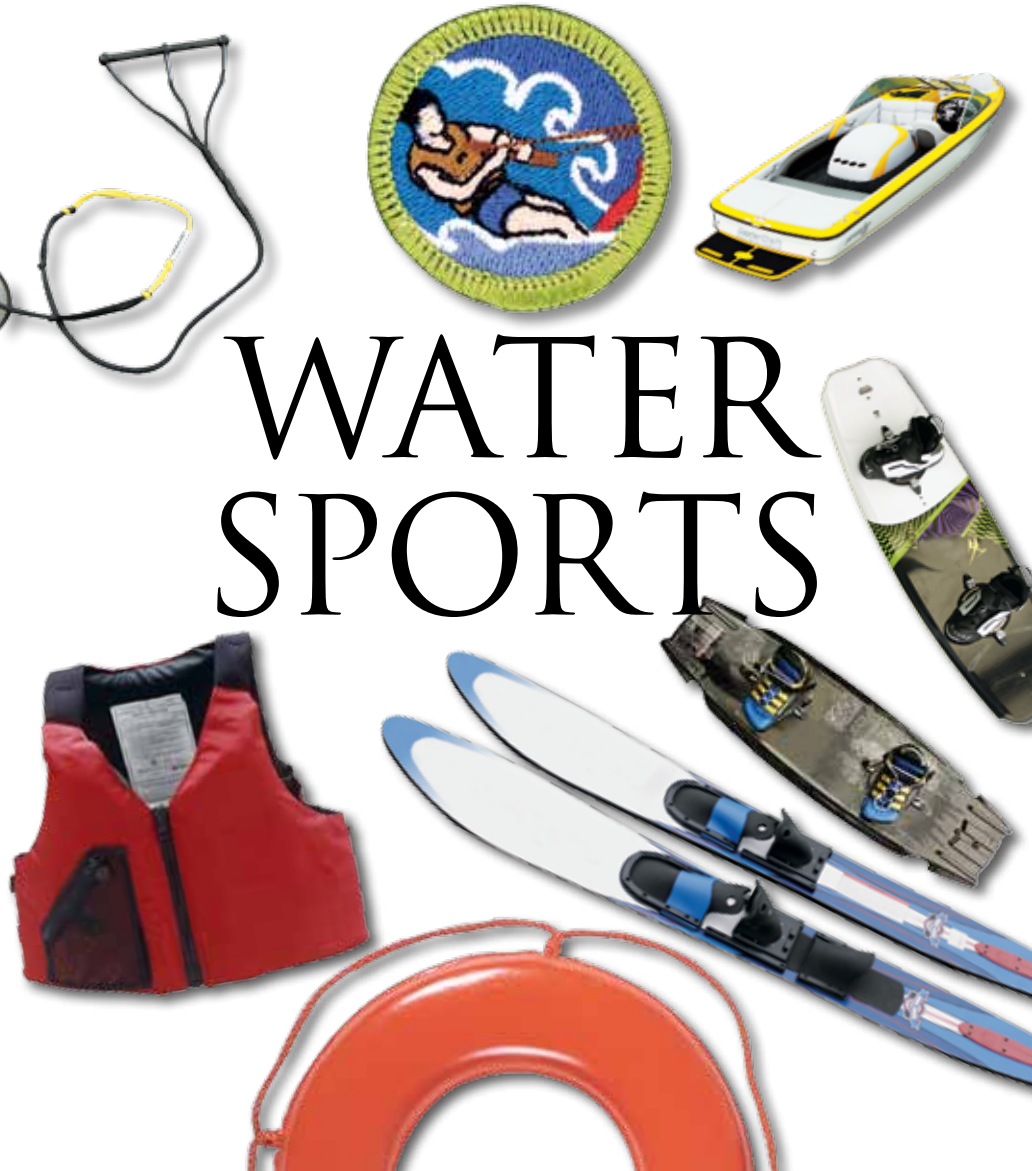


MERIT BADGE SERIES



WATER SPORTS



BOY SCOUTS OF AMERICA®



HOW TO USE THIS PAMPHLET

The secret to successfully earning a merit badge is for you to use both the pamphlet and the suggestions of your counselor.

Your counselor can be as important to you as a coach is to an athlete. Use all of the resources your counselor can make available to you. This may be the best chance you will have to learn about this particular subject. Make it count.

If you or your counselor feels that any information in this pamphlet is incorrect, please let us know. Please state your source of information.

Merit badge pamphlets are reprinted annually and requirements updated regularly. Your suggestions for improvement are welcome.

Send comments along with a brief statement about yourself to Youth Development, S209 • Boy Scouts of America • 1325 West Walnut Hill Lane • P.O. Box 152079 • Irving, TX 75015-2079.

WHO PAYS FOR THIS PAMPHLET?

This merit badge pamphlet is one in a series of more than 100 covering all kinds of hobby and career subjects. It is made available for you to buy as a service of the national and local councils, Boy Scouts of America. The costs of the development, writing, and editing of the merit badge pamphlets are paid for by the Boy Scouts of America in order to bring you the best book at a reasonable price.



BOY SCOUTS OF AMERICA
MERIT BADGE SERIES

WATER SPORTS



BOY SCOUTS OF AMERICA®

Note to the Counselor

Like many other outdoor activities, water sports have risks. Those risks can be minimized by following the Water Sports Safety Code and safety guidelines for boat drivers found in this pamphlet. To ensure the safety of all involved, the merit badge counselor must ensure

- All participants wear a properly fitted personal flotation device at all times.
- The equipment being used properly fits the participants, is safe, and functions well.
- The skis and wakeboard are in good shape, free from sharp or protruding edges.
- There is competent and responsible instruction.
- The towboat operator is efficient and careful, driving solely for the benefit, satisfaction, and safety of the skiers.
- The boat and skier stay away from docks, swimmers, boaters, people who are fishing, and other objects.
- The designated observer is responsible and conscientious.

It is the merit badge counselor's responsibility to follow all BSA safety policies, especially all the points of BSA Safety Afloat. Before setting out, the merit badge counselor should review the Safety Afloat guidelines with the participants. Be sure all involved are familiar with and follow these guidelines while afloat.

Used together, the Water Sports Safety Code and Safety Afloat guidelines will help ensure the safety and well-being of those Scouts under your supervision.

Requirements

1. Show that you know first aid for injuries or illnesses that could occur while participating in water sports, including hypothermia, heat exhaustion, heatstroke, dehydration, sunburn, minor cuts and bruises, and blisters.
2. Do the following:
 - a. Identify the conditions that must exist before performing CPR on a person. Explain how such conditions are recognized.
 - b. Demonstrate proper technique for performing CPR using a training device approved by your counselor.
3. Before doing the following requirements, successfully complete the BSA swimmer test.
4. Do the following:
 - a. Discuss the BSA Safety Afloat policy. Tell how it applies to water sports.
 - b. Name the different types of personal flotation devices (PFDs), and explain when each type should be used. Show how to choose and properly fit a PFD.
 - c. Know the Water Sports Safety Code. Promise that you will live up to it and follow it in all water work for this badge. Know the safety precautions that must be used by the boat operator in pulling water-skiers and wakeboarders.

5. Show the following skier signals to the safety observer in the boat: skier safe, faster, slower, turns, back to dock, cut motor, skier in water.
6. Showing reasonable control while using two skis, one ski, or a wakeboard, do EACH of the following:
 - a. Show how to enter the water from a boat and make a deepwater start without help.
 - b. Show you can cross both wakes four times and return to the center of the wake each time, without falling.
 - c. Show you can fall properly to avoid an obstacle. Also show that you can drop handle and coast to a stop without losing your balance.
7. While on shore, show that you know how to properly adjust the bindings of your ski(s) or wakeboard to fit yourself. Then, in deep water, show you can adjust bindings to fit. Recover and put on your ski(s) or wakeboard that has come off during a fall.



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Introduction

Water sports are a fun and exhilarating way to enjoy being outdoors while developing strength, coordination, and fitness. By using your experience with water sports and practicing good judgment, you will develop skills that will serve you well for a lifetime and have extreme fun while you do.

A Brief History of Water Sports

Water sports have come a long way since 1922, when Ralph Samuelson made the first attempts to glide across water using wooden slats from a barrel. It was an ingenious effort, but the slats worked poorly. Samuelson tried using snow skis next, but the results were still disappointing. Finally he decided to create the skis himself, shaping wooden boards and attaching them to his feet with leather straps.

This method was much more successful, and interest in Samuelson's invention caught on quickly. Exhibitions of the new sport were soon being held in both the United States and Europe.

The first official waterskiing organization—then called the American Water Ski Association—was founded in 1939.



Wakeboarding—which has been described as snowboarding on water—is a much more recent development in water sports. The first wakeboard designs were created in 1985 by two surfers, Jimmy Redmon of Texas and Tony Finn of California. These wakeboarding innovators fashioned small surfboards that could be towed behind a boat. They called this invention a “skurfboard.”

But their designs had one drawback: Like surfboards, skurfboards were buoyant, and many waterskiing tricks depend on being able to make a deepwater start. Only the strongest and most experienced skiers were able to accomplish a deepwater start.



