types (e.g., forward and reverse sweeps) might be required.
- During the turn, the craft should spin smoothly to help maintain trim and balance.
- The operator should use large torso muscles as much as possible for added strength during maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Turns the craft. Turns craft 180 degrees to the right and the left. Executes turn in 1-2 boat lengths. Scans 360 degrees before initiating turn. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions. Uses appropriate and effective strokes for intended use of propulsion unit (e.g., oar, paddle).
2 Needs Improvement	The operator: Turns the craft. Turns craft within 25-30 degrees of target. Turns craft in 2-4 boat lengths. Does not scan a full 360 degrees before initiating turn. Keeps craft upright but may require sudden recovery motions. Uses inappropriate but effective strokes, or appropriate but ineffective strokes for intended use of propulsion unit (e.g., oar, paddle).
1 Unacceptable (unsuccessful) Performance	The operator: Does not turn the craft. Does not turn craft within 25-30 degrees of target. Turns craft in more than 4 boat lengths. Does not scan. Falls in water or allows craft to capsize. . Uses ineffective and inappropriate strokes for intended use of propulsion unit (e.g., oar, paddle).

Element # 3.4: The operator will be able to: **A: Move the craft sideways (if applicable*)...** B: 10 feet (to each side), based upon a 360° scan of the surrounding area, using proper techniques with appropriate and effective strokes, while maintaining trim and balance of the craft.

* This element is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard.

Understanding the Element

- Sideways motion is important to raft up with other operators or to move in to a dock space.
- Sideways travel may be important when performing rescues and recoveries, or otherwise assisting fellow operators
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully move the craft laterally with limited fore or aft motion.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from lateral travel.
- Properly trimmed crafts will have a relatively neutral waterline, and will have minimal pitch, roll or yaw while traveling laterally, thereby demonstrating balance and stroke efficiency.

Designing Instruction

- Operators generally should look in the direction of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and boater’s body type should be considered when determining proper stroke technique.
- During lateral movement, the craft should travel smoothly to help maintain trim and balance.
- The operator should use large torso muscles as much as possible for added strength during maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft directly sideways. Propels craft 10 feet in each direction. Scans 360 degrees before initiating turn. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft sideways, but has some associated spin, or forward or backward motion. Propels craft less than 10 feet in each direction. Does not scan a full 360 degrees before initiating turn. Uses appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Or uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft sideways. Does not scan. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Falls in water or allows craft to capsize.

Element # 3.5: The operator will be able to: **A: Propel the craft in a figure of 8 course (if applicable*)...** B: around markers 3-4 boat lengths apart, based upon a 360° scan of the surrounding area, using appropriate and effective strokes, while maintaining trim and balance of the craft.

* This element is applicable when paddling a canoe, kayak, raft, stand-up paddleboard, or operating a classic dinghy-type rowboat.

Understanding the Element

- Moving through a figure of 8 course demonstrates the ability to maintain forward momentum while changing directions, and demonstrates the ability to use different strokes to effectively control the craft.
- A figure of 8 course can be set up with two buoys or markers approximately 3 to 4 boat lengths apart - but tailor dimensions to fit instructional needs and local waterway.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully move the craft along the desired path of travel.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from travel.
- Properly trimmed crafts will have a relatively neutral waterline, and will have minimal pitch or roll while underway, thereby demonstrating balance and stroke efficiency.

Designing Instruction

- Operators generally should look in the direction of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and boater’s body type should be considered when determining proper stroke technique.
- During travel, the craft should travel smoothly to help maintain trim and balance.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft in a figure of 8 course while maintaining forward momentum. Completes a figure of 8 course, around markers 3-4 boat lengths apart, with each turning diameter no greater than 4 boat lengths. Scans 360 degrees before and during maneuver. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle) during the maneuver. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft in a figure of 8 course, but completely loses forward momentum at least once. Completes the figure of 8 course, around markers 3-4 boat lengths apart, with each turning diameter within 4-6 boat lengths. Does not scan a full 360 degrees before and during maneuver. Uses appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Or, uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not complete a figure of 8 course. Completes a figure of 8 course with either turning diameter more than 6 boat lengths. Does not scan. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Falls in water or allows craft to capsize.

Element # 4.1: The operator will be able to: **A: Propel the craft forward in a straight line...** B: 15-20 boat lengths using appropriate and effective strokes to maintain a constant heading, while maintaining trim and balance of the craft.

Understanding the Element

- Forward propulsion is the primary means by which the operator makes progress toward a destination.
- Proper trim and balance reduce the risk of capsize and improve stroke efficiency.
- Appropriate and effective strokes reduce the need for constant course corrections.
- Maintaining a constant heading for 15-20 boat lengths indicates a likelihood that the operator could do so for longer distances.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully drive the boat forward.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from propelling the boat.
- Properly trimmed boats will have a relatively neutral waterline, and will have minimal pitch, roll and yaw while underway, thereby demonstrating proper balance and stroke efficiency.
- The operator should use large torso muscles as much as possible for added strength during propulsion, without overburdening smaller arm muscles.

Designing Instruction

- Operators can maintain directional control by using a range (lining up two distant fixed points).
- Rowers should periodically look over their left and right shoulders to see where they’re going and check for obstacles in their path, but they should not look over their shoulders all the time. This is done on the “drive” phase of the stroke. Paddlers will generally be facing the direction of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and operator’s body type should be considered when determining proper stroke technique. Large muscle groups should be used when possible. The stroke path generally should be a front to back / bow to stern motion.
- Corrective strokes should be smoothly incorporated in to power strokes.
- Operators should be able to combine this skill with stopping, pivoting, and moving forward on an arc.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft forward in a straight line. Propels craft in a straight line for 15-20 boat lengths. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft forward within 30 degrees of target. Propels craft for 10-15 boat lengths. Uses appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Or uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft forward. Does not have control over direction of craft. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Falls in water or allows craft to capsize.

Element # 4.2: The operator will be able to: **A: Turn the craft while maintaining forward motion...** B: 90° to the right and left, and based upon a 360° scan of the surrounding area and using appropriate and effective strokes, while maintaining trim and balance of the craft.

Understanding the Element

- Changing direction while underway is a foundational skill.
- Changing direction while maintaining momentum is much more efficient than turning after coming to a stop.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully drive the boat forward along the desired path of travel.
- The path of travel should be an arc, rather than a distinct pivot at a fixed point.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from propelling the boat.
- Properly trimmed craft will have a relatively neutral waterline, and will have minimal pitch, roll and yaw while underway, thereby demonstrating proper balance and stroke efficiency.
- Operators should be able to continue along a constant heading after making the right or left turn.

Designing Instruction

- Operators can maintain directional control by looking towards the desired path of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and operator’s body type should be considered when determining proper stroke technique. Corrective strokes should be smoothly incorporated in to power strokes
- Operators should be able to combine this skill with stopping and pivoting.
- The operator should use large torso muscles as much as possible for added strength during maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft in a forward motion. Scans 360 degrees before initiating turn. Turns craft 90 degrees to the right or left. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle).
2 Needs Improvement	The operator: Propels the craft in a forward motion. Does not scan a full 360 degrees before initiating turn. Turns craft within 30 degrees of a 90-degree turn. Keeps craft upright but may require sudden recovery motions. Uses inappropriate but effective strokes or appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle).
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft in a forward motion. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Does not scan. Does not turn craft. Falls in water or allows craft to capsizes.

Element # 4.3: The operator will be able to: **A: Move the craft sideways (if applicable*)...** B: 10 feet (to each side) using proper techniques with appropriate and effective strokes, while maintaining trim and balance of the craft.

* This element is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard

Understanding the Element

- Sideways motion is important to raft up with other operators or to move in to a dock space.
- Sideways travel may be important when performing rescues and recoveries, or otherwise assisting fellow operators
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully move the craft laterally with limited fore or aft motion.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from lateral travel.
- Properly trimmed crafts will have a relatively neutral waterline, and will have minimal pitch, roll or yaw while traveling laterally, thereby demonstrating balance and stroke efficiency.

Designing Instruction

- Operators generally should look in the direction of travel.
- Craft freeboard and beam, type of paddle/oar, type of craft, and boater’s body type should be considered when determining proper stroke technique.
- During lateral movement, the craft should travel smoothly to help maintain trim and balance.
- The operator should use large torso muscles as much as possible for added strength during maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft sideways, without spinning or moving forward or backwards. Propels craft 10 feet in each direction. Uses appropriate and appropriate strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft sideways, but may have spin or forward motion or backward motion. Cannot propel craft 10 feet in each direction. Uses appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Or uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft sideways, movement is primarily spinning, or moving forward or backwards. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Capsizes or nearly capsizes.

Element # 4.4: The operator will be able to: **A: Move the craft backwards...** B: 3-4 boat lengths using appropriate and effective reverse strokes while maintaining directional control and while maintaining trim and balance of the craft

Understanding the Element

- Operating the craft backwards allows operators to avoid hazards and maneuver up to natural and man-made features, including other boats.
- Appropriate strokes will vary based on the type of craft, but in all cases will purposefully move the craft backwards.
- Effective strokes will have minimal splash at all times during stroke. Ineffective strokes will have splash during the stroke that detracts from backwards travel.
- Properly trimmed crafts will have a relatively neutral waterline, and will have minimal pitch, roll or yaw while traveling backwards, thereby demonstrating balance and stroke efficiency.
- Maintaining directional control is assessed by maintaining a generally straight line, but minimal yaw is acceptable.

Designing Instruction

- Paddlers should periodically look over their shoulder to see where they’re going, but they should not look over their shoulder all the time. Rowers will generally be facing the direction of travel.
- Operators should initially check for collision hazards before travelling backwards.
- Operators should be able to combine this skill with the ability to stop and to pivot the craft.
- The operator should use large torso muscles as much as possible for added strength during backing maneuver, without overburdening smaller arm muscles.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Propels the craft backwards. Propels craft backwards 3-4 boat lengths. Uses appropriate and effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Maintains directional control remaining within 30 degrees of intended direction. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Propels the craft backwards. Propels the craft backwards 1-3 boat lengths. Uses appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Or, uses inappropriate but effective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Maintains directional control varying greater than 25-30 degrees of intended direction. Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not propel the craft backwards. Uses inappropriate and ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Does not control direction of craft. Falls in water or allows craft to capsize.

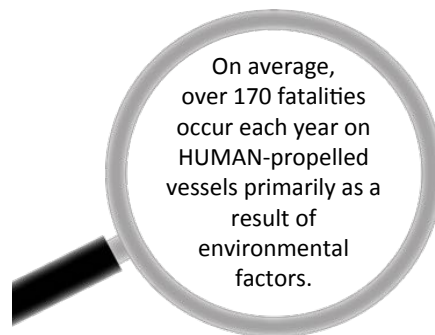
Element # 5.1: The operator will be able to: **A: Check for clear approach...** B: using a 360-degree scan to confirm a clear path of arrival with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that arrival is not a hazard for others underway.

Understanding the Element

- Checking for a clear approach is critical to avoiding collisions and staying clear of other hazards.

Designing Instruction

- Consider and select a safe area to arrive while avoiding hazards.
- Content should include discussion of navigational rules, and their applicability to human-powered craft.
- Operators should identify blind spots and high-speed traffic areas.
- Operators should constantly maintain a high degree of situational awareness.
- Care should be taken to avoid damage to shorelines during landing.



Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Performs complete 360-degree scan of the arrival area. Shows evidence all hazards that can cause harm or damage to person or craft are identified prior to arrival.
2 Needs Improvement	The operator: Performs an incomplete scan (less than 360 degrees) of the arrival area. Shows evidence some but not all hazards that can cause of harm or damage to person or craft are identified prior to arrival.
1 Unacceptable (unsuccessful) Performance	The operator: Does not complete a scan of the arrival area. Does not show evidence hazards that could cause harm or damage to person or craft are identified prior to arrival.

Element # 5.2: The operator will be able to: **A: Arrive at a destination point (e.g., dock, slip, shoreline, etc.) and exit the craft...** B: using appropriate techniques for the venue (e.g., kneeling on a SUP during arrival, etc.), keeping the craft upright with minimal wobbling or loss of control.

