Towed Water Sports Standard

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Foreword:

This standard enhances safety awareness to reduce risks and user conflicts associated with towed water sports activities. Participants are encouraged to continue their education and adhere to local boating laws for a responsible and enjoyable experience on the water.

References

WSIA (2023). Towed Water Sports Boating Handbook.

ANSI/NASBLA 100-2022: Basic Boating Knowledge – Core

ANSI/NASBLA 103-2022: Basic Boating Knowledge – Plus Power

Disclaimers:

This standard was designed for towed water sports activities in lakes, rivers, reservoirs, and other non-open ocean areas; however, these standards apply to all waterways.

Towed Water Sports Standard

Scope

This standard aligns with ANSI/NASBLA boating education standards and establishes the essential knowledge to reduce human risk, user conflicts, and environmental concerns in towed water sports within the United States and its territories. It sets foundational safety principles, best practices, and baseline knowledge for towed water sports safety. While it enhances safety awareness, it does not guarantee absolute safety or legal compliance in all jurisdictions. This standard should be applied in conjunction with and with reference to Core standards of the basic boating course.

1 Terminology

1.1 Define and demonstrate knowledge of the following:

1.1.1 Applicable Law: Any federal, state, tribal, county, municipal, or other jurisdictional law, statute, regulation, rule, or ordinance that governs or is enforceable in the location where the towed water sport activity is being conducted.

1.1.2 Boom: A rigid bar that extends horizontally from the side of a boat. It is typically used for providing additional support, especially for waterskiing or barefooting.

1.1.3 Foiling: a towed water sport activity where the PIT uses a hydrofoil that generates lift, raising the board above the water's surface while being towed by a vessel. The PIT normally uses a tow line to start the activity and then may release the line while surfing the wake as skill develops. Foiling may include but is not limited to wake foiling (behind a motorized vessel) and/or tow-in foiling (behind a vessel or PWC). Activities that are fully self-propelled (e.g., e-foils operating without a tow rope) are outside the scope of this section.

1.1.4 Inflatable towed device: a towed inflatable device designed to be ridden on with the Person in Tow (PIT) having no directional control over the device.

1.1.5 Kneeboarding: a towed water sport in which a PIT is towed behind a vessel while positioned on a specially designed flotation board in a kneeling posture, typically secured with a strap across the thighs for control and stability. The PIT uses body position, balance, and edge control to maneuver across the water surface and perform turns or tricks.

1.1.6 Person in Tow (PIT): Person(s) being towed behind or alongside a vessel.

1.1.7 Person in Water (PIW): Person(s) in the water

1.1.8 Rollers: The first roller is the initial crest of the wake behind and to each side of the boat's path. First rollers may be steeper and more abrupt than following rollers. The second roller is the next crest that forms behind the first roller as the wake continues to spread outward and settle. It is typically smoother and more defined.

1.1.9 Store: to place equipment or gear in a designated location for future use after cleaning and drying.

1.1.10 Stow: to place and secure equipment or gear in a designated location on the vessel where it is protected from damage and will not shift, interfere with vessel operation, or create a safety hazard.

1.1.11 Sweet spot: Where the wake has its best shape, providing the PIT with the best combination of lift, control, and stability providing the best location for the PIT to ride and perform maneuvers. The sweet spot is located within a clean, well-defined wake with minimal whitewater or wash.

1.1.12 Teak surfing: or "platform dragging," which is a dangerous and often illegal activity when a PIT holds onto the boarding platform, boarding deck, swim/boarding step, boarding ladder, or any portion of the exterior of the transom of a towing vessel for any amount of time while the towing vessel is underway at any speed.

1.1.13 Tow line: The tow line refers to the entire towing assembly when used to connect a towing vessel to a PIT or towed device.

1.1.14 Tow rope: The tow rope is a tow line when not in use or deployed.

1.1.15 Towed water sports: Recreational activities conducted on the water that involve a participant being towed by a boat or propelled by the boat's wake.

1.1.16 Tubing: a towed water sport in which a person(s) is pulled behind a vessel on a towed inflatable by means of a tow line attached to the device. The PIT(s) may be seated, kneeling, or lying prone.

1.1.17 Underway: a vessel that is not anchored, made fast to the shore, or aground.

1.1.18 Wakeboarding: a towed water sport in which the PIT is pulled behind a vessel riding a board with secured bindings.

1.1.19 Wakeskating: a towed water sport when the PIT is riding a board without secured bindings towed behind a boat, utilizing the wakes it creates to perform tricks and jumps.