Modern wakeboards are designed for neutral buoyancy—they will stay in position when held under water, making deepwater starts easier.

Herb O’Brien resolved that problem in 1990. This wakeboarding visionary created a neutral-buoyancy board. Shortly afterward, Jimmy Redmon added a further refinement by designing a twin-tipped version. This twin-tipped model, by now called a “wakeboard,” has since become the standard for the sport.

Wakeboarding guru Jimmy Redmon founded the sport’s first official organization, the World Wakeboarding Association, in 1989.





Safety in Water Sports

Following the guidelines in this chapter will help you enjoy the thrill of water sports while staying safe and accident-free.

The BSA Swimmer Test

The BSA swimmer test evaluates the skills needed for the minimum level of swimming ability required for safe deep-water swimming, a safety factor necessary for waterskiing and wakeboarding.

The BSA Swimmer Test

Jump feetfirst into water over your head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl. Then swim 25 yards using an easy resting backstroke. The 100 yards must be completed without any stops and must include at least one sharp turn. After completing the swim, rest by floating. This qualification test should be renewed annually.

Entry

First, the swimmer must be able to make an abrupt entry into deep water and begin swimming without any aids. Walking in from shallow water, easing in from the edge or down a ladder, pushing off from the side or bottom, or gaining forward momentum by diving do not satisfy this requirement.

Distance and Stamina

After entering the water and beginning to swim, the swimmer must demonstrate an ability to cover distance by swimming 75 yards with a strong, confident stroke. The 75 yards should not be the outer limit of the swimmer's ability or stamina. Dog-paddling and strokes that are repeatedly interrupted and restarted are not sufficient, and underwater swimming is not acceptable. One or a combination of strokes may be used to complete the 75 yards. Any strong overarm stroke (including the back crawl) is acceptable.

Resting

The swimmer must be able to do a restful, free-breathing backstroke that can be used to help avoid exhaustion while in the water. After completing the distance requirement, the swimmer must show, for 25 yards, that he can use the backstroke for resting. The change of stroke must be accomplished in deep water without any push-off or other assistance. Any variation of the elementary backstroke is acceptable if it is restful. An overarm back crawl may be acceptable if it clearly provides an opportunity for the swimmer to rest and regain his wind.

Sharp Turn

A sharp turn is included in the requirements to show the swimmer can reverse direction in deep water without assistance and without pushing off from the side or bottom.

Floating

The floating part of the swimmer test demonstrates the swimmer's ability to maintain himself in the water indefinitely, though he might be exhausted or otherwise unable to swim. Treading water or swimming in place will further tire the swimmer and is, therefore, unacceptable. The duration of the float test is not significant, except that it must be long enough to demonstrate that the swimmer is in fact resting and could likely continue to do so for a prolonged period. Survival floating, or drownproofing, may be sufficient if it is clearly restful, but floating face-up is preferred.

Safety Afloat

The BSA Safety Afloat guidelines were developed to promote boating and boating safety and to set standards for safe activity afloat. Be sure to keep these guidelines in mind during all water sports activities.

1. Qualified Supervision

All water sports activities must be supervised by a mature and conscientious adult, age 21 or older. That person must understand and knowingly accept responsibility for the well-being and safety of the youths in his or her care. Further, that person must be experienced and qualified in the particular watercraft skills and equipment involved in the activity and be committed to compliance with the nine points of the BSA Safety Afloat guidelines.

All supervisors must complete BSA Safety Afloat and Safe Swim Defense training, and at least one must be trained in CPR. It is strongly recommended that all units have at least one adult or older youth member currently trained as a BSA Lifeguard to assist in the planning and conducting of all activity afloat.

2. Physical Fitness

All waterskiers and wakeboarders must show physical fitness by presenting a complete health history from a physician, parent, or legal guardian. It is particularly important that the supervisors know about each participant's medical conditions such as diabetes, severe allergies, epilepsy, asthma, or heart conditions so that they can take the necessary precautions to make water sports activities safe. In the event of any significant health condition, the adult leader should require that the participant be checked by a doctor.



The complete text of Safety Afloat can be found in the BSA publication *Guide to Safe Scouting*.

3. Swimming Ability

All waterskiers and wakeboarders must have passed the BSA swimmer test. Anyone not classified as a swimmer may ride as a passenger in the boat with an adult who is trained by a recognized agency as a lifeguard or lifesaver. In all other circumstances, the person must be a swimmer to participate in an activity afloat.

4. Personal Flotation Equipment

All participants engaged in activity on the open water must wear properly fitted U.S. Coast Guard–approved personal flotation devices (PFDs). Type II and III PFDs are recommended.

5. Buddy System

All participants in water sports activities must use the buddy system. Every individual must have a buddy, and every craft should have a buddy boat when on the water.

6. Skill Proficiency

All participants in a water sports activity must be trained and experienced in watercraft handling skills, safety, and emergency procedures. Anyone operating a powerboat must be able to meet requirements for the Motorboating merit badge or equivalent.

7. Planning

Float Plan. A summary of the water sports activity should be recorded in a float plan that documents exactly where the unit will put in and pull out, and what course will be followed. Review the plan beforehand with others who have made the trip recently. Be sure to use accurate and current maps of the waterways to be traveled, and estimate travel time generously to allow for unexpected weather conditions and to avoid traveling under time pressure.

Notification. Provide the float plan to parents of the participants and to a member of the unit committee. Appropriate authorities such as the Coast Guard, state police, or park personnel also should be notified of the activity. Check in with all those who should be notified when you return.

Local Rules. All water sports activities must comply with state and local laws and regulations. Get written permission to use or cross private property.

Rules and Regulations

Everyone involved in the activity—the boat driver, safety observer, and water sports buddies—needs to be familiar with rules for safety on the water, including state laws and regulations governing boating and water sports. Each of the 50 states has its own rules, which can be obtained online (with your parent’s permission), or through a licensing center, a marine dealer, or the appropriate government office.



Weather. Be familiar with the seasonal weather pattern for the area. Check the weather forecast just before setting out, and keep an alert eye on the weather. Bring all craft ashore if rough weather appears to be developing.

Contingencies. When planning water sports activities, anticipate possible emergencies and identify any other circumstances that could force a change in plans. Be prepared with an emergency plan before you set out.

8. Equipment

All equipment, including boats, rescue equipment, and skis or wakeboards, must be in good repair and satisfy all state and Coast Guard requirements. Carry spare equipment and appropriate repair materials, and be sure that rescue equipment is available for immediate use.

9. Discipline

All participants should know, understand, and respect the rules and procedures for safe activity afloat. The rules should be learned before beginning any water sport activity and reviewed just before setting off. Safety rules, plus common sense and good judgment, keep the fun from being spoiled by accidents or injury.



Carry a Coast Guard–approved fire extinguisher when required, and know how to use and maintain it. See the *Fire Safety* merit badge pamphlet for more information.

A PFD is as much a part of your equipment as the boat and the skis or board. Always make sure your PFD is in good condition. Before entering the water, adjust your PFD correctly for safety, comfort, and freedom of movement.

Water Sports Safety Code

Make sure that your water sports activities stay fun by understanding and living up to the Water Sports Safety Code.

Always:

- Learn to water-ski or wakeboard by taking instructions from a good instructor or a person with advanced ability in the sport.
- Wear a personal flotation device (PFD) when taking part in water sports.
- Look ahead and know where you are going at all times.
- Stay away from solid objects such as docks, boats, and stumps.
- Be courteous and stay a reasonable distance from other skiers, boats, and swimmers.
- Run parallel to shore and come in slowly when landing.
- Learn new maneuvers in a step-by-step progression.
- Have an extra person in the boat to watch the skier.
- Signal that you are all right after a fall by clasping your hands over your head or waving to notify the driver and observer.
- Hold up a ski while waiting in the water in a well-traveled boating area.
- Check your equipment for dangerous, sharp, or protruding objects (including wing nuts, loose runners, and slivers).
- Always use a stern platform or ladder when climbing into the boat.

But:

- Never ski or wakeboard in shallow water or in an area where you do not know the depth. Minimum safe depth is 5 feet or your height, whichever is greater.
- Never put any part of your body through the towrope handle or wrap the rope around any part of your body.
- Never yell “Hit it!” until the rope is tight and your board or skis are in proper starting position.
- Never water-ski or wakeboard to the point of exhaustion.
- Never water-ski or wakeboard at night.
- Never water-ski or wakeboard directly ahead of another boat.
- Never water-ski double with different lengths of rope.
- Never attempt fast landing directly toward the shore.
- Never jump from the boat while it is moving.
- Never climb into the boat or approach the stern of the boat while the motor is running.

Before taking part in any water sports, be sure that both you and the boat driver have become familiar with the water where you plan to ski or wakeboard.

