

Training and Equipment Guidelines for Rescuers Using Personal Watercraft as a Rescue Tool

United States Lifesaving Association

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Introduction

Personal watercraft (PWC) are increasingly employed by professional aquatic rescuers in a wide variety of environments. Their cost, size, speed, power, maneuverability, and relative ease of handling all contribute to their attractiveness for use in rescue. Like all powercraft however, personal watercraft can be dangerous to the operator, passenger(s), and others unless the operator and crewperson are properly trained and equipment is adequate. This is especially true if the operator is assigned to patrol and rescue in challenging aquatic conditions.

Due to the absence of nationally recognized guidelines for the use of PWC as a rescue tool, the United States Lifesaving Association convened experts in this field from organizations with extensive experience in use of personal watercraft as a rescue tool. Their breadth of knowledge of the subject ranged from large surf to relatively calm conditions, warm water to relatively cold, and a wide variety of aquatic areas of the United States.

These guidelines represent USLA recommended minimum standards for training and equipping personnel utilizing personal watercraft (PWC) as a rescue tool. USLA encourages agencies to exceed these standards, particularly in areas where challenges of environment or frequency of rescue exceed the norm. Adaptation to local circumstances is essential to the success of any open water rescue training program. Therefore, within these guidelines, training should be adapted to local conditions. Those trained under the guidelines should be considered fully qualified only in the local environments where training was conducted.

Personal Watercraft Rescue Crewperson (PWRC) Training Standards

A personal watercraft rescue crewperson (PWRC) is an integral component of any Personal Watercraft Rescue Unit and qualification as a PWRC is required prior to acting as a Personal Watercraft Rescue Operator (PWRO). The primary function of the PWRC is to retrieve victims, load them onto the rescue sled, and to provide them immediate basic life support and care. A PWRC should be thoroughly familiar with all basic and intermediate functions of day-to-day maintenance and operations of the rescue craft.

Standards To Be Met and Maintained Include:

- Minimum Initial Training: Successful completion of a course meeting all curriculum elements recommended by USLA for open water rescuers. (See USLA Guidelines for Open Water Lifeguard Agency Certification – www.usla.org.)
- Familiarization with personal watercraft safety guidelines and operating procedures.
- Training in accordance with the curriculum for Personal Watercraft Rescue Crewperson detailed in these guidelines.
- Minimum 1-hour experience as a crewperson under direct supervision of a Personal Watercraft Rescue Operator.

Personal Watercraft Rescue Operator (PWRO) Training Standards

A Personal Watercraft Rescue Operator (PWRO) is a rescuer appointed the responsibility of operating and supervising an agency's assigned rescue craft unit for the purpose of regular patrol and rescue operations. A PWRO oversees, maintains, and is responsible for the rescue craft unit, including the rescue vehicle, trailer, and rescue craft. After successfully meeting all standards and obtaining a PWRO certification, the PWRO must successfully meet all annual requirements set forth by USLA for open water rescuers as well as any and all annual requirements set by the employing agency to maintain PWRO status.

Minimum Standards

- Minimum Age: 18 years
- Successful completion of a course meeting all curriculum elements recommended by USLA for open water rescuers. (See USLA Guidelines for Open Water Lifeguard Agency Certification – www.usla.org.)
- Certified as a Personal Watercraft Rescue Crewperson
- Prerequisite Training: Boating Skills and Seamanship (U.S. Coast Guard Auxiliary), or equivalent.
- Rescue Experience: 1,000 hours assigned as a rescuer at a USLA certified agency. In cases where a PWRO moves from the agency where the initial training took place to another, it shall be the obligation and discretion of the new agency to ensure thorough familiarity in local agency operations with regard to PWRO as well as familiarization and knowledge of local areas prior to assignment as a PWRO.
- Training in accordance with the curriculum for Personal Watercraft Rescue Operator detailed in these guidelines.
- Minimum PWC Operating Experience (during and/or post training): 20 hours at the helm, at least 10 of which must be under the direct supervision of a Personal Watercraft Rescue Trainer.