Understanding the Element

- Safe arrival properly closes out the trip.
- Capsize on arrival, in shallow water or near a pier, has a higher risk of injury than in deeper water away from structures.
- Arrival can be to any appropriate site (e.g., dock, slip, shoreline), so long as fundamental principles are followed.

Designing Instruction

- Content should include discussion of navigational rules, and their applicability to human-powered craft.
- Operators should identify blind spots and high-speed traffic areas.
- Operators should constantly maintain a high degree of situational awareness.
- Techniques will vary depending upon the characteristics of the destination point; e.g., level sandy beach, dock, boat ramp, rocky shoreline, etc.).

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Arrives at intended destination using appropriate technique for the venue. Uses appropriate and effective strokes for intended use of propulsion unit (e.g., oar, paddle). Keeps craft upright with minimal wobbling, loss of control, and no sudden recovery motions while arriving and exiting the craft. Exits the craft.
2 Needs Improvement	The operator: Arrives at the dock, slip or shoreline using inappropriate technique for venue. Uses inappropriate but effective strokes or appropriate but ineffective strokes for the intended use of the propulsion unit (e.g., oar, paddle). Keeps craft upright but may require sudden recovery motions while arriving and exiting craft. Exits the craft.
1 Unacceptable (unsuccessful) Performance	The operator: Does not arrive at intended destination. Uses ineffective and inappropriate strokes for intended use of propulsion unit (e.g., oar, paddle). During arrival, falls in water or allows craft to capsize while exiting the craft, or causes damage to craft or injury to person.

Element # 6.1: The operator will be able to: **A: Secure the craft and equipment...** B: using appropriate techniques and anticipating winds, currents and tides.

Understanding the Element

- Properly securing craft prevent them from drifting or blowing away.
- Secure means that craft will not float away or be swamped/filled with water due to changing conditions.

Designing Instruction

- When water levels change over time (e.g., due to tides or river flow), discussion should include managing both rising and falling water levels.
- Depending on craft and conditions, techniques could include carrying boats in to safe storage, tying to structures, or carrying on to shore.

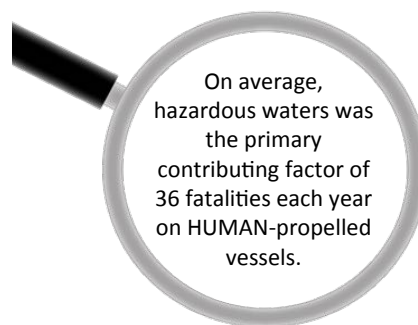
Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Secures craft with regard for current conditions and for anticipated changes in weather, current and tides. Secures equipment with regard for current conditions and for anticipated weather, current and tides.
2 Needs Improvement	The operator: Secures craft for immediate conditions without consideration of anticipated future conditions. Secures equipment for immediate conditions without consideration of anticipated future conditions.
1 Unacceptable (unsuccessful) Performance	The operator: Leaves craft unsecured. Leaves equipment unsecured.

Element # 7.1: The operator will be able to: **A: Avoid capsizing the craft...** B: maintaining proper body position and paddle/oar techniques.

Understanding the Element

- Capsizing means the craft overturns.
- Capsizing is a common occurrence in a small craft.
- Avoiding a capsize allows the operator to have a safer and more enjoyable experience.
- Proper body position could mean multiple points of contact and proper posture.



Designing Instruction

- Including use of bracing or momentum strokes for paddle craft and use of feathered oars for rowing to create stability.
- Paddlesports: in order avoid capsizing the operator should be coached to keep their nose over their navel.
- Rowing: proper body position and proper oar handle level are important.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Keeps the craft upright with minimal wobbling or loss of control, and no sudden recovery motions. Deliberately controls stability of craft through body position. Deliberately controls stability of craft through paddle/oar techniques.
2 Needs Improvement	The operator: Keeps the craft upright but may require sudden recovery motions. Controls stability of craft through body position but craft may wobble. Controls stability of craft through paddle/oar techniques but craft may wobble.
1 Unacceptable (unsuccessful) Performance	The operator: Does not deliberately control stability of craft through body position. Does not deliberately control stability of craft through paddle/oar techniques. Falls in water or allows craft to capsize.

Element # 7.2: The operator will be able to: **A: Exit the craft after capsize...** B: using proper body position and contact with the craft and paddle/oar (wet-exit).

Understanding the Element

- Exiting the craft helps to avoid entrapment and reduce panic and injury.
- Wet exit for rowers means using the quick release for feet.
- Wet exit for paddling means pulling the grab loop of the spray cover (skirt) to detach from the cockpit combing of a kayak or canoe and using techniques to exit the craft to avoid entrapment and injury.
- Maintaining appropriate contact with the craft and paddle/oar can help with flotation and keeps equipment in proximity for eventual reuse.

Designing Instruction

- Practice on land before going on the water and then this technique should be initially practiced under supervision in appropriate water depths.
- Include techniques for safely capsizing the craft as part of instructing this skill.
- Paddling – if a spray skirt is used, then the grab loop must be on the outside.
- Rowers should demonstrate foot board quick release.
- Include how to handle the overturned and/or swamped craft.

Additional Information: Include explanations for the Rubric (if needed)

- Decked paddleboats present entrapment hazards.
- In a rowboat, operators should be aware of oars coming out of the oarlocks when the boat goes over, as well as coming up from underwater and hitting their head.
- Standup paddleboard operators should consider appropriate leash wear to maintain contact with the board. SUP operators should generally fall away from the board to avoid injury and fall “shallow.”

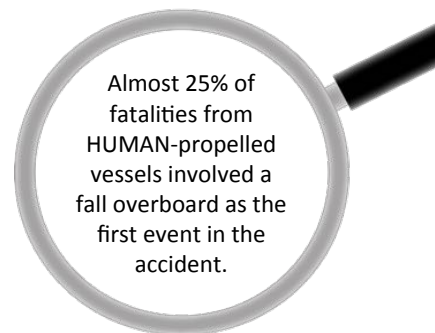
Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Smoothly exits craft after capsize so as to avoid injury and entrapment. Grasps and controls craft within a few seconds of exit. Grasps and controls paddle/oar within a few seconds of exit. Stays with craft. Avoids injury.
2 Needs Improvement	The operator: Exits craft after capsize but may have brief entrapment or may have minor injury requiring no treatment. May grasp craft shortly after exit, but does not control craft. May grasp paddle/oar shortly after exit but cannot control paddle/oar. Stays with craft. May have minor injury requiring no treatment.
1 Unacceptable (unsuccessful) Performance	The operator: Becomes entrapped in craft due to capsize. Does not grasp or control craft after capsize. Does not to grasp or control paddle/oar after capsize. Does not stay with craft. May have injury that requires treatment.

Element # 7.3: The operator will be able to: **A: Rescue self and the craft...** B: using a proper self-rescue technique.

Understanding the Element

- Self-rescue allows operator to get him or herself out of the water and/or to safety.
- Exits craft appropriately means exiting the craft without injury to operator or damage to the craft or loss of equipment.
- Reentry can mean from shore or deep water
- Deep-water reentry – boat operator cannot touch the bottom, can't be assisted touching the bottom and pushing off to help reentry.
- Self-rescue should be done by the operator with no assistance.



Designing Instruction

- Use of self-rescue devices like leashes, bailers, lines, stirrups, and paddle floats could be used to accomplish self-rescue.
- Conduct this skill while in a controlled environment, such as an easy swimming distance from shore.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Exits craft appropriately. Controls craft and equipment. Re-enters and returns to activity using an effective self-rescue technique (e.g., swim self and boat to shore, or deep water re-entry).
2 Needs Improvement	The operator: Exits craft appropriately. Has difficulty controlling craft and paddle/oar (may lose paddle/oar). Re-enters using an effective self-rescue technique.
1 Unacceptable (unsuccessful) Performance	The operator: Does not exit craft appropriately. Has difficulty controlling craft and paddle/oar. Does not to complete self-rescue, may require assistance from others.

Element # 7.4: The operator will be able to: **A: Avoid cold water shock and hypothermia...** B: by wearing appropriate clothing for the venue and using a documented safety technique.

Understanding the Element

- Cold water shock and hypothermia can cause incapacitation of operator which can lead to death.
- Documented safety technique – such as wearing life jacket, using the “HELP” or “huddle” position, etc.

Designing Instruction

- Practice using the help and huddle positions during a swim test.
- Demonstrate proper clothing options, explaining heat loss
- For anticipated conditions, verify operators know how to check weather conditions and what to be aware of, including air and water temperatures.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Describes anticipated weather and water conditions. Chooses and wears appropriate clothing for anticipated conditions.
2 Needs Improvement	The operator: Describes anticipated weather and water conditions. Chooses but does not wear appropriate clothing for anticipated conditions.
1 Unacceptable (unsuccessful) Performance	The operator: Does not anticipate weather and water conditions. Does not choose or wear appropriate clothing for anticipated conditions.

Element # 7.5: The operator will be able to: **A: Rescue a person in the water and capsized craft...** B: using an appropriate assisted rescue technique and standard practice for rescue priorities.

Understanding the Element

- This is for a non-motorized rescue, paddler/rower to paddler/rower
- The skill is to rescue another operator or passenger and to provide assistance to a person in distress.



Designing Instruction

- Practice in a controlled environment
- Practice one rescuer and multiple rescuer techniques
- Include a discussion of appropriate rescue devices, including bailers, pumps, paddle floats, tow lines, etc.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Retrieves person without injury, securing individual to side of boat or inside craft, or bringing person to shore, using an appropriate technique. Returns craft to operator using an appropriate technique. Returns other equipment to operator using appropriate techniques. Demonstrates awareness of rescue priorities (self, victim, craft, gear).
2 Needs Improvement	The operator: Retrieves person without injury securing individual to side of boat or inside craft, or bringing person to shore, using an appropriate technique. Returns craft to operator using an appropriate technique. Returns other equipment to operator using appropriate techniques. Does not demonstrate awareness of rescue priorities (self, victim, craft, gear).
1 Unacceptable (unsuccessful) Performance	The operator: Does not rescue person, craft and equipment, or becomes a victim during rescue attempt.

Element # 7.6: The operator will be able to: **A: Use essential safety equipment...** B: by ensuring it is available on the craft and appropriate for the trip, follows local, state, federal laws and regulations; and employing according to manufacturer instructions.

Understanding the Element

- Use of safety equipment can minimize risk and expedite rescue.
- Laws may differ depending on location, local, state and federal laws, etc.
- Stowing equipment securely means securing the load so it does not move and no additional entanglement hazard is created.

Designing Instruction

- Demonstrate use of safety equipment and the ability to stow equipment safety
- Links or other means of access (e.g., hard copies) to local, state, federal regulations should be provided.

Additional Information: Include explanations for the Rubric (if needed)

- Depending on location, essential safety equipment may include: life jacket, sound producing device, visual distress signal, leashes for SUP equipment, quick releases for rowing shells, tow ropes, first aid kit, etc.
- Discuss flotation options for canoes and kayaks.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Ensures appropriate safety equipment is available on the craft. Replaces missing or damaged equipment. Stows equipment securely. Uses safety equipment appropriately.
2 Needs Improvement	The operator: Checks for appropriate safety equipment. Does not replace missing or damaged equipment that is not legally required by state or federal laws. Stows equipment securely. Uses safety equipment appropriately.
1 Unacceptable (unsuccessful) Performance	The operator: Does not check for appropriate safety equipment. Does not stow equipment securely. Does not use safety equipment appropriately.

Element # 7.7: The operator will be able to: **A: Propel an appropriate course...** B: using information provided by navigational aids (e.g., charts, buoys, landmarks) and hand/whistle signals.

Understanding the Element

- Operator needs to be aware that they are part of the general boating community and should use appropriate navigation techniques and hand/whistle signals to avoid conflict / collisions with other boats and hazards.
- Appropriate course can mean understand that the marked channels are designed for deeper draft vessels and paddlers/rowers can use areas just outside of the marked channel.

Designing Instruction

- Practice use of hand/whistle/oar signal, understand what each signal means, use props on shore to practice.
- Consider linking to knowledge standards on navigation aids.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Identifies an appropriate course based on navigation marks and hand/whistle signals from others. Propels craft through the identified course.
2 Needs Improvement	The operator: Identifies an appropriate course based on navigation marks and hand/whistle signals from others. Propels craft through the identified course with minimal errors.
1 Unacceptable (unsuccessful) Performance	The operator: Does not identify an appropriate course based on navigation marks and hand/whistle signals from other boaters on the water. Does not propel craft through the identified appropriate course.

