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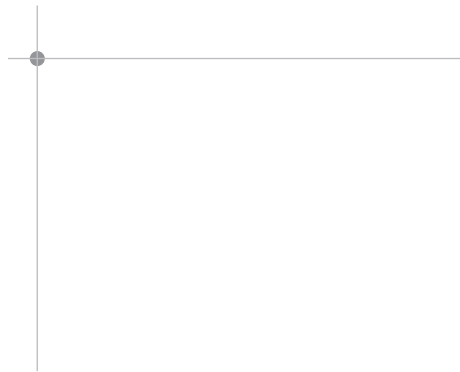


Educação e cultura

# Leonardo da Vinci

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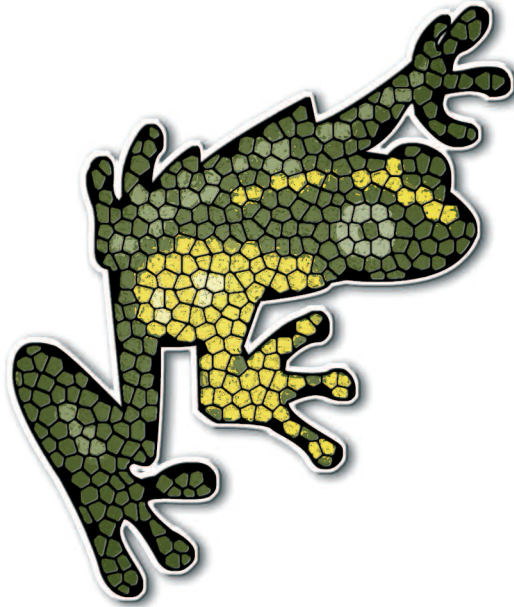
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Introduction

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Special Groups

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# Introduction

## 1.1. Active Tourism in Europe

Today Europe leads the world in international tourism. Some factors that have led to tourism growth are; the elimination of borders, integration of transport systems, institutional support for tourism, improved cultural relations, increasing intra-regional trade and the development of a network of tourism-related enterprises.



Source: Francisco Moralejo (Spain)

In Central and Eastern Europe, active tourism, health tourism, sports and rural tourism, are important new sectors of the tourism industry. The global forecast of the World Tourism Organization, profiling market segments for the year 2020, included: Sports tourism, Adventure tourism, Nature-based tourism, Cultural tourism, Rural tourism, Theme Parks and Cruises.

In regions where rural economies have been affected by change, economic and social factors are important starting points for developing rural tourism. In Europe, the evolution of the European economy has accelerated changes in the countryside. Enlargement of the EU will bring

further structural changes, as many of the new member countries have a high percentage of their population dependant on agriculture.

Rural Tourism can help to diversify rural economies. It creates new jobs and protects and enhances local culture and traditions. Most European countries have a wealth of natural resources (mountains, lakes, rivers, forests); a rich rural life (local crafts, traditional music and local food); and rural heritage (castles, churches and villages). These factors, combined with rural activities, such as climbing, riding, fishing, cycling, are the basis for successful rural tourism development. The vicinity of the major markets and an increasing demand for an authentic rural tourism product that allows people genuine interaction with the environment, are important assets for Europe.

Tourism activities should be sympathetic to the attributes and traditions of the host regions and respect their laws, practices and customs. Activities should respect the equality of men and women. They should promote human rights, particularly the individual rights of vulnerable groups, notably children, the elderly, the handicapped, ethnic minorities and indigenous peoples.

Ecotourism is concerned with sustainability and the economic, social and environmental impacts of tourism. It contributes to the well-being of local and indigenous communities who are included at the planning, development and operational stages. Ecotourism also contributes actively to the conservation and interpretation of natural and cultural heritage.



Within Ecotourism, Active Tourism also has significant and complex social, economic and environmental implications, which can bring both benefits and costs to the environment and local communities.

Ecotourism and Active tourism, should continue to contribute to the sustainability of the tourism industry by:

- Increasing the economic and social benefits for host communities.
- Actively contributing to the conservation of natural resources and the cultural integrity of host communities.
- Increasing travellers' awareness of the conservation of natural and cultural heritage.

Europe needs a pro-active quality offensive for sustainable tourism to maintain the most crucial assets of the tourism industry:

- intact nature,
- a rich and diverse culture,
- the satisfaction of visitors,
- the positive attitude of the resident population.

Tourism can be a useful component of sustainable development through improvements to the quality of life for residents and support for the preservation of the environment. Tourists may also benefit from an improved tourism product.

A European sustainable tourism strategy and action plan is needed to protect the environment and quality of life in tourism destinations and those regions affected by tourism transport. These are also essential for the long-term success of the European tourism industry.

Spatial development policies aim to balance the sustainable development of the European Union. Active Tourism could contribute substantially to the three goals of regional policy in Europe:

- Economic and social cohesion - as active tourism provides income in often remote rural regions.
- Conservation and management of natural resources and the cultural heritage -the main assets of every tourism destination.
- More balanced competitiveness within the EU - as the tourism industry often pioneers the development of other local businesses.

Active Tourism can also exert pressure on local communities if the carrying capacity of a region is exceeded. Major factors in this context are; the area of land used for accommodation, the local traffic generated by tourism transport, water consumption, sewage contamination of water and the amount of waste produced. Particularly high pressures can be generated by mega-tourism facilities and events, tourist activities that involve intensive use of the countryside (e.g. golf or skiing) or motorised activities.



Source: Francisco Moralejo (Spain)





Source: Francisco Moralejo (Spain)

If managed in a sustainable manner, ecotourism and active tourism can provide valuable economic opportunities for local and indigenous populations. They can be a major source of income for protected areas and support the conservation and sustainable use of the environment.

Plans for community development involving activity tourism should include strategies to benefit the community in terms of human, physical, financial, and social capital development, and improved access to technical information.

This Transnational Association, working within the Leonardo da Vinci Programme, has produced a Manual of Active Tourism, aimed at developing the skills of those who want to improve their employability through a vocational education and training programme.

Europe's demand for qualified people to develop active tourism activities (trekking, equestrian tourism, rafting, hiking, paragliding...) is growing each day. The Commission final report COM(2001)171 points 4.4 and 4.5 "Community measurements reflected in tourism (1997/99)" refers to the needs for vocational and education training and the qualifications required for employment: "vocational training is a key factor when the time to fight unemployment comes and also to reinforce

European companies competitiveness; in this tourism context, we should pay special attention to the actual demand for new skills".

Through the Leonardo Programme, and this manual we intend to develop innovative tools for vocational training in the context of lifelong learning. The emphasis will be on new forms of certification or accreditation of skills and expertise in Active Tourism.

Consequently, there is a need to develop a new grade and a new professional profile, for the emerging tourist industry in rural areas. This new professional profile contributes to "Developing the European dimension in vocational and professional orientation". Through creating links between the direct beneficiaries, the companies, educational authorities and the rural social agents within the tourism industry, it will form a new basis for supporting employment opportunities. Tele-training will be used to implement a European approach to transparency of qualifications whilst taking account of national systems and competencies.

The Transnational Association aims to build a European qualification area in "active tourism" as a contribution to the Qualification Transparency Forum to make a database of resources of rural tourism.

## The Transnational Association consists of:

### Promoter:

#### Município de Miranda do Douro (Portugal)



It is public organization on the border with the province of Zamora (Community of Castilla y León - Spain). It has great tourism potential as it lies in the heart of a Protected Area, Parque Natural do Douro Internacional, one of the few transnational European parks (Portugal & Spain). This municipality is investing in infrastructures for the tourism promotion of the Douro River to take advantage of fluvial and cultural tourism. Miranda do Douro has participated in European projects such as the Terra Programme of borderland management along the banks of the Douro River between Portugal and Spain, and has pilot project experience at the European level.

The Municipality of Miranda do Douro is participating in a Leader Local Action Group "CORANE" and has also taken part in the Community initiative programmes of INTERREG III A, B and C, with projects related to tourism infrastructure financing (adapting the pier to facilitate the river's navigability and tourism potential). Miranda do Douro was chosen as promoter for its involvement in developing activities within the banks of the Douro River.

### Co-ordinator:

#### IRMA, S.L (Institute of Restoration and Environment (León - Spain)



It is a private company dedicated to rural development, natural heritage protection, exploitation of natural resources, promotion of ecological agriculture, the cultivation of chestnuts, fungi, forestry

and various associated activities. It is active in Community Initiatives and other European Programmes collaborating with organizations from various Mediterranean countries. IRMA, S.L supports the training policies of the State Members. It supports innovative transnational initiatives for developing the knowledge, aptitudes and competencies needed by professional staff in these rural industries.

It also offers possibilities of articulating with the Socrates and Youth programmes, thanks to joint action support. IRMA, S.L has also participated in: LEADER II, ADAPT, INTERREG II & III, Human resources: Horizon, NOW, Youthstart, Leonardo, Raphael, Pilot Projects, Carrefour, Proder, Life, Equal Opportunities, etc

### Partners:

#### IBW - EUROINSTITUT (Münster - Germany)



**IBW-Euroinstitut**

The Institute for vocational promotion and further education is a German training and educational company, which has been active on a regional, national and international scale in various projects for about 15 years.

It trains all kinds of young Europeans (vocational orientation, adaptation etc.) and adults (reintegration into the labour market, further education etc.).

The main activities focus around: tourism and hotel business, health services, sport, communication, culture, business, agriculture etc. With a broad network of local and national contacts in many different sectors, it organises further education courses and work placements and accommodation, catering, language courses and socio-cultural programmes.

IBW-Euroinstitut has a wide range experience in European programmes: COMETT, YOUTH FOR



EUROPE (integrating countries of Eastern Europe), NOW, ADAPT: (development of rural tourism), LEONARDO DA VINCI, LEONARDO PILOT TREMPIN (2002: Analysis of the disparity in the labour market in the field of Wellness in rural tourism). It has created a Wellness-Academy offering a Wellness qualification to women, and companies in Germany & in Holland.

### **AIMRD - Asociación Ibérica de Municipios Ribereños del Duero - Iberian Association (Laguna del Duero - Spain)**



*Asociación Ibérica  
de Municipios Ribereños del Duero  
Associação Ibérica  
de Municipios Ribeirinhos do Douro*

It is a non-profit making association founded on 8th June 1994. Today it comprises 38 Spanish and

Portuguese municipalities on the banks of the Duero River. The reference point is the Duero River, which covers 879 kilometres. It begins in "Picos de Urbión", Soria and ends in the Atlantic in Porto. Of its 879km, 572 flow through Spain, within Castilla y León, 200 km pass through the north of Portugal and the remaining 100km are the international border, the so-called "Arribes del Duero".

The Iberian Association has experience in the following programmes: Terra, Sedirema (project financed by Castilla y León Committee - ADE), Leonardo da Vinci, ADAPT, CLAVE, Programmes of Science and Technology Ministry, Equal Opportunities, INTERREG III C.

### **AEGEAS (Larissa - Greece)**



AEGEAS is a Certified Institution of Vocational Training (from the National Centre of Certification within Labour Ministry). It focuses on human capital, services sustainable development and the relationship between enterprise and competition policies. It promotes the need to increase the efficiency of research and development and preserve competition. Due to demand for high-level skills in various sectors, AEGEAS specializes in the deve-

lopment of Vocational Training programmes, in Computer Science, Tourism, Environment, Culture and Athletics. It aims to provide better match between skills demand and supply and achieve higher participation in the labour market.

AEGEAS specialises in the development of Vocational Training programmes for socially sensitive groups and their promotion in the job market. It has also participated in many transnational programmes (ADAPT, PETRA, Youth for Europe, PHARE, Leonardo Da Vinci, LIFE) and has contacts with many Institutions (i.e., NAGREF, etc.), Organizations and Universities in Greece (i.e., University of Athens, University of Thessalonica, TEI Larissas, etc.) and abroad (Liverpool University, Stafford University, University of Maryland, U.S.A.).

### **EESTI-MAAUTURISM - Estonian Rural Tourism Organization (Estonia)**



E · E · S · T · I  
MAAUTURISM  
E · S · T · O · N · I · A · N  
RURAL TOURISM

It is non-profit organisation, Estonian Rural Tourism was set up in January 2000 with a total of 273 members and thousands of rural accommodations (4000 beds). Rural accommodations are located in the countryside or in small towns with populations below 10 000. The organization consists of accommodation providers, other tourism service providers, local tourism associations etc. working together to improve the quality of service and products.

ERTO does not sell or book rural tourism services and products but provides contact information of members. ERT0 does not provide any direct funding to its members, but advises them about sources of finance. It provides technical advice to members on IT and communications through their affiliate, M Turunduse LLC. ERT0 also provides training to the members (basic, advanced, specialized courses), in rural tourism marketing, development of new products. ERT0 also has experience in PHARE ACCESS programmes.



## 1.2. Active Tourism in the Geographical Region of Each Member of the Association

Active tourism includes ecotourism, adventure and culture. It has much in common with ecotourism and nature tourism and integrates some activities of adventure tourism. It also includes cultural components, such as history, art, handicraft, architecture or folklore.

Its basic principles are, high quality, being ecological, socially compatible and low impact on destinations. The concept is opposed to inactive tourism, mass tourism and practices considered harmful to the environment and local culture. Active tourism requires the active participation of visitors, whether physical or intellectual. Taking part in activities and interacting with different cultures and environments promotes learning and consequently respect towards them.

The spread of information about active tourism has benefited greatly from the development of the internet. France pioneered active tourism



Source: Municipality of Miranda do Douro (Portugal)

activities, which are now highly developed. These activities have quickly spread to the other European countries, and benefited from the great natural and cultural diversity found there.

The partners have all researched active tourism in their regions. The results of this research are presented below:



Source: Municipality of Miranda do Douro (Portugal)





## In Portugal

Miranda do Douro is situated in the “Terra de Miranda” region of the Trás-os-Montes province in Bragança district. It is in south of the province, on the bank of the River Douro, that separates it from the Spanish province of Castilla y León.