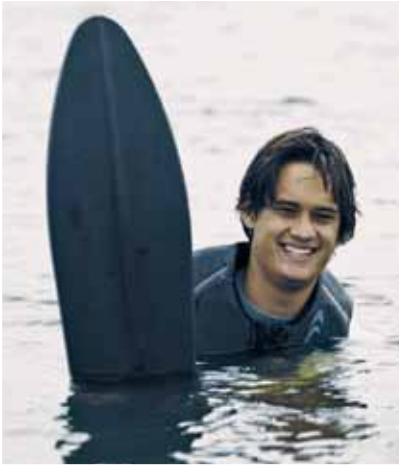
Be particularly wary of shallow water. The water may look deep enough, but if your skis or board hit bottom, your feet will stop suddenly and the rest of you will continue forward at high speed. These severe forward falls can cause injuries ranging from painful sand burns to seriously broken bones.



Skier Signals

Every ski boat should include a designated observer who communicates the skier's signals to the boat driver.

The use of standard waterskiing signals has made a great contribution to the safety of water sports. These signals, originally developed by the American Water Ski Association, have been written into law in many states.



For the “skier in the water” signal, hold one ski upright above your head.

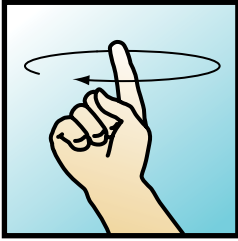


To make the “skier safe” signal, clasp your hands high over your head so that the observer can see you.

Skier in the Water. This signal makes the skier more visible to nearby boats while waiting to be picked up.

Skier Safe. Skiers use this signal after a fall to indicate to the boat that they are all right. If the skier does not make this signal after a fall, the boat driver and the observer can assume that emergency or rescue procedures are necessary.

Other Signals. At the start of a ride, instructions to the boat can be given verbally. With the skier in starting position, the observer tells the driver to idle the boat forward slowly. When the line becomes taut and the skier is moving slowly forward in a takeoff position, the skier lets the boat driver know to accelerate by yelling “Hit it!” The driver then steadily increases the boat speed until the skier is up.



The driver uses this signal and then the left-turn or right-turn signal to alert the skier about a change in direction. The skier uses the same series of directional signals to alert the observer and driver.

LEFT TURN



RIGHT TURN



FASTER



CUT MOTOR OR STOP



SLOWER



BACK TO DOCK



Once a skier is under way, the noise from the boat makes hearing instructions difficult. The skier must learn to give directions by using the hand signals shown here.



The observer serves as the eyes and the ears for the driver and skier. Note that “skier” refers to both water-skiers and wakeboarders.

The Observer

The observer must communicate the skier’s signals to the boat driver quickly and accurately. To do this, the observer must watch the skier closely, tell the boat driver if the skier falls, and keep the driver alert to other boat traffic and potential hazards.

The observer also is in charge of the towrope. The observer coils the rope into the boat when the skier is ready to board the boat and plays it out when necessary for deepwater starts. The observer should be ready and able to enter the water quickly to aid the skier when needed.

Safe Boat Operation

Driving a skiboat is fun, but it also demands a lot of responsibility. In water sports, the boat driver must remember that the safety of the water-skier or wakeboarder is always the top priority.

Boat Driver's Safety Guidelines

Here are some guidelines to help drivers maintain a safe and enjoyable outing.

Always:

- Have an observer onboard to watch the water-skier while you watch forward.
- Return quickly to protect a fallen skier, who is helpless in the water against oncoming boat traffic. The skier is your primary responsibility.
- Drive according to the skier's ability, and avoid sharp turns.
- Put the motor in neutral when passing a fallen skier.
- Turn off the motor when picking up a skier.
- Use common sense and courtesy when driving for a skier.
- Take a skier into the boat using a ladder or lower rear deck, helping the skier to avoid any contact with the motor or rudder.



For more information on safely operating a ski boat, see the *Motorboating* merit badge pamphlet.

But:

- Never ride the gunwale or the back of the seat while driving for skiing, and do not allow passengers to ride this way.
- Never increase speed when bringing in a skier.
- Never tow skiers in congested areas, particularly swimming areas.

The Basics of Safe Boat Driving

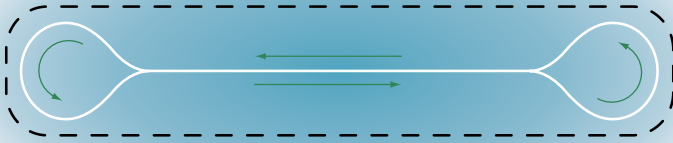
- Keep the boat speed even.
- Take off smoothly.
- Steer a straight course.
- Round curves to make the skiing easier.

In addition to providing a safe ride, the boat driver should also try to find the best possible water conditions. Rough water caused by wind can be avoided by seeking the shore protected from wind.

Unnecessary boat wake can be minimized in rough conditions by driving back through the wake just created after each turn. Where rough water is not a problem, the driver should steer in a wide oval pattern to avoid pulling the skier through the boat wake.

A driver should never start the boat's motor when anyone is in the water near the boat's stern. The motor's propellers can cut a person even when in neutral or at idling speeds.

A designated observer must always be on the boat. However, the number of additional passengers should be kept to a minimum because they can be distracting to the driver. The extra weight can also lessen the boat's power and affect the skier's ride.



Using a “dog bone” turn when reversing direction helps reduce the effect of the boat wake on the skier.

Picking Up a Downed Skier

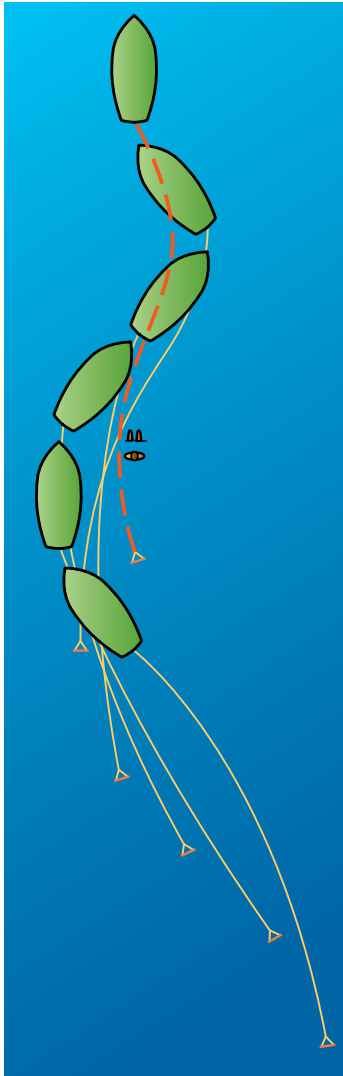
When the skier falls, it is important that the driver knows quickly whether the skier is all right. The observer is responsible for keeping the driver informed.

If the skier fails to wave or give the clasped hands overhead signal, the observer must let the driver know right away. The driver must then return to the downed skier as quickly as safety permits to give any help needed.

If a skier indicates he is all right, the driver should idle back to the skier, allowing time for the skier to put his skis back on. The skier should be approached with the driver’s side closest to him, so that the driver has the best possible view. Once the boat is abreast of the skier (10 to 12 feet), the driver turns sharply at idle speed to the side the skier is on, putting the motor in neutral when passing the skier. If the driver wants to pull the skier in the direction the boat was going when the skier fell, the driver comes around in a half circle.

Approaching a downed skier

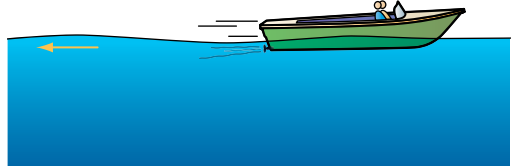


**S-course**

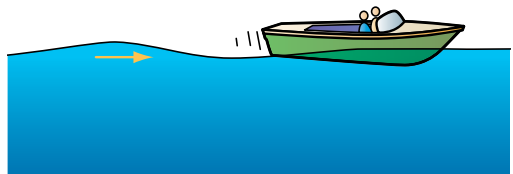
In many cases, an experienced driver will pick up a skier by turning sharply to the side the skier is on (once safely abreast of and past the skier) and then turning sharply in the opposite direction so that the boat is nearly on the same course as when it came up on the skier. This S-course causes the stern of the boat to swing in a broad arc, bringing the trailing line close to the skier.

On small or congested lakes, a driver can reduce the boat turning area when retrieving a fallen skier by cutting the throttle and turning the wheel just as the following wake hits the stern. This stern wave pushes the boat around in a tight, space-saving turn.

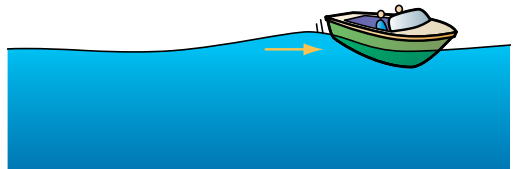
Turning on the stern wave



AT SKIING SPEED, WAKE IS CREATED.



CUT THROTTLE, TURN WHEEL. WAKE BECOMES A WAVE.



WAVE REACHES STERN AND PUSHES THE BOAT AROUND.

First Aid

Following the nine points of Safety Afloat will help prevent many incidents in your water sports activities, but some minor injuries could still occur. Take appropriate precautions and become familiar with the steps to follow if health concerns arise while you are out on the water.

Cardiopulmonary resuscitation (CPR) is the important first response in the event of a cardiac emergency. Such emergencies can result from strenuous activity or drowning accidents where submersion has caused respiratory and cardiac arrest. Persons trained in CPR should be included in every water sports outing. The *Boy Scout Handbook* and the *First Aid* merit badge pamphlet explain these skills and when they should be used.