1.1.20 Waterskiing: a towed water sport in which a PIT is pulled behind a vessel on one or more skis with secured binding(s).

1.1.21 Wakesurfing: a towed water sport activity where the PIT uses a surfboard-type device without bindings to surf the wake created by a vessel.

2 Legal and Regulatory Compliance

2.1 Describe the proper use of PFDs for all PITs as described in the National Standard Core 3.1 or its latest version.

2.2 Explain that the operator must be familiar with and understand applicable laws specific to towed water sports in the area in which they are operating. These laws may include, but are not limited to, the topics listed below:

- 2.2.1 Skier-down flag requirements
- 2.2.2 Legal operating speeds
- 2.2.3 Minimum distances from shore, docks, other vessels, and hazards
- 2.2.4 Observer or mirror requirements
- 2.2.5 Legal time of operation while engaged in towed water sports
- 2.2.6 Vessel traffic patterns
- 2.2.7 Designated or restricted areas for towed sports
- 2.2.8 Age restrictions for vessel operators
- 2.2.9 State boating certificate or additional endorsements required to operate a vessel engaged in towed watersports
- 2.2.10 Vessel capacity as it applies to towed water sports
- 2.2.11 Additional applicable laws or requirements

3 Responsibility of sharing the waterway while engaged in towed sports

3.1 Identify the importance of practicing respectful noise control, including:

- 3.1.1 Exhaust
- 3.1.2 Music
- 3.1.3 Applicable laws

3.2 Explain the importance of reducing repetitive passes in a single location.

3.3 Describe the impact, risk, and mitigation of aquatic invasive species

- 3.3.1 Describe draining and cleaning ballast tanks to prevent the spread of invasive species.
- 3.3.2 Explain that some applicable laws may require inspections and/or specific permits to launch a vessel in certain waterways to prevent the transfer of invasive species.

3.4 Describe the responsibilities when creating ballasted or shaped wakes needed for specific towed water sports, including:

3.4.1 effects of shoreline erosion

3.4.2 disturbance to other waterway users

3.4.3 bottom disturbance in shallow water

4 USCG Approved Personal Flotation Device (PFD) Requirements

4.1 Explain the importance of reviewing the PFD's label to ensure that it is appropriate for the intended towed water sports activity and PIT.

4.2 Explain the difference between a USCG approved PFD for PITs and non USCG approved competition/impact vests.

5 Tow Ropes and Equipment Selection and Use

5.1 Describe the selection of tow rope for intended activity.

5.2 Describe the use of tow ropes for towed water sports, including:

5.2.1 Types of tow ropes

5.2.1.1 Non-stretch tow ropes

5.2.1.2 Elastic or bungee tow ropes

5.2.2 Strength of ropes

5.2.3 Ensure ropes are attached using manufacturer-approved methods and towing hardware, if used.

5.3 Describe the safety concerns about towing multiple devices and PITs, including:

5.3.1 Using lines of different lengths for each device

5.3.2 PITs colliding with each other

5.3.3 Procedures to take when a PIT becomes a PIW

5.4 Identify the importance of locating, understanding, and complying with equipment labeling and instructions.

5.5 Explain the importance of inspecting all towed water sport devices and their components for integrity before the day’s activities. The points of inspection shall include:

5.5.1 All towed devices

5.5.2 Other related equipment

5.6 Describe how tow ropes, gear and equipment should be properly stowed between towing events to ensure the safety of passengers and PIT(s).

5.7 Describe how tow ropes, gear and equipment should be properly stored after conclusion of the day's activities. Topics that should be covered include:

5.7.1 Best practices for cleaning and drying

5.7.2 Best practices for storage

6 Pre-Use Equipment Safety Inspection Requirements

6.1 Explain the importance of inspecting all towed water sport devices and their components for wear outside of normal use including but not limited to abrasion, wear, fraying, deterioration, damage, warping, delamination, environmental damage before the day's activities. Identify the points of inspection and possible hazards, including:

6.1.1 Tow ropes

6.1.1.1 Attachment point(s)

6.1.1.2 Handles

6.1.1.3 Quick release points

6.1.2 Inflatable towed devices

6.1.2.1 Warning label

6.1.2.3 Seams

6.1.2.4 Bladder

6.1.2.6 Handles

6.1.2.7 Valves

6.1.2.8 Bridles

6.1.2.9 Attachment points

6.1.3 Other towed devices

6.1.3.1 Device core

6.1.3.2 fin or skeg

6.1.3.3 hardware, where applicable including:

6.1.3.3.1 Strap(s)

6.1.3.3.2 Pad

6.1.3.3.3 Mount

6.1.3.3.4 Binding

6.1.4 Foil

6.1.4.1 Wings, mast, fuselage

6.1.4.2 Hardware

6.1.4.3 Edges

7 Safe Watercraft Operation and Towing Practices

7.1 Explain that towing speeds should be adjusted based on:

7.1.1 PIT age

7.1.2 PIT ability

7.1.3 Manufacturer's recommendations for the device being towed

7.1.4 Water conditions

7.1.5 Vessel traffic

7.2 Describe the importance of monitoring the water surface conditions and how to react appropriately to ensure passenger and PIT safety, including:

7.2.1 Naturally occurring waves

7.2.2 Wakes from other vessels

7.2.3 Wake from the towing vessel

7.2.4 Adjusting vessel speed

7.2.5 Changing vessel heading

7.2.6 Changing the area of operation

7.3 Explain the hazards of performing maneuvers near shores, docks, or other obstacles, including the importance of accounting for the full turning radius of a PIT.

7.4 Explain the proper methods for returning to a PIW(s), including:

7.4.1 Maintaining visual contact with the PIW(s) by the operator or designated observer

7.4.2 Location of PIW(s) and vessel approach considerations

7.4.2.1 Single PIW

7.4.2.2 Multiple PIWs

7.4.3 Types of returning maneuvers

7.4.4 Environmental factors

7.4.5 Vessel traffic and risk of collision

7.5 Describe the proper seating for the observer and passengers in the vessel during the towed water sport activity.

7.6 Explain how and why to check for tow line entanglements before initiating the tow.

7.7 Explain why the operator must check for a clear path for the vessel, free of approaching vessels, swimmers, and obstacles, before initiating the tow.

7.8 Explain how properly managing tow ropes in between towing sessions can prevent trip and entanglement hazards for vessel occupants.

7.9 Explain the added importance of maintaining situational awareness at all times when towing a PIT, especially in congested areas.

7.10 Describe the requirement, importance, types, proper wear, and use and maintenance of engine/propulsion cut-off devices.

7.11 Describe the environmental stressors that may affect a PIT's ability to participate in towed water sports, including:

7.11.1 Sun exposure, wind, glare

7.11.2 Dehydration

7.11.3 Effects of fatigue, including:

7.11.3.1 Challenging water conditions

7.11.3.2 Holding onto tow line handle(s) or device handholds

7.11.4 Heat factors including the effects of hyperthermia and how to prepare for, prevent, and respond to heat-related events

7.11.5 Cold factors (exposure) including the effect of hypothermia and how to prepare for, prevent, and respond to cold-related events by wearing protective clothing, including:

7.11.5.1 Wet or dry suit

7.11.5.2 Gloves

7.11.6 Effects of cold-water immersion and how to prepare for, prevent, and respond to a cold-water immersion event, including the physiological effects of cold-water immersion.

7.12 Explain how a properly balanced factory-installed ballast tank system can deliver an optimal wake for the PIT and maintain vessel stability.

7.13 Explain how operators must use smooth acceleration, gradual turns, a predictable pattern to maintain PIT safety, including:

7.13.1 Effects of momentum, acceleration, deceleration, and path changes of the PIT(s) and device(s) during planned and unplanned separation or stopping.

7.14 Describe how PITs typically begin their towed water sports activity, including starts from:

7.14.1 Deep water

7.14.2 Shoreline

7.15 Identify the best practices for a PIT to cross a wake.

7.16 Explain the importance of ensuring each PIT is equipped with properly fitted ski(s), board and binding(s) appropriate to their size and skill level.

7.17 Explain the importance of ensuring that each PIT uses appropriately sized equipment based on their size and skill level. Equipment should include:

7.17.1 Towed device (skis, boards, etc.)

7.17.2 Bindings

7.18 Identify additional personal protective equipment for a PIT which includes:

7.18.1 Helmet

7.18.2 Gloves

7.18.3 Neoprene shorts

7.19 Describe the effects of carbon monoxide (CO) for a PIT(s)

7.20 Describe the effects of alcohol and drug for a PIT(s)

7.20.1 Impacting judgment

7.20.2 Reaction time

7.20.3 Balance

7.20.4 Coordination

7.20.5 Ability to recognize and respond to risk and hazards

7.20.6 Ability to maintain situational awareness

7.20.7 Communicate with the observer or operator

7.21 Identify approved hand signals and, where appropriate, verbal commands. Instructions shall include proper timing, visibility, and confirmation of each signal, including:

7.21.1 Ready or Hit it

7.21.2 Stop

7.21.3 Speed up

7.21.4 Slow down

7.21.5 Turn

7.21.6 Head home

7.21.7 PIT ok

7.21.8 PIT not ok

7.22 Explain the risks posed by contact with a rotating propeller, which may cause severe injuries or death, including:

7.22.1 Passengers entering the water while the engine is running

7.22.2 Failure to place the engine in neutral and shut off before:

7.22.2.1 Anyone enters the water

7.22.2.2 Approaching PIW(s) in close proximity

7.22.3 Maintaining a safe distance from PIW(s).

7.22.4 Sitting on the transom or swim platform while the engine is running.

7.22.5 Tow rope wrapping around a propeller and potentially pulling a PIT into a dangerous situation causing injury or death.