Source: Francisco Moralejo (Spain)

Miranda is an inland plateau, isolated from the influences of the sea by mountain chains. It has a sub-continental - Mediterranean climate, with cold winters and warm, dry summers. The extensive border, low population density, type of agriculture, and wide-open spaces, create ideal conditions for rural leisure and sporting activities.

Miranda's main natural attraction is the Parque Natural do Douro Internacional. This area's unchanging characteristics and communities of rare, or even endangered, fauna and flora, are major attraction for leisure and tourism. It is a large natural space, that offers an alternative to “sun and sea” tourism, giving the tourist numerous opportunities for involvement and discovery.

Culturally, it is an interesting region. Its unique culture and traditions result from its geographical isolation and its own language, Língua Mirandesa, the second official language in Portugal.

### Air Activities

The tableland of Miranda is good for Paragliding, Hang-gliding and Hot-air ballooning. The relief doesn't allow unaided take off, which requires a slope. However, the flights can give some dazzling views.

### Land Activities

The cliffs are ideal for watching the fauna and flora of the region and for walking activities, MTB, horse and donkey rides. These can be of a general nature or themed around fauna, flora, geology, architecture, archaeology or cultural legacy/heritage. The tableland allows the development of a number of activities without damaging the protected natural features of the Douro International Natural Park. In addition to the above activities, motor sports are available in the area outside the park.

### Water Activities

The Douro River is perfect for active tourism activities. The building of the dams “framed” its water, favouring the calm water activities. The lagoons of Miranda do Douro and Picote are ideal for boating, canoeing, kayaking, and rowing.

## In Spain

Within the geographical area of Castilla y León there is an overwhelming diversity of landscape, (natural spaces, rivers, valleys, steep mountains, caves and gorges, extensive plains) which makes it the ideal place to practice adventure sport.

A legal framework has been established since 1918 to protect and regulate the natural spaces of outstanding importance in this Community. Today, Castilla y León contains 40 Natural Parks managed within the “Parques Naturales de Castilla y León” Programme, under the umbrella of the “Red de Espacios Naturales” (“Natural Spaces Network”). In this extraordinary mosaic of environmental diversity and quality, the mountains, plains and river valleys provide home to a wide range of ecosystems of fauna and flora and, above all, an area where man and the environment can continue to coexist.

The natural environment itself has become an outstanding tourist attraction, contributing to the continuous regeneration of natural habitats, and remarkably beautiful landscapes.

In Castilla y León, the most popular mountain areas include the Picos de Europa, Sierra de Gredos, Monte Santiago, the mountains of the Sierra de La Demanda and the mountains of Urbión or the Sierra de Ancares. Other places of rare beauty include picturesque lakes, fertile mountain ranges and the narrow valleys and canyons. For this reason, the region of Castilla y León is a priority destination for many visitors to Western Europe who wishes to enjoy natural landscapes or participate in adventure sport.

Regardless of the traveller's physical condition, in Castilla y León they will find all kinds of activity to fit their tastes and abilities, thanks to the impressive list of activities available. The region offers leisure, nature, heritage, and superbly attractive places to practice all types of active tourism.



Source: Francisco Moralejo (Spain)

### Air Activities

The air activities that can be practised in Castilla y León are aimed at adventure lovers. Ballooning is one of the most attractive and safest activities, as well as a method of transport. It is considered to be one of the most peaceful and pleasant ways to float through the air. Hang-gliding, parachuting, paragliding, gliding are other forms of flight that are available.

### Land Activities

The geography of Castilla y León offers itself to many different land activities, from rambling to orienteering. Other activities Include cycling, multi-activities or multi-adventures, golf, archery, free or artificial climbing, potholing and routes for four-wheel drive vehicles.





### Water Activities

The rivers, reservoirs and artificial beaches allow a variety of opportunities to practice active tourism all year round. Tourists can enjoy a ride on a boat, catamaran, canoe, or even peddle-boats. The more courageous can practise water-skiing, rafting, surfing, sailing or snorkelling. Companies providing these activities usually offer all the necessary equipment.

Canyoning, gullying, hydro-speed, kayaking, rafting and sailing are also available

### Snow Activities

Due to its climate and mountain scenery, Castilla y León offers 'snow tourism'.

Snow offers numerous possibilities for mountain lovers who may enjoy skiing but can also practise other activities such as ice climbing, alpine and cross-country skiing, snowboarding or dog sleighing.

### In Germany

North Rhine-Westphalia plays a leading role in the national economy. The Rhine-Ruhr region, the nation's most important industrial area, runs through the centre of the state and dominates it economically and culturally. Outside this industrial zone, the state shows contrasting rural charm grounded in the German past. The state capital is Düsseldorf, and Bonn in the south is the seat of the national government. North Rhine-Westphalia is the most populous state of Germany, containing about one-fifth of the country's total population.

As part of the North German plain, it has a continental climate with warm summers and cold winters. Fields, meadows or forests of oaks, chestnuts, silver birches and conifers cover two thirds of North-Rhine Westphalia. There is a

variety of fauna, such as wild boar, wild horses, fox and deer.

North Rhine-Westphalia is a country of contrasts where dense forests and wide fields alternate with vibrating, pulsating cities. The lush nature parks of the Sauerland and Siegerland are popular getaways where people can relax or indulge in water sports.

North Rhine-Westphalia is an attractive region for water sports, riding and golf. Skiing is possible all year round. There are various leisure parks, adventure pools and fun sports. Visitors are attracted to North Rhine-Westphalia by its huge range of programmes: city tours and industrial culture for those seeking an experience, active holidays and country life in unspoilt nature, a wellness paradise for those seeking relaxation.

### Land Activities

In North Rhine-Westphalia, there are good hiking trails through hills and valleys, across wide-open plains, through picturesque villages and beautiful countryside.

North Rhine-Westphalia is genuine horse country. There are ranches that specialise in handling horses and guiding groups through the countryside. The region of Münsterland is the home of many leading names from dressage and show jumping. Although there are very few genuine wild horses left in the world in a large meadow in Dulmen-Merfeld the Dülmener wild horses, can be seen grazing throughout the year.

North Rhine-Westphalia is a Mecca for cyclists. Magnificent scenery, a fascinating culture and good, complete signposting of the extensive network of cycle tracks make a cycling holiday a special experience.



Source: Press Department of the municipality of Münster (Germany)



Source: Press Department of the municipality of Münster (Germany)

The flat countryside makes the Lower Rhine one of Germany's most important regions for cycling. The Lower Rhine Route, a network of over 2000 km, is the longest signposted cycle route in Germany. In the Münsterland, cycle tracks are called "Pättkes" a special term that suggests cycling has played a major role in this region for a long time. In the Münsterland cycle park there are 4,000 kilometres of trails. It is practically impossible to lose your way. The new signposting system makes orientation child's play; though there is a choice of almost 200 cycle tracks through the varied scenery. Safety and environmental issues are considered and the routes are designated and marked as easy, medium and difficult.

### Water Activities

North Rhine-Westphalia has countless water sports facilities. Numerous reservoirs and gravel pits of various sizes offer bathing with optimal water quality, because many of them serve as drinking water reservoirs. Many rivers in North Rhine-Westphalia are ideal for canoe tours.

Canoes can be hired at many places on the Lippe, Ems, Niers, Sieg and Ruhr. The Rhine, Ruhr and many canals provide a network of waterways spanning 250 kilometres. Many sights and attractions of the region can be reached from the countless moorings and yacht harbours. In Duisburg, North Rhine-Westphalia also offers the world's largest inland port where it is possible to water-ski, sail, dive, windsurf or simply relax on the water on an inflatable mattress.

### Snow Activities

Around Winterberg and Willingen in the Sauerland, winter snow lasts for up to 80 days. The region plans to become the most important winter sports region north of the Alps. There are 18 snow-making systems with 80 snow guns to provide guaranteed snow cover on 80 days in winter.

North Rhine-Westphalia offers skiing and après ski in all seasons. The largest indoor ski centre (Alpincenter in Bottrop) and the longest (Allrounder Winterworld in Neuss) are both up to international standards.





## In Greece

Thessaly region is one of the 13 peripheries of Greece, and is further sub-divided into 4 prefectures. The prefecture lies in central Greece and borders Macedonia to the north, Epirus to the west, Sterea Hellas or Central Greece to the south and the Aegean Sea to the east. The capital of Thessaly is Larissa.

Sometimes called the breadbasket of Greece, Thessaly consists of a fertile central plain, the Trikala and Larissa lowlands, surrounded by a ring of mountains. The Khásia and Cambunian mountains lie to the north, with the Olympus massif to the northeast. To the west lies the Pindus range and to the southeast, the coastal ranges of Óssa and Pelion. It has two distinct seasons - winter and summer.

Alternative tourism, adventure activities and eco-tourism are well suited to the area. They offer a balanced contact with the natural environment. Activities must be open to all according to personal taste and experience but still have an element of action and adventure.

### Air Activities

In the Kastraki area hang gliding is available at campsites near the Meteora Gardens. Here monasteries, built in the 11th century AD, rise above the almost flat valley of the Pinios River. The monks constructed inaccessible eagle's nests in the crannies of the rocks.

### Land Activities

The region has a wide range of land activities:

- Trekking
- Abseiling
- Canyoning
- MTB cycling
- Horse and mule riding

Trekking always offers the best contact with nature. In Pelion, there are interesting routes from village to village on beautiful stone-paved paths, through dense vegetation. Trekking in Pelion can be combined with abseiling at the seaside rocks of Mylopotamos beach.

Mt. Kissavos, Mt. Olympus and the Tempi valley have abseiling and rock climbing at all grades.



Picture: Greece - Source: Margarida Lima (Portugal)

Canyoning in the area offers impressive green countryside, abseils, beautiful waterfalls and crystal clear pools:

“Kalypso” Canyon on the eastern slopes of Mt. Kissavos, is one of the most impressive in Greece “Kolopanou” in Mt. Kissavos, next to Kalypso is smaller with 6 very interesting abseils ranging in length from 10 to 50 m.

“Kakoskala” in eastern Kissavos has beautiful waterfalls and pools and seven abseils ranging from 4 m to 20 m.

“Rakopotamos”. Mt. Mavrovouni consists of unique limestone formations created by the continuous water flow. The long canyon is separated into two sections, where you can practice marvellous off-path walking between each abseil.

“Mylopotamos” on East Pelion is a narrow, wild canyon, with continuous abseils and pools, but it is still very green and inviting. After 8 abseils ranging from 5 to 20 m, you can jump into the sea, as the canyon leads to the white-pebbled Mylopotamos beach.

MTB Cycling offers a very good training, meditation and loss of calories depending on the kilometres.

In Northeast Kissavos region (Stomion village) you can ride horses or mules either in the mountains or by the sea. In South Pelion region (Argalasti village) there are rides in beautiful countryside. Mule excursions can also be taken around the foot of Mt. Olympus.

### Water Activities

After a long journey through the Thessalian Plain, from West to the East, the Pinios River meets Larissa Town, where it turns northwards for a few kilometres. At the foot of Lower Olympus, it changes course towards the East, flowing and getting wild through “Vernezi” (the most interesting White Water Section of the river). It finally flows through the picturesque, historical Tempi Valley and its peaceful, green delta (ideal for canoeing, kayaking or even rafting), to the Aegean Sea. The wild bird-life and vegetation in this part of the river are unique.

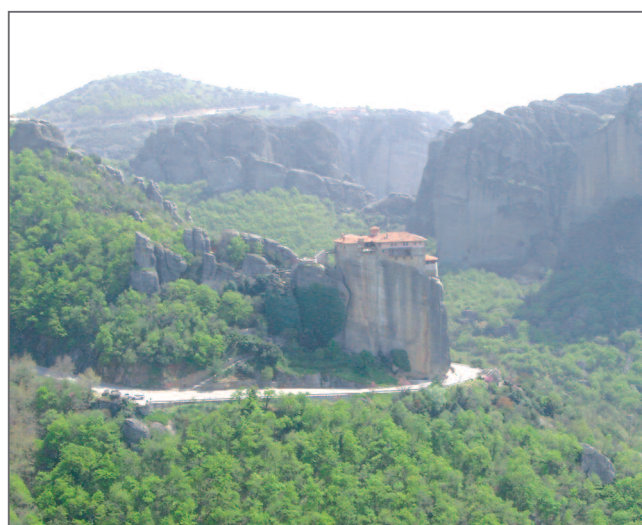
Long periods of good weather, long days, crystal clear water and the varied coastline make this an ideal area for sea kayaking. Apart from the physical exercise, sea kayaking also offers a unique way of approaching and exploring the beautiful coastline.

Zodiacing and sea cave abseiling can be enjoyed in southeast Kissavos- Northeast Pelion. The little port of Agiokampos is the starting point for the zodiac trip to the sea caves of Veneton (N.E Pelion). Amazing rock formations, untouched nature, white-pebbled beaches with crystal clear water are some of the main features of the caves region.

The northern Aegean Sea can be difficult for sailing. The tranquil, calm coast of the western flank on the Pagasitikos gulf is much safer and here sailing, trimaran dinghies and windsurfing are popular.

### Snow Activities

The picturesque region of Eurytania lies at the heart of central Greece. It is a hot spot for winter vacations. Karpenissi is a beautiful, tree-laden village and epitomizes the idea of a winter resorts in Greece. Built on the south slopes of the Velouhi Mountain, Karpenissi is a well-organized ski resort. All types of winter sports including down hill & cross-country skiing and snow horse- back riding can be found.



Picture: Greece - Source: Susana Ferreira (Portugal)





## In Estonia

The County of Jõgeva (2604 sq km) stretching from the centre of Estonia to Lake Peipsi, has a varied landscape. On the plateau of Central Estonia forests alternate with bogs and even primeval forest can be found here. Vooremaa, with its beautiful glacial lakes is the pride of the County. It is one of the most peculiar Ice Age features in the in the whole Europe. The Nature Reserves of Endla and Alam-Pedja are wetlands of international importance.

The characteristic feature of the Western part of the County of Põlva (2164 sq km) is the undulating Otepää Upland with its many rivers (there are about 130 rivers altogether in the County). In the centre of the County Põlva there are river valleys with the most beautiful sandstone outcrops in Estonia. In the eastern part are small marsh reserves with plank roads, and heathland pine forests.