Element # 7.8: The operator will be able to: **A: Avoid collisions...** B: by maintaining a proper lookout, assessing potential hazardous situations and taking early and decisive action, while maintaining trim and balance of the craft.

Understanding the Element

- Avoid collisions with other craft by knowing and taking proper course of actions based on navigation rules.
- Recognize, assess, and avoid hazards by taking early and substantial action to avoid.
- The operator will be able to maintain trim and balance of the craft while maneuvering.
- ‘Early and decisive action’ means changes were made to course and/or speed early enough that the operator did not have to make abrupt changes that would affect the trim or balance of the craft AND the maneuver was apparent to oncoming craft in sufficient time to avoid collision.
- ‘Proper lookout’ means, at all times, being aware of boat traffic and hazards 360 degrees around the boat.

Designing Instruction

- Operators should constantly maintain a high degree of situational awareness.
- Operators should know and recognize hazards of the area they are operating in.
- Content should include discussion of navigational rules, and their applicability to human-powered craft.

Assessing Performance

Level	Proficiency Description
3 Successful Performance	The operator: Takes action early to avoid collision. Maintains safe distance between boats/objects. Maintains proper lookout throughout the entire maneuver. Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.
2 Needs Improvement	The operator: Is slow to take action to avoid collision, leading to rapid and sudden changes in direction. Fails to maintain a safe distance between boats/objects. Maintains proper lookout throughout the entire maneuver. Keeps craft upright but may require sudden recovery motions.
1 Unacceptable (unsuccessful) Performance	The operator: Fails to take action to avoid a collision. Collides with boat/object or forces stand-on vessel to take action to avoid a collision. Does not maintain proper lookout. Falls in water or allows craft to capsize.

Appendix A: On-Water Recreational Boating Skills Standard– Human-propelled

Following is the *On-Water Recreational Boating Skills Standard – Human-propelled*.¹³ The Standard is available for free download at <http://www.abycinc.org/>

Since this Standard serves as the primary source document for the design, development and implementation of entry-level recreational Human-propelled craft instruction, it is recommended that a copy of the original Standard be included with course or instructional materials. This will help ensure those who design or deliver instruction, as well as students receiving instruction; all share the same ‘start-point’ for understanding the content of the Standard.

¹³ The title of the Standard is *On-Water Recreational Boating Skills Standard – Human-propelled*, however The American Boat & Yacht Council has titled the American National Standard as *EDU-2 Skill-based Human-propelled Standard to fit within its categorization system for standards*. Both titles are synonymous and may be used interchangeably in this document. Additionally, the capitalized word “Standard” is used throughout this document to refer to either title.



EDU-2

**On-Water Human Standard
On-Water Education Project Technical
Committee**

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the standards and Technical information reports.

EDU-2

SKILL-BASED HUMAN-PROPELLED STANDARD



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ON-WATER EDUCATION PROJECT TECHNICAL COMMITTEE

	Brian Dorval, Chairman	
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Willie Black	Emily King	Robin Pope
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Gordon Colby	Thomas Lindblade	Jeff Riecks
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Peter Durant	Dan Maxim	Linda Stearns
Rick Franke	Jim Muldoon	Chris Stec
Josh Hall	Jeremy Oyen	Lynn Lynch
Harry Horgan		

This list represents the membership at the time the Committee was balloted.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the Standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All contact regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at comments@abycinc.org.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

REQUEST FOR INTERPRETATIONS

Upon written request, the On-Water Education PTC will render an interpretation of any requirement of the Standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.



Produced through USCG grant funding to US Sailing to facilitate the development of On-Water skills-based standards as part of a *National System of Standards for Recreational Boat Operation*. Page 0

EDU-2 Skills-based HUMAN-propelled Boat Standard National System of Standards for Recreational Boat Operation

Title: On-Water Recreational boating Skills Standard – HUMAN-propelled

Purpose: To establish the national consensus-based standard for use by course providers for course design and student assessment to raise the overall level of quality, availability and consistency of entry level On-Water, skills-based instruction in HUMAN-propelled recreational boat operation.

Scope: This is the core voluntary standard designed to apply to entry-level HUMAN-propelled On-Water skills-based courses in the U.S. states and territories and District of Columbia and function within a national system of standards for recreational boat operation.

HUMAN
Domain of application
<p>Boat Characteristics: Paddle craft is a vessel powered only by its occupant(s), using a single or double-bladed paddle as a lever without the aid of a fulcrum provided by oar locks, thole pins, crutches, or similar arrangements. Rowing craft is a vessel powered only by its occupants, using an oar as a lever with the aid of a fulcrum provided by oar locks, thole pins, crutches, or similar arrangements.</p> <p>Wind/Water Conditions: Flat water, with current less than 1 knot, protected from the wind and waves</p> <p>Operation Conditions: Daytime with no restricted visibility or threatening weather</p>
Stages of entry-level recreational boat operation
<p>NOTE: For those recreational boat operations where the boat is underway, individual skills-based standard elements in this On-Water HUMAN Standard are to be accomplished in accordance with any aids to navigation, navigational rules, and any regulations applicable to the location in which the skill is being executed.</p>

Operation #1: Prepare to depart

The operator will be able to:

- 1.1 **A: Obtain (recite), weather conditions, forecasts, and evaluate hazards to navigation and other environmental factors...** *B: assessing if conditions are favorable for the voyage for length/time of trip.*
- 1.2 **A: Put on a life jacket...** *B: ensuring it is serviceable, fits properly, and is appropriate for the boat/activity.*
- 1.3 **A: Confirm all others on the craft put on their life jackets...** *B: ensuring life jackets are serviceable, fit properly, and are appropriate for the boat/activity.*
- 1.4 **A: Inspect craft systems and safety equipment...** *B: by completing a pre-departure checklist noting state, federal, and manufacturer requirements for the intended voyage and weather.*
- 1.5 **A: Prepare the craft for departure...** *B: readying equipment (e.g., secured, appropriate load, craft balanced, etc.) and individuals (e.g., safety equipment, plan, etc.) for intended departure.*

Operation #2: Leave a departure point (e.g., dock, slip, shoreline, etc.)

The operator will be able to:

- 2.1 **A: Enter and launch the craft...** *B: using appropriate techniques for the venue (e.g., kneeling on a SUP during departure, etc.), keeping the craft upright with minimal wobbling or loss of control.*
- 2.2 **A: Check for a clear departure...** *B: using a 360-degree scan to confirm a clear path of departure with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that departure is not a hazard for others underway.*

Operation #3: Maneuver in close quarters

The operator will be able to:

- 3.1 **A: Propel the craft forward...** *B: while maintaining proper grip and paddle/oar orientation along with trim and balance of the craft.*
- 3.2 **A: Stop the craft...** *B: within two boat lengths, using the appropriate and effective strokes, while maintaining trim and balance of the craft.*
- 3.3 **A: Turn the craft from a stationary position...** *B: 180° to the right and left, within 1-2 boat lengths, based upon a 360° scan of the surrounding area, using appropriate and effective strokes, while maintaining trim and balance of the craft.*
- 3.4 **A: Move the craft sideways (*if applicable)...** *B: 10 feet (to each side), based upon a 360° scan of the surrounding area, using proper techniques with appropriate and effective strokes, while maintaining trim and balance of the craft.*
**This element is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard.*
- 3.5 **A: Propel the craft in a figure of 8 course (*if applicable)...** *B: around markers 3-4 boat lengths apart, based upon a 360° scan of the surrounding area, using appropriate and effective strokes, while maintaining trim and balance of the craft.*
**This element is applicable when paddling a canoe, kayak, raft, stand-up paddleboard, or operating a classic dinghy-type rowboat.*

Operation #4: Operate in open water

The operator will be able to:

- 4.1 **A: Propel the craft forward in a straight line...** B: 15-20 boat lengths using appropriate and effective strokes to maintain a constant heading, while maintaining trim and balance of the craft.
- 4.2 **A: Turn the craft while maintaining forward motion...** B: 90° to the right and left, and based upon a 360° scan of the surrounding area and using appropriate and effective strokes, while maintaining trim and balance of the craft.
- 4.3 **A: Move the craft sideways (*if applicable)...** B: 10 feet (to each side) using proper techniques with appropriate and effective strokes, while maintaining trim and balance of the craft.
**This element is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard.*
- 4.4 **A: Move the craft backwards...** B: 3-4 boat lengths using appropriate and effective reverse strokes while maintaining directional control and while maintaining trim and balance of the craft.

Operation #5: Arrive at a destination (e.g., dock, slip, shoreline, etc.) making first contact

The operator will be able to:

- 5.1 **A: Check for clear approach...** B: using a 360-degree scan to confirm a clear path of arrival with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that arrival is not a hazard for others underway.
- 5.2 **A: Arrive at a destination point (e.g., dock, slip, shoreline, etc.) and exit the craft...** B: using appropriate techniques for the venue (e.g., kneeling on a SUP during arrival, etc.), keeping the craft upright with minimal wobbling or loss of control.

Operation #6: Secure the boat (preparing to leave craft unattended)

The operator will be able to:

- 6.1 **A: Secure the craft and equipment...** B: using appropriate techniques and anticipating winds, currents and tides.

Operation #7: Perform general safety/emergency procedures/maneuvers

The operator will be able to:

- 7.1 **A: Avoid capsizing the craft...** B: maintaining proper body position and paddle/oar techniques.
- 7.2 **A: Exit the craft after capsize...** B: using proper body position and contact with the craft and paddle/oar (wet-exit).
- 7.3 **A: Rescue self and the craft...** B: using a proper self-rescue technique.
- 7.4 **A: Avoid cold water shock and hypothermia...** B: by wearing appropriate clothing for the venue and using a documented safety technique.
- 7.5 **A: Rescue a person in the water and capsized craft...** B: using an appropriate assisted rescue technique and standard practice for rescue priorities.
- 7.6 **A: Use essential safety equipment...** B: by ensuring it is available on the craft and appropriate for the trip, follows local, state, federal laws and regulations; and employing according to manufacturer instructions.
- 7.7 **A: Propel an appropriate course...** B: using information provided by navigational aids (e.g., charts, buoys, landmarks) and hand/whistle signals.
- 7.8 **A: Avoid collisions...** B: by maintaining a proper lookout, assessing potential hazardous situations and taking early and decisive action, while maintaining trim and balance of the craft.

* * * * *

Origin and Development of EDU-2, Human Propelled Standard

This is the first publication of EDU-2. It is the work of the On-Water Education Project Technical Committee.

* * * * *

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Appendix B: Standard Performance Assessment Checklist

The Checklist contained in this appendix provides instructors with a tool they can use to systemically observe and assess the level of proficiency with which Craft Operators demonstrate the skills identified within the Standard. It was developed and field-tested by 37 certified Human-propelled craft instructor or instructor-level individuals.

The Checklist was tested 186 times with 62 beginner-level human-propelled Craft Operators at five different venues around the country during the Standard National Validation Program that resulted in the development of the Human-propelled Standard.

The Checklist contains:

- a. The skills (elements) contained within the Human-propelled Standard
- b. Three-level Rubrics formatted in such a way that instructors or instructor-level individuals can identify the level of proficiency demonstrated on specific safety-related behaviors associated with each skill, and
- c. A script that instructors can use to guide a Craft Operator through a sequence of procedures and maneuvers in order to guide the demonstration of the skills and the process of making observations.

The Checklist is set up so that one or more people (identified as Evaluators) can make observations of the craft Operator's performance on the Standard.

For a free PDF download of the Checklist, visit: www.onwaterstandards.org.



TSD HUMAN Standard & Rubric Checklist

Identification & Information

Date of Observation:

Name of Operator:

Name of Observer:

Type of craft used for demonstration:



TSD HUMAN Standard & Rubric Checklist

Introduction

HUMAN-propelled Standard Feedback Checklist

National System of Standards for Recreational Boat Operation

Produced under USCG On-Water Standards Grant III (SAIL, POWER, HUMAN) as part of the National On-Water Standards (NOWS) Program

This HUMAN-propelled Checklist will enable you to systemically observe and assess the level of proficiency with which a Craft Operator demonstrates the skills identified within the HUMAN-propelled Standard. It contains:

- **The skills** (elements) contained within the HUMAN-propelled Standard.
- **Three-level Rubrics** you can use to identify the level of proficiency demonstrated for each Element within the Standard.
- **A script** you can use to guide the Craft Operator through the sequence of procedures and maneuvers in order to guide the demonstration of the skills and the process of making observations.