Hypothermia

Hypothermia occurs when the body's core temperature falls below the normal range. Exposure to cold, or even cool, water can lower your core temperature dangerously, especially when combined with wind, exhaustion, or hunger. Early signals of heat loss include shivering and bluish lips. Further cooling may result in loss of muscle strength and coordination, and may upset the ability to think clearly or do simple tasks. In severe stages, shivering will stop and unconsciousness will follow. At this stage, death is possible unless treatment is received.

Anyone who starts to shiver or shows discoloration around the lips or cheeks should immediately be taken off the water, thoroughly dried, put in dry clothing or wrapped in blankets, and moved to a warm place. If no warm shelter or other heat source is available, press the victim closely with one or more persons to transfer heat through direct skin contact. Minimize the victim's movement and call for medical aid.

Hyperventilation is the result of overbreathing—either deliberately or because of panic. The likely result is dizziness and fainting. Such a condition is unlikely in water sports if the participants are properly prepared for each new skill level. If a skier shows signs of panic at any time, calmly bring that person back into the boat or onto shore. Before resuming any activity, determine and resolve the cause of the panic.

Heatstroke is an extreme stage of heat exhaustion, caused by overheating, dehydration, overexercising, or a combination of any of these.

Heat Reactions

Heat reactions, including heat exhaustion and heatstroke, result when the body cannot keep itself cool enough. If someone feels dizzy, faint, nauseous, or weak; develops a headache or muscle cramps; or looks pale and is sweating heavily, treat for **heat exhaustion**. Have the person lie down in a cool, shady spot with feet raised. Loosen clothing and cool the person with a damp cloth or a fan. Have the victim sip water. If the condition worsens, get medical help. Recovery should be rapid.

A **heatstroke** victim's skin may be wet or dry but will always be flushed and hot. The pulse is extremely rapid and the person will be disoriented or unconscious. Cool the victim immediately through immersion or with cold packs. If the victim is able to sip, provide liquids to increase the body's fluid level. Treat for shock and seek immediate emergency medical help.

First Aid for Shock

1. Eliminate the cause of shock by restoring breathing and heartbeat, controlling bleeding, relieving severe pain, and treating wounds.
2. Make sure the airway stays open for breathing.
3. Have the injured person lie down. Raise the feet 10 to 12 inches to move blood from the legs to the vital organs.
4. Keep the person warm by placing plenty of blankets under and over him.
5. Call or send someone for emergency medical care.





Use generous amounts of waterproof sunscreen to help prevent sunburn while out on the water.

Sunburn is a familiar condition commonly associated with water activities. Remember that sunlight reflected from the water surface can be as damaging as direct exposure. Cover up, use a waterproof sunscreen, and limit your exposure time. If your skin begins to redden or you feel uncomfortable, get out of the sun.

Dehydration

Water is essential for nearly every bodily function, including brain activity and temperature control. We lose moisture through breathing, sweating, digestion, and urination. A person who gives off more water than is taken in risks becoming dehydrated. The first sign of dehydration usually is dark urine. Other signs can include weariness, headache and body aches, and confusion. A person showing any indications of dehydration should rest in the shade and sip water until the symptoms subside.

Help keep your body in balance by eating enough throughout the day. The importance of drinking plenty of fluids cannot be overemphasized. Don't wait until you feel thirsty—that is an indication that you are already a bit dehydrated.

Other Minor Injuries

Most **bruises**—also called contusions—are not serious and are easy to recognize and treat. The black-and-blue discoloration is caused by blood leaking into damaged skin tissue, usually caused by a blow from a blunt object.

Covering the site of the bruise with a cold compress or towel for 30 minutes will help reduce discoloration, pain, and swelling. The flow of blood to the damaged tissues can also be slowed by resting the injured area. Bruises to the head or abdomen coupled with sharp or persistent pain, or those that include possible bone injury, should be seen by a medical professional.

Lacerations, incisions, and abrasions—commonly called cuts and scrapes—may result from falls during water sports, or more likely when climbing in and out of the boat or loading gear on a rough dock. As in other situations, the wound should be cleaned, disinfected, and covered. The boat first-aid kit should provide supplies for minor wound treatment. For severe bleeding injuries, control bleeding with direct pressure or at pressure points until emergency medical help is available.



Clean and cover minor scrapes.



In water sports, **blisters** are most likely to occur on the hands from the towrope handle, and on the feet and ankles where the ski bindings rub. Tenderness or sensitive areas called hot spots may indicate the start of a blister. Be attentive for these and try adjusting your grip on the handle, or loosening or repositioning your bindings to avoid the sensitive areas.

If these efforts don't help, be smart: Listen to your body and quit for the day. If you have no choice but to continue the activity, it might help to protect the area with gloves, socks, or booties. Moleskin generally is not effective in wet conditions.

If a blister develops, try to keep from breaking it open. Treat a broken blister as you would a minor cut or abrasion. Diabetics who develop blisters should seek medical attention.



Water Sports Equipment

Water sports do not require a lot of equipment, but each item is essential. At the top of the list, of course, is a personal flotation device (PFD). After that, you will need a motorboat, a towrope, and water skis or a wakeboard.

Personal Flotation Devices

A properly fitted PFD should be worn during any activity on open water, including waterskiing and wakeboarding. Before you even fit a ski, first learn about the five types of U.S. Coast Guard-approved PFDs and how to use them properly. In general, Type III PFDs are worn for waterskiing and wakeboarding.

Type I: Offshore Life Jacket. Designed to turn most unconscious victims face-up in rough, open water. Type I PFDs have a lot of flotation in the chest, shoulders, and upper back areas. They are not designed for recreational boating but for passengers on cruising vessels, such as ferries on large bodies of water.

Type II: Near-Shore Buoyant Vest. Designed to turn an unconscious victim face-up in calmer, inland waters. Type II PFDs are shaped like a horse collar and are not as bulky as Type I PFDs. They come in four sizes ranging from infant to adult and are generally inexpensive. Most of the flotation is placed in the front and around the neck, making them uncomfortable for water sports but useful for most types of recreational boating and instruction.

Type III: Flotation Aid. Designed to keep a conscious person floating in a vertical position, but may not prevent an unconscious person from floating face-down. Type III PFDs are most often used for water sports such as waterskiing and wakeboarding. They come in many styles, are comfortable to wear, and have the same buoyancy as Type II PFDs. Most have a zipper or buckle closure and adjustable side straps.

TYPE I



TYPE II



TYPE III





TYPE IV

Type IV: Throwable Device. Designed to be tossed to a person nearby in the water. Type IV PFDs include ring buoys and seat cushions with straps. They should never be used in place of a wearable PFD.

Type V: Special Use. Designed to have internal buoyancy and to inflate for additional flotation. These PFDs have special characteristics and limitations, and should not be used without specific training.

Using a PFD Properly

Most Type III ski vests are well-suited for water sports because they are comfortable and do not restrict movement. All of the water sports techniques discussed in this pamphlet must be done while wearing a PFD. Life belts or ski belts are not acceptable.

Most Type III PFDs will be worn with the label on the inside. The belt straps should be adjusted to fit snugly at or just above the waist. The front of the PFD must be firmly secured at the top by a buckle, strap, or strong zipper. All side straps, ties, or zippers should be secure.

PFD Care and Maintenance

Proper care and storage of PFDs is essential. Allow PFDs to drip dry, and store them in a well-ventilated place away from direct sunlight. Sunlight causes the fabric to fade and the flotation material to weaken. Never use a PFD as a kneeling pad or seat cushion, and never cut or alter a PFD. This includes gluing or sewing patches on the fabric that covers the flotation material. Do not repair tears or holes in the material. If the fabric is ripped or if buckles are missing, replace the PFD.

Checking the Fit of a PFD

On land, have a buddy stand behind you and firmly pull up both shoulder straps. If the shoulder straps pull up to ear level, the PFD doesn't fit snugly enough. Readjust the PFD or try a smaller size or different style.



Never set out on a watercraft unless you are wearing a personal flotation device that fits well.

In calm, shallow water, test the fit of a PFD by relaxing your body and tilting your head back. The PFD should keep your chin well above water. If it doesn't, readjust for a snugger fit or try a PFD with a higher buoyancy rating. Check the label to find the rating.

The Ski Boat

The ski boat must meet all BSA and state safety requirements. It can have either an inboard or an outboard motor, as long as it is able to reach speeds of 25 miles an hour while pulling a skier. This is adequate power for all the skills and maneuvers required for the Water Sports merit badge.

Never use a boat for waterskiing or wakeboarding unless it has safe positive steering. The boat must be equipped with a steering wheel. Check the cables frequently to be certain they are in good condition. The boat should be equipped with a clean and clear wide-angle rearview mirror.

For more information on BSA safety requirements for boating, see the *Motorboating* merit badge pamphlet and the *Guide to Safe Scouting*.



Never pull or hang onto the motor or any other mechanical part of the boat when climbing out of the water.

Positive steering refers to steering that matches the direction of travel. For example, the steering wheel of a car uses positive steering—when the wheel is turned to the left, the car goes to the left. In contrast, when the tiller in most sailboats is moved to the left, the boat turns to the right.