The County of Tartu (3089 sq km) has almost all the landscape types found in Estonia. Swampy sandbanks near Lake Peipsi and in the

basin of Lake Võrtsjärv, the Uplands of Otepää and Vooremaa, mesa plains and ancient valleys in South Eastern Estonia. About a quarter of the County of Tartu is covered with marshes. There are approximately 1500 marshes with a total area of 79.400 ha.

The main attraction of the County of Valga (2046 sq km) is the town of Otepää, which is the Winter Capital of Estonia. The Region of Karula-Taheva is ideal for nature and health tourism lovers. The Karula National Park and the meadow of Koiva are real pearls of unspoiled nature.

The County of Võru (2305 sq km) is the most southern county of Estonia. It is the only one bordering two different states. The Latvian Republic lies to the South and Russian Federation to the East.

Võru County sets many of Estonia's natural records. The highest peak: Suur Munamägi (318 m above sea level); the highest hill climb is on



Source: EESTI-MAAUTURISM (Estonia)







Source: EESTI-MAAUTURISM (Estonia)

Mount Vällamägi (84 m base to summit), the river with the greatest descent is the River Piusa (208 m), the highest sandstone outcrop: Härma Mäemine (43 m), the deepest lake: Lake Rõuge Suurjärv (38 m), the deepest ancient valley: Kütiorg (70 m) and the biggest oak (the Oak of Tamme-Lauri, circumference - 8 m). Rich in lakes (196 lakes) and with its rolling hills, ancient valleys, primeval and heath forests it is one of the most beautiful parts of Estonia.

### Land Activities

There are 5 national parks and several local nature reserves in Estonia where, guided by signposts, you can walk along country paths and byways observing nature and culture at close hand. The Region of Karula-Taheva is ideal for nature and health tourism lovers. There are many marked hiking trails with camping and resting places on the shores of lakes.

Estonia's varied and exciting scenery is ideal for cycling. South Estonia has hills, opalescent lakes, high pine forests, winding forest paths, peaceful but fascinating small towns and juniper coastal areas alive with dog roses. Deserted military regions invite cycling trips for both old and young, beginners and experts, alone or with friends. There is a large network of signed cycle routes. A cycling tour is an enjoyable way to see nature and spend time in fresh air while exercising.

There is a wide range of opportunities for trekking on horseback: forest paths, dunes, coastal areas or places of cultural significance.

Estonia's limestone banks are ideal for rock climbing and for abseiling or rappelling. This is becoming an independent field sport and in Estonia, it is of interest to hikers, alpinists and the army.



### Water Activities

Canoeing is very popular in Estonia. A canoeing tour can be arranged in any season of the year on almost all Estonian rivers and lakes. Rafting also takes place on foaming mountain rivers and rapids. Canoe or kayak trips can be taken along the Rivers Ahja, Piusa or Võhandu in Põlva County. Lake Raigastvere in Jõgeva County has good conditions for rowing.

Kayaks are used for tours, expeditions and simply enjoying nature. Kayaks are well suited for trips on both inland waters and the open sea. Estonia is particularly good for sea trips. The coastline is rich and varied and it is fun to travel between the numerous little islands and islets.

### Snow Activities

The snowy slopes of Estonia have raised Olympic and World Champions but there is space for everyone on the ski slopes and skiing paths of Estonia. Otepää is the Winter Capital of Estonia. There are 3 alpine skiing centres; a motor sleigh centre and a snow-tubing hill open in winter.

The hills in Otepää and Võrumaa are always snowy in winter and are suitable for sportsmen, beginners and Sunday skiers. There is choice for all tastes: cross-country paths, ski boards, slalom hills, safari and snow taxis. The snow guns of the slalom hills enable you to polish your skills until the end of April and to take part in interesting events (skiing, skiing tours, downhill, snowboard...etc).



# Nature's Interpretation

## 2.1. What is Interpretation?

### Concept and Definitions

Heritage interpretation can be defined as translation of information about local heritage into an understandable language. It is a communication tool that has developed into a group of techniques used in interpretative activities.

The art of interpretation was first developed in national parks for use with natural resources. Later it was used with cultural resources and now is often referred to as heritage interpretation.

The key to any interpretation activity is that the language needs to be effective.

### Definitions of “interpretation” include:

- “Interpretation is an educational activity, which aims to reveal meanings and relationships by using original objects, firsthand experience, and illustrative media, rather than simply communicating factual information” (Tilden, 1957).
- “Interpretation is the art of explaining the significance of a place to the visiting public in order to point out a conservation message.” (Aldridge, 1975).
- “Heritage interpretation is a means of communicating ideas and feelings which help people understand more about themselves and their environment.” (Interpretation Australia Association, 2003)
- “Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings in the resource.” (National Association for Interpretation Board of Directors, 2000)

All these definitions share a communication process that helps people connect emotionally and



Source: Francisco Moralejo (Spain)

intellectually with natural, cultural, or historical resources. Ham (1992) later popularized the term “environmental interpretation” for explicitly environmental and conservation interpretation.

### Interpretation Aims and Objectives

When preparing an interpretive plan there should be a set of aims and objectives. These will vary depending on the purpose of the plan. For example:

- EDUCATIONAL
- LEISURE - ENTERTAINMENT
- TOURISM MANAGEMENT
- ECONOMIC - RURAL DEVELOPMENT
- MARKETING AND PROMOTION - PUBLICITY
- LOCAL COMMUNITIES INVOLVEMENT
- HERITAGE PRESERVATION - ENVIRONMENTAL CONSERVATION





Objectives should be clearly written so when looking back on the programme you can be sure the interpretation is working properly and effectively.

Some general objectives of an interpretive programme could include:

- To give a general idea of the place
- To help people understand how the evolution processes happen in natural areas and how human impacts have affected the environment.
- To help to understand how social and economic needs have changed and influenced nature.
- To provoke interest for an object, or place and to encourage people to revisit and discover new features by themselves.

Specific objectives could include:

- Learning objectives - what you want your visitors to know
- Emotional objectives - what you want your visitors to feel
- Behavioural objectives - what you want your visitors to do

## Interpretation Principles

Freeman Tilden (1957) formulated the following principles:

- Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
- Information, as such, is not Interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
- Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical, or architectural. Any art is in some degree teachable.
- The chief aim of Interpretation is not instruction, but provocation.
- Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.



Source: Annette Pereira (Spain)





Source: AEPGA (Portugal)

- Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program.

There are three words that can effectively sum up the principles outlined above: provoke, relate, reveal:

- **Provokes curiosity and interest**

Introduce new ideas or understanding, and engage with your visitors through choice of subject matter, through language and questioning.

- **Relates to everyday experiences of your visitors**

Use analogies and metaphors to relate new concepts to what your visitors already know and understand.

- **Reveals a memorable message**

When planning an interpretive programme it is important to identify the key thing you want your visitors to remember afterwards:

Think about what new insight or understanding you want them to take away

Find a theme which unifies the whole story

Identifying a theme encourages you to sort and organise information, and helps you identify and deliver your key message.

## 2.2. Communication and Interpretation

### Participants in the interpretative process

Communication is the basis of interpretation and is the basic transfer of a message from one person to another. The interpretation professional has many tools and techniques to use in transferring ideas or themes to the target audience.

#### Information is not interpretation

We must remember though that:

Through effective communication interpretation involves:

- putting the audience at ease,
- making the information accessible for the general public
- gently provoking a reaction from them.

Interpretation involves a range of media to make the information flow more easily so that it can be understood more effectively.





A range of media can be involved including not only printed material but also new technologies and traditional spoken interaction (dialogue) between guides and visitors.

It is very important to actively encourage audience participation in the interpretive process. This involvement should be both physical through sensory or movement activity, and thought provoking through posing questions.

Even though interpretation consists of transmitting something easily understandable, the message should have scientific rigour.

### Interpretation Target Groups

An important question is “who is the interpretation aimed at?” There are significant differences between people visiting a place for leisure and those who are there for some other reasons e.g. education.

The audience profile is one issue to consider when planning interpretation. Before designing the interpretive programme, you should first undertake some research into the visitor profile. When thinking about interpretive activities in active tourism, although your visitors may have no educational expectations, you can use the same techniques with other groups.

Your research should provide you with information about the number of visitors and the months during which they come. You can start by asking local people offering accommodation and other tourism services.

Some basic characteristics you should know about your audience include:

- Age - do you need to prepare special programmes for children?
- Disability - is it permanent or temporary? Do you need specific inclusion projects?
- Background knowledge - what level should you assume?

- Country or region of residence - where do they come from?
- Point of departure - how long did it take them to travel here?

Visitors will be more demanding if they have been travelling for a long time to take part in the interpretation activities and it may be more difficult to satisfy them.

The more information you can obtain about your visitors before they arrive the easier it can be to design a programme and choose appropriate interpretive techniques and media to suit their needs:

- What level of understanding of your language do they have?
- Do they come from a rural or urban area?
- Do they live at the coast or inland?

To allow deeper understanding of your public and more detailed planning, you must do further research. Questions you may need answered are:

### • Expectations, why do they want to visit the place?

They might have some previous knowledge about what they are going to see. Other visitors will come because they are interested or curious, some others want to spend a day out and enjoy their free time. To analyse this point it will be convenient to know how they were informed about your tourism centre. Knowing this will help you to avoid repetition of information that they already have.

### • How long will they stay?

This seems a simple question, but you cannot prepare activities that don't apply to the time your visitors will spend in the place. You must adapt your objectives to the real situation and determine the duration of the interpretive activities.



### • When are they coming?

The numbers of visitors will vary during the days, weeks and months, and is an important factor to consider during the planning phases. You should distribute the activities according to the time preference shown by the public. Depending on your analysis the activities should be shared between weekdays and weekends, and over different months. Of course, certain activities will be determined also by natural factors such as weather conditions. Since most of tourists will arrive at weekends you should not plan activities which take more than several days.

Another important point to consider is the number of visitors you can expect and, if there are groups, what their characteristics might be. This information will help you plan the services you need to offer and numbers of leaflets to print. Knowing the size or typology of groups can also help you plan your interpretative programme.

When designing your interpretative programme you should consider:

- Including activities that will encourage participation of individuals and interrelationships between different groups.
- With large groups, try to develop activities to favour interaction.
- Include activities for families, especially for those including children.
- If the group is small and there are no children, focus on the individuals.
- If there is a large group of tourists arriving, think about visitors' management.

#### Group identification

- Interests, expectations, motivation
- Previous knowledge
- Visits frequency
- Time for the visit



Source: Cristina Martínez (Spain)

Visitors can't always be grouped under the same categories because all participants will not enjoy the interpretation activities in the same way. It is very difficult to design interpretation programmes to suit each individual, so you should look for what the majority prefers. Interpretive planning is a complicated task, but some common aspects can be used to identify the visitor's categories.



## Local People

Interpretation activities always involve the participation of people, since they are a communication process. For this reason, it is very important to understand the relationship between the people and the places where they live. When taking part in active tourism activities, you should (need to) capture the essence of the place through your interpretation techniques. Good interpretation activities will include an understanding of a local community's culture, traditions and history. The activity must be complemented by the interpretive "touch", so the tourist will remember something special about your place.

The design of an interpretive plan will involve working with a range of different people:

- Public administration workers, for some specific tasks
- Associations and groups working for the benefit of the resources you want to interpret.
- The local communities involved in the plan
- Experts and professionals in the field of interpretation
- Employers, managers, land owners, ...

Decisions taken will of course be affected by the diversity of people working together. This will also enrich the development process and can help in the implementation of certain activities that require the participation of different groups.

- People living in the area will be an important part of the planning and they must see themselves identified on it.
- You must remember that they will support your initiatives where they see benefit to their own community but may stand against you where they don't.
- The sustainability of the plan may help to raise long term awareness among the local population since project often have continuity leading to further development within the region.
- Interpretation will always be enriched by the local knowledge and traditions.

- The plan can contribute to a community's development process especially where the people gain new skills. They may also feel more involved and may take ownership of the plan.

- **Contributing with the enhancement of the visitor's experience through interpretation activities**
- **Raising consciousness in visitors about the area and giving them a better understanding through the interpretive message**
- **Inspiring in the visitor a sense of pride about the region's culture or heritage**
- **Understanding through entertainment**
- **Promotion of the tourism offer**
- **Improvement in the management of the area**
- **Creation of a new professional activity for new employment opportunities**
- **Motivating the public's interest in acting towards the conservation, protection and improvement of the local heritage**

There are some points you must remember when working with local people in interpretation activities:

- 1) the more people you invite to participate, the richer the contribution to your plan will be,
- 2) you must always tell them the advantages of participating in the planning.

These two points are clear, but it is not always easy to put them into action and get the expected results. Sometimes people are not receptive to new ideas and approaches, so it will be necessary to establish the relationship one small step at a time. This can be done through a process of local seminars, talks, workshops where you can encourage them to participate and discover the advantages by themselves (like an interpretation activity).





The interpretive plan can help the community through:

Contributing with the enhancement of the visitor's experience through interpretation activities

Raising consciousness in visitors about the area and giving them a better understanding through the interpretive message

Inspiring in the visitor a sense of pride about the region's culture or heritage

Understanding through entertainment

Promotion of the tourism offer

Improvement in the management of the area

Creation of a new professional activity for new employment opportunities

Motivating the public's interest in acting towards the conservation, protection and improvement of the local heritage

### **Tourism, a beneficial activity for host countries and communities**

1. Local populations should be associated with tourism activities and share equally in the economic, social and cultural benefits they generate, especially the creation of direct and indirect employment.

2. Tourism policies should be developed in a way that raises the standard of living and meets the needs of the communities living in tourist regions

Planning and design of tourism development should integrate economically and socially with local communities. Operation and design of building and accommodation should take account of local conditions and, where skills are equal, priority should be given to employing local people.

3. Tourism often represents a rare opportunity for development when traditional economic activities suffer a decline. Special attention however should be paid to the specific problems of coastal areas and islands and to vulnerable rural or mountain regions.