Instructions

1. **Read the script** to the Boat Operator.
2. **Observe the Craft Operator** engaging in the behaviors associated with the operations, procedures and maneuvers.
3. **Place a checkmark** in circle next below the sentence that best describes the quality of what you observe (PLACE ONE CHECKMARK PER ROW).
4. If you want to emphasize a particular observation, circle any of the words in the sentences that reflect what you observe.
5. Choose the 'Not Observed' circle at the top the Standard Element if the element was not attempted. Choose the N/A (or Not Applicable) to the right of the individual rubric if that particular behavior in the Rubric was not applicable to the demonstration of the skill.
6. If needed, provide a general comment at bottom of each page in or near the text box provided.
7. **Make an overall observation** about what you observed during the session.
8. **Conduct a final review of the Checklist** to ensure it is complete.



TSD HUMAN Standard & Rubric Checklist

Operation 1: Prepare to Depart (takes place on land)

1 *Script Reader*

"Let us start by talking about the weather... What is the current weather and outlook for the duration of our trip today (30 to 60 minutes)?"

"How did you come to that conclusion?"

"What are the hazards to navigation or other environmental factors we need to consider as we take the trip?"

1.3 The operator will be able to...

A: Obtain (recite), weather conditions, forecasts, and evaluate hazards to navigation and other environmental factors... B: assessing if conditions are favorable for the voyage for length/time of trip.

Not observed.

This skill was not attempted

The operator...

1.3a

Obtains and recites detailed weather conditions (wind speed and direction, air temperature, precipitation, cloud cover, water conditions).	Obtains and recites limited and/or inaccurate weather conditions.	Does not obtain or recite weather conditions.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3b

Obtains and recites forecasts for length/time of trip.	Obtains and recites incomplete weather forecasts for length/time of trip.	Does not obtain or recite forecast.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3c

Identifies hazards to navigation for the length/time of trip.	Obtains limited environmental information.	Does not identify hazards to navigation for the length/time of trip.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3d

Identifies other environmental hazards.	Obtains limited information on other environmental hazards.	Does not obtain information on other environmental hazards.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.3e

Accurately assesses conditions for trip before (making appropriate go/no decision) and during trip.	Does not accurately assess trip condition before (making appropriate go/no decision) and during trip	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

7.7 The operator will be able to...

A: **Avoid cold water shock and hypothermia...**B: by wearing appropriate clothing for the venue and using a documented safety technique.

Not observed.

This skill was not attempted

The operator...

7.7a

**Describes anticipated weather
and water conditions.**

**Does not anticipate weather
and water conditions.**

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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7.7b

**Chooses and wears
appropriate clothing for
anticipated conditions.**

**Chooses but does not wear
appropriate clothing for
anticipated conditions.**

**Does not choose or wear
appropriate clothing for
anticipated conditions.**

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments



TSD HUMAN Standard & Rubric Checklist

2 *Script Reader*

“Here are a variety of life jackets that are available for the trip in the craft. Please choose one and put it on. You may use your own but please explain why you have chosen this jacket and why it is proper and legal jacket for you on this trip.”

Note: we will provide menu of different sized life jackets for the Craft Operator to choose from.

1.1 The operator will be able to...

A: Put on a life jacket... B: ensuring it is serviceable, fits properly, and is appropriate for the boat/activity.

Not observed.

This skill was not attempted

The operator...

1.1a

Chooses <u>life jacket appropriate</u> for the operator's body type and size, boat and activity.	Chooses <u>life jacket not appropriate</u> for the operator's body type and size, boat or activity.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.1b

Ensures life jacket is in <u>good working order.</u>	Ensures life jacket is in <u>good working order, but may miss non-critical flaws</u> (e.g., torn pocket) that do not affect flotation.	<u>Does not ensure</u> life jacket is in good working order.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.1c

<u>Puts on life jacket.</u>		<u>Does not put on life jacket.</u>	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.1d

<u>Adjusts life jacket to proper fit.</u>	<u>Adjusts life jacket too loose, improper fit, such that boater may float but is unable to purposefully swim.</u>	<u>Does not adjust life jacket to fit (e.g. Life jacket slips off boater, or is so loose that boater has difficulty breathing or swimming).</u>	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments



TSD HUMAN Standard & Rubric Checklist

3 *Script Reader*

“Now, please make sure that your friend also has on a legal and properly fitted life jacket.”

Note: They only help the Friend put on a life jacket.

“OK, your friend will go back to being a Data Collector until near the end of the session.”

1.5 The operator will be able to...

A: **Confirm that all others on the craft put on their life jackets...** B: ensuring the life jackets are serviceable, fit properly, and are appropriate for the boat/activity.

Not observed.

This skill was not attempted

The operator...

1.5a

<p>Confirms all others on craft have chosen life jacket appropriate for wearer’s body type and size, boat and activity.</p>	<p>Does not confirm all others on craft have chosen an appropriate life jacket for the wearer’s body type and size, boat and activity.</p>	<p>NA</p>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.5b

<p>Confirms all others on craft have checked serviceability of their life jacket.</p>	<p>Confirms that some but not all others on craft have checked serviceability of their life jacket.</p>	<p>Does not confirm all others on craft checked serviceability of their life jacket.</p>	<p>N/A</p>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.5c

**Confirms all others on craft
have put on life jackets.**

**Does not confirm all others on
the craft have put on life
jackets.**

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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1.5d

**Confirms all others on craft
have adjusted life jackets to
fit.**

**Does not confirm all life
jackets have been adjusted to
fit.**

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments

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TSD HUMAN Standard & Rubric Checklist

4 *Script Reader*

“For our trip today, this will be your equipment. Please bring it with you as we head to the water and locate the craft.”

Note: Give the Craft Operator a pre-packed dry bag with safety equipment in it. This is what they will secure before departing on the craft.

PROCEED TO THE WATERFRONT/CRAFT

TSD HUMAN Standard & Rubric Checklist

5 *Script Reader*

"Before boarding the craft, please inspect its systems and safety equipment. Please verbalize what you are doing as you do it. Let me know when you are finished the inspection."

Note: If Craft Operator use Craft checklist provided for the craft, they only need to demonstrate ability to use the checklist. They do not have to complete a full and detailed inspection.

For Rowboat, make sure oars are not in the oar locks. For Kayak, hatch cover if available is open. For SUP, Leash on board but not attached.

The Operator will...

1.2 A: Inspect craft systems and safety equipment. B: by completing a pre-departure checklist noting state, federal, and manufacturer requirements for the intended voyage and weather.

Not observed.

This skill was not attempted

The operator:

1.2a

Inspects craft systems and safety equipment using a written or memorized pre-departure checklist.	Does not fully inspect craft systems and safety equipment using a written or memorized pre-departure checklist.	Does not fully inspect systems or safety equipment checklist.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.2b

Matches systems and equipment to the intended voyage.	Does not match systems and safety equipment to the intended voyage.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.2c

Matches systems and safety equipment to the anticipated weather.

Does not match systems and safety equipment to the anticipated weather.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments

7.9 The operator will be able to...

A: **Use essential safety equipment...** B: by ensuring it is available on the craft and appropriate for the trip, follows local, state, federal laws and regulations; and employing according to manufacturer instructions.

Not observed.

This skill was not attempted

The operator...

7.9a

Ensures appropriate safety equipment is available on the craft.

Checks for appropriate safety equipment.

Does not check for appropriate safety equipment.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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7.9b

Replaces missing or damaged equipment.

Does not replace missing or damaged equipment.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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7.9c

Stows equipment securely.

Does not stow equipment securely.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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7.9d

Uses safety equipment appropriately.

Does not use safety equipment appropriately.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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12

Comments



TSD HUMAN Standard & Rubric Checklist

6 Script Reader

"We are about to start our trip out on the water. Please prepare the craft for departure and then wait on the dock [shore] for the next instruction."

Note: If operator enters craft to ready it, once they are ready have them exit the craft.

1.4 The operator will be able to...

A: **Prepare the craft for departure...** B: readying equipment and individuals for intended departure.

Not observed.

This skill was not attempted

The operator...

1.4a

Securely stows equipment in/on craft/person.	Places equipment in craft but equipment is not securely stowed in/on craft/person.	Does not place equipment in craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.4b

Completes pre-departure review of equipment and plans.	Performs incomplete pre-departure review of equipment and plans.	Does not perform pre-departure review of equipment and plans.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1.4c

**Confirms all individual(s)
have all necessary safety
equipment.**

**Does not confirm all
individual(s) have all
necessary equipment.**

**Individual(s) do not have
necessary equipment.**

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments

TSD HUMAN Standard & Rubric Checklist

Operation 2: Leave a dock/slip/mooring/ramp/shoreline

7 Script Reader

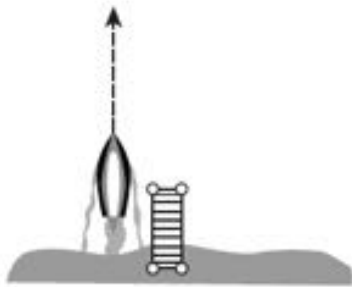
"In a moment, you will enter the craft and get underway. Once underway, I will ask you to maneuver the craft in a variety of ways. Some maneuvers will happen close to shore and some further from shore. In between each maneuver, we will pause to give the Data Collectors time to make notes."

"Please make sure that you are clear for departure before you leave the dock [shoreline]. Once you are away from the dock [shoreline], find some open water nearby and wait for the next instruction."

"When you are ready, please enter the craft and launch it"

2.1 The operator will be able to...

A: Enter and launch the craft from a dock/slip or shoreline... B: keeping the craft upright with minimal wobbling or loss of control.



Not observed.

This skill was not attempted

The operator...

2.1a

Enters/boards craft keeping craft upright with minimal wobbling or loss of control, and no sudden recovery motions while boarding/entering and launching.

Enters/boards craft keeping craft upright but may require sudden recovery motions while boarding/entering and launching.

Falls in water or allows craft to capsize while boarding/entering and launching.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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2.1b

Launches from dock, slip or shoreline using appropriate technique for venue.

Launches from dock, slip or shoreline using inappropriate technique for venue.

Launches causing damage to craft or injury to person.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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2.1c

Does not enter or launch craft.

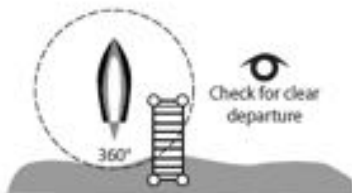
N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Comments

2.2 The operator will be able to...

A: Check for a clear departure...B: using a 360-degree scan to confirm a clear path of departure with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that departure is not a hazard for others underway.



Not observed.

This skill was not attempted

The operator...

2.2a

Performs complete (360 degree) scan of the launch area.	Performs an incomplete scan (less than 360 degrees) of the launch area.	Does not complete a scan of the launch area.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.2b

Shows evidence all hazards that can cause harm or damage to person or craft are identified prior to launch.	Shows evidence some but not all hazards that can cause of harm or damage to person or craft are identified prior to launch.	Does not show evidence hazards that could cause harm or damage to person or craft are identified prior to launch.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

Note: The Script Reader may ask the Craft Operator to move the craft to a more suitable location in order to perform each maneuver.

8 Script Reader

"In a moment, I will ask you to propel the craft forward and then stop within 2 boat lengths using whatever strokes are appropriate to stop the craft." "Making sure you are moving at a good pace, please propel the craft forward in a straight line for about 5 seconds and keep it going."

...pause until the craft is moving....

"Now stop the craft within two boat lengths. When the craft is stopped say "complete".

Note: Make stop happen relative to an object (e.g., buoy) as a reference point so you can judge the distance.

3.1 The operator will be able to:

A: Stop the craft... B: within two boat lengths, using the appropriate strokes.



Not observed.

This skill was not attempted

The operator...