If the ski boat does not have a stern platform just above the water for skier use, then a ladder device must be available. A ladder or platform is essential, because few skiers can climb over the side of the boat after an exhausting ski run without injuring themselves or requiring substantial assistance.



Towropes

Polyethylene and polypropylene towropes are popular because they float and are brightly colored for good visibility. Standard towropes have a single handle and are 75 feet long. Before each outing, check that the towrope is in good condition. If a towrope is frayed, throw it away; do not try to mend it.

The towrope can be fastened to the boat in a number of ways. A simple eyebolt can be used through the transom. Place it as near the center as possible. Also, a harness equipped with a swivel may be bolted to the outside of the transom and the towrope attached to it. Do not attach the rope to cleats that are not specifically intended for this purpose. A center post with a ball and quick release is ideal and is usually included on boats specifically designed for waterskiing.

Water Skis

Larger skis will plane faster at low speed than narrower skis, but their greater buoyancy might make them difficult to handle in starting positions.

As a beginning water-skier, you will be using basic skis, called a *combination pair*. Choosing the correct size skis to use depends mostly on the skier's weight. Small, lightweight skiers should not attempt to ski on oversized skis, and heavy skiers should not use undersized skis.

Using skis designed for jumps, tricks, or slalom riding is unnecessary until your skills are more advanced. Freestyling can make learning the basic skills more difficult.



Combination pair

Wakeboards

Wakeboards come in different lengths and widths, and have one to three fins on the bottom that help stabilize the board and increase maneuverability. Most wakeboards are twin-tipped, which means that they slope upward at both ends.



As with water skis, the most important factor in choosing a wakeboard is the rider's weight.

Always double-check the security of the fins and bindings before using your wakeboard. Attach the fins with the wider end toward the outside of the board.

Choosing the Correct Size

Use these general guidelines when selecting skis or a wakeboard. If your weight is on the borderline between two sizes, choose the larger size.

Note that standard sizes for water skis are measured in inches; for wakeboards, in centimeters

If you weigh:	Try skis that are:
Up to 150 pounds	66 to 67 inches long
150 to 200 pounds	68 inches long
More than 200 pounds	69 to 72 inches long
If you weigh:	Try a wakeboard that is:
Up to 160 pounds	125 to 135 centimeters (49 to 53 inches) long
160 to 180 pounds	135 to 140 centimeters (53 to 55 inches) long
More than 180 pounds	140 centimeters (55 inches) long or longer

Bindings

Bindings come in a wide variety of styles. Some are designed to fit a range of sizes, while others offer a more specific fit. Most wakeboards, for example, have bindings in specific sizes from small to extra-large. Many of the current styles of bindings are designed to stay on the foot during a fall.

Many wakeboards are designed to stay on during a fall, with good reason. If one foot came loose while the other was still in its binding, there would be a greater chance of injury to the skier.

The snugness of the fit is also adjusted in a variety of ways, including laces, straps, or clamps. No matter what style of fastener is used, correctly fitted bindings should feel comfortable and snug, like a tennis shoe that is firmly laced up.

Be sure that your heel is firmly in place and that the binding supports your feet well. If the bindings are slightly too large for your feet, try wearing a pair of heavy socks or liners to provide friction and a snugger fit. However, do not try to make the binding fit by wearing more than one pair of socks.



Be sure to check the fit when both your feet and the skis are wet. Bindings that seem to fit well when dry often will be too loose when wet.



Water-ski bindings



Wakeboard bindings





Adjusting Wakeboard Bindings

With wakeboards, the angle of your feet on the board can be adjusted depending on your skill level. As a beginner, you'll want to follow the steps below, fine-tuning the adjustments to find a stance that feels most comfortable to you.

Step 1—Adjust the distance between the bindings to about shoulder-width apart, with your back foot slightly more toward the rear of the board for better stability.

Step 2—Adjust the angle of the back foot so that it is straight across the board or turned out slightly toward the back (at zero to 9 degrees on the baseplate). Tighten the binding lock.

Step 3—Adjust the angle of the front foot so that it is slightly turned out toward the front (9 to 27 degrees). Try the board on for size before you hit the water.

Regular or Goofy?

When riding a wakeboard, one foot is in front of the other. Having the right foot forward is called "regular-footed," and having the left foot forward is called "goofy-footed," but there is no right or wrong choice.

To find out whether you are regular-footed or goofy-footed, stand with your feet shoulder-width apart and have a friend gently push you from behind. The foot you naturally step forward with is probably the one to have in front when you wakeboard.

Adjusting Water-Ski Bindings

Many skis come in specific sizes and do not need to be adjusted. If you have adjustable skis, most will be adjusted in the following way:

Step 1—Slip your foot into the bindings of one ski, pressing the front of your foot snugly against the front binding.

Step 2—Press the release button on the back binding and slide the binding forward until it is snug but comfortable against of your foot.

Step 3—Repeat these steps with the bindings of the second ski.



To correctly size and fit your bindings, seek assistance from someone knowledgeable about the equipment.



Basic Skills for Water Sports

You are almost ready to hit the water! First, get a feel for standing up on skis or a wakeboard by practicing the basic techniques on dry land. Then, be prepared to get wet. It may take a few tries and several falls before you master the basic skills in this section, but the effort will be well worth the result. In no time, you will be hooked.

Beach Practice

Beach practice allows you to perform the basic moves of standing up without having to worry about falling. By getting a feel for the proper techniques on dry land, you will be able to correct your form much more easily once you are out on the water.

Step 1—With your skis or board flat on the ground beneath you, sit with your knees up against your chest and arms straight out in front of you, holding onto the towrope handle. Your instructor should hold the line and pull gradually but firmly to help you stand.

Step 2—As the line begins to pull you forward, use your legs to lift up slowly. Keep your feet flat in the bindings, your arms and back straight, and your weight back against the pull of the tow grip.





Step 3—Lift up almost to standing position. Be sure that you push yourself up with your legs, not pull yourself up with your arms. Keep your knees bent slightly to provide better balance and so that your legs act as shock absorbers when you are on the water. Practice this several times while focusing on the legs doing the work, so it will come naturally to you when you are on the water.

Another essential point is to keep your arms straight when standing up. The arms are the connection that transmits the boat's power to the skis or board—if the arms are bent, the connection breaks and you will start to founder.

Once you are standing, a good way to check your position is to drop the handle or have your instructor suddenly ease up the line. If you start to topple backward, you are leaning back too far. Find the proper position by letting go of the handle and taking your stance with knees bent slightly and arms out straight. Now you are balanced, and when the instructor places the handle back in your hands, you will be in proper position.

Once these steps come easily, you are ready for the water.

Entering the Water

The boat's motor should always be turned off before a skier enters or exits the water.

Some ski boats will have a platform at the back of the boat so that skiers can enter the water more easily. If no platform is available, the boat must have a ladder device. The skier would then use the ladder to lower himself into the water. Once the skier is safely in the water, the equipment is handed to him by a helper in the boat.



When entering the water from a boat equipped with a platform, the skier can sit down and ease himself into the water.

Putting On Your Skis or Board

Because the equipment floats, putting on skis or a wakeboard might be the biggest challenge of the deepwater start. All too often, new skiers find themselves flat out on the water with their legs bobbing on the surface behind them.

Begin by practicing in neck-deep water so you can stand on the bottom and rest between tries. In deep water, it may help to take a deep breath of air and duck your head underwater. This gives you better control and easier movement.

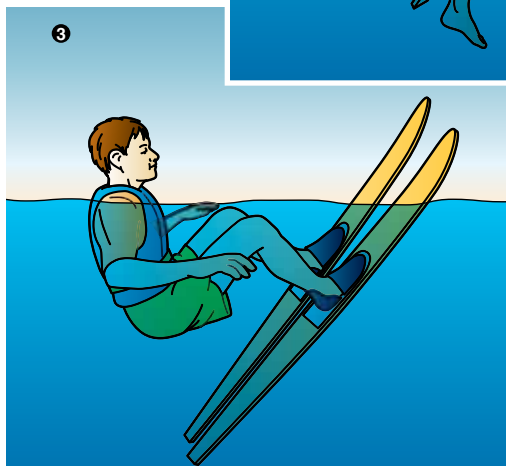
First get your
skis or board on,
then have the
boat bring the
tow line to you.

To put on water skis, follow these steps.

Step 1—Push the first ski underwater as you bring your foot up to it. Use both hands to open the bindings, pulling the front tongue away from the heel. Let the second ski float on the surface beside you.

Step 2—Slip your foot into the binding and secure it for a snug fit.

Step 3—Follow the same steps with the second ski.

