



# Dis+abled

S P O R T P R O J E C T



**GAME - TOWED WATER SPORTS**  
TRADITIONAL AND ADAPTED **GAMES**  
**FOR SOCIAL INCLUSION AND INTEGRATION OF**  
**PEOPLE WITH DISABILITIES AND ABLE-BODIED**

<https://disabled-erasmus.org/>



### INTRODUCTION

Towed Water Sports (TWS) are popular as a recreational activity in many countries around the world where appropriate conditions exist - an expanse of water unaffected by wave motion. Rivers, lakes, and sheltered bays are all popular for practice. High performance Towed Water Sports are also well developed in the world. TWS offer not only able bodied but also people with disabilities a perfect blend of physical exercise, exhilaration, and social interaction regardless of mobility, visual, or other impairments.

### DESCRIPTION OF THE TOWED WATER SPORTS:

Water sports on devices towed behind a motorboat include waterskiing, wakeboarding, knee boarding and tubing,. Most of them can be adapted for people with impairments and limited mobility



### INTEGRATION VALUES AND POSSIBLE ADAPTATIONS:

TWS enthusiasts of all levels of disabilities can get involved in adaptive on water activities through clinics, recreational events and competitive tournaments. Adaptive TWS offers thrilling adventures for individuals with physical disabilities. Using specialized equipment, individuals perform exciting maneuvers and compete in high-energy events, transforming limitations into empowering challenges. TWA tournaments offer slalom, tricks and jumping events for vision impaired individuals (blind or partially sighted), multiplegics (paraplegics and quadriplegics), leg amputees (above and below knee), arm amputees and athletes with both arm and leg disabilities.

There is a variety of adaptive ski equipment available that allows individuals with physical disabilities to enjoy the TWS.



### WATERSKI FOR ABLE BODIED

Standard water skis are usually made of fibreglass-based composites. They are of similar length to downhill snow skis but are somewhat wider. Instead of a rigid binding, they have rubber molded binding, in which the skier's feet are placed. Skiers are pulled along by a rope with a handle fitted at one end and attached to a powerboat at the other. There are two types of waterskiing: doubles and slalom. When skiing doubles, you use two skis. When skiing slalom, one ski is used. Slalom skiing is notably harder than doubles.





### ADAPTIVE WATERSKI

A single ski can be used for those who have a single leg, or if they use a prosthetic "ski leg," they may be able to use two skis, or a single ski using both legs.

Individuals that are unable to stand ( mostly wheelchair users with spinal cord injuries ) will ski using a "sit ski," which comes in a variety of sizes from wide, stable skis to narrow, competitive skis.

All sit-down skiers use a singlewide ski to which a metal-framed cage is attached. The skier sits in a canvas sling that can be adjusted up or down to change the skier's center of balance and comes in a variety of models to suit the skiers ability level.



### OTHER EQUIPMENT USED BY WATER SKIERS WITH DISABILITIES INCLUDES:

Outriggers – stand-up water skis that have been cut short and mounted to a steel frame. The frame mounts between the cage and the ski and adds an impressive amount of stability.







### WAKEBOARDING

In wakeboarding, the participant is towed standing on a small board, riding a wake produced by the towing boat, and attempts to do tricks.

#### ADAPTED WAKEBOARD - SITWAKE

Sitwake is a sport that is gaining popularity among people with many different physical disabilities. The rider sits on a special board with an attached "seat" and is pulled by a boat or lift using a rope, just as in traditional wakeboarding. The ride starts from the water or from a platform, and riders have the opportunity to perform tricks using the rope and obstacles in the wakepark.

Sitwake equipment includes wakeboarding boards, specially adapted seats and footrests that attach to the feet. In addition, safety accessories such as a helmet and life vest are essential.



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### KNEEBOARDING

Kneeboarding is an aquatic sport where the participant is towed kneeling on a buoyant, convex, and hydrodynamically shaped board at a planing speed, most often behind a motorboat.

Kneeboarding is used for people with specific dysfunctions, e.g. fore limb amputations, balance disorders, etc.





### TUBING

Tubing, also known as biscuiting, is where a large, usually circular, rubber tube is towed behind a boat at fast speeds. The general aim is to hold on as long as possible without falling off due to the boat's sharp turns; more experienced biscuiters also try to jump the boat's wake and become airborne.

Tubing is used for people with severe dysfunctions who cannot participate in other forms of water sports. The general principle is direct assistance on the water by people without disabilities and adjustment of the speed of the motorboat to ensure maximum safety and especially to exclude capsizing.





## HIGH PERFORMANCE TOWED WATER SPORTS FOR ATHLETES WITH DISABILITIES

There are 3 Competition Events in traditional and adaptive water skiing (slalom, tricks, and jump) :

### Slalom

In the slalom event the skier must go around six buoys that are staggered the length of a 259-meter (850-foot) long course while the boat runs down the middle of the course. Each time the skier successfully completes the course, the boat speed is increased by 3 kph (2 mph) until reaching the maximum speed of 55 kph (34 mph) for women and 58 kph (36 mph) for men. After reaching the maximum speed, the skier's rope length of 18.25m (60') is shortened by pre-determined increments after each successful pass. The skier continues until he or she falls or does not go around a buoy.

### Trick

The tricks event (also sometimes called figures or shortboard) has been described as the most technical of the three events. Standing beginners perform this event on two short skis, and intermediate to elite athletes (standing or seated) perform on one short flat bottomed ski that allows the skier to turn sideways to the boat or ski facing away from the boat. Combinations of these moves can be linked together to perform a variety of tricks with multiple turns both on the surface behind the boat or in the air using the wake as a take-off point.

An athlete attempts to perform as many tricks as he or she can during two 20-second passes. Each trick has an assigned point value and an athlete may perform each trick only once. The athlete who earns the most points wins the event. Tricks can be performed either with an athlete's foot slipped into a strap attached to the handle, called toehold tricks, or with the handle held in the athlete's hands.

### Jump

In the jump event, the skier skis over a ramp and tries to go the farthest possible in the air and ski away. There are no style points. Just pop off of the ramp and fly! Each athlete has three attempts to jump as far as they can. The ramp is 14 feet wide by 22 feet long. The height of the ramp can be set at 1.25m (4'), 1.5m (5'), or 1.65m (5.5') and is selected by the skier.

### Categories

There are 5 Disability Categories within the competition divisions:

Arm (A1/A2)

Leg (L1/LP)

Multiple plegics and double leg amputees (MP)

Vision impaired (V1 & V2/3)

Arm and leg (A/L1 & A/L2)

From those 5 categories come 3 Competition Divisions in adaptive water skiing.

### Seated

Those unable to stand to ski use a sit ski. Sit skis are longer and wider than able bodied skis and include a metal seating frame (aka a cage). A narrower slalom course is an option for those whose disability is greater such as those with quadriplegia and athletes with both arm and leg disabilities. This division combines all skiers from categories MP1, MP2, MP3, MP4, and MP5.



### **Standing**

Standing athletes use the same equipment as able bodied skiers and may choose to ski with or without prosthesis. This division combines all skiers from categories A/L1, A/L2, A1, A2, L and LP.

### **Vision impaired**

Those with vision impairment also use able bodied equipment; however they're guided by another skier in the jumping event (guide cannot go over the ramp) and use audible signals instead of buoys in the slalom course. The skier turns at the sound of a tone rather than turning around a buoy. The tone is produced by the Audio Slalom Signal Generator (ASSG). The ASSG measures the angle of the rope in relation to the boat path and sounds a tone when the skier has pulled far enough to the outside to simulate a turn around a buoy. This division combines all skiers from categories V1 and V2/3.





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