Personal Watercraft Rescue Trainer (PWRT) Training Standards

A Personal Watercraft Rescue Trainer (PWRT) is a rescuer appointed the responsibility of serving as a certifying instructor for Personal Watercraft Rescue Operator training. After successfully meeting all standards and obtaining a PWRT certification, the PWRT must successfully meet all annual requirements set forth by USLA for open water rescuers as well as any and all annual requirements set by the employing agency to maintain PWRT status.

Minimum Standards

- Fully trained and qualified as a Personal Watercraft Rescue Operator.
- 70 hours at the helm of a PWC being used as a rescue tool.

Personal Watercraft Rescue Lead Trainer (PWRLT) Training Standards

A Personal Watercraft Rescue Lead Trainer (PWRLT) is a rescuer appointed the responsibility of supervising certification of others to the position of Personal Watercraft Rescue Trainer. A Personal Watercraft Rescue Lead Trainer (PWRLT) is selected by the employing agency based on merit and standing within the agency. After successfully meeting all standards and obtaining a PWRLT certification, the PWRLT must successfully meet all annual requirements set forth by USLA for open water rescuers as well as any and all annual requirements set by the employing agency to maintain PWRLT status.

Minimum Standards

- Fully qualified as a PWRT and selected by agency.

Minimum Equipment Standards

Rescue

- Federal and state (in state of use) equipment requirements
- Rescue tube
- Mask(s) and snorkel(s) readily accessible for underwater search and rescue, as appropriate
- Binoculars readily accessible in emergency vehicle
- Personal flotation device (PFD), U.S. Coast Guard approved Type II or Type III, in good and serviceable condition, appropriately sized for the intended user, and worn by the operator at all times
- Swim fins for rescue purposes readily accessible to Personal Watercraft Rescue Operators and crewperson(s) appropriate to local conditions
- Helmet, to be worn by the operator at all times, and recommended for the crewperson. Agencies may make temporary exceptions in specific circumstances due to usual conditions or assignments.
- Tow/throw rope meeting specifications of the agency
- Marker buoy(s) readily accessible for submerged victim search and rescue
- Knife, appropriate for use in the aquatic environment for cutting lines and related uses
- Rescue sled (or basket) capable of supporting a rescuer and victim(s)
- Protective footwear appropriate to the aquatic environment (strongly recommended)

Medical

- A first aid kit adequate to treat minor injuries and barrier device for incidents involving resuscitation in rescue craft and accessible when conducting rescue in an open water environment
- A first aid kit adequate to treat both minor and major medical emergencies accessible in the responding rescue vehicle
- Equipment to protect against blood-borne pathogens consistent with OSHA requirements

Communications

- Equipment for rescuers to communicate with the public at a distance (e.g.: whistles, megaphone(s), air horn(s), etc.)
- Ship to shore radio for rescuer-to-rescuer communication and to immediately activate local emergency medical services (EMS)

Personnel Needs

- Rescuers are required to wear an easily identifiable uniform, denoting the wearer as a trained rescuer (e.g.: "Lifeguard," "Beach Patrol," "Marine Safety", "Rescue") and denoting the employing agency
- Sunscreen for all rescuer personnel
- Reasonable equipment to protect rescuers from sun exposure

Resource Material

Required for All Students:

- **Open Water Lifesaving – The United States Lifesaving Association Manual**, *United States Lifesaving Association, B. Chris Brewster - Editor, ISBN 0-536-73735-5*

Recommended:

- **Personal Watercraft Rescue Training Manual (Instructor Edition) – The Hawaiian Lifeguard Association**, *Randy Honebrink – Editor*
- **Personal Watercraft Rescue Training Manual (Student Edition) – The Hawaiian Lifeguard Association**, *Randy Honebrink - Editor*
- **The Incident Command System (NFA-ICS-SM)**, *National Emergency Training Center, FEMA*

Personal Watercraft Rescue Curriculum

Terms

Demonstrate, means the instructor shows the candidate how to perform a skill the proper way so that the candidates may adequately perform it themselves.

Identify, means the instructor provides a full explanation to candidates and takes steps to validate their comprehension and retention.