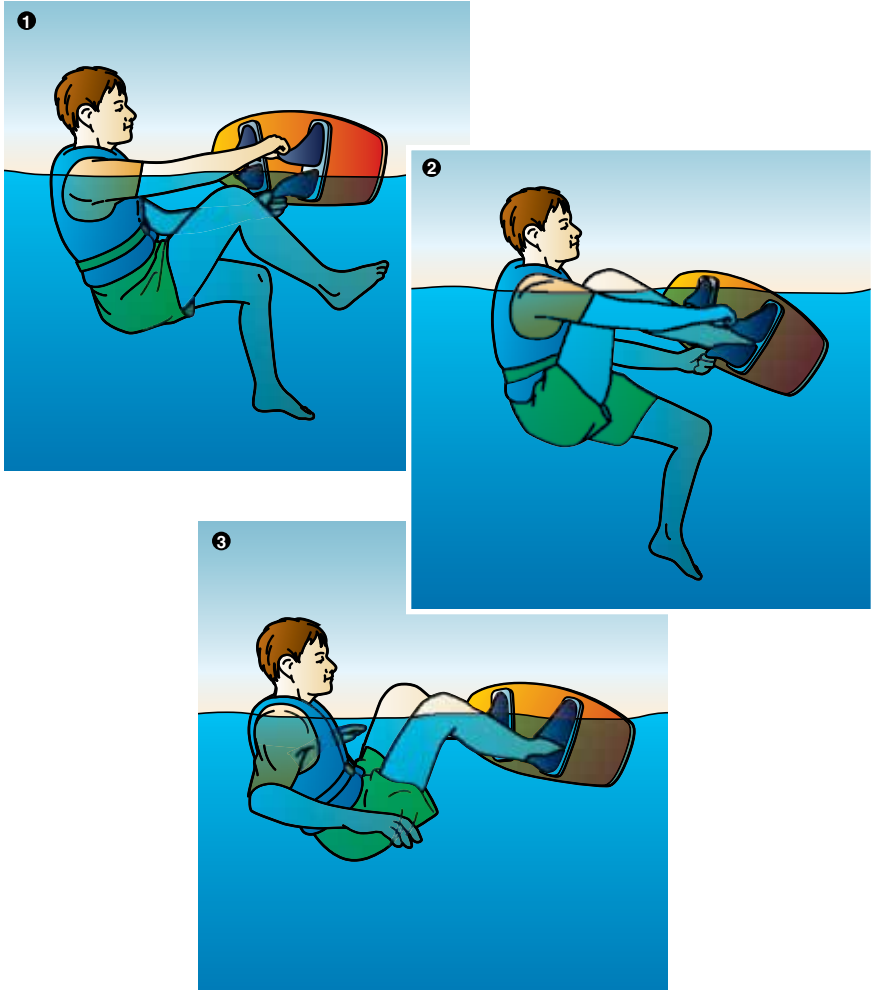


To put on a wakeboard, follow these steps.

Step 1—Hold the board in front of you and use both hands to open one of the bindings, pulling the front tongue away from the heel.

Step 2—Slip your foot into the binding and secure it for a snug fit.

Step 3—Follow the same steps with the other binding.



Standing Up

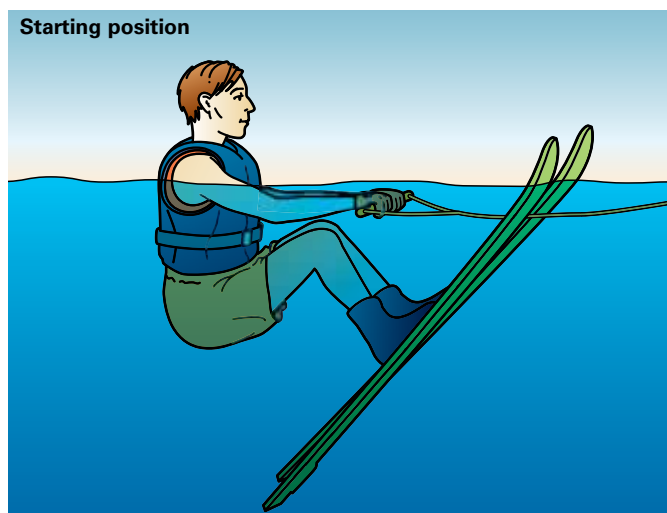
After you have put on your board or skis and are waiting to start, keep your balance in the water by bending your knees into your chest and treading water with your hands and arms.

The rope should be trailed to you, with the boat idling slowly past and the rope out behind it. As the line moves past you, hold it loosely and let it slip through your hands. If you are not facing the direction that the boat will be pulling you, tighten your hold on the line and let the boat's pull on the rope swing you into position.

To bring the tips of the skis or edge of the board up, tighten pressure on the rope and lean back against the pull of the boat. When the handle comes to you, you should be in starting position.

The boat should be taken out of gear momentarily while you adjust your starting position. Keep your knees bent and your arms to the outside of your knees.

Deepwater Starts on Water Skis. Standing up on water skis starts with proper positioning. The skis should be about shoulder-width apart, with at least 6 to 12 inches of ski above the water. Keep your knees bent into your chest and close together, and the skis parallel. Hold the rope handle with your arms straight. When you are ready, shout out "Hit it!" to let the boat driver know to accelerate.

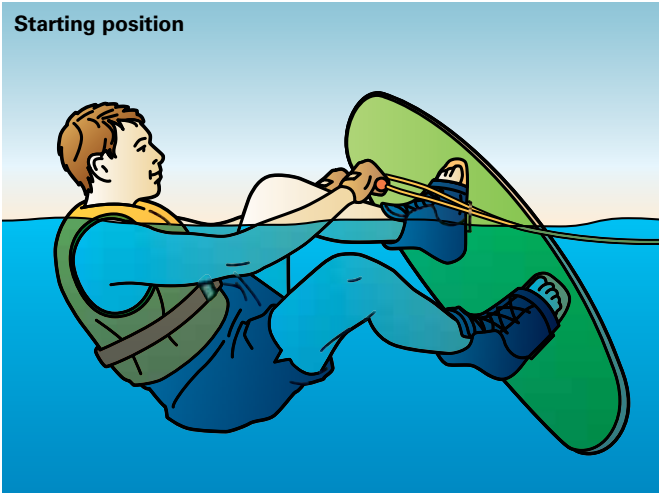


Stay in a sitting position, leaning back slightly against the pull of the boat. Keep your knees bent and between your arms, and stay in a crouch until the skis are planing on top of the water. Then slowly stand up, keeping your arms and back straight and knees slightly bent. Look up toward the boat, not down at the water. Be sure to keep the skis about shoulder-width apart.



Deepwater Starts on a Wakeboard. Begin with the wakeboard out in front of you and parallel to water's surface. Keep your knees bent and hold the rope handle with your arms straight. When you are in position and ready, shout out "Hit it!" to let the driver know to accelerate.

Starting position



When starting up in deep water, wakeboarders should come up to a standing position like described for skiers, then twist at the hips to bring the front of the board forward. Keep the knees bent and arms straight, and hold the handle down in front of the lead hip.

Holding the towrope handle close to your chest or letting it drop toward your knees will throw you off balance. Remember to drop the handle if you fall.



To keep the board from wobbling, put slightly more weight on your front foot than on your back foot as the boat begins to pull you out of the water.



As the boat picks up speed, your wakeboard will begin to plow against the water. Bring your knees in close to your chest and your hands just in front of your knees.

Stay in the squatting position and use your feet to keep the bottom of the board planing against the water. This helps bring the board up onto the water surface, lifting you up with it.



As the board begins to ride on the surface of the water, stand up slowly, keeping your knees bent slightly and arms out straight in front of you. Turn the board forward by twisting at the hips, keeping the handle down, your head up, and your lead hip pushed close to the handle.

“Planing” means that the skis or board is gliding across the top of the water. “Resistance” happens when the skis or board is still somewhat below the surface and pushing against the water, as at the beginning of a deepwater start.

Avoiding Common Errors

Most falls during deepwater starts are caused either by standing up too soon or by pulling the towrope handle into the chest. In both cases, you will lose your balance. By standing up too soon, you will fall forward; by pulling the handle into your chest, you will fall backward.

Another common error when waterskiing is keeping the skis too close together, which will cause you to roll to one side.

Basic Stance for Waterskiing and Wakeboarding

- Shoulders back and head up
- Knees slightly bent
- Shoulders square to the boat

When waterskiing, also keep:

- Feet straight ahead, with the tips of the skis pointed directly at the boat
- Towrope handle near the waist
- Weight centered between skis, with the skis shoulder-width apart



When wakeboarding, also keep:

- Feet sideways to the boat, with the tip of the board pointed directly at the boat
- The towrope handle near the lead hip
- Weight centered over your feet, with slightly more weight on the back foot



The following guidelines will help you to avoid or correct common errors.

Take Your Time

As the boat starts to pull you out of the water, you can more easily handle the resistance against the skis or wakeboard by staying in a crouched position and taking your time before trying to stand. Once the skis or board begins to plane, the resistance will be less and it will be easier to assume a balanced position.

Use Your Legs

You must raise your body weight through leg power. If you pull in on the handle in an attempt to stand up, the board or skis will slide forward and you will probably fall backward. If you find it difficult to stand up with leg power, you may be leaning back too far.



Keep your stance straight to maintain better control.

Straighten Your Body

Another common error is leaning forward when you are on top of the water. When you straighten your legs, it may seem as if you have straightened your whole body, when in fact you are still leaning over from the waist. To avoid losing your balance and falling forward, stay aware of your stance and straighten your whole upper body, keeping your knees slightly bent.