7.23 Explain the operators' need to always maintain a proper lookout to keep the vessel and PIT clear of all hazards.

7.24 Explain the importance of not backing down (reversing) on people in the water.

7.25 Explain the hazards of water-jet wash and intakes, awareness and safety for the PIW and their equipment, including:

7.25.1 Entrapment

7.25.2 Orifice injuries

7.25.3 Knocking people behind the jet off balance

8 Activity-Specific Guidelines

8.1 Waterskiing:

8.1.1 Explain the activity of waterskiing.

8.1.2 Explain the suggested towing speed for waterskiing is between 20-36 mph, depending on PIT ability and vessel type and wake.

8.1.3 Explain the suggested tow rope length is no longer than 75 feet, depending on PIT ability.

8.1.4 Explain the importance of ensuring each PIT is equipped with properly fitted ski(s) and binding(s) appropriate to their size and skill level.

8.2 Wakeboarding:

8.2.1 Explain the activity of wake boarding.

8.2.2 Explain the suggested towing speed for wakeboarding is between 18-23 mph for adults, and 8-12mph for children or inexperienced PIT(s) and speed depends on PIT ability and vessel type and wake.

8.2.3 Explain the suggested tow line length for a beginner is between 50- 65 feet and between 75-80 feet for experienced PIT(s).

8.3 Wakeskating:

8.3.1 Explain the activity of wakeskating.

8.3.2 Explain the suggested towing speed for wakeskating is slower than wakeboarding and typically between 16-20 mph.

8.3.3 Explain the suggested tow line length for wakeskating is approximately 65 feet but can be adjusted based on PIT ability.

8.3.4 Explain how watersport specific helmets may protect against head injuries when falling during wakeskating.

8.4 Tubing:

8.4.1 Explain the activity of tubing.

8.4.2 Explain the suggested towing speed limit for tubing is up to 20 mph for adults, 8 mph for children or inexperienced PIT(s) and follow the manufacturers label recommendation as listed on the device.

8.4.3 Explain that the suggested tow rope length for tubing is no longer than 60 feet and must be manufacturer approved for tubing.

8.5 Wakesurfing:

8.5.1 Explain the activity of wake surfing.

8.5.2 Explain that the suggested towing speed for wake surfing is lower than most towed water sports at 10-11 mph to create a surfable wake without outrunning the PIT.

8.5.3 Explain that the suggested tow line length for wake surfing is approximately 20-25 feet, that is adjustable for the PIT to reach the sweet spot of the wake. The tow rope should be specifically designed for wake surfing with a smaller handle and thick braid.

8.6 Foiling

8.6.1 Explain the activity of foiling while being towed.

8.6.2 Explain that the suggested tow line length for foiling is approximately 45-60 feet, that is adjustable for the PIT to reach the sweet spot of the wake.

8.6.3 Explain that the suggested towing speed for foiling is 8-15 mph for the PIT to find the sweet spot on the front face of the second roller.

8.6.4 Explain what factors influence control of the foil, including:

8.6.4.1 Foil position on second roller

8.6.4.2 Vessel speed

8.6.4.3 PIT body position and stance on the board

8.6.4.4 Size of foil's wing area

8.6.5 Explain that wearing a watersport specific helmet may protect against head injuries.

8.6.6 Explain the potential for injury from contact with the foil during starts, recovery, handling and falls.

8.7 Kneeboarding

8.7.1 Explain the activity of kneeboarding.

8.7.2 Explain the suggested towing speed for kneeboarding is between 17-20 mph for adults, and 10-15mph for children or inexperienced PIT(s) and speed depends on PIT ability and vessel type and wake.

8.7.3 Explain the suggested tow line length for a beginner is between 45-50 feet and between 50-60 feet for experienced PIT(s).

8.8 Explain that other towed water sports and emerging technology should be used in accordance with the manufacturer’s instructions, applicable laws, and operator’s judgement using these standards.