Personal Flotation Device, means a device manufactured in accordance with U.S. Coast Guard specifications that provides a supplemental flotation for persons in the water.

Signaling Device, means any device that provides a distinct and predictable display, noise, or sensation that can be used to communicate a predetermined message or to attract the attention of other persons as desired by the initiator of the signal.

Watercraft, means a vessel that is propelled across the surface of a body of water by means of oars, paddles, water jets, propellers, towlines, or air cushions and is used to transport personnel and equipment while keeping their occupants out of the water.

Conveyance, means a device intended for the purpose of transporting, moving, lifting, or lowering watercraft that may be required to be operated prior to and at the conclusion of every watercraft deployment.

Hydrology, means the study of the properties, distribution, and effects of water in the atmosphere and on the earth's surfaces, specifically in reference to waves, effects of movement and/or currents.

Risk Management, means the system and process that provides a practical method to reduce injuries, loss of property, and loss of life while training for and in the operational application of rescue watercraft missions.

1. Personal Watercraft Rescue Crewperson (PWRC)

1.1 Responsibilities and Operational Duties

Knowledge Objectives

- ❑ Identify departmental policies, procedures, and standard operating guidelines for rescue craft operations

1.2 Introduction to Personal Watercraft

Knowledge Objectives

- ❑ Identify proper uses and applications of available craft
- ❑ Identify motor vehicle laws and operational protocols for support vehicles with watercraft conveyances
- ❑ Identify the intermediate and basic operations of the rescue craft to a point where the candidate can retrieve and adequately operate the rescue craft safely and effectively should the operator become separated from the rescue craft

Skill Objectives

- ❑ Demonstrate the intermediate operation of the rescue craft so that the operator can be retrieved in the event of separation from the rescue craft

1.3 Personal Protective Equipment

Knowledge Objectives

- ❑ Identify classes and selection of personal floatation devices and water rescue helmets
- ❑ Identify donning and doffing of personal floatation devices and water rescue helmets
- ❑ Identify selection criteria and donning and doffing of in-water insulating garments used by the agency
- ❑ Identify equipment and procedures for rescue and distress signaling

Skill Objectives

- ❑ Verbalize selection criteria for, and demonstrate proper donning and doffing of personal floatation device and water rescue helmet
- ❑ Verbalize and demonstrate proper donning and doffing of in-water insulating garments used by the agency
- ❑ Demonstrate proficiency in communicating distress via hand signals

1.4 Orientation to Rigging and Applications of Sled

Knowledge Objectives

- ❑ Identify components required in rigging sled to craft
- ❑ Identify proper rigging of sled to craft
- ❑ Identify components and possible actions and/or movements of the sled under certain conditions that could pose a hazard to PWRC or victim

Skill Objectives

- ❑ Demonstrate proper rigging of a sled to a craft while verbalizing each step to the instructor(s)
- ❑ Verbalize to the instructor(s) the components and possible actions and/or movements of the sled under certain conditions that could pose a hazard to PWRC or victim

1.5 Rescue Craft Pick-Ups

Knowledge Objectives

- ❑ Identify drop-off and pick-up techniques applicable while acting as a PWRC
- ❑ Identify conscious victim pick-up techniques applicable while acting as a PWRC
- ❑ Identify floating unconscious victim pick-up techniques applicable while acting as a PWRC
- ❑ Identify submerged unconscious victim pick-up techniques applicable while acting as a PWRC
- ❑ Identify multiple victim pick-up techniques applicable while acting as a PWRC

Skill Objective

- ❑ Demonstrate proper techniques of dismounting the sled during crewperson drop-offs and pick-ups (flat water and in surf conditions if agency serves at a surf location)

- ❑ Demonstrate proper crewperson techniques and responsibilities in a conscious victim pick-up (flat water and in surf conditions if agency serves at a surf location)
- ❑ Demonstrate proper crewperson techniques and responsibilities in an unconscious victim pick-up (flat water and in surf conditions if agency serves at a surf location)
- ❑ Demonstrate proper techniques and responsibilities in a two and/or multiple victim pick-up (flat water and in surf conditions if agency serves at a surf location)