Keep Your Arms Out

Beginners frequently pull in their arms to maintain balance or to take up imagined slack in the line. Inexperienced skiers often think that the line is slack when it is not.

The trouble with pulling in your arms is that it pulls your body up to the handle with your elbows bent, and when you straighten your arms again, the line actually does slacken. Then, as the boat moves forward and the line snaps taut, your balance is completely thrown off. Remember to keep your arms out straight.

Hold the towrope handle so that it is near your center of gravity, about waist high. To compensate for a momentary loss of balance, give the towrope a short jerk rather than a long pull.

Bend Your Knees

You will stay better balanced by keeping your knees slightly bent, so they can act as shock absorbers. When waterskiing, it also helps to keep your weight evenly distributed over both skis—especially when crossing the wake in rough water and making turns.

Falling

Falls are an inevitable part of learning water sports, and learning to fall properly is a skill you can develop.

The first thing to do is make certain that you are actually falling. Amazing recoveries are often made by simply hanging on to the tow handle and regaining balance. If a fall can't be avoided, let go of the towrope, tuck your chin, and keep your arms and legs close to your body. Avoid falling forward. Instead, fall backward or to the side.

When you are in the water after a fall, clasp or wave your hands high over your head to signal that you are OK.

Keep Trying

Don't worry if it takes several tries before you stand up. The average beginner tries five or six times before succeeding. If you find that you are falling an unusual number of times, fear of falling may be the real problem. Remember that falls are a natural part of learning water sports and that they are just part of the fun.

Stopping

When you have gained skill and find that you are sometimes still standing at the end of a ride, it is time to learn how to coast to a stop. The steps are simple.

Step 1—Let go of the towrope and slowly crouch down.

Step 2—Spread your arms out to your sides for extra balance as you begin to sink into the water.

Step 3—Give the “skier safe” signal as soon as you are down, and then the “skier in the water” signal if there is any other boat traffic.

Never ski directly toward shore when landing or at any other time. If you misjudge and suddenly hit bottom, you will be thrown into a bruising fall. Ski parallel to the land. Never attempt to land close to a dock, a float, or any other solid object.



If you want to slow yourself down while landing, squat and drag your hands in the water.



Moving From Side to Side

Before attempting to cross the wake, take plenty of time to get comfortable with your balance and the sensation of skimming along the surface. Practice moving back and forth several times on the smooth water between the wakes. Avoid drifting too far to either side, because hitting the wake broadside with the skis or board can easily cause you to catch an edge and topple over.

Banking your skis will allow you to move to the right or left.

Waterskiing

Remember that your skis will naturally head in the direction the tips are pointing. To move from side to side, you will need to “bank” the skis. So, if you want to go to the left side of the wake, shift a little more weight to the left ski. This slight shift in weight causes more resistance against the left side of the skis, turning them to the left.

Wakeboarding

In wakeboarding, the side of the board that your toes point toward is called *toeside*; the side the heels point toward is *heelside*. To change direction, shift your weight to the side that you want to move toward and lean slightly into the turn. When moving *toeside*, lean slightly to the front; when moving *heelside*, lean slightly backward.

Balancing will become easier as you develop a feel for moving back and forth. Just like when riding a bike, you will feel less steady at slower speeds. As you become more confident, you will wobble much less. As in other sports, the proper reflexes develop with practice.



Avoiding Obstacles

If you are going too fast or are too close to steer away from an obstacle, release the towrope and crouch down. If you are still going too fast, you can slow yourself rapidly by sitting back on your skis or board and dragging your hands in the water. Be prepared to topple to one side if needed.

Crossing the Wake

Once you have the feel of moving from side to side, you are ready to try crossing the wake. Wakeboarders might find it easier to move toeside when riding regular-footed and heelside when goofy-footed. Approach and cross the wake at an angle with knees bent to help absorb the lift of the wake.

Remember to avoid hitting the wake broadside. Just as boats avoid capsizing by pointing into rough waves, you will avoid catching an edge if you cross the wake at an angle.

Maintain your momentum as you cut across the wake.

Once you are outside the wake, keep moving to a distance of 10 to 15 feet and turn the skis or board toward the boat wake, again at an angle.

As you go back and forth and become accustomed to the lift of the wake, you will be able to turn sharper and pull harder, increasing your speed across the wake each time you try it.



When crossing the wake, stay aware of your body position and where you are holding the rope handle. Keep your knees bent, the towrope taut, and your eyes on the horizon in the direction you are moving.



Building Your Skills

Learning to cross the wake opens the door to a new level of skill in water sports. As you brush up on the techniques in this chapter, take each new skill step by step. Remember that patience will still be required. As you apply yourself and increase your abilities, water sports will become even more enjoyable.

Waterskiing

Once you are comfortably crossing both sides of the wake, you are ready to advance your waterskiing skills by learning to ride on one ski.

On One Ski

Learning to ski on a single ski does not require any special equipment. Use your regular pair of skis, a regular 75-foot towrope, and your regular PFD. Later you can use a ski with rear bindings if you want.

Begin by getting a feel for the stance while still on land. Shift about 80 percent of your weight to one ski. Then lift the other ski, bringing the knee up and toward your chest as you lean back slightly. Bend your ankle to keep the ski tip up. Keep your arms straight, and keep your skiing leg only slightly bent.

Using this stance on the water, try lifting one ski and then the other. You will probably feel more stable on one leg than the other, and will want to drop the ski from the less stable leg. If you have difficulty lifting the skis, you probably have not transferred enough weight to the other foot. You cannot lift a foot you are standing on.



When lifting your ski, the tip of the ski must leave the water first and come back down to the water last to prevent it from digging in and pitching you forward.

Make your first attempt to ride on one ski in the smooth water directly behind the boat and between the wakes. Shift your weight to the ski you intend to use. Then gently lift your heel out of the binding of the ski you are going to drop off. Let that foot and the ski drift toward the back. Keep your heel up, and the force of the water on the ski will pull the front binding from your foot.

Do not attempt to kick the ski off or you will lose your balance. Keep the toes of your free foot in the water as you gain stability, then slowly move your free foot into position behind the heel binding of the remaining ski. Place your toes on the ski first and gradually set your foot down.

When your free foot is in place, experiment with shifting your weight back and forth slightly to find the most stable skiing position. Then keep your weight back, knees slightly bent, and arms straight. To turn, simply lean in the direction you want to go. The harder you lean, the faster you will turn.

One-Ski Start

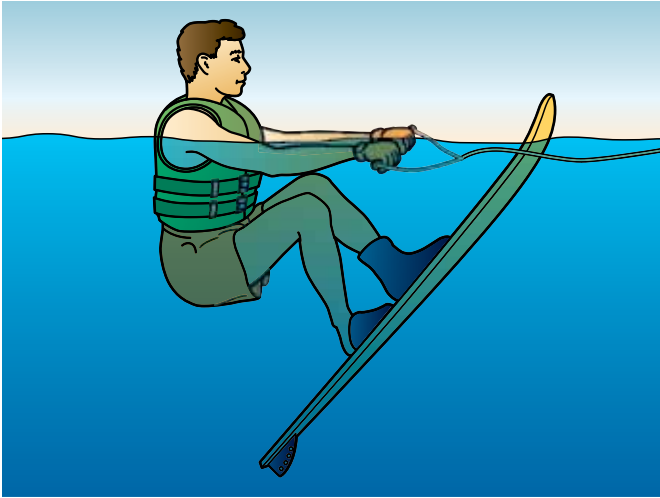
If you can start on one ski, you and companions will not have to chase after a loose ski every time you switch from two skis to one. You can use one ski of a combination pair or use a slalom ski if one is available.

Sit on the heel of your ski with your knee bent well into your chest. Your free leg should be stretched out behind you, down into the water as far as possible. The free leg acts as a rudder for steering and partly substitutes for stability that ordinarily comes from a second ski. Do not be in a hurry to pull up the free foot. Drag it deep in the water as long as possible and wait for the boat to pull you out of the water.

The correct boat speed for switching from two skis to one ski is the speed that allows the skier to ski without undue strain from a bogging ski.

Slalom ski





In the starting position, the rope should be to the inside of your ski—to the left if you ski regular-footed, and to the right if you ski goofy-footed.

With only one ski to support your weight, waiting for sufficient speed is essential. As you come out of the water, lean backward slightly until you are in the normal single-ski position.

You can compensate for a tendency to fall toward the side of the free leg by twisting your body slightly to that side. The rope will then pull you away from the falling side. If necessary, also ease up slightly in dragging your free leg.

To keep your ski headed in the right direction, watch the ski tip throughout the start. Make sure the ski rope is to the left if you are skiing regular-footed or to the right if you are skiing goofy-footed. Use your free leg as a rudder to keep the ski lined up with the path of the boat.



Wakeboarding

When you are crossing the wake with confidence, you can step up your wakeboarding skills by learning a simple jump called the bunny hop, and by riding switchstance (or fakie), where the back of the board is turned around to the front. Slowly but surely, you will be hooked on this extreme sport.