*Source: Article 5 - The Global Code of Ethics for Tourism (World Tourism Organisation)*

## **The Professional In Interpretation**

The professional interpreter should have a wide range of skills and knowledge to establish a good relationship with the audience. This includes knowing the:

- background of the visitors
- local resources available
- media available

It seems hard for just one person to have all the abilities so it will always be better to work in a team, at least during planning. Nevertheless, in their background or on-the-job training, interpreters should include design, planning, management or activities programmes.

The person acting as an interpreter should have good communication skills, being able to provoke the audience through the interpretative activities. They should have a general knowledge about the techniques and resources being used, but also be able to stimulate the audience. This task requires the ability to choose the techniques, always showing respect for the resource and the audience.

Some important abilities and skills for the interpreter (Interpretive Development Programme, National Park Service) are the following:



*Source: Aigar Liping (Estonia)*





Source: Cristina Martínez (Spain)

### Accountability to the profession:

- Clearly defines the distinctions between orientation/information, education, and interpretation and the role each plays on moving the audience towards some desired outcome.
- Develops a working knowledge in all methods and modes of delivery, communication, and props, not just in areas of personal preference;
- Continually improves resource knowledge base and skill levels to be competent in the broad range of interpretive environments;
- Chooses and uses the appropriate vehicle based on professional judgement, not personal preference;
- Understands that the profession has evolved over time and that external/internal influences continue to affect that evolution.

### Sensitivity:

- Is sensitive to the fact that resources have multiple meanings;
- Approaches audiences from different points of view;
- Acts as a facilitator and motivator;
- Makes interpretive connections that are broad based and accessible both intellectually and physically. Efforts are designed to touch a broad audience intellectually and/or emotionally, and crafted in a way to allow physical access.

### Analytical / evaluative:

- Constantly evaluates the effectiveness of programs, and audience needs and capability, and adjusts them as needed to maintain professionalism;
- Engages in ongoing, constructive self-evaluations.





## The Message and its Understanding

There must be a direct link between the resource and the audience. The message will function as the linkage, communicating something in a specific way. It is very important to identify the right message, which will help the visitors to discover the meaning of what they are observing.

If the target of your interpretation activities is a tourist enjoying leisure time you must focus on communicating in this context. In order to capture your audience you must make the interpretation both understandable and enjoyable.

There are other points to consider when giving an interpretive approach to your message:

- **Relevant message** (meaningful and personal): relating something to people's knowledge and experiences will make it more interesting for them. To achieve this, the interpreter should use examples, comparisons and universal concepts.

- **Organisation**: an introduction, body and conclusion can make it easier for your audience to follow and understand. The amount and type of information is not as important as the way in which it is organized. You can't demand too much effort from the public, they are in their free time and if they have too many difficulties in understanding your message, it won't have any impact on them. It is very important to maintain the level of attention.

- **Thematic interpretation** involves presenting the information using a clear central idea or interpretive theme. This kind of presentation helps the audience and the interpreter and it can be used as the title. It should be something easy to remember, describing the topic in general terms and written in the form of complete sentences.

## How can a theme help the interpreter and the audience?

- It helps to orientate and focus the interpreter's work. It will be very helpful during the design activities and presentations. For example in a guided walk, the interpreter has a lot of resources and facts to show the visitors, if one main clear idea is well defined he can concentrate in those related aspects. It can then help to structure the walk, focusing on specific stops, all related by the theme.

- It helps the audience to understand the message. The attention is directed towards a main theme with a series of connected facts.

To write the principal message the interpreter has to think thematically and also remember the difference between the topic and the theme.

How to write a theme according to "Environmental interpretation" (Sam Ham)

1. Select your general topic (for example, "this castle") and use it to complete the following sentence:

"Generally, my presentation (talk, exhibit, etc.) is about \_\_\_\_\_. (put your general topic here)

2. State your topic in more specific terms and complete the following sentence:

"Specifically, I want to tell my audience about \_\_\_\_\_. (put your specific topic here)

3. Now, express your theme by completing the following sentence:

"After hearing my presentation (or reading my exhibit, etc.), I want my audience to understand that: \_\_\_\_\_. (Put your theme here)



## 2.3. Planning Interpretation: The Interpretation Programme

### Interpretive Planning Concept

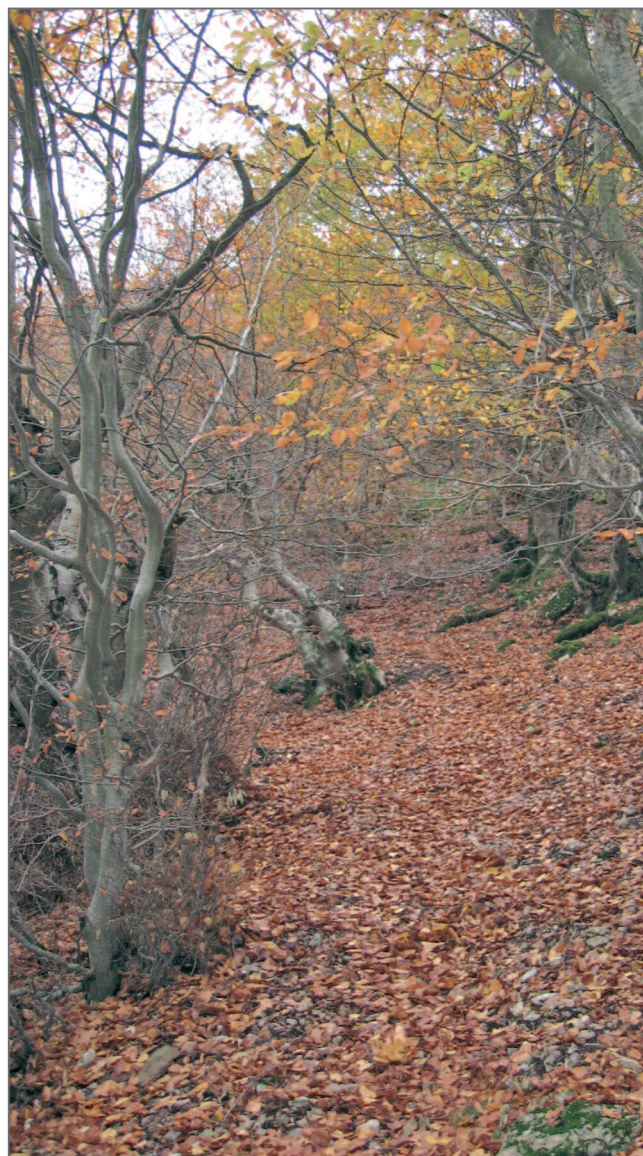
It is impossible to interpret without a plan. Interpretive planning is the key for all interpretation programmes and the design of its activities. There are many factors to consider when you decide to interpret something. It is not simply a matter of knowing the resource and showing it to a group of visitors. There has to be a clear connection between the elements and the way you connect them is going to be as important as the content itself.

There are different scales of interpretive planning. For large scale plans, the planning phases will take longer due to the number of elements to consider in the decision-making. There can be plans at regional, local or specific site level - such as an individual interpretive plan for a visitor centre.

The following questions, will give you the steps to follow in a planning process:

- 1- Why are you interpreting something?
- 2- What are you interpreting?
- 3- Who are you interpreting for?
- 4- What are your objectives?
- 5- What messages do you want to communicate?
- 6- How, when and where is it going to be implemented?
- 7- How will it be monitored and evaluated?

The first question to consider is why do you want to interpret something? This can give you your goals, the needs and origin of the interpretive planning. Here it is important to know the benefits you want to gain from the process. These can be directed towards one or all of the following essential objectives:



Source: Francisco Moralejo (Spain)

- Resources management
- Life quality of local population
- Rural development

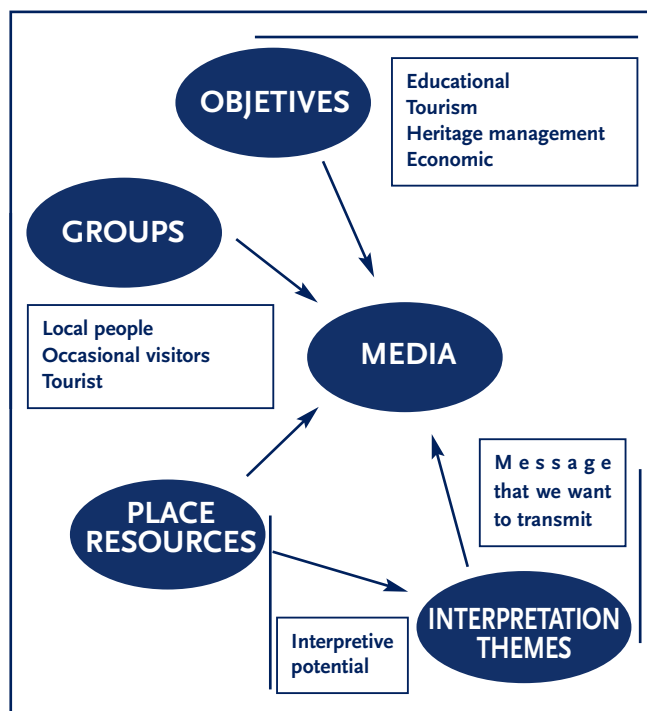
This is important for the development, monitoring, control and evaluation of the plan. If you don't know your aim, you won't be able to determine if the plan is working properly.





Points to relate

**GOALS**  
**OBJECTIVES**  
**GROUPS**  
**POTENTIALITIES**  
**THEMES**  
**MEDIA - TECHNIQUES**



## Planning Phases

Once you have decided to develop an interpretive plan, then the planning phase should begin:

The planning team does not work alone but should involve the local public administration and local population. From the financial point of view, you must consider the budget for planning and implementation of the final programme and its services.

**The interpretive theme:**

**What are you interpreting?**

- First you must do some research to gather information about your tourism centre. There will be some obvious topics or subjects that will

attract the visitor. You must also search for other elements that could be included to widen the range of interest. Here it could be of great help to ask the local population about what they see and feel about their place. Remember that interpretation is about capturing the essence of places and books might not tell us everything.

- You should also gather information about other possibilities in the area: linkage to the region, relation to other tourism offers such as active tourism activities, ideas to introduce and connect different programmes. Especially if you are trying to give an interpretive approach to other tourism activities.

- Analysis of the information will be required. There might be several potential resources to choose from. Factors to consider include the demand for these different activities, as well as conditions, accessibility, visitor safety, capacity, fragility, relation to other regional products. Each factor can be useful as a single component that will determine the final decision. The application of an index, based on the different criteria, will help you to decide the interpretive importance of the elements.



Source: Aigar Liping (Estonia)





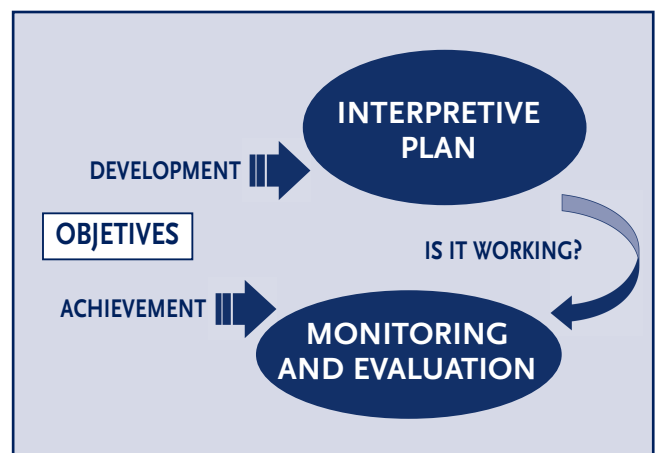


Source: Jesús Núñez (Spain)

### Details about the potential and current audience profile.

- The research done during the previous phases will help, because the more impressions you receive from people to determine the interpretive figures and interests, the easier it would be to satisfy the visitors' diverse demands. Hopefully improving the tourism product on offer will increase the number of potential tourists accessing your interpretation activities.

**You should now be ready to formulate the interpretation objectives.** It is important to relate them to the resource analysis; this combination will help you to define the content of the interpretive programme that will be discussed during the development process.



**The next step towards effective interpretation will be to analyse** the possible media and techniques for the transfer of the contents to the general public. You must decide how, when and where the visitors are going to establish contact with the interpretive message.

You should now examine the different options and ideas suggested for inclusion in the interpretive plan. It is likely that not all of them will be feasible due to economic or methodological problems.

The conclusions of the previous step will finally result in the interpretive plan that will be implemented during the next phase.

**The last phase will be evaluation and monitoring** which should be continuous. If parts of plan are unsatisfactory or do not meet the objectives they may need to be modified.

## Interpretive Media

The interpretive media are the channels used by the interpreter to communicate with the audience to send them the message. If you consider that the theme is the story; the medium is how we tell it. We must make decisions about which media we will use to tell this story.

The methods, mechanisms, resources or instruments available to present the idea to the visitors are usually classified into personal or non-personal and attended or unattended. Personal media involve an interaction between the public and the person acting as interpreter or guide. Unattended services are those which use objects or devices to transmit the message.



Before considering the media that you can use, there are some communication points to remember when designing and choosing the interpretive media:

- interesting - it must get the attention of the visitor
- it needs to be accessible, make sure everybody can understand it
- it must be relevant to the audience, so they connect with what you want to say.
- it must be structured

To get the audience attention your message has to be interesting. But you will need keep the attention level and this will be particularly difficult if the story is long. If you don't use imagination and the right media, it can be boring for the visitor. An example can be an attractive design with bright colours in some printed material, but if the story you introduce is not interesting, the level of attention cannot be maintained. For this reason you need to know the media you can refer to when designing interpretation activities. This choice will have to be made after determining aims, objectives, resources, themes, public and site characteristics.