1.6 Rider-Active Tandem and Sled Riding Techniques

Knowledge Objectives

- ❑ Identify safe and effective crewperson technique and positioning when riding tandem, “side-by-side”, on the rescue craft
- ❑ Identify sled-riding techniques to assist the Person Watercraft Rescue Operator in turning the craft in open water, in a confined area such as docks or pilings, and around objects and/or other vessels
- ❑ Identify sled-riding techniques in and around a surf zone, including proper positioning during quartering, returning through surf, and impact zones in which the rescue craft begins to cavitate (if agency serves at a surf location)

Skill Objective

- ❑ Demonstrate safe and effective crewperson technique and positioning when riding tandem, “side-by-side”, on the rescue craft
- ❑ Demonstrate sled-riding techniques to assist the Personal Watercraft Rescue Operator in turning the craft in open water, in a confined area such as docks or pilings, and around objects and/or other vessels
- ❑ Identify sled-riding techniques in and around a surf zone including proper positioning during quartering, returning through surf, and impact zones in which the rescue craft begins to cavitate (if agency serves at a surf location)

1.7 Basic Life Support Techniques

Knowledge Objectives

- ❑ Identify techniques to administer basic life support to a victim on the sled
 - ❑ Bleeding control
 - ❑ Airway management

Skill Objectives

- ❑ Demonstrate techniques to administer basic life support to a victim on the sled
 - ❑ Bleeding control
 - ❑ Airway management

2. Personal Watercraft Operator (PWRO) Curriculum

2.1 Boating Rules and Regulations

Knowledge Objectives

- ❑ Identify federal boating rules and regulations
- ❑ Identify state boating laws
- ❑ Identify local ordinances
- ❑ Identify departmental policies, procedures, and standard operating guidelines

2.2 Risk Management Practices for Routine and Emergency Operations

Knowledge Objectives

- ❑ Identify scene safety considerations
- ❑ Identify contents of a site survey: types and accessible resources
- ❑ Identify hydrology and influences of hydrology on rescues
- ❑ Identify natural hazards associated with water rescue practices
- ❑ Identify risk vs. benefit analysis
- ❑ Identify hazard specific personal protective equipment
- ❑ Identify factors influencing access and egress routes
- ❑ Identify behavioral patterns of patient(s) in distress

Skill Objectives

- ❑ Demonstrate ability to access and interpret reference materials
- ❑ Demonstrate an ability to evaluate scene safety, identify, and address hazards, request additional resources (agencies) specific to hazards identified
- ❑ Demonstrate anticipation, selection, and donning of personal protective equipment specific to hazards identified
- ❑ Demonstrate an ability to predict patient behavior and movement
- ❑ Demonstrate selection, proper access and egress routes for safe entry and exit to patient(s) position

2.3 Introduction to Personal Water Craft

Knowledge Objectives

- ❑ Identify proper uses and applications of available craft
- ❑ Identify proper driving and maritime etiquette applicable to available craft
- ❑ Identify motor vehicle laws and operational protocols for support vehicles with watercraft conveyances

2.4 Personal Protective Equipment

Knowledge Objectives

- ❑ Identify classes and selection of personal floatation devices and water rescue helmets
- ❑ Identify donning and doffing of personal floatation devices and water rescue helmets

- ❑ Identify selection criteria and donning of in-water insulating garments
- ❑ Identify equipment and procedures for communicating rescue and distress signals

Skill Objectives

- ❑ Verbalize selection criteria for, and don and doff personal floatation device and water rescue helmet
- ❑ Verbalize, and don and doff in-water insulating garments
- ❑ Demonstrate proficiency in communicating distress via hand signals upon random selection of instructor(s)

2.5 Daily Post/Pre-Shift Maintenance and Dry/Wet Troubleshooting of Craft

Knowledge Objectives

- ❑ Identify mechanical components and functions of craft
- ❑ Identify basic maintenance
 - ❑ Oil
 - ❑ Gas
 - ❑ Plugs
 - ❑ Hoses
 - ❑ Impeller
 - ❑ Hull
- ❑ Identify pre and post-shift maintenance and checklists
- ❑ Identify troubleshooting: Dry
- ❑ Identify troubleshooting: Wet