Bunny Hop

Start the bunny hop by cutting to the outside of the wake in either a heelside or toeside direction. As you cut across the wake, be sure to keep the towrope taut by pulling on the rope and pressing back on the board at the same time. This creates the tension and force needed to help you gain speed. Adequate momentum is the key to mastering the bunny hop.

Step 1—After cutting to the outside of the wake, ease up on the rope and straighten out by centering your weight.

Step 2—If you are riding heelside, push the board into the water with your heels and push away from the water with your toes. If you are riding toeside, push into the water with your toes and away from the water with your heels. This will pop your board up and out of the water.

Step 3—Land with your knees slightly bent, eyes toward the boat, and the towrope handle at your front hip.



Switchstance

The first step in the switchstance is to signal for the boat to slow its speed so that the water will be a little softer under the board.

Step 1—Keeping the handle near your back hip, move to the top of the wake.



Step 2—Tip the forward edge of the board up slightly so that it will not catch, then pivot the board until both feet are pointing forward toward the boat.

Step 3—Continue pivoting the board until it is 180 degrees from the starting position, with the foot that was in front now at the back.

Step 4—Signal for the boat to increase speed.



Water Sports Resources

Scouting Literature

Boy Scout Handbook; Fieldbook; Deck of First Aid; Basic Illustrated Wilderness First Aid; Emergency First Aid pocket guide; *Be Prepared First Aid Book; Athletics, First Aid, Lifesaving, Motorboating, Personal Fitness, Small-Boat Sailing, Snow Sports, and Swimming* merit badge pamphlets

For more information about Scouting-related resources, visit (with your parent's permission) the BSA's retail Web site at <http://www.scoutstuff.org>.

Books

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Maurer, Tracy Nelson. *Wakeboarding*. Rourke Publishing, 2002.

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Weber, Jason. *Wakeboarding . . . On the Edge*. Sports on the Edge LLC, 2000.

Boating Regulations

Boating regulations vary from state to state. To find out what your state requires, get your parent's permission to use the Internet and check the Web site for the U.S. Coast Guard's Office of Boating Safety. You will find a Reference Guide to State Boating Laws at http://www.uscgboating.org/regulations/boating_laws.htm.

Videos

Higher Education. Bump Films,
<http://www.bumpfilms.com>

Organizations and Web Sites

International Water Ski Federation

Web site: <http://www.iwsf.com>

USA Water Ski

Telephone: 863-325-8259

Web site: <http://www.usawaterski.org>

U.S. Coast Guard Office of Boating Safety

Web site: http://www.uscgboating.org/safety/metlife/water_ski.htm

World Wakeboard Association

Web site: <http://www.thewwa.com>

Acknowledgments

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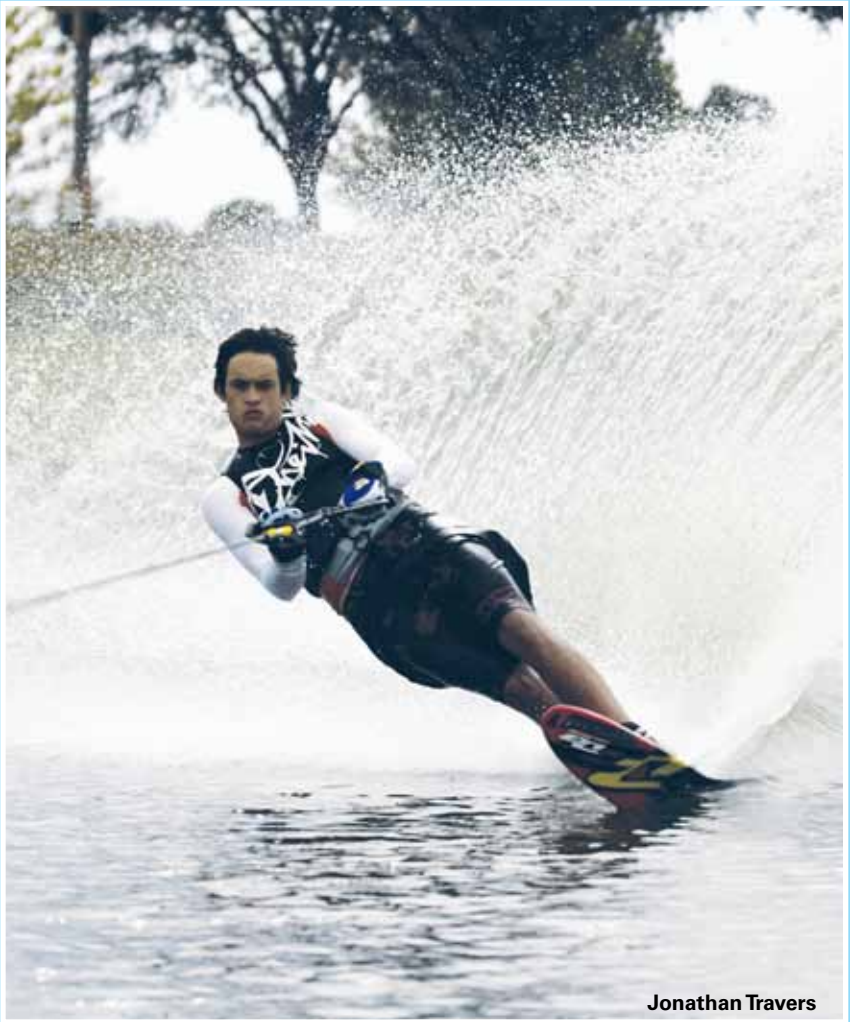
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Brian Payne—pages 31 (*center and bottom*) and 32 (*right*)



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Jonathan Travers

MERIT BADGE LIBRARY

Though intended as an aid to Boy Scouts, Varsity Scouts, and qualified Venturers in meeting merit badge requirements, these pamphlets are of general interest and are made available by many schools and public libraries. The latest revision date of each pamphlet might not correspond with the copyright date shown below, because this list is corrected only once a year, in January. Any number of merit badge pamphlets may be revised throughout the year; others are simply reprinted until a revision becomes necessary.

If a Scout has already started working on a merit badge when a new edition for that pamphlet is introduced, *he may continue to use the same merit badge pamphlet to earn the badge and fulfill the requirements therein.* In other words, the Scout need not start all over again with the new pamphlet and possibly revised requirements.

Merit Badge Pamphlet	Year	Merit Badge Pamphlet	Year	Merit Badge Pamphlet	Year
American Business	2002	Engineering	2008	Photography	2005
American Cultures	2005	Entrepreneurship	2006	Pioneering	2006
American Heritage	2005	Environmental Science	2006	Plant Science	2005
American Labor	2006	Family Life	2005	Plumbing	2004
Animal Science	2006	Farm Mechanics	2008	Pottery	2008
Archaeology	2006	Fingerprinting	2003	Public Health	2005
Archery	2004	Fire Safety	2004	Public Speaking	2002
Architecture	2008	First Aid	2007	Pulp and Paper	2006
Art	2006	Fish and Wildlife		Radio	2008
Astronomy	2004	Management	2004	Railroading	2003
Athletics	2006	Fishing	2009	Reading	2003
Automotive Maintenance	2008	Fly-Fishing	2009	Reptile and	
Aviation	2006	Forestry	2005	Amphibian Study	2005
Backpacking	2007	Gardening	2002	Rifle Shooting	2001
Basketry	2003	Genealogy	2005	Rowing	2006
Bird Study	2005	Geology	2005	Safety	2006
Bugling (see Music)		Golf	2002	Salesmanship	2003
Camping	2005	Graphic Arts	2006	Scholarship	2004
Canoeing	2004	Hiking	2007	Scuba Diving	2009
Chemistry	2004	Home Repairs	2009	Sculpture	2007
Cinematography	2008	Horsemanship	2003	Shotgun Shooting	2005
Citizenship in the		Indian Lore	2008	Skating	2005
Community	2005	Insect Study	2008	Small-Boat Sailing	2004
Citizenship in the Nation	2005	Journalism	2006	Snow Sports	2007
Citizenship in the World	2005	Landscape Architecture	2008	Soil and Water	
Climbing	2006	Law	2003	Conservation	2004
Coin Collecting	2008	Leatherwork	2002	Space Exploration	2004
Collections	2008	Lifesaving	2008	Sports	2006
Communication	2009	Mammal Study	2003	Stamp Collecting	2007
Composite Materials	2006	Medicine	2009	Surveying	2004
Computers	2009	Metalwork	2007	Swimming	2008
Cooking	2007	Model Design and Building	2003	Textile	2003
Crime Prevention	2005	Motorboating	2008	Theater	2005
Cycling	2003	Music and Bugling	2003	Traffic Safety	2006
Dentistry	2006	Nature	2003	Truck Transportation	2005
Disabilities Awareness	2005	Nuclear Science	2004	Veterinary Medicine	2005
Dog Care	2003	Oceanography	2009	Water Sports	2007
Drafting	2008	Orienteering	2003	Weather	2006
Electricity	2004	Painting	2008	Whitewater	2005
Electronics	2004	Personal Fitness	2006	Wilderness Survival	2007
Emergency Preparedness	2008	Personal Management	2003	Wood Carving	2006
Energy	2005	Pets	2003	Woodwork	2003

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