## Interpretive media classification (Stewart 1981)

### Non-personal means:

#### a. Signs or labels:

Provide directions, information or interpretation, and they are generally fixed and permanent.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Clear and concise information</li> <li>• Relatively cheap to construct</li> <li>• Low maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>• They are static</li> <li>• They give no detail</li> <li>• Only one information level</li> <li>• They can be prone to vandalism</li> <li>• Possible negative visual impact</li> </ul>





**b. Publications**

This group includes printed information: books, brochures, guides, maps, and posters.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Low cost</li> <li>• They can be taken as a souvenir</li> <li>• They can be read in other moment</li> <li>• Several users</li> <li>• Detailed information</li> </ul>	<ul style="list-style-type: none"> <li>• No direct contact with personnel</li> <li>• No answer to specific questions</li> <li>• May be discarded as litter</li> <li>• They can't be updated regularly</li> </ul>

**c. Mass media:**

This group includes radio, television and press (magazines and newspapers).

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Large audience can be reached</li> <li>• Can encourage the visit to a place</li> <li>• Can advertise special activities</li> <li>• Information at different levels</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive products</li> <li>• Usually associated to marketing strategies</li> </ul>

**d. Self-guided paths:**

These are the paths on which people use brochures, signs, panels, or sound recordings, to follow a pre-established route

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Flexible to the visitors</li> <li>• They concentrate the use of the area</li> <li>• Can stimulate the senses</li> <li>• They encourage participation</li> </ul>	<ul style="list-style-type: none"> <li>• Unattended, they don't answer to specific questions</li> <li>• Can be prone to vandalism actions</li> <li>• Difficult to monitor and maintain.</li> </ul>



Source: Jesús Núñez (Spain)

**e. Automatic audiovisual mechanisms:**

This group includes movies, automatic slide shows, listening posts, portable recorded tapes, and all audiovisual presentations not attended by Staff.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Quality information</li> <li>• They create a special atmosphere</li> <li>• Complementary information</li> <li>• They encourage people to visit the place.</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• They require power</li> <li>• Non personal, they don't give answer to specific questions</li> <li>• Need permanent control and maintenance</li> </ul>

**f. Exhibits:**

They are objects or collections exhibited to illustrate or explain a subject or theme. They are used both indoors and outdoors. They should have elements that employ all senses; thus they must incorporate objects that can be touched, smelled, seen, heard and felt.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• They are real objects</li> <li>• Each visitor goes at his own speed</li> <li>• They can be transported</li> <li>• Low maintenance costs</li> </ul>	<ul style="list-style-type: none"> <li>• They are static</li> <li>• They don't explain the complete story</li> <li>• No answer to specific questions</li> <li>• Usually they can't be touched</li> </ul>

**Personal means:**

## **A. Tours**

### **1. Guided tours:**

These are visits conducted by a guide or interpreter. They follow a route pre-established by the organizers of the activities, although the subject and the presentation methods may vary.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Personal contact with the interpreter</li> <li>• Contact with the resource</li> <li>• Can use the senses</li> <li>• Give answer to specific questions</li> <li>• Direct management of the resource's use</li> </ul>	<ul style="list-style-type: none"> <li>• Outcomes depend on the guide</li> <li>• Visitors speed has to be the same</li> <li>• Restricted number of persons (&lt; 20)</li> </ul>

### **2. Tours in motorized vehicles:**

They are journeys in vehicles, organised by calendar, schedule or itinerary.

### **3. Tour in non-motorised vehicles:**

These are groups of cyclists or horse-riders, visitors in canoes, rowboats, etc. special attention should be given to visitor safety.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• They can require some abilities</li> <li>• Use of the senses</li> <li>• Contact with the interpreter</li> <li>• Resource management</li> </ul>	<ul style="list-style-type: none"> <li>• Time and routes are restricted</li> <li>• Can't be adapted to any public</li> <li>• Depend on weather conditions</li> <li>• Special safety measures</li> <li>• Delicate animals' keeping</li> </ul>

## **B. Audiovisual mechanisms attended by the staff**

Are presentations in which the interpreter may be present in order to explain or answer questions, or in which he or she may use an audiovisual method. This includes lectures with short movies, slides, or the use of an overhead projector, a flip chart, and a sound amplifier.

## **C. Specialised personnel**

### **1. Demonstrations:**

Are generally developed by professionals who specialize in activities that involve skills such as craftsmanship, making of instruments, manufacturing, etc.

### **2. Development of activities:**

Some examples are horseback riding, climbing, taking photographs, or any other activity that usually involves the visitor in an active participation.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• They are attended by persons</li> <li>• They stimulate to develop some skills</li> <li>• The favour visitors self-esteem</li> <li>• They visit will be remembered</li> </ul>	<ul style="list-style-type: none"> <li>• Small groups</li> <li>• Need of equipment</li> <li>• Good trainers for the activities</li> </ul>

### **3. Conferences:**

They are given by an expert who comments or narrates his experiences in several styles, or translates his knowledge into simple language that can be easily understood by the public.



## D. Animation:

### 1. Passive animation:

A person “interprets” -in a theatrical manner- a daily activity, generally folkloric, dressed as the character he represents. The idea is to relive facts and traditions, without the participation of the public.

### 2. Active animation:

Activities that include the participation of the public, where they must use previous knowledge or something learned during the visit. It can include simulations, environmental games, theatrical representations, or the use of instruments with a recreational objective rather than to obtain skills.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• The interpreter can clarify concepts</li> <li>• It is encouraging and motivating</li> <li>• Stimulates to discover new abilities</li> </ul>	<ul style="list-style-type: none"> <li>• People's reaction will determine its success</li> <li>• Can be used with small groups</li> <li>• Requires more time and personnel</li> </ul>

## E. Casual services:

They include three kinds of services: information, reception, and spontaneous assistance (in any place and situation), although they are not directly related to environmental interpretation. These services occasionally fulfil the task of public relations that go beyond a simple delivery of information about restrooms, schedules, etc.

## Evaluating Interpretation

Evaluation is about measuring how well you are doing.

You need evaluation in order to measure the progress and outcomes of your interpretation activities. Evaluation will tell you if the objectives are met.

**The objectives should be clearly defined before evaluating the interpretation:**

OBJECTIVES	questions
• Learning	• what do you want people to learn?
• Emotional	• what feelings do you want to create?
• Behavioural	• what do you want people to do?

Once your objectives are identified, you can then decide when to evaluate.

### Types of evaluation include:-

- **Front-end evaluation.** This is done when you set our objectives and helps you adapt the interpretation to the public expectations and knowledge.

- **Formative evaluation,** done during the design stage, tests how visitors respond to different interpretation activities trials. An example could be to design several ideas for panels, observing which one is more attractive to the audience. You can also test to see if the audience gets the right message. Following the results of this evaluation, designs or contents can be changed to reach the communication aim.

- **Remedial evaluation** Once your design is finished and your completed elements are displayed, you should test how they fit together. This will suggest whether adjustments are necessary to assure that the elements work together effectively, that they are accessible and the lighting is correct.

- **Summative evaluation** is undertaken once the project is implemented and tells you whether the interpretation meets its objectives. This information can be used also for future programmes design.







Source: Jesús Núñez (Spain)

The evaluation through the different stages will be carried out following two basic methods to collect the data:

- 1- *Quantitative methods*, which give numerical data. They count and measure in concrete forms.
- 2- *Qualitative methods*, which give information about the visitors' opinions, feelings, attitudes and perceptions.

Numerical data can be analysed statistically by computer. The analysis of qualitative evaluation however can be more complicated and require careful consideration before useful information can be obtained.

Gathering the qualitative/quantitative data can be time consuming and expensive, the different techniques have their own advantages and disad-

vantages. For this reason, to avoid the possible limitations, you should consider combining them.

There are several techniques to choose from:-

#### Observation

- Visitors attitude: time they need to read a panel, if the repeat any of the contents in a loud voice, ...

#### Monitoring

- The public, to know where they are heading, what itinerary they follow, the time they stay in the place, how they distribute the total space...

#### Questionnaires

- They can include qualitative and/or quantitative information.

#### Interviews - Focus groups

- To analyse a concrete aspect through open questions to several persons.

#### Expert panel

- Critics by the professionals in interpretation.



## 2.4. Bibliography:

ALDRIDGE, D. 1975. Guide to Countryside Interpretation. HMSO for Countryside Commission and Countryside Commission for Scotland.

BECK, L. and CABLE, T. 1998. Interpretation for the 21st Century: Fifteen guiding principles for interpreting nature and culture. Sagamore Publishing. Champaign, Illinois.

CARTER, J. (ed.) 1997. A Sense of Place - an interpretive planning handbook. Tourism and Environment Initiative, Inverness

HAM, S. 1992. Environmental interpretation: a practical guide for people with big ideas and small budgets. North America Press. Golden, Colorado.

MORALES, J. 1997. Environmental, Historical, Cultural, Natural Interpretation: A Spanish view on heritage interpretation. Legacy 8(5): 10. USA

MORALES, J. 2001. Guía práctica para la interpretación del patrimonio - el arte de acercar el legado natural y cultural al público visitante. Dirección General de Bienes Culturales, Junta de Andalucía, y TRAGSA. Segunda edición.

TILDEN, F. 1957 Interpreting our Heritage. University of North Carolina Press, North Carolina.

VERVEKA, J.A. 1994. Interpretive Master Planning. Falcon Press Publishing Co. USA: Montana

## 2.5. Web Sources:

The World Tourism Organization  
[www.world-tourism.org](http://www.world-tourism.org)

European network for heritage interpretation  
[www.interpret-europe.net](http://www.interpret-europe.net)

The National Association for Interpretation (US)  
[www.interpnet.com](http://www.interpnet.com)

Interpret Scotland  
[www.interpretscotland.org.uk](http://www.interpretscotland.org.uk)

Association for Heritage Interpretation (UK)  
[www.heritageinterpretation.org.uk](http://www.heritageinterpretation.org.uk)

Interpretation Association (Australia)  
[www.interpretationaustralia.asn.au](http://www.interpretationaustralia.asn.au)

Interpretation Canada  
[www.interpcan.ca](http://www.interpcan.ca)

Spanish Association for Heritage (AIP)  
[www.interpretaciondelpatrimonio.com](http://www.interpretaciondelpatrimonio.com)

The Interpretive Development Programme (US National Park Service)  
[www.nps.gov/idp/interp/](http://www.nps.gov/idp/interp/)





# Special Groups

## 3.1. The Demand for Active Tourism

Active Tourism has recently become very popular. More people want to spend their vacation taking part in adventure and nature based activities.

New promotional media including brochures and internet sites has made active tourism more accessible and desirable to a wider range of customers.

Social and demographic changes have led to changes in the travel and tourism market. An active aging population, two income families, more childless couples and single adults have changed the travel and leisure demand. The different types of active tourists require changes in the activity packages offered. Some activities have become broader so that the difference between tourists and professional groups is not so clear. Others have been re-invented to meet special interests. There is a strong trend towards multi-activity packages, which combine nature, culture, religion and learning, in soft adventure packages in natural environments.

Outdoor experiences and activities must be promoted and operated in ways that respect diversity and encourage equal opportunity.

### Characteristics of the active tourist

- Tourists are usually classified by age, sex, type of employment.
- For active tourism, other factors include: level and type of experience, knowledge of wilderness conditions and attitudes toward different management practices.
- The wide range of activities that make up active tourism cover different social and economic groups. It is difficult to give an overall definition of an active tourist.
- Adventure travellers are generally male, middle aged, well educated, in managerial or professional occupations and affluent.

- Active tourists, in general, are men and women, middle to upper-middle class, between 18 and 50 years old.

- The profile of adventure travellers differs for each activity and location and their consumer and travel behaviour is also affected by changes in the marketing environment in the travel industry.

- Adventure travellers have specific needs and demands for travel and tourism products and services.

- Behaviour of Active Tourists is affected by their background, education, and perceptions of wilderness and its management.

- Good understanding of visitors is crucial when choosing planning priorities and ways to inform visitors and influence their behaviour. Different user groups produce different impacts.

- Outdoor recreation and nature-based tourism are influenced by international trends, technical development and personal preferences.

- It is important to determine activities and attitudes of participants, especially young people, because they are the present and future active tourists.

## 3.2. Seniors

- Worldwide, the proportion of people aged 60 and over is growing faster than any other age group. In 2025 there will be a total of 1.2 million people over the age of 60.

- Seniors are growing in number and importance. In the future, they will become the most important age group. This will have implications on travel and tourism.

- The behaviour of senior travellers is of interest because of its market size and potential for growth. Seniors are important because they have the income and time to travel. They feel young and try to maintain lifestyles adopted while they were young.

- Seniors travel further and stay away longer than other groups. They tend to be active, interested in a healthy and enjoyable lifestyle, they have free time, are open to new experiences. But, they have also some limitations that come with age or are imposed by society.





Source: Sirpa Arvonen, Suomen Latu (Finland)

- Motivation for travel can be: rest and relaxation, visiting family and friends, physical exercise, learning and self-fulfilment.
- There are factors that prevent people acting on travel motives. These include; cost, lack of time, health limitations, family stage, fear and concerns for safety, lack of interest, lack of abilities necessary to participate, limitations in equipment, information and money.
- While the mature market is large, it has complexities, such as continual change, generational differences and heterogeneity. Chronological age is not a precise marker for the differences. Health status and levels of participation and independence vary among people of the same age.
- The older market includes diverse lifestyles, interests, attitudes and consumption patterns. Senior customers are not one homogeneous segment. They do not share the same interests or take part in the same activities. They can be differentiated by age, experience, and health.

- There is a range of travel preferences among the senior travel market. To cater for this growing market segment you need a good understanding of travel behaviour, so that products and services can be suited to their needs.

- Active Tourism providers must keep in mind the rights, needs, desires and capacities of older people. They should be aware of the motivating factors. Active living and taking part in active tourism activities improves mental health, often promotes social contacts and can delay functional decline.

### 3.3. Disabled

People with disabilities are a strong potential market for active tourism. In Europe, disabled tourists travel in spite of the lack of information and the possibility of a bad experience. It is estimated that about 7.5 million disabled tourists generate 156 million night stays. This could be higher if the products offered were more suited to their needs.

It is a growing market because:

- Behaviour and attitudes are becoming more positive
- New technologies make information more accessible and promote adaptation of equipment.
- Legislation against discrimination, motivates uptake
- Available income

We tend to link disability with mobility, the use of a wheelchair, cane, crutches or a walker. There is a high percentage of hidden disabilities such as heart problems, developmental disabilities, diabetes, blindness, asthma, learning disabilities, or epilepsy that do not necessarily affect mobility. Disabilities may be classified as sensory, physical, mental, self-care or mobility.







Source: AEPGA (Portugal)

**The World Health Organization (WHO) makes a distinction between impairment, handicap and disability:**

- **Impairment:** a permanent or temporary psychological, physiological, or anatomical loss or abnormality of structure or function
- **Disability:** an impairment that causes a restriction or reduction in the ability to perform an activity in the normal manner or within the range considered normal for a human being.
- **Handicap:** a disability that is a disadvantage in that it limits or prevents the fulfilment of a role that is normal depending on age, sex, and social and cultural factors for that individual (Abeyrane, 1995)

Sport activities for people with disabilities are developing in many countries, thanks to development of specialised equipment and structures. However, they are still limited. A visually impaired or partially paralysed person may be able to paddle a canoe, ski in winter or even try

scuba diving. The best opportunities though are still in hiking and mountain sports.

**Some sports need adaptations to meet specific needs:**

- in diving, paraplegics do not use flippers.
- in a “walk”, they may need some adaptations of the wheelchair<sup>1</sup>.
- most of the sports need perfect understanding between partners and the ability to communicate in different ways. Blind people must be in perfect harmony with their guiding/helping partner and they communicate through specific signs and touch. Climbing also requires good knowledge and understanding of when to help the partner.
- mountaineering for one-legged or blind people is becoming less unusual. Some disabled people are achieving success in rock climbing using rope techniques.
- for canoeing, they need to have paddling skills, experience and adapted equipment so they can fit into the boat comfortably.

<sup>1</sup>There is specially designed equipment such as:

**ORWC** (Off Road Wheelchair) has 3 or 4 wheels, disc brakes and possibly shock-absorbers. It enables paraplegics to travel independently on reasonably wide paths or forest routes, downhill only. Guides will use mountain bikes. The chair is the key part but good tyres, a pulling device, a protection bag for the legs, etc, might also be helpful.

**Joëlette** - The joëlette is a lightweight chair with a single wheel and articulated poles in front and behind. It was invented by Joël Claudel, a mountain guide working in the Southern Alps. Two walkers carry an immobile person, like stretcher-bearers, even on narrow paths. This necessarily involves hiking in a group, with substitute “bearers”.



Active leisure pursuits for the disabled are seen as a real driver for integration, along the same lines as access to work and to social or cultural life. People with disabilities have much to gain from the outdoor experience. Besides the fun, they gain confidence, self-reliance and a sense of achievement. It is important to motivate them to become involved in the activities.

There are now more inclusive recreation opportunities available than ever before. However, community-based recreation providers often have neither inclusive programming nor adequately trained staff to meet the diverse needs of people with disabilities.

**Barriers to taking part in activities include:**

- personal factors: lack of knowledge/information, health problems (physical or psychological).
- factors resulting from the interaction of the person with the surrounding environment (bad communication)
- external factors (building architecture or negative attitudes).

Physical barriers can be removed with a little money and some creative thinking. Negative attitudes and stereotypes about people with disabilities are more difficult to overcome. They are sometimes seen as a group requiring extra expenditure on ramps, specially fitted rooms, expensive technology or equipment.

**Therapeutic recreation**

Therapeutic recreation or Recreation Therapy is the provision of recreation and leisure services to people with disabilities. Therapeutic recreation helps those with disabilities to integrate successfully into the community. David Austin, Professor and Graduate Coordinator of Therapeutic Recreation at Indiana University, states, "Therapeutic Recreation is a purposeful intervention that uses recreation to bring about health restoration...(and) has the potential to enhance health or produce high level wellness."

Therapeutic Recreation helps to meet the physical, cognitive, emotional and social needs



Source: NRC-APPC - Coimbra (Portugal)

of those with disabilities. It increases awareness of the recreation opportunities available to them through education and the use of specialised equipment designed to allow the user to take part.

**Adaptive Sports**

The philosophy behind Adaptive Sports is that any sport can be modified to meet individual needs.

**Adaptive skiing** uses equipment including mono-skis and bi-skis (sled-like devices that allow skiing in a sitting position) three-track skis, for skiers who have one sound leg and two sound arms; and four-track skis, for individuals who have amputations, post-polio or paralysis on one side of the body. Outriggers (forearm crutches with ski tips attached) can be used for balance and turning.

**Rock climbing, paddling and sailing** are also adaptable for amputees and people with disabilities.





**Water-skiing and wakeboarding** are popular forms of exercise, exhilaration, and social interaction. Adaptive water-ski equipment gives people with reduced mobility or other impairments the chance to enjoy and benefit from water sports. Because adaptive water-skiing is quite a new and growing sport, it is not readily available. The freedom and physical benefits of water sports should be available to everyone regardless of ability or disability.



Source: AEPGA (Portugal)

Taking part in outdoor programs helps to improve self-concept and self-esteem, leisure skills, social adjustment, and personal growth of people with disabilities.

Nature contributes to well-being and regeneration. Equipment developers aim to make nature accessible and give people with low mobility the necessary independence.

#### **Taking part in “Adaptive Adventures” can help to:**

- increase level of independence and self esteem;
- improve strength, flexibility, and balance;
- enhance level of physical fitness;
- improve emotional well-being;
- sharpen cognitive skills;
- help adjustment to disability;
- develop trust and interpersonal relationships;
- improve communication skills and memory;
- build family unity;
- boost self control;
- reduce heart and lung risk;
- improve decision-making skills
- reduce social isolation, improve quality of life and personal productivity;
- improve overall health.

It can also enlarge the support network and promote community integration by raising self-awareness.

#### **Benefits of Active Tourism**

##### **Outdoor experiences can:**

- develop awareness and understanding of self and relationships with others
- encourage responsibility for self learning
- build a sense of community
- develop awareness and respect for the environment
- build the ability for purposeful recreation
- enhance quality of life and provide exercise, relaxation and enjoyment.

Disabled people are participants like any others. They want to choose their own programme and do the activities they like with family and friends.

People with disabilities are attracted to outdoor environments for the same reasons and rewards as individuals without disabilities. The increased popularity of camping and other outdoor recreation has led to some mainstream out-door adventure and camping programs for people with disabilities.

It is important for them to mix with able-bodied people for joint nature trips, creating a spirit of friendliness and losing the idea of activities “reserved” for the disabled.

New, adapted equipment opens the door to new activities for the disabled. However, the acti-



Source: NRC-APPC - Coimbra (Portugal)







Source: AEPGA (Portugal)

vities can be more expensive, due to specific individual requirements.

The challenge for the professionals is to adapt themselves technically and mentally for the specific requirements and supervision of disabled people and, to gain a perfect knowledge of the equipment and peoples' needs.

A disabled tourist needs more individual attention, special structures and equipment. They find pleasure and meaning in life by challenging themselves on some of the world's classic mountain climbs and treks. Barriers to people with disabilities can deprive individuals of the chance to enjoy recreational opportunities that improve their quality of life.

### Future Development Needs

To ensure that people with disabilities have access to information about sports & recreation activities and events the following should be established:

1. Year-round sports & recreation activities available to people of all abilities including: alpine and cross-country skiing, camping, fishing, cycling, handcycling, paddle sports, sailing, snowmobiling, water skiing & wakeboarding, team sports and adventure trips.
2. The necessary equipment, venues and training to support these activities.
3. Community education to raise awareness of disabilities and the opportunities that exist.
4. A greater number of participants, teachers and role models throughout the disabled community.
5. Scholarship opportunities for individuals who are unable to afford the high cost of adaptive sports & recreation.

Society should be committed to making it easier for disabled people to take part in outdoor activities and enjoy active lifestyles. It is a challenge for them to gain meaningful access to sport and adventure. Providers of outdoor activities, expeditions and sport are often forced into





standard operating patterns. This means that people with diverse needs are simply excluded. Gaining meaningful access means challenging technical, logistical and human barriers, building on simple good practice.

Many enterprises are developing resources to make outdoor adventure and active lifestyles more accessible. “Equal Adventure Developments” have developed various specialized products. These include a “kite” climbing harness that provides increased access to rope activities for people with visual, sensory, learning or physical disabilities. “Aquabac” provides support for water sports participants with complementary balance needs. It encourages active balance but does not restrict trunk movement.

### 3.4. Bibliography

Beedie, Paul, Hudson, Simon (2003): Emergence of Mountain-based Adventure Tourism, in *Annals of Tourism Research*, vol.30, n°3, pp. 625-643.

Burnett, John J. and Baker, Heather Bender (2001): Assessing the Travel-related Behaviours of the Mobility-disabled Consumer, in *Journal of*



Source: NRC-APPC - Coimbra (Portugal)



Source: NRC-APPC - Coimbra (Portugal)

*Travel Research*, vol.40, August, pp.4-11

Heberlein, Thomas A., Fredman, Peter (2002): Motivation, Constraints and Visits to the Swedish Mountains, *European Tourism Research Institute*.

Scholl, K. G; McAvoy, L. H; Rynders, J. E; Smith, J. G. (2003): The influence of an inclusive outdoor recreation experience on families that have a child with a disability, *Therapeutic Recreation Journal*, First Quarter.

[www.equaladventure.co.uk/index.html](http://www.equaladventure.co.uk/index.html)

SUNG, Heidi H. (2004): Classification of Adventure Travellers: Behaviour, Decision Making and Target Markets, *Journal of Travel Research*, May 2004, pp. 343-355.

Sellick, Megan Cleaver (2004): Discovery, Connection, Nostalgia: Key Travel Motives Within the Senior Market, in *Journal of Travel & Tourism marketing*, vol.17 (1), pp.55-69.

Trindade, Maria Nazaré (2004): A Pessoa Portadora de Deficiência como Turista, in *Revista Turismo e Desenvolvimento*, vol.1, n° 1, pp. 73-79.

WHO (2002): Active ageing: a policy framework, pp.59.





# Risk Management

## 4.1. Introduction

Active tourism is becoming more popular as more people seek weekend activities close to home. Operators must provide activities that are safe but also appealing to clients.

### Risks and Hazards

Understanding risks and hazards is an important part of being safe. You need this understanding to carry out risk assessments and risk management.

Hazards exist all around us in every day life. The cable lying loose on the ground, the overloaded bookshelf and kitchen knives are all hazards found in many households. If left alone they do not pose any risk.

#### Definition of Hazard

**A hazard is a situation or set of circumstances which can cause harm to people, materials, equipment, land, etc.**

When we add people into the equation, we introduce a chance that someone could be harmed- this is known as the risk.

#### Definition of Risk

**A risk is the chance that someone or something will be harmed by a hazard.**

### Perceived Vs Actual Risk

One factor that separates adventure activities from other types of tourism is the perception of risk. Some people seek out activities that have risk associated with them. Often, the more risky the activity the more attractive it is. Why else would people do whitewater rafting instead of canoeing on a calm lake?

**Perceived risk** - risk that people believe an activity has, regardless of whether there is any risk management in place. For example, bungee jumping has a high perceived risk because people are jumping off high objects. In reality there is little risk of injury if the correct procedures are in place.

**Actual risk** - real risk that is actually present and can harm someone. For example, Alpine whitewater rafting has a high actual risk even when people are correctly clothed and guided. This is because water features can change quickly. Rafters may need to swim, and may drown if they are not rescued immediately.

### The relationship between perceived and actual risk

Perceived Risk	High			
	Low			
		Low	High	
		Actual Risk		

	Low actual risk/high perceived risk – very desirable area to work in.
	Main area in which adventure tourism takes place- it is made up of medium levels of perceived risk (soft adventure) and high actual risk (which needs careful management) both in average amounts.
	Low actual risk/high perceived risk – very desirable area to work in.

Source: Grant (2001)



The above diagram shows the areas that adventure/active tourism packages should fall into. An operator should offer packages that are low in actual risk, yet have high perceived risk. A package that has high actual risk and low perceived risk is not desirable. It would be harder to sell such a package. There are adventure/active tourism packages in the high risk category, for example, Everest expeditions. However, as the perceived and actual risks are both high, these trips demand a high premium.

Although there is a relationship between actual and perceived risk, you must remember that the perception of risk is only in the individual's mind. An activity need not have a high level of actual risk to be adventurous.

## Adventure and Risk

You must bear in mind that this is a subjective assessment. What seems like an adventure for one person may seem unexciting to another. Ideally a tour operator would try to market a package to groups of people with similar expectations.

## Safety

A successful trip without any problems may be due to good planning and safety, or good luck. If an accident occurs, it could be due to poor planning or bad luck. While some people believe that there is no such thing as luck and that accidents can be avoided, this does not take into account the nature of the experience being sold. Quite often it is this unknown that makes an activity exciting and desirable.

The clients generally believe that, although the activity appears dangerous, it is actually safe. Safety is often hidden from the clients. They are, after all, buying a product from people they believe

to be experts. What proof do they have that this is true? In the UK there is a mandatory licensing scheme for adventurous activities called the 'Adventurous Activities Licensing Bill'. However, this is limited as it only applies to children under eighteen years of age and covers only certain activities.

Safety procedures must be made more visible to the clients. Reference to national guidelines and good practice are good selling points. Operators who sell their safety will become market leaders and others will have to follow. The market should demand safety, at least in areas where there are many adventure tourism operators. The problem lies in those areas where there are few providers and where good practice may not operate or be visible.

## Future of Safety

As more activities become accessible to a wider group of people, safety will need to be more obvious. Safety could be customer led, as more people choose to buy 'products' that are safe.

Wilderness areas are becoming more accessible and adventures are generally safer. This is due to greater awareness amongst operators and higher standards of personal performance, safety and leadership. The higher standards are a result of both market forces and the threat of legal action in the event of an incident.

The quality of the adventure experience is a combination of factors, including:

- a perceived risk
- visible safety procedures - safety should not be the hidden component that can make or break a good holiday.





## 4.2. The Law and Outdoor Pursuits

You must have a basic understanding of law to operate as a provider of adventurous activities. Everyone working in an activity organisation should be aware of the need to take care in what they do and how they do it. They should also recognise the potential for lawsuit even if due care is taken! The driver of the company minibus, the cook preparing lunch, the instructor taking the group and the manufacturer of equipment must each abide by the standards of the law.

### Compensation

- Tort law is primarily concerned with compensation for “fault-based” accidents.
- Compensation refers to putting the victim back into the position s/he would have been in if the accident had not happened.
- A court will decide whether to order the defendant to compensate a victim for harm the defendant did to the victim.
- The harm need not be intentional.

### Negligence

This is the main area of lawsuits in the adventurous activity industry. Was the instructor suitably qualified to take the group? Did s/he allow for the weather before making a decision? Did the guide make a decision based upon accepted good practice? These are all negligence issues faced every day.

Negligence refers to conduct that falls below the required standard.

To establish negligence, five elements must be proved:

- There must be injury to the victim;
- It must be the defendant's duty to avoid injuring the victim;

- The defendant's conduct must be below the legally required standard;
- The behaviour of the defendant must be the main cause of the injury;
- If the victim had any part in causing the injury, such as taking unnecessary risks, his compensation may be reduced.

### Duty of Care

For someone to be blamed for an injury to someone else, they must have had a duty of care to that person. This means that one person was responsible for the protection of another.

- The law of negligence does not recognise a duty of care to all individuals;
- It recognises a duty of care only to people likely to be harmed.
- This includes clients, as well as others for whom the instructor is responsible.
- It is possible that instructors could injure other people nearby who are not clients.
- One client may be held responsible for injury to another client.

### Standard of Care

The law requires a minimum standard. Lack of training and knowledge is no defence. Whether or not you are a professional, a court applies the same standards of care that apply to professionals. The law considers whether the leader's actions meet a reasonable standard of care. This is done by deciding what the leader should, or should not, have done to care for the victim. One factor to consider is whether the leader's actions followed the guidelines as laid down by a National Governing Body (NGB). NGB qualifications are not mandatory, but these are the guidelines that a person's actions are often measured against.



## 4.3. Managing Risk

### Risk Management

Risk is an essential part of the adventurous activity industry. It is often the risk or perceived risk that attracts people to the activity. Providers of adventurous activities must have a good risk management system in place. Risk management is not about taking risk away, but reducing the chance of it occurring. If risk is totally removed, the activity may lose its appeal.

**Risk management can be defined as:**

- preventing damage or destruction to property;
- reducing or preventing injury or suffering to people;
- setting up programmes to reduce or prevent loss;
- using transfer mechanisms to shift losses that cannot be controlled any other way.

Risk management should aim to reduce suffering and loss of human life. It should also show clients how to take part in the activity more safely. Try to imagine your family members as clients, and then ask, "what level of professionalism and emergency training would I expect the instructors to have?"

Outdoor professionals focus on developing technical skills and gaining National Governing Body (NGB) certification. Risk management and the administration that goes with it should also be a necessary skill.

Four approaches that can be taken to control risks:

**Elimination** - either avoid doing the activity or stop offering the programme.

**Transfer** - transfer the running of the activity to another provider who will run the programme.

**Retention** - continue the activity, and assume and handle financial losses internally. In other words, set aside some profits, which you would

use to pay compensation in the event of a lawsuit. This must be budgeted for and, can only be carried out by organisations with high profits - so does not usually apply to the active tourism industry!

**Reduction** - operate as safely as possible; try to decrease accidents. This is generally done along with one or more of the other three approaches to controlling risk.

#### Risk Management Simplified in Six Easy Steps by Will Leverette

- Develop a way to prove that guests were adequately warned and informed.
- Any guarantee of safety made in business literature or marketing materials is an open invitation to be sued.
- All field staff must have a current training in basic first aid.
- The business should develop a written/evacuation plan for all areas and activities to be used.
- One good witness statement will shut down a frivolous lawsuit faster, more cheaply and less painfully than will anything else.
- The business must use a properly drafted liability-release form.

To minimise the risk, risk assessments must be carried out for each activity. These must be carried out before the actual day, by the staff involved in each activity. The field staff is composed by the technical experts and they are responsible for client's safety. The organiser must make sure that all staff is well qualified, experienced and briefed. Staff must always be suitably trained for the tasks they are asked to do.

Check current accepted good practice before starting the activity.





## Risk Assessment

Likelihood of Occurrence	Severity of Occurrence
High frequency - 3	High severity - 3
Mid frequency - 2	Mid severity - 2
Low frequency - 1	Low severity - 1

Several methods are used in managing risk. They are all based around the following:

- Identifying the hazard.
- Identifying the associated risk i.e. what could happen.
- Identifying the chance of the incident occurring.
- Identifying the likely severity of the incident.
- Identifying what needs to be done to reduce the chances of an incident occurring.

Score	Likelihood	Action
1-2	Low	You can do this activity with suitable risk management
3-4	Medium	You can do this activity with suitable risk management but take due care and attention
6-9	High	You can do this activity with suitable risk management but take due care and attention

With these points in mind, you can draw up systems to help with risk management. Numbers may be used to show likelihood and severity.

Hazard	Risk severity (describe and rate high, medium, low)	Likelihood (high, medium, low)	Action/Process	Requirements
Loose carpet	Tripping causing injury - medium	Medium	Secure carpet	Joiner to be called in to secure carpet
Car breaking down	Attack - high Stuck in remote environment - medium Late for important meeting - medium	Low Medium High	Communicate to rescue services ASAP	All drivers to have access to mobile phone when away on company business
Students away on field trip in foreign city	Attack on individual students - high	Medium	Avoid situations of students being alone or in dangerous areas	Staff & students to understand & accept potential hazards & risks prior to trip
Loud machinery	Deafness: tinnitus - high	High	Protection from noise	Correct ear protection to be made available for all staff working with loud machinery

For example, a score for an activity with a mid frequency and mid severity would be worked out as follows:

$$\text{Mid frequency} = 2 \quad \text{Mid severity} = 2 \quad 2 \times 2 = 4$$

You would decide what to do according to the score.

The following table shows how to identify hazard, risk, management action and what is needed to reduce the chance and severity of an incident.



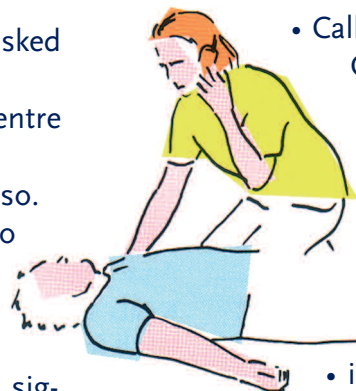
# First Aid

## 5.1. Reporting An Accident

Always report the accident as soon as possible.  
Try to make the call yourself, avoid intermediates.

## 5.2. Before reporting the accident

1. Identify, what has happened and where you are.
2. Is it an accident or an illness?
3. Are there people in danger?
4. Make sure whether the victim is conscious or if you need to revive him.
5. Call the Emergency Centre Number - always make sure you know what this is for the country you are in.
6. Briefly say what has happened.
7. Give the exact address or map reference
8. Listen carefully and answer any questions asked
9. Follow the instructions given.
10. Be prepared that the Emergency Centre might also want to speak to the victim.
11. Do not hang up before you are told to do so.
12. If needed make sure there is a person to guide helpers to the victim.
13. Make sure that it is easy to get to the site of the accident.
14. Call again, if the state of the victim gets significantly worse.
15. Do not keep the phone line busy for a long time.



## 5.3. Resuscitation

### Resuscitation of an adult.

If the person has suddenly lost consciousness and seems lifeless:

#### 1. Make sure whether s/he needs resuscitation.

- First, check whether you can revive them by shaking them cautiously or by talking to them.
- Ask: "Are you all right?", "What happened?"
- Obviously in the case of cardiac arrest, every minute is important.

#### 2. If the person does not regain consciousness.

- Call for help or dial the Emergency Centre Number yourself.
- Follow the instructions given.

**In the following cases you should resuscitate for about 1 minute before reporting the accident:**

- if the victim has drowned, been strangled or had an electric shock
- if the victim is a child of pre-school age

#### 3. Check if the victim is breathing.

- Lift up the chin of the victim with two fingers of one hand.
- Open the victim's airway by tilting his/her head well back with your other hand placed on the victim's forehead.
- Check if the person's chest is rising.
- Check if the victim is breathing: check with your cheek or the back of your hand for the air stream or listen to the breathing noise from the victim's mouth and nose.
- Spend a maximum 10 seconds checking the breathing of the victim.

If the victim breathes, turn him/her to one side to ensure the breathing and check the heartbeat.

### A Quick Guide To Reporting An Accident

- Call the Emergency Centre Number and say what has happened and where the victim is located.
- Give clear answers to the questions asked.
- Follow the instructions given.
- Do not hang up before you are told to do so.
- Do not keep the phone line busy until the ambulance help arrives.
- Give a number to call back if possible



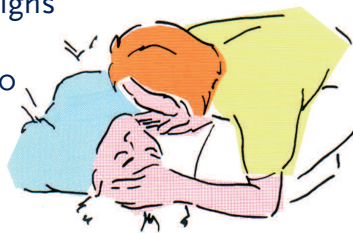


**If the victim does not breathe:****4. Begin to give mouth-to-mouth ventilation.**

- Quickly clean the mouth cavity: if necessary turn the victim onto their side and after cleaning back onto their back.
- Open the airway by extending the head back carefully.
- Close the victim's nose by pinching the nostrils with your thumb and index finger.
- Place your lips tightly on the victim's mouth and blow air into his/her lungs two times. At the same time check for the chest rising.
- If blowing does not help, clean the mouth of the victim again, adjust the position of the victim's head and blow again two times.

**After two successful blows:****5. Assess the victim for signs of circulation.**

- Breathing, moving, coughing and swallowing are signs of circulation.
- Spend a maximum of 10 seconds checking the victim's circulation.



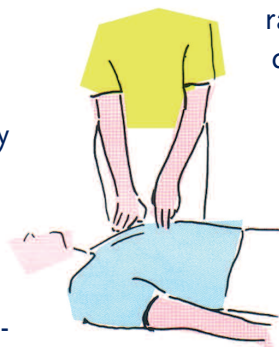
**If signs of circulation exist, continue mouth-to-mouth ventilation**

**If there are no signs of circulation or you are uncertain about them:**

**6. Start chest compression.**

- Kneel down next to the victim and reveal his thorax. The victim must be on a firm surface.
- To find the correct place to apply pressure: measure two finger-widths up from the lower part of the breastbone.
- Place the heel of one hand on the breastbone and the heel of the other hand on top of the first one.
- Press the breastbone 15 times with your arms straight at a rate of 100 times in a minute.

The right pressure for an adult of average height is when the breastbone drops approximately 4-5 cm.



**NB! You should make 100 compressions in a minute. First aiders usually compress more slowly than they think.**

**7. Continue mouth-to-mouth ventilation and compressions (2 ventilations per 15 compressions, 2:15) until help arrives or you exhaust yourself.**

**THE RESUSCITATION RHYTHM IS ALWAYS 2 VENTILATIONS PER 15 COMPRESSIONS NO MATTER HOW MANY HELPERS THERE ARE.**

**NB! Recently there have been questions about whether compressions alone are enough for resuscitation. The Emergency Centre will give guidelines for resuscitation if the caller is not able to resuscitate and refuses to perform mouth-to-mouth ventilation.**

**SAFE RESUSCITATION**

Mouth-to-mouth ventilation is most successful without using any auxiliary means. Use of the mouth protection is only recommended for professionals. No cases of infection of B-hepatitis or HI-virus have yet been recorded through mouth-to-mouth ventilation.

Training dolls should be cleaned well before passing the doll from one trainee to another and at the end of the course to keep infection risk to a minimum.

It is important that resuscitation training includes how to cope with the hard consequences of real resuscitation. Stress and fear are normal reactions. The helper could feel tired and insecure after giving resuscitation. This can even lead to depression that needs therapy.

**DO NOT END RESUSCITATION BEFORE THE VICTIM SHOWS SOME SIGNS OF RECOVERY.**



## 5.4. Bleeding

To stop severe external bleeding, do the following:

1. Lay the severely bleeding victim down immediately.
2. Raise the injured limb.
3. Apply direct pressure over the wound with fingers or the hand.
4. Apply an ordinary bandage on the wound, and at the first opportunity, replace it with a compression bandage.
5. Observe the victim to look out for shock.

To stop a nose bleed:

1. Place the victim in sitting position, head bent forward.
2. Press the nostrils together with your fingers for about five minutes.
3. Place something cold on nose, forehead and nape.

## 5.5. Shock

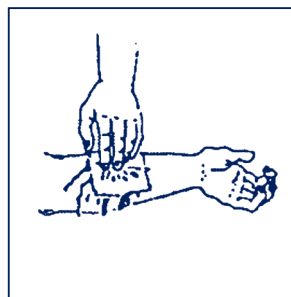
The main causes of shock are **severe bleeding and dehydration, cardiac and breathing deficiency.**

The signs of shock are:

1. Fast and weak pulse.
2. Pale and cold sweaty skin.
3. Frequent breathing.
4. Restlessness, later aberration.
5. Thirst and nausea.
6. Loss of consciousness.

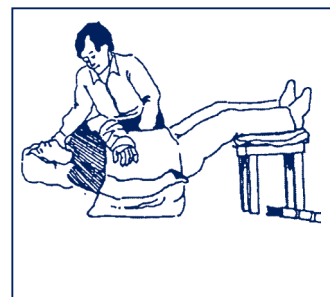
## 5.6. First Aid

1. Lie the victim down and raise his/her feet 25-30° higher.
2. Stop any external bleeding and splint any fractures.
3. Avoid causing pain.
4. Keep the victim warm.



Stop the bleeding

Source: EESTI-MAAUTURISM (Estonia)



Lie the victim down and raise his/her feet

Source: EESTI-MAAUTURISM (Estonia)

5. Do not give fluids to the victim.
6. Calm the victim.
7. Take the victim to hospital within one hour. Avoid shaking during transportation.

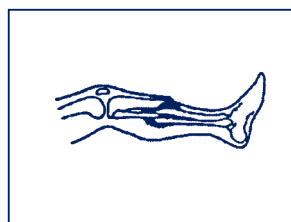
## 5.7. Fractures

There are compound fractures and simple fractures. In a compound fracture, there is a wound and external bleeding. A simple fracture can be recognised from the change of the shape of the limb.

The first aid in the case of fracture is to make a splint for the limb without removing the clothes.

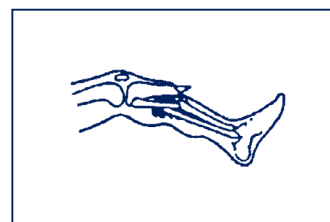
**For a compound fracture, give first aid as follows:**

1. Stop external bleeding by applying a compression bandage.
2. If a compression bandage is not available, put an ordinary bandage on the wound.
3. Do not attempt to remove parts of bone or foreign substances.
4. Splint the limb.
5. Take the victim to the hospital.



Simple fracture

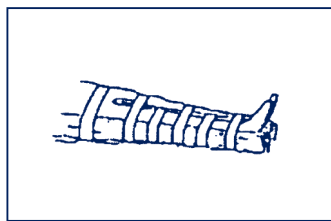
Source: EESTI-MAAUTURISM (Estonia)



Compound fracture

Source: EESTI-MAAUTURISM (Estonia)





Splint the limb

Source: EESTI-MAAUTURISM (Estonia)

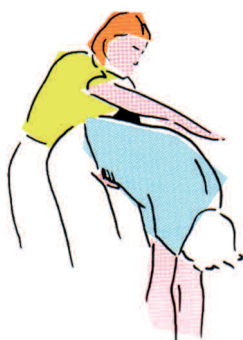
The splint should be bolstered and in compliance with the length of the limb. The splint should reach over two neighbouring joints (below and above the fracture site). In

the case of thighbone and brachial fracture, the splint is made over three joints. The splint is fixed to the limb with bandage or triangle bandage. In the case of lack of splint, a fractured arm is tied to the thorax and a fractured leg to the other leg.

## 5.8. Removing Foreign Substances From Airways

The upper airways of an adult could be closed by a piece of meat stuck between the vocal chords.

If the victim is a child, the foreign substance could be stuck under the vocal chords.



**If the foreign substance has closed the airways and the victim cannot talk:**

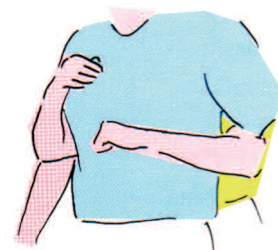
- Ask, if the victim is choking, tell him/her to let you know.
- Encourage him/her to cough.

**If the condition of the victim is getting worse and he/she is unable to cough:**

- Call for help or dial the Emergency Centre Number yourself and follow the instructions given.
- Stand behind the victim.
- Bend the body of the victim forward and give 5 fast strikes with the palm stem between the shoulder blades of the victim.

**If this does not help, use the Heimlich Manoeuvre.**

- Place your fist on the victim's diaphragm and hold the fist with the other hand.
- Pull the hand quickly back and up. If needed, repeat the procedure five times.
- Alternate five (5) strikes then five (5) Heimlich Manoeuvres.



## 5.9. Giving First Aid to an Unconscious Person

**1. Find out at first, what kind of First Aid the victim needs.**

- Try to waken him/her up by shaking the victim lightly.
- You can ask, for example: "Are you all right?", "What happened?".

**2. If the victim does not wake up...**

- Call for help or dial the Emergency Centre Number yourself.
- Follow the instructions given.

**3. Check, if the victim breathes.**

- Lift up the chin of the victim with two fingers of one hand.
- Open the airways of the victim by tilting his/her head well back with the other hand placed on the forehead of the victim.
- Check if the person's chest is rising.
- Check with your cheek or the back of your hand for the air stream or listen to the breathing noise from the victim's mouth and nose.
- Spend a maximum 10 seconds checking the breathing of the victim.





If the victim is breathing:

3. Turn the unconscious, but breathing victim to the one side position to ensure the continuing breathing.

5. Observe the breathing of the victim and possible awakening until help arrives.

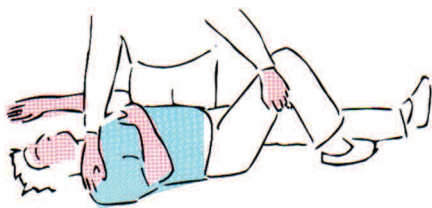
## 5.10. The Recovery Position

When the victims have a pulse and are breathing, you can place them in the recovery position until help arrives

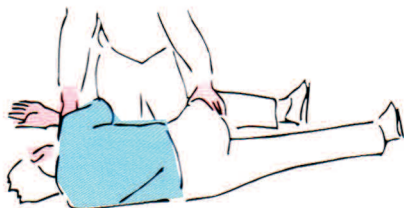
Source of the following pictures: EESTI-MAAUTURISM (Estonia)



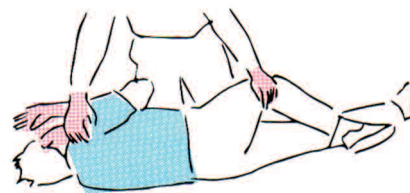
Place the arm nearest to you at right angles to the victim's body and the other across the chest



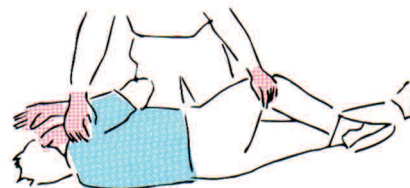
Straighten the leg near to you and raise the leg further away from you



Gently roll the victim's body towards you



Adjust the position of the limbs, to make the victim comfortable



Keep the victim's head turned to the side. Observe carefully to check for breathing and signs of recovery

## 5.11. Use of the Triangle Bandage

The triangle bandage has a number of uses as shown below.

Source of the following pictures: EESTI-MAAUTURISM (Estonia)



## Chapter 1: General Perspectives

1 2 3 4 5 6 7 8 9 0



## 1.1. Active tourism Concept

Active tourism is about taking part in physical activities in natural areas. It combines sport, culture and adventure into an original tourism product. For over 150 years tourists have spent their free time doing outdoor activities in unique natural areas. These activities included mountaineering and hot air ballooning. As time passed the variety of activities increased. Today there is a broad range of activities available, including high altitude trekking, whitewater rafting, canyoneering, bungee jumping, paragliding, mountain biking and wildlife safari tours. These can be taken as single activities or combined in a more complex product.

This range of activities attracts a variety of customers. They seek adventure, new experiences, personal satisfaction, and wilderness experiences. The desire to spend time in natural areas, along with the increasing number of activities available, increases the importance of active tourism in rural development.

The concept of active tourism will become more important in the future. This growing branch of tourism will need more experts to meet the needs of its clients.

## 1.2. Sustainability

The 1987 Brundtland Report (World Commission on Environment & Development) stated that sustainable development must meet present needs without compromising the ability of future generations to meet their own needs. This means that, when we develop any new active tourism product, we must consider its effect on the environment, local culture and local communities. The development of active tourism in rural areas should have a positive effect on the local economy. However, a word of caution is required. Tourism, particularly active tourism, depends on people wanting to visit that area or take part in a certain activity. It is affected by trends and market fashions that change quickly.

Any rural tourism business must react rapidly to such changes or suffer the consequences. A decrease in visitors not only has a negative effect for a particular business but also for the whole local infrastructure e.g. accommodation, restaurants, guides, etc.

**The active tourism expert should remember the concept of sustainability.**

- You must understand the relationship between tourism and its role in promoting sustainability.
- Promoting sustainable tourism involves protecting and managing natural resources that are the base for economic and social development.
- Make good use of the environment in developing tourism but take care to maintain essential ecological processes to conserve natural heritage and biodiversity.
- Respect the cultural heritage and traditional values of host communities. This will contribute to inter-cultural understanding and tolerance.

**To promote wider community participation the development of sustainable tourism should inform and involve everyone who may be affected.**

- Constant monitoring of impacts is needed to achieve sustainable tourism.
- Introduce preventative and/or corrective measures whenever necessary.
- Sustainable tourism should maintain a high level of client satisfaction and ensure a meaningful experience. It should raise the clients' awareness of sustainability issues and promote sustainable tourism practices amongst them.
- Whilst taking part in their activity clients should learn about the interaction between nature, the local community and their presence.

## 1.3. Structure of Section on Activities

The main objective of this section is to introduce you to a range of active tourism activities and the basic techniques associated with them.



The section is split into chapters for each activity or related groups of activities as follows:

- Air based - paragliding.
- Land based - cycling, horse riding, trekking, climbing.
- Water based - paddlesports (kayaking, canoeing and rafting), water skiing.
- Snow based - skiing, snowboarding, mushing, snowshoeing.

Each chapter is broken down into the following areas:

- Introduction
- Brief history of the activity - key dates and events are identified.
- Basic Equipment - basic equipment required for the activity.
- Basic techniques and knowledge - an outline of some of the techniques required to perform the activity at a basic level.
- Basic safety - covers specific details on safety for activity.
- Organisations/useful sources - organisations and sources to contact for further information on the activity.

#### 1.4. Impacts on the natural environment

Using the natural environment as an arena for physical activities is the basis of active tourism. Whilst these activities seem environmentally friendly they can, if poorly managed, damage the environment through erosion, pollution and disturbance. Active tourism must be properly managed to conserve and preserve the natural environment. If the environment is damaged then it will lose its appeal to active tourists and the active tourism industry will decline.

Those involved in active tourism must:

- Know of the effect of their activity on the environment.
- Have a management plan to limit the effect of their activity upon the environment.
- Educate others as to the best practice to minimise the impact upon the local environment.
- Follow local and national guidelines and countryside codes regarding the use of the environment.
- Be aware of localised environmental issues e.g. breeding season of birds and areas of rare flora, and put in place measures to protect them.

#### 1.5. General points for active tourism providers to consider

**The active tourism provider should know the region in which they are working.**

- They must be familiar with, the local geography and ecology and be able to convey this knowledge to clients.
- They must be aware of how to behave in the countryside so as not to damage the habitat.
- They should know and adhere to local guidelines, laws and restrictions.

**Active tourism providers should know their market**

- Consider the target group carefully.
- To develop an effective marketing strategy, keep the following criteria in mind:
  - 1) gender, age, status, profession.
  - 2) opinions, interests, lifestyle.
  - 3) consumer behaviour.
  - 4) place of residence, size, structure.
  - 5) Strengths and weaknesses of the customer relationship.
- The service provider must be adaptable to meet the needs and desires of the target group

SITUATION ANALYSIS		
ENVIROMENTAL ANALYSIS	MARKET ANALYSIS	MARKET POTENTIAL
General tourism Developments	Competition Consumers	Strengths & Weaknesses

**Active tourism providers need good financial knowledge**

- Effective cost planning is needed to assess whether the project should be carried out.
- Knowledge of the cost cycle during the course of the project will help to predict future income and expenditure.
- When carrying out the cost planning process consider:

- 1) personnel costs.
- 2) material costs.
- 3) external labour costs.
- 4) communication costs.
- 5) capital costs.

**The active tourism provider should be aware of competition**

- Find a market that will allow you to earn suitable income.
- Technical superiority is not enough to guarantee success in the market.
- Define long-term strategies to hold onto customers and break into new areas of business.
- Expertise does not come from being a jack of all trades. Specialisation ensures quality and demand.

**The needs of the clients should be central to the product**

- You must have good communication skills both verbal and non-verbal.
- Develop a good rapport with the clients to understand what they want. This helps to ensure that the clients needs, will be met.
- Develop your product based on the participants' individual abilities.
- Gather feedback from the clients before, during and after the experience.

**The active tourism provider should be organised**

- All technical requirements for implementing a programme should be considered and planned for.
  - In addition to equipment, you should take account of the following:
- 1) number of participants.
  - 2) time.
  - 3) location of the activities - access.
  - 4) gender split.
  - 5) age range.
- Risk management plans should be put in place.
  - Appropriate legislation should be met.
  - Appropriate insurance should be put in place.



## Chapter 2: Air Activities

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## 2.1. Paragliding

### 2.1.1. Introduction

Paragliding is an activity that involves free flight. Free flight means natural flying using gravity to descend and thermals to ascend. Free flight is divided into two main areas: paragliding and hang-gliding. (Hang-gliding uses a heavier, more expensive machine than paragliding. It is also and harder to control).

Paragliding is not limited to mountain areas. In flat areas an engine-driven winch, or tow, can be used to pull the pilots into the air.

Enjoy flying and keep in mind Leonardo Da Vinci's words:

*"For once you have tested flight,  
you will walk the earth with your  
eyes turned skyward,  
for there you have been,  
and there you long to return."*

Paragliding can help the economy of rural areas by creating both direct and indirect employment. This can improve the quality of life of local populations. Clients are normally families, individuals, or small groups of friends or tourists. They seek quality services and activities that promote well-being, tranquillity or adrenaline. These activities must not damage the natural environment, local culture or social structure of communities.

### 2.1.2. Brief History

- The name "paragliding" comes from the word 'glider'.
- This sport combines mountain climbing and parachute jumping.



Source: Club Azibo Aventura (Portugal)

- There are two theories as to how the sport began: one claims that NASA started it, whilst the other says it was French mountain climbers.
- In the French Alps, Jean Claude Betamps, André Bohn and Gerard Bosson (three parachutists) showed that they could use parachutes without needing planes to get them into the air.
- The first paraglider pilots appeared at the beginning of the 80's through Club Choucas. Some came from traditional parachute jumping, others from mountain climbing. They were climbers, who saw paragliding as a faster and more exciting way to come down from the summits. When French climbers reached the top of the Alps, they used parachutes to come down. These



parachutes did not glide and so several take offs were needed to reach ground level. Through time, this technique became “Paragliding”.

- Paragliding is still evolving. The equipment and techniques used today will quickly become out of date.
- Modern paragliders owe little to the traditional hang-glider wings or to