Skill Objectives

- ❑ Define and explain the function and operations of a mechanical component of the craft randomly chosen by instructor(s)
- ❑ Define and explain all components of pre/post-shift maintenance
- ❑ Troubleshoot and fix a dry craft altered randomly by instructor(s) given the tools and components available during regular daily operations
- ❑ Troubleshoot and fix a wet craft altered randomly by instructor(s) given the tools and components available during regular daily operations

2.6 Sled Rigging

Knowledge Objectives

- ❑ Identify components required in rigging sled to craft
- ❑ Identify proper rigging of sled to craft

Skill Objectives

- ❑ Demonstrate proper rigging of a sled to a craft while verbalizing each step to the instructor(s)

2.7 Launching and Recovering Craft

Knowledge Objectives

- ❑ Identify launching, docking, and recovery in harbors and marinas
- ❑ Identify effective risk assessment of terrain for remote site launching and recovering using trailer and/or rolleys
- ❑ Identify launching, beaching, and recovery of craft at a beach site with surf (If agency operates rescue craft in a surf environment)

Skill Objectives

- ❑ Demonstrate proper launching and recovering of craft from a recreational boat ramp
- ❑ Demonstrate proper launching and recovering of craft from a remote site at the instructor(s) discretion
- ❑ Demonstrate proper launching and recovering of craft from a beach site with surf at the instructor(s) discretion (If agency serves at a surf location)

2.8 Precision Operating and Righting

Knowledge Objectives

- ❑ Identify limitations and use of available personal watercraft
- ❑ Identify dynamics of hydrology and wave action on watercraft handling
- ❑ Identify conditional hazards of daily operations, of operator duties and crewperson assignments to effectively and safely maneuver craft during any operation in which conditional hazards are factors
- ❑ Identify reversing controls, reversing maneuvers, and quick stopping
- ❑ Identify turning skills
- ❑ Identify approach driving
- ❑ Identify righting a capsized craft

Skill Objectives – Reversing

- ❑ Demonstrate, using a buoy as a reference point, stopping of craft as close as possible from a forward motion (upwind/downwind) using the reverse mechanism as a quick stop feature
- ❑ Demonstrate a scenario in which the candidate will overrun a buoy by 5-10 feet and reverse back in straight line (repeat with crewperson on sled)
- ❑ Demonstrate a scenario in which, while reversing, the candidate will use the controls and create drag with their leg to execute a controlled turn to the left, then to the right hand side

Skill Objectives – Turning

- ❑ Demonstrate, using two buoys as a reference point, riding in a figure eight (8) pattern at various speeds as instructed while controlling tendency of craft to “spin out”
- ❑ Demonstrate approaching a line of five buoys and effectively “slalom” through the buoys while controlling speed, body weight, and body positioning

Skill Objectives – Precision Approach Driving

- ❑ Demonstrate pulling alongside a pier and stopping next to a pre-selected point
- ❑ Demonstrate pulling alongside a craft that is a) anchored and b) drifting
- ❑ Demonstrate approach and effective pick-up a small light object (e.g. tennis ball, plastic bottle, floating stick) with minimal delay and time spent in a stationary position
- ❑ Demonstrate approaching a patient in the water so that he/she can effectively mount the sled with minimal effort
- ❑ Demonstrate approaching a buoy from at least 50 meters away and perform an accurate stop to simulate contact with a patient to make a quick pick-up

2.9 Wave Judgment (if agency operates rescue craft in a surf environment)

Knowledge Objectives

- ❑ Identify hydrology and hazard assessment of surf zones
- ❑ Identify appropriate methods of making way through surf
- ❑ Identify appropriate methods of returning through surf zones
- ❑ Identify appropriate methods of entering and exiting surf zones
- ❑ Identify appropriate methods of going over broken waves - “quartering”
- ❑ Identify the “Point of No Return”
- ❑ Identify separation from craft
- ❑ Identify appropriate methods of holding position in surf zone
- ❑ Identify appropriate methods of turns in surf zone
- ❑ Identify appropriate methods of righting a capsized craft in surf zone