3.1a

Stops the craft.		Does not stop the craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.1b

Stops the craft within two boat lengths.	Stops the craft within 2-4 boat lengths.	Stops the craft in more than 4 boat lengths.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.1c

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.1d

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.1e

Keeps the craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps the craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

9 Script Reader

Note: if needed, have Craft Operator move craft away from object (e.g., buoy) in preparation for the next maneuver.

“Now, “keeping the craft in a stationary position, please turn it one-half circle, or 180 degrees to your right. “

“When you finish the maneuver say “complete”.”

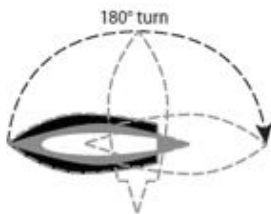
...pause until the person has completed the maneuver and informs you it is complete.

“Now, again, keeping it in a stationary position, please turn the craft 180 degrees to your left.”

“When you finish the maneuver say “complete”.”

3.2 The operator will be able to...

A: Turn the craft from a stationary position...B: 180° to the right and left, within 1-2 boat lengths.



Not observed.

This skill was not attempted

The operator...

3.2a

Turns the craft.		Does not turn the craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2b

Turns craft 180 degrees to the right and the left.	Turns craft to within 25-30 degrees of target.	Does not turn craft within 25-30 degrees of target.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2c

Executes turn in 1-2 boat lengths.	Turns craft in 2-4 boat lengths.	Turns the craft in more than 4 boat lengths.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2d

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2e

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.2f

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

10 Script Reader

"Do you see the two markers?" (point to the two markers in the water)

"Please position your craft in between the two makers."

"In a moment, I will ask you to propel your craft around the two markers in a figure-8 pattern. In other words, travel clockwise around one of the markers and counter clockwise around the other marker, or vice-versa."

"Once you have completed the Figure-8, you will say "Complete."

"Are you ready?" (pause) **"Begin. Please remember to say Complete when you're done."**

3.3 The operator will be able to...

A: Propel the craft in a figure of 8 course (*if applicable)...B: around markers 3-4 boat lengths apart using a variety of strokes.



Not observed.

This skill was not attempted

The operator...

3.3a

Propels craft in a figure of 8 course while maintaining forward momentum.	Propels craft in a figure of 8 course, but completely loses forward momentum at least once.	Does not complete a figure of 8 course.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3b

Completes a figure of 8 course, around markers 3-4 boat lengths apart, with each turning diameter no greater than 4 boat lengths.	Completes the figure of 8 course, around markers 3-4 boat lengths apart, with each turning diameter within 4-6 boat lengths.	Completes a figure of 8 course with either turning diameter more than 6 boat lengths.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3c

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g. oar, paddle) during maneuver.	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3d

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g. oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.3e

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

11 *Script Reader*

NOTE: This skill is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard. It will not be tested on the Rowing craft.

"From a stopped position, and keeping the bow of the craft pointed at me, I would like you to move your craft sideways 10 feet to your left using proper draw and/or pushaway techniques.

"When you are finished the maneuver, say "complete"

....pause until the maneuver is completed....

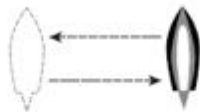
"Now, keeping the bow of the craft pointed at me, I would like you to move your craft sideways 10 feet to your right using proper draw and/or pushaway techniques."

"When you are finished the maneuver, say "complete"

3.4 The operator will be able to...

A: Move the craft sideways (if applicable)*... B: 10 feet (to each side) using proper draw and/or pushaway techniques.

*This standard is applicable when paddling a canoe, kayak, raft, or stand-up paddleboard.



Not observed.

This skill was not attempted

The operator...

3.4a

Propels craft directly sideways.	Propels craft sideways, but has some associated spin, or forward or backward motion.	Does not propel craft sideways.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.4b

Propels craft 10 feet in each direction.	Propels craft less than 10 feet in each direction.		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.4c

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.4d

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g. oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.4e

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

12 *Script Reader*

"First, please point your craft in that direction." (give reference point or direct toward open water)

...Pause until the craft is point in the desired direction...

"The next maneuver is to move the craft forward. Using proper grip and [paddle/oar] orientation and maintaining appropriate trim and balance, please propel your craft forward until I tell you to stop."

...Pause until the craft has traveled forward 4 to 5 boat lengths.

"Please stop the craft."

The Operator will...

3.5 A: Propel the craft forward... B: while maintaining proper grip and paddle/oar orientation along with trim and balance of the craft.



Not observed.

This skill was not attempted

The operator...

3.5a

Propels the craft forward.		Does not propel the craft forward.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.5b

Has proper paddle/oar grip with blades facing the correct direction.	Propels craft using improper grip and/or paddle/oar orientation.	Does not use proper grip or paddle/oar orientation.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.5c

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

Operation 4: Operate in open water

13 Script Reader

"We are now going to do some turns. Please let me describe this maneuver before you begin."

"In a moment, I will ask you to propel the craft forward in a straight line for about 5 seconds and then turn the craft 90 degrees first to your right, then to your left, while maintaining your forward motion throughout the maneuver."

"Are you ready?" ...pause...

"Propel the craft forward until I tell you to turn... ...pause... "Now, keep moving forward as you turn 90 degrees to your RIGHT and head in that direction."

...pause until the craft is heading in the new direction....

"Now... keep moving forward as you turn 90 degrees to your LEFT and head in that direction."

"Now stop the craft."

4.3 The operator will be able to...

A: Turn the craft while maintaining forward motion... B: 90° to the right and left, and based upon a 360° scan of the surrounding area.



Not observed.

This skill was not attempted

The operator...

4.3a

Propels craft in a forward motion.		Does not propel craft in a forward motion.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3b

Scans 360 degrees before initiating turn.	Does not scan a full 360 degrees before initiating turn.	Does not scan.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3c

Turns craft 90 degrees to the right and left.	Turns craft within 30 degrees of a 90 degree turn.	Does not turn craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3d

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3e

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle)		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.3f

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments



TSD HUMAN Standard & Rubric Checklist

14 *Script Reader*

"The next maneuver is to go around a mark."

"In a moment, I will ask you to propel the craft to that buoy (point to a buoy in the water), go around the buoy, and then turn the craft so it points back toward the place you are right now."

"Any questions?.....Begin."

Note: Provide a course that involves a buoy or other navigational markings the Craft Operator needs to consider when completing the course.

7.8 *The operator will be able to...*

A: **Propel an appropriate course...** B: using information provided by navigation markers and hand/whistle signals.

Not observed.

This skill was not attempted

The operator...

7.8a

<p>Identifies an appropriate course based on navigation marks and hand / whistle signals from others.</p>	<p>Does not identify an appropriate course based on navigation marks and hand / whistle signals from other boaters on the water.</p>	<p>N/A</p>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.8b

Propels craft through the identified course.	Propels craft through the identified course with minimal errors.	Does not propel craft through the identified appropriate course.	N/A
---	---	---	------------

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

Comments

TSD HUMAN Standard & Rubric Checklist

15 Script Reader

"First, please point your craft in that direction."

...Pause until the craft is point in desired direction that will allows room astern.

"The next maneuver is moving your craft backwards. Using appropriate reverse strokes, and maintaining a straight direction, please propel the craft backwards for 3 to 4 boat lengths, and then stop."

"When you are finished the maneuver, say "complete."

4.2 The operator will be able to...

A: **Move the craft backwards...** B: 3-4 boat lengths using reverse strokes while maintaining directional control.



Not observed.

This skill was not attempted

The operator...

4.2a

Propels craft backwards.		Does not propel craft backwards.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.2b

Propels craft backwards 3-4 boat lengths.	Propels craft backwards 1-3 boat lengths.		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.2c

Uses <u>effective and appropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>effective but inappropriate</u> strokes for intended use of propulsion unit (e.g., oar, paddle).		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.2d

	Uses <u>appropriate but ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> strokes for intended use of propulsion unit (e.g., oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

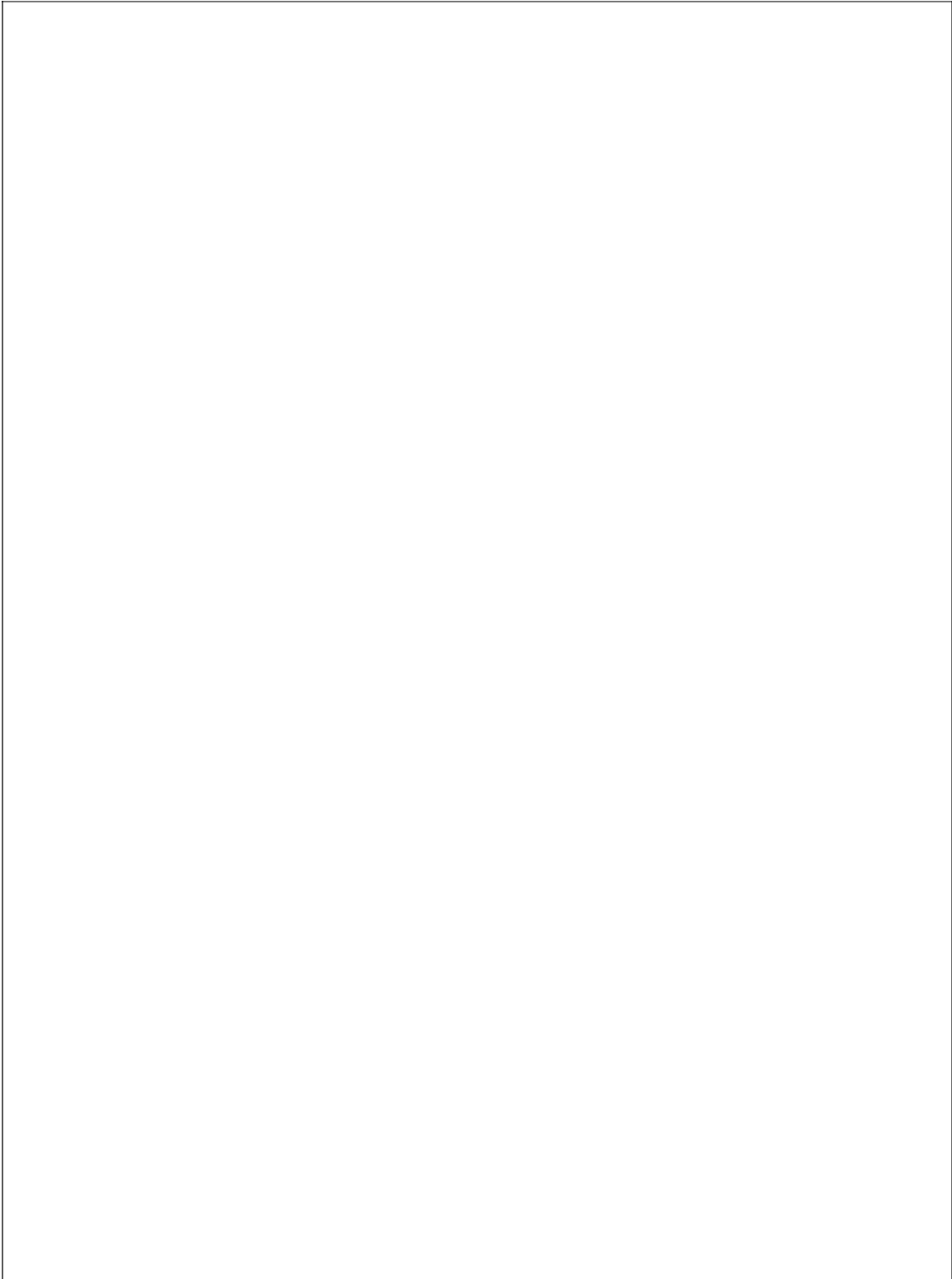
4.2e

Maintains directional control remaining within 30 degrees of intended direction.	Maintains directional control varying greater than 25-30 degrees of intended direction.	Does not control direction of craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.2f

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments





TSD HUMAN Standard & Rubric Checklist

16 Script Reader

"In a moment, I will ask you to propel the craft forward in a straight line for about 15 to 20 boat lengths. Do your best to estimate how far that is. Make sure the craft gets moving at a good pace. After you have gone about 15-20 boat lengths, please stop and say 'complete'."

"Ready?" "Please begin."

...Pause until the maneuver is complete...

Note: If Craft Operator goes too far, ask them to stop the craft.

4.4 The operator will be able to...

A: Propel the craft forward in a straight line... B: 15-20 boat lengths using proper strokes to maintain a constant heading.

Not observed.

This skill was not attempted

The operator...

4.4a

Propels craft forward in a straight line.	Propels craft forward within 30 degrees of target.	Does not propel craft forward.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.4b

Propels craft in a straight line for 15-20 boat lengths.	Propels craft for 10-15 boat lengths.	Does not have control over direction of craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.4c

Uses **effective and appropriate** strokes for intended use of propulsion unit (e.g., oar, paddle).

Uses **effective but inappropriate** strokes for intended use of propulsion unit (e.g., oar, paddle).

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

4.4d

Uses **appropriate but ineffective** strokes for intended use of propulsion unit (e.g., oar, paddle).

Uses **inappropriate and ineffective** strokes for intended use of propulsion unit (e.g., oar, paddle).

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

4.4e

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.

Keeps craft upright but may require sudden recovery motions.

Falls in water or allows craft to capsize.

N/A

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------

Comments

TSD HUMAN Standard & Rubric Checklist

17 Script Reader

Note: For this next maneuver, have the Craft Operator propel the craft in a direction that makes them go around a buoy or an object in the water or the Chase boat.

“Now, please maneuver your craft toward that point (indicate something to steer toward). Be sure to keep a safe distance from any markers or other objects in the water. Use a variety of different strokes to propel and turn the craft.”

...pause until the maneuver is completed...

“Now stop the craft.”

4.5 The operator will be able to...

A: **Avoid collisions...** B: by maintaining a proper lookout, assessing potential hazardous situations and taking early and decisive action.



Not observed.

This skill was not attempted

The operator...

4.5a

Takes action early to avoid collision.	Is slow to take action to avoid collision, leading to rapid and sudden changes in direction.	Fails to take action to avoid a collision.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.5b

Maintains safe distance between boats/objects.	Fails to maintain a safe distance between boats/objects.	Collides with boat/object or forces stand-on vessel to take action to avoid a collision.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.5c

Maintains proper lookout throughout the entire maneuver.	Does not maintain proper lookout.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4.5d

Keeps craft upright with minimal wobbling or loss of control, and no sudden recovery motions.	Keeps craft upright but may require sudden recovery motions.	Falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

TSD HUMAN Standard & Rubric Checklist

18 Script Reader

“We are now going to return the dock [shoreline] where our trip began and ready ourselves for the last two maneuvers.”

“Please make sure you have a clear approach. Confirm your pathway to the dock [shoreline] is safe from other objects or potential hazards.”

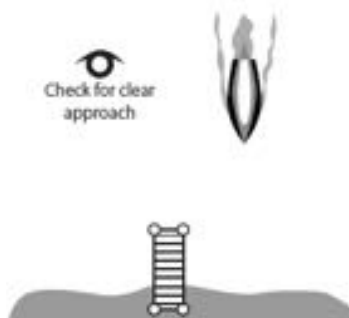
“And when ready, please bring your craft back to the dock [shoreline] .”

...pause until the craft has arrived at the dock [shoreline]...

“When ready, please exit the craft and wait on the dock [shoreline] .”

5.1 The operator will be able to...

A: **Check for clear approach...** B: using a 360-degree scan to confirm a clear path of arrival with no conflicts with craft's intended actions and boats/activities in the vicinity and ensuring that arrival is not a hazard for others underway.



Not observed.

This skill was not attempted

The operator...

5.1a

Performs complete (360 degree) scan of the arrival area.	Performs an incomplete scan (less than 360 degrees) of the arrival area.	Does not complete a scan of the arrival area.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.1b

Shows evidence all hazards that can cause harm or damage to person or craft are identified prior to arrival.	Shows evidence some <u>but not all</u> hazards that can cause harm or damage to person or craft are identified prior to arrival.	Does not show evidence hazards that could cause harm or damage to person or craft are identified prior to arrival.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

5.2 The operator will be able to...

A: Arrive at dock, slip or shoreline and exit the craft... B: keeping the craft upright with minimal wobbling or loss of control.



Not observed.

This skill was not attempted

The operator...

5.2a

Arrives at intended destination using <u>appropriate and effective</u> technique for the venue.	Arrives at dock, slip or shoreline using <u>effective but inappropriate</u> technique for venue.	Does not arrive at intended destination.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.2b

	Uses <u>appropriate but ineffective</u> stokes for intended use of propulsion unit (e.g., oar, paddle).	Uses <u>inappropriate and ineffective</u> stokes for intended use of propulsion unit (e.g., oar, paddle).	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.2c

Keeps craft upright with minimal wobbling, loss of control, and no sudden recovery motions while arriving and exiting craft.	Keeps craft upright but may require sudden recovery motions while arriving and/or exiting craft.	During arrival, causes damage to craft or injury to person.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.2d

Exits the craft.		During arrival, falls in water or allows craft to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments



TSD HUMAN Standard & Rubric Checklist

Operation 7: Perform general safety/emergency procedures/maneuvers.

19 Script Reader

“We are now going to perform an emergency procedure. Here is how it is going to work. Your Friend has been out with you during the trip and will need help. The maneuver will be to rescue your Friend and the craft.”

“Any questions?” Note: If Craft Operator is going to do something that is unsafe, intervene.

“Enter your craft and take it out a few feet from the dock [shoreline].”

(pause)

“When I say now, your Friend is going to capsize and your job is to rescue your Friend, their craft and their equipment. It will be just you and your Friend. No one is available to help you.”

“Remember, if you need help, please say “Help” and we will step in and assist you with the rescue.”

“Ready..... Now!” At this point, the Data Collector in the role of Friend capsizes the craft (the same kind of craft as the Craft Operator). The Craft Operator’s job is to perform the rescue.



7.5 The operator will be able to...

A: Rescue a person in the water and capsized craft...B: using an appropriate assisted rescue technique and standard practice for rescue priorities.



Not observed.

This skill was not attempted

The operator...

7.5a

Retrieves person without injury, securing individual to side of boat or inside craft, or bringing person to shore, using an appropriate technique.

Does not rescue person.

N/A

7.5b

Returns craft to operator using an appropriate technique.

Does not rescue craft.

N/A

7.5c

Returns other equipment to operator using appropriate techniques.

Does not rescue equipment.

N/A

7.5d

Demonstrates awareness of rescue priorities (self, victim, craft, gear).

Does not demonstrate awareness of rescue priorities (self, victim, craft, gear).

Becomes a victim during rescue attempt.

N/A

Comments



TSD HUMAN Standard & Rubric Checklist

20 *Script Reader*

“We will now perform one more emergency procedure where you will rescue yourself and your craft after capsizing.

“The scenario is that you are out on the water and for some reason, you capsize your craft and you are in the water. You will rescue yourself and your capsized craft.

“If at any time during the rescue you need or want assistance, please just say “Help”, and we will step in and assist you.”

“Any questions?”

Note: If Operator is going to do something that is unsafe, intervene. Be ready to perform a real rescue of the Craft Operator during this maneuver.

“Take your craft out a few feet from the shoreline.” (...pause to allow craft to get into position)

“When I say now, I would like you to capsize your craft. Once you do, please exit the craft and rescue yourself and your craft.”

“Remember, if you need or want help, just say Help, and we will assist you.”

“Ready.... “Now!” At this point, Craft Operator capsizes craft and performs and exit and self rescue. If needed, rescue the Operator.

7.4 *The operator will be able to...*

A: **Exit the craft after capsize...** B: using proper body position and contact with the craft and paddle/oar (wet-exit).



Not observed.

This skill was not attempted

The operator...

7.4a

Smoothly exits craft after capsize so as to avoid entrapment.	Exits craft after capsize but may have brief entrapment.	Becomes entrapped in craft due to capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.4b

Grasps and controls craft within a few seconds of exit.	May grasp craft shortly after exit, but does not control craft.	Does not grasp or control craft after capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.4c

Grasps and controls paddle/oar within a few seconds of exit.	May grasp paddle/oar shortly after exit but cannot control paddle/oar.	Does not grasp or control paddle/oar after capsize.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.4d

Stays with craft.	Does not stay with craft.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

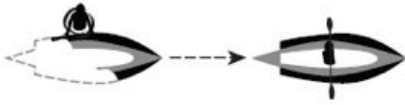
7.4e

Avoids injury.	May have minor injury requiring no treatment.	May have injury that requires treatment.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

7.6 The operator will be able to...

A: **Rescue self and the craft...** B: using a proper self-rescue technique.



Not observed.

This skill was not attempted

The operator...

7.6a

Exits craft appropriately.	Does not exit craft appropriately.		N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.6b

Controls craft and equipment.	Has difficulty controlling craft and paddle/oar (may lose paddle/oar).	Has difficulty controlling craft and paddle/oar.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.6c

Re-enters and returns to activity using an effective self-rescue technique (e.g., swim self and boat to shore, or deep water re-entry).	Re-enters using an effective self-rescue technique.	Does not complete self-rescue, may require assistance from others.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments



TSD HUMAN Standard & Rubric Checklist

21 Script Reader

"It is time to return the dock [shoreline]. Please return to the dock [shoreline]."



TSD HUMAN Standard & Rubric Checklist

22 *Script Reader*

“Now that you have already arrived at the shoreline, please exit the craft. Then, secure the craft and the equipment using appropriate techniques. Remember to take into account the tides, winds and current as you secure the craft. When the craft is secure, please wait on land for the next direction.”

6.1 *The operator will be able to...*

A: Secure the craft and equipment... B: using appropriate techniques and anticipating winds, currents and tides.

Not observed.

This skill was not attempted

The operator...

6.1a

Secures craft with regard for current conditions and for anticipated changes in weather, current and tides.	Secures craft for immediate conditions without consideration of anticipated future conditions.	Leaves craft unsecured.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.1b

Secures equipment with regard for current conditions and for anticipated weather, current and tides.	Secures equipment for immediate conditions without consideration of anticipated future conditions.	Leaves equipment unsecured.	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments



TSD HUMAN Standard & Rubric Checklist

Return to Briefing Session Location

EVALUATORS WALK UP THE DOCK Return to the Briefing Session Location

Script Reader

Note: The on-water part of the observation session is complete when the Operator disembarks from the craft and is safely on the dock [shore]. Make sure life jacket stays securely fastened until Operator is on land.

“This completes the On-Water portion of our observation session. Thank you for operating the craft today.

*

EVALUATORS MAKE OVERALL OBSERVATION

Looking back on your observations from this session, please **CHECK THE ONE CIRCLE BELOW** that best describes to the Craft Operator you just observed:

- Overall, I believe this Operator **DEMONSTRATED** Advanced skills and behaviors **BEYOND** those of an entry-level (SAFE boating) recreational **HUMAN-propelled Craft Operator**
- Overall, I believe this Operator **DEMONSTRATED** Entry-level (SAFE boating) skills and behaviors of an entry-level recreational **HUMAN-propelled Craft Operator**
- Overall, I believe this Operator **DID NOT DEMONSTRATE** Entry-level (SAFE boating) skills and behaviors of an entry-level recreational **HUMAN-propelled Craft Operator**

Comments

Appendix C: Basic Boating Knowledge Standard – Human-propelled

The National Association of State Boating Law Administrators' (NASBLA) National Boating Education Standards Panel (ESP) is in the process of developing an American National Standard (ANS) for Basic Boating Knowledge – Human-propelled.

Once completed and approved as an ANS, the standard will serve as a primary source document for the design, development and implementation of entry-level instruction in basic boating knowledge for human-propelled, paddlesports, etc.

For information about the current status of the *Basic Boating Knowledge – Human-propelled*, NASBLA, or the ESP's approach to developing an ANSs, please visit NASBLA's website at: www.NASBLA.org, or EZ-ESP webpage at: <http://esp.nasbla.org/esp/>.

Appendix D: Standard Compliance

This appendix provides information about how to ensure on-water skills-based instruction for entry-level recreational boat operation complies with the Standard.

The *On-Water Recreational Boating Skills Standard – Human-propelled*. was approved as an American National Standard (ANS) on 11 October 2016. As an ANS, the Standard represents a national consensus on the skills-based outcomes students should be able to perform as a result of engaging in on-water, entry-level instruction in recreational boating safety education, or equivalent experience. The goal is to use this national consensus to help raise the overall level of quality, consistency and availability of on-water skills-based instruction for entry-level recreational boat operation across the country, so that we can increase the level of safety and enjoyment boaters experience on our nation’s waterways.

The more widely used the Standard becomes by education providers across the country the more likely the goal will be accomplished. Therefore, although not mandatory, all recreational boating safety education providers are encouraged to take deliberate steps to ensure their design and implementation of instructional programming complies with the Standard. Complying with the Standard will not only help improve safety and enjoyment boaters experience on the water, it will also benefit education providers by helping them:

- Increase the quality of instructional programs, since the Standard incorporates the expertise of hundreds of the nation’s best course designers and instructors
- Differentiate their instructional programming in the marketplace as being compliant with the accepted national standard, and
- Better prepare should legal matters arise from the delivery of instruction.

Complying with the Standard.

According to the American National Standards Institute (ANSI)¹⁴, one way to ensure compliance with the Standard is to engage in a verification process called a *Conformity Assessment*¹⁵. A conformity assessment is “any activity concerned with determining directly or indirectly that relevant requirements are fulfilled”¹⁶. ANSI identifies three different ways a conformity assessment can be completed:

- *First-party Conformity Assessments* - completed by the supplier using a *Supplier's Declaration of Conformity* procedure
- *Second-party Conformity Assessments* - typically completed by the customer of the organization providing the product or service designed to comply with the ANS, and
- *Third-party Conformity Assessments* - completed by a person or organization recognized as being independent of the parties involved in providing the product or service.

The USCG encourages education providers to engage in first-party conformity assessments and has no plans to require third-party conformity assessments. Ultimately, however, the type of conformity assessment used is at the discretion of the education provider. The USCG also encourages organizations seeking funding from its non-profit grant program to also incorporate the Standard in their work as a demonstration of support for a *National System of Standards for Recreational Boat Operation*.

¹⁴ For more information about the American National Standards Institute, go to: www.ansi.org.

¹⁵ Source: American National Standards Institute (ANSI) website:
http://www.standardsportal.org/usa_en/conformity_assessment/conformity_assessment.aspx

¹⁶ Source: *ibid*.

Important

To take the necessary and required steps to ensure instructional programming complies with the Standard, visit ANSI's website for information about the conformity assessment process and required action steps. The link is: www.standardsportal.org/usa_en/conformity_assessment/conformity_assessment.aspx.

In addition...

In addition to the requirements, procedures and actions identified by ANSI for ensuring compliance with the Standard, consider the following information provided by the National On-Water Standards Program's Subject Matter Experts (SME) who developed the Standard and this TSD. They are provided not as a replacement for any actions or requirements identified by ANSI, but rather as additional information to support efforts to develop or modify an instructional program to ensure compliance with the Standard.

First-Party Conformity Assessment.

Conducting a first-party conformity assessment is the process by which an education provider ensures its on-water, skills-based instructional programming complies with the Standard. Although the legal system will ultimately determine how well an instructional program complies with the Standard, conducting a first-party conformity assessment means an education provider:

- a. Has engaged in a deliberate process of due diligence to ensure instructional programming meets or exceeds the Standard
- b. Stands by its claim that its instructional programming follows some part, or all of the Standard, and
- c. Can substantiate the claim with clear evidence and supporting documentation.

In addition to ANSI requirements, consider the following when engaging in a first-party conformity assessment process:

- *An instructional program or course does not need to include all the skills contained in the Standard to be considered 'following', 'using,' or 'complying' with the Standard.* An education provider can incorporate parts of the Standard (meaning that a course or program is designed to deliver some of the skills identified within the Standard). Or, it can incorporate all of the skills within the Standard.
- *The quality of the claim will ultimately, if required, be assessed by the legal system.* Therefore, the more clear and definitive the evidence to substantiate the claim, the better. For example, a first-party conformity assessment can focus on the instructional materials, the instructional approach and/or the instructional outcomes produced. At a foundational level, the conformity assessment ensures written instructional program materials include the skills identified within the Standard. The next level of due diligence includes verifying the instructional approach incorporates best practices such as the following:
 - Instructors are trained and/or qualified on the effective application of the Standard within instruction
 - The primary approach to instruction is experiential, hands-on, active learning
 - The primary location for instruction is on or near a boat that is in the environment within which it will be operated
 - The priority outcome of instructional programming is skills-based performance of entry-level recreational boat operation

- On-water skills and boating knowledge are integrated within instruction where possible and appropriate, and
- For those recreational boat operations where the boat is underway, individual skills-based elements in the Standard are accomplished in accordance with any aids to navigation, navigational rules, and any regulations applicable to the location in which the skill is being executed.

At the most comprehensive level, a first-party conformity assessment not only includes evidence verifying the instructional materials and approach, it also includes evidence that students of the program can successfully demonstrate the skills-based outcomes identified within the Standard as a result of participating in that instructional program.

Conducting a First-Party Conformity Assessment.

The process steps required to conduct a first-party conformity assessment are identified at www.ANSI.org. In addition to the actions required by ANSI, the Nows SME Team recommends including the following within a first-party conformity assessment process:

1. *Conduct a comprehensive review of instructional programming design, delivery and outcomes in conjunction with the Standard.* Identify where it meets or exceeds the Standard, where gaps exist between the current program and the Standard, or what changes need be made in order to comply with the Standard. Involve instructors and students in this process. Make the review process explicit, deliberate and repeatable. Have a deliberate plan to repeat the process on a regular basis to ensure instructional programming remains up-to-date and consistent with the Standard. Ensure the review process focuses on:
 - *What* Standard content is delivered (i.e., curriculum),
 - *How* that content is delivered (i.e., instructional approach), and
 - The *outcome* of delivering the content (i.e., assessment).
2. *Make changes to the instructional program to ensure compliance with the Standard.* Design changes to the program content and how it is delivered, as well as how the outcomes are assessed. Ensure changes to the program actually work and document the changes to ensure records exist about what changes were made.
3. *Document how the instructional program is designed and delivered to comply with the Standard.* Documentation should provide explicit, clear and concrete evidence that verifies the instructional program is designed and delivered to comply with the Standard. For example:
 - a. Evidence for how instructional programming is *designed* to comply with the Standard might include (this is a non-exhaustive list):
 - Curriculum design overviews indicating *what* skills within the Standard are included within instructional program
 - Instructional plans identifying *how* skills contained within the Standard will be learned
 - Course designs that detail goals, objectives, agendas and instructional activities associated with teaching and learning Standard content
 - Assessment tools used to identify the outcomes of instruction
 - Documentation of the process used to compare the instructional programming with the content of the Standard, and the results of the comparison, and
 - Instructor certification programs with designs that include Standard content.

- b. Evidence indicating content of the Standard is integrated within the actual *delivery* of instructional programming might include (this is a non-exhaustive list):
 - Videos of teaching and learning Standard content
 - Records of student performance (assessment) with video or written evaluations during, and as a result of, engaging in the instructional program
 - Instructor feedback on instructional programming in relationship to Standard content
 - Student feedback on the quality of instruction and instructors, and
 - Other sources of customer feedback.
4. *Be prepared to share information about how instructional programming complies with the Standard.* It may be necessary to present the information if called upon. Rather than needing to search for, or compile the information once requested, proactively kept up-to-date information readily available upon request.
 5. *Ensure instructional programming remains in compliance with the Standard over time.* An ANS is typically updated within a 5-year period. However, updates may take place in a shorter period of time. Therefore, periodically check on the status of the Standard for changes that may have taken place. If the Standard has been updated since conducting the last conformity assessment, engage in a new conformity assessment process using the updated Standard.

Promote compliance with the National Standard.

An advantage to complying with the Standard is the opportunity to promote a commitment to high-quality recreational boating safety instruction. Once a conformity assessment process has been completed, and evidence exists that instructional programming complies with the Standard, use the following tagline in promotional activities, during instruction, and with course materials to acknowledge that instructional programming is designed and implemented in compliance with the national standard for on-water, skills based instruction in recreational boat operation:

This [course] complies with *On-Water Recreational Boating Skills Standard – Human-propelled*, the American National Standard for on-water instruction in entry-level recreational human-propelled craft operation.

What to avoid.

ANSI has strict guidelines on the use of its intellectual property (such as its name and logos) and appropriate referencing.¹⁷ For example, engaging in a first-party conformity assessment does NOT result in an instructional program or course *being* “ANSI certified”, “ANS certified”, “ANSI accredited” or “ANS accredited”. Therefore, always ensure that any reference to ANSI or use of its intellectual property is done according to ANSI guidelines and requirements. In general, the recommendation is to:

- **AVOID** using any of the following types of phrases in conjunction with a conformity assessment associated with the Standard because they are *not* appropriate:
 - “ANS Certified course....” or “ANSI certified instructional program....”
 - “ANS accredited program...” or “ANSI accredited program...”
 - “Certified course...” or “Accredited program...”

¹⁷ For information about use of American National Standards Institute intellectual property, visit: www.ansi.org

- **AVOID** using any version of an ANSI logo in any way unless you have fully complied with the terms and conditions set forth by ANSI on the appropriate use of an ANSI logo. Go to www.ANSI.org for further information.

Other organizations involved in the process of establishing the Standard also have strict guidelines for reference or use of their logos and other intellectual property. Therefore:

- **AVOID** referencing or using any logos or other intellectual property of the US Coast Guard, The United States Sailing Association, The American Boat & Yacht Council (ABYC), the National On-Water Standards Program, or Think First Serve, Inc. unless you have fully complied with any terms and conditions set forth by those organizations on the appropriate use of their logos or other intellectual property.

Support for On-Water Instructional Program Review and Development.

In addition to the Standard and this TSD, there are other forms of support available that can be helpful in designing and delivering high-quality on-water, skills-based instruction in recreational boat operation that complies with the Standard.

People Support

Although conducting a conformity assessment is ultimately the responsibility of the educator provider that owns the instructional program, an education provider might benefit from acquiring the assistance of subject matter experts for review and preparation of its instructional programming prior to initiating a conformity assessment process. Outside experts can function as an effective second pair of eyes to provide more objective feedback about a program than those who were involved in its original development. Reviewing and strengthening instructional programming prior to initiating a formal conformity assessment can put the education provider in a better position to be successful with completing a conformity assessment process.

Toward that end, a registry of subject matter experts has been established as part of the US Coast Guard recognized program of *National On-Water Standard Evaluators*. The purpose of the program is to provide education providers with access to subject matter experts who can assist with using the Standard to design and deliver on-water, skills-based instruction in entry-level recreational boat operation.

Members of the registry are certified recreational boating instructors who were involved in the original field-testing and development of the Standard, and as a result, have a good understanding of and experience with applying the Standard in the field. Therefore, recognized Standard Evaluators can assist education providers with:

- Verifying instructional programming content is designed to deliver skills that meet the Standard
- Raising the quality of on-water instructional programming by:
 - Identifying potential gaps in instructional programming
 - Making recommendations for developing the full profile of skills contained within the Standard
 - Advising on level of knowledge acquired through instruction, and
 - Coaching on design of high-quality safety training programs
- Assessing student performance against the Standard.

NOTE: It is important to remember that, although Recognized Standard Evaluators can support the preparation of instructional programming for a conformity assessment, it is ultimately the responsibility of the education provider that owns the instructional program to conduct the conformity assessment and

to ensure it is implemented according to ANSI requirements. To learn more about the registry of *National On-Water Standard Evaluators*, go to: www.onwaterstandards.org.

Skills and Knowledge Standard Integration Support

Along with the ability to demonstrate specific skills, entry-level recreational boat operators benefit from knowing *when* to use those skills while operating a recreational boat. This requires knowledge of the Navigation Rules, use of safety equipment, etc. Therefore, the USCG encourages education providers to include *acquisition of recreational boating knowledge* within their entry-level on-water, skills-based instructional programming. Toward that end:

- a. The appendices of this TSD include both the *On-Water Recreational Boating Skills Standard – Human-propelled ANS* and a link to the *Basic Boating Knowledge – Human-propelled boats (draft) Standard* for use in designing integrated skills and knowledge instructional programming, and
- b. Subject matter experts from the groups associated with the two Standards completed some preliminary work to examine the alignment of content between the skills and knowledge Standards. The goal was to provide instructional program designers with tools they can use to develop integrated skills/knowledge programming. The work took place as part of the Standards Collaboration Initiative¹⁸ and resulted in a Standards Alignment Matrix for the recreational human-propelled craft standards. For information about how the skills and knowledge Standards align, or to download a copy of the alignment matrix, go to: <http://www.onwaterstandards.org/standards-collaboration-initiative>.

Some Next Steps.

Consider these next steps when preparing a conformity assessment process.

1. *Review ANSI requirements for conducting a conformity assessment.* Visit <http://www.ANSI.org> to review the conformity assessment options, procedures and requirements. Decide what type of conformity assessment will work best for the instruction program under consideration; First, Second, or Third-party. Use the information provided by ANSI to help make the decision.
2. *Review and update the instructional program based on the Standard in preparation for conducting a conformity assessment.*
 - Engage members of the registry of *National On-Water Standard Evaluators* in the process if needed
 - Modify the instructional program to ensure it complies with an ANS, and
 - Look for opportunities to integrate on-water, skills-based instruction with knowledge acquisition based on both ANSs.
3. *Initiate a conformity assessment according to ANSI procedures.* In addition, consider the information provided by the National On-Water Standards Program subject matter expert team in the design and implementation of the conformity assessment process.
4. *Promote instructional program compliance with the National Standard.*

¹⁸ The Standards Collaboration Initiative was initiated by the USCG in June 2014 to help complete, organize and stimulate use of the recreational boating safety education standards under development. For further information, visit: <http://www.onwaterstandards.org/standards-collaboration-initiative>.

Appendix E: Integrating TSD Information within Education Provider Materials

Education providers are encouraged to use the information contained in this TSD to support the development and implementation of their recreational boating safety education programs. The following guidelines are provided to ensure appropriate use of the TSD content within program materials.

Provide appropriate credit for direct quotes. The information contained within this TSD is copyrighted. Therefore, when taking direct quotes from the TSD, credit the source of the information within your materials. For example:

- This TSD is copyrighted by the United States Sailing Association (US Sailing); the USCG grantee behind its development. Use a statement such as the following to provide appropriate credit when directly quoting from the TSD:

Source: Technical Support Document for the On-Water Recreational Boating Skills Standard – Human-propelled. Produced through USCG grant funds to develop national on-water skills-based standards. ©2017 United States Sailing Association.

- The Standard *EDU-2 Skill-based Human-propelled Standard* contained in Appendix A is copyrighted by The American Boat & Yacht Council (ABYC); the ANSI-accredited Standard Developing Organization (SDO) behind its development. Provide appropriate credit to ABYC when quoting from this Standard.

Follow requirements for appropriate use of organizational logos. Organizations have strict requirements for the use of their logos. Avoid using logos from any organization involved in the NOWS Program, or identified in this TSD unless such use is in full compliance with any terms and conditions set forth by those organizations. This includes the USCG, US Sailing, ABYC, NOWS, NASBLA, and Think First Serve.

Tailor fonts and colors to fit organizational branding. It is appropriate to format text, use font style or type sizes that are consistent with organizational color codes, style guides or branding when describing TSD content in course materials.

Appendix F: Additional Resources

This appendix contains resources that may be helpful in the design and implementation of skills-based instruction in entry-level recreational human-propelled craft operation.

Book: The U.S. Coast Guard Navigation Rules and Regulations Handbook.



For those recreational boat operations where the boat is in motion (underway), operator skills-based elements in *On-Water Recreational Boating Skills Standard – Human-propelled* are accomplished according to aids to navigation, navigational rules, and regulations applicable to the location in which the skill is being performed.

This resource contains all the current information about the Navigation Rules and Regulations human-propelled craft operators must be able to conform to when operating a human-propelled craft. Use it to help ensure instructional programming delivers skills that include understanding when and why operators should use the different skills acquired.

Visit the U.S. Coast Guard’s website to download a copy of the manual at: <http://www.navcen.uscg.gov/?pageName=navRulesContent>.

Please note: Navigation Rules are now incorporated into 33 CFR (Electronic Code Of Federal Regulations) Chapter I, Subchapter E which can be accessed at: <http://www.ecfr.gov>.

Mobile App: The U.S. Coast Guard Mobile App.



The U. S. Coast Guard Mobile App provides essential services and information most commonly requested by boaters. It provides important safety related information and tools that can help entry-level recreational boaters experience safer and more enjoyable time on the water. Use it to help design and implement instructional programming. Model its use during instruction so that students will be more likely to use it after instruction.

Features of the app include: state boating information; a safety equipment checklist; free boating safety check requests; navigation rules; float plans; and calling features to report pollution or suspicious activity. When location services are enabled, users can receive the latest weather reports from the closest National Oceanic and Atmospheric Administration weather buoys as well as report the location of a hazard on the water.

The app also features an Emergency Assistance button which, when location services are enabled, will call the closest Coast Guard command center.

The app can be downloaded at: <https://www.uscg.mil/mobile/>.

Website: The National Recognized Standard Evaluator Program.



This resource identifies a group of subject matter experts that course designers can access to help develop On-Water instruction that delivers the skills identified within the National On-Water Standard for Human-propelled skills. Subject matter experts participated in an intensive training program that provided them with a unique knowledge and understanding of the Standard. Use this resource to help ensure your instructional program delivers the skills and outcomes identified in the Standard.

Included in the Registry are the names, contact information, and a short biography, for each of the subject matter experts. This group of people can provide coaching on the use of the standard to develop on-water instructional programming.

The link to access the National registry is: <http://www.onwaterstandards.org/#!/national-standard-evaluators-program/c13vi>

Website: ABYC (The American Boat & Yacht Council).



The American National Standards Institute (ANSI)-approved process used to complete the approval and publication of the Standard as an American National Standard is owned by ABYC, an approved Standards Developing Organization (SDO).

For further information about ABYC or the process, please visit: <http://www.abycinc.org>.

Appendix G: Glossary of Terms

This Glossary of Terms provides definitions and descriptions of key terminology used within the Standard and rubrics. The following sources were consulted when defining the key terminology: *Bowditch Knight's Seamanship*, *Start Powerboating Right!*, *The Oxford Companion to Ships and the Sea*, *Powerboat Handling Illustrated*, and *Navel Ship Handling (Crenshaw)*. Again, if additional resources are used to define additional words, we will reference them as well.

2-part command. A communication given by the skipper to the crew, in which some action may be expected on the part of the crew. Part 1 is the preparation and part 2 is the execution; e.g. "Ready About" and "Helm's A-Lee" or "Prepare to Jibe" and "Jibe-Ho."

Avoiding collisions. Any action taken in this skill takes place in accordance with international or inland rules or special regulations related to the body of water involved. This message is emphasized for this particular standard even though all standards take place according to navigation rules.

Bearing. The horizontal direction of a point not on the vessel with respect to the vessel or to the compass; expressed in degrees.

Beginner. A person who has begun a course of instruction or is learning the fundamentals.

Boat. The vessel under operation.

Boat length. The length of the boat the operator is aboard. It is used to judge distances the boat has traveled.

Burying the bow. When the entire bow (to the shear line) goes below the level of the surrounding water, whether into a wave or a trough. Water may or may not enter the boat burying the bow.

Cavitation. When low pressure along the leading edge of the propeller causes the formation of bubbles (low pressure steam) resulting in loss of thrust and metal erosion to the propeller and other propulsion components. Differs from Ventilation.

Chine. The intersection of the bottom of the hull with the side of the boat.

Course. The intended steering direction.

Cruising speed. A speed for a particular boat usually somewhat below maximum that is comfortable and economical and not necessarily with wide-open throttle. Three-quarter throttle often provides an acceptable balance of speed and fuel efficiency.

Emergency mode (stop). To stop a boat quickly for safety reasons. It is the same as 'panic stop' or 'immediate stop.'

Entry-level. The proficiency reached by a person who has successfully completed the appropriate beginner instruction, or experience and is ready to pursue (or 'enter' safely into) the associated activity.

Equipment. All items that are not fixed or permanently attached to the boat, including fenders, boathook, anchor and other items useful for departure, operation, or arrival.

Erratic. Uneven, irregular or unpredictable movement.

Heading. The direction the boat is pointing at any given time (sometimes expressed as *compass heading*).

Helm. The location and/or mechanism by which a boat is steered (e.g., wheel, tiller, handle bars, etc.).

High speed. The minimum speed at which a boat will be on plane.

Idle. The lowest revolutions per minute (RPM) at which an engine will maintain continued operation. The manufacturer generally sets this through the use of a detent in the throttle or the lowest position at which the throttle can be set.

Idle speed. The speed of the boat through the water when (continuously*) in gear at the lowest RPM possible*. (*note: added to clarify that the drive is continuously in gear at the slowest RPM possible)

Life jacket. A life saving floatation device intended to be worn by an individual and meets the standards set forth in the Code of Federal Regulations as promulgated by the US Coast Guard.

List. Defines the lateral orientation – side to side - relative to the water’s surface. Tilting of the boat due to internal forces.

Maintain proper lookout. Making a make a full appraisal of the situation and of the risk of collision using sight, hearing and all other available means appropriate in the current circumstances or conditions. Called “Look-out” in Rule 5 of the Navigation Rule and Regulations Handbook.

Making way. When a boat is being propelled through the water by sail, machinery, or oar.

Maneuver in close quarters. It is assumed that this operation takes place with the boat operating in a confined area requiring operation at a slow speed (e.g., in a marina and narrow fairway).

Minimum control speed. The slowest speed at which an operator can effectively control the heading of the boat using intermittent application of power, steerage and headway.

Neutral. The engine / propulsion unit are not in gear or engaged.

Normal operating speed. The speed at which the boat is operated for optimum performance and efficiency. The actual speed is dependent upon design of the hull. (*See planing speed.*)

Novice. A person who is new to an activity and typically has little or no knowledge or skills related to that activity.

Passengers/crew. The phrase used to refer to people or occupants in the boat who are not operating the boat from the helm or person in charge.

Planing speed. The speed at which a planing hull is supported by dynamic buoyancy generated by its forward speed. The boat is no longer operating in the displacement or semi-displacement mode.

Planing stop. The stop used to bring a planing hull to a stop with the least amount of movement or advance along its original track while avoiding having water enter the boat over the transom. This applies only to planing hulls.

Porpoising. The motion of the bow of a boat bobbing up and down due to its fore and aft trim and resulting interaction with the water. Not wave generated.

Proficiency. A description of the behaviors and actions that demonstrate the level of competence, accomplishment or skill in operating the recreational boat.

Propulsion unit. The mechanism that causes the POWER boat to move (e.g. propeller, jet). The phrase is applied to a mechanical device rather than a sail or paddle.

Radius of turn. The distance a boat offsets laterally during 90 degrees of turn usually measured in yards.

Rate of turn. The change in vessel heading per unit of time, typically measured by degrees per minute.

Rubric. A mechanism used to define and describe different levels of proficiency for a particular skill in behavior and action. Along with distinguishing successful from unsuccessful demonstration of a skill, Rubrics identify performance that needs improvement to obtain targeted successful level of proficiency.

Navigation rules. Rules for the operation of a boat while on the water, whether underway or at anchor, and designed to prevent collisions.

Rules of the road. The colloquial expression often used to refer to *Navigation Rules*. This is the term used to identify the general statement governing the application of those On-Water Standards for which the boat is making way.

Skill. The learned capacity, aptitude or ability to do something well.

Standard. The definition of the qualities or characteristics used to judge how well something is accomplished. Standards for entry-level, recreational boat operation identify, a) the skill individuals are able to demonstrate; and b) the condition that is fulfilled when the skill is demonstrated to an acceptable level of proficiency.

Steady course. Maintaining the boat's intended direction.

Three points of contact. Includes contact with the boat by any three of the following: individual hand, individual foot or buttocks.

Throttle. The mechanism used to control the engine's revolutions per minute and used to control the speed of the boat.

Track. The path that the boat has taken over the ground.

Trim. The relation of a boat's fore and aft orientation to the water's surface e.g. level trim; or bow up or down; or stern up or down. Also, to adjust the angle of outboard motors or stern drives.

Underway. When a boat is not at anchor, or made fast to the shore, or aground.

Ventilating. The drawing of air from the surface into the propeller blades disrupting the water flow over the blades causing a sudden loss of thrust and increase in engine RPM. Often occurs in a turn of a planing hull where the propulsion unit moves too close to the surface due to the boat's heel.