Skill Objectives

Given proper personal protection equipment, with the proper safety measures in place, and a qualified instructor as a crewperson the candidate shall:

- ❑ Verbalize a quick and accurate assessment of all hazards and potential hazards in the surf zone prior to continuing with the next skill
- ❑ Demonstrate proper method of making headway through surf without “quartering” craft
- ❑ Demonstrate proper method of returning through surf without “quartering” craft
- ❑ Demonstrate proper method of entering and exiting surf zone
- ❑ Demonstrate proper approach from inside and outside the surf zone
- ❑ Demonstrate a “quartering” maneuver while maintaining proper body positioning, speed, and positioning of craft without flipping the craft or compromising the safety of the operator or crewperson
- ❑ Verbalize a “point of no return” scenario to the instructor
- ❑ Demonstrate a simulated separation, remounting, and starting of craft under instructor(s) supervision and with safety crew in place
- ❑ Demonstrate holding position in the surf zone; chosen and for a time designated by the instructor(s)
- ❑ Demonstrate proper turning of craft in surf zone, being mindful of the “Point of No Return” and avoiding being caught sideways by whitewater
- ❑ Demonstrate in flat water, and with the aid of an instructor as a crewperson, the proper procedure for righting a capsized craft

2.10 Rescue Craft Pick-Ups

Knowledge Objectives

- ❑ Identify crew drop-off and pick-up
- ❑ Identify conscious victim pick-up
- ❑ Identify floating unconscious victim pick-up
- ❑ Identify submerged unconscious victim pick-up
- ❑ Identify multiple victim pick-up

Skill Objectives

- ❑ Demonstrate proper method of crew drop-off and pick-up (flat water and in surf conditions if agency serves at a surf location)
- ❑ Demonstrate proper method of conscious victim pick-up (flat water and in surf conditions if agency serves at a surf location)
- ❑ Demonstrate proper method of unconscious victim pick-up (flat water and in surf conditions if agency serves at a surf location)
- ❑ Demonstrate proper method of two and multiple victim pick-up (flat water and in surf conditions if agency serves at a surf location)

2.11 Search and Rescue Operations Utilizing Rescue Craft

Knowledge Objectives

- ❑ Identify topographical map components, hydrological factors, and methods to determine high probability of detection areas
- ❑ Identify critical interview questions and practices
- ❑ Identify personnel availability and effects on the search parameters
- ❑ Identify search strategies and methods utilizing rescue craft

Skill Objectives

- ❑ Demonstrate, in a controlled environment best simulating a search and rescue incident, the proper method of conducting interviews, determining scene safety and hydrology, correlating personnel availability and implementing a search strategy best suiting the parameters

2.12 Specialized Ancillary Rescue and Support Equipment

Knowledge Objectives

- ❑ Identify applications, limitations, and use of throw bags
- ❑ Identify applications, limitations, and use of rescue buoys
- ❑ Identify applications, limitations, and use of all terrain vehicles as a function for launching and recovery operations (If applicable to agency)

Skill Objectives

- ❑ Demonstrate the proper applications and use of throw bags as instructed

- ❑ Demonstrate the proper applications and use of rescue buoys as instructed
- ❑ Demonstrate the applications and proper use of all terrain vehicles as a function for launching the craft (If applicable to agency)

2.13 Aircraft Support (if applicable to agency)

Knowledge Objectives

- ❑ Identify local aircraft capabilities and limitations
- ❑ Identify landing zone (LZ) requirements
- ❑ Identify hazards to aircraft
- ❑ Identify local aircraft protocols
- ❑ Identify procedures for operating around aircraft on land
- ❑ Identify dynamics of rescue operations with regard to water rescue operations utilizing rescue craft around the aircraft
- ❑ Identify crash survival principles
- ❑ Identify personal protection equipment limitations and selection criteria
- ❑ Identify ancillary helicopter rescue equipment and potential hazards such equipment may pose during water rescue operations when utilizing a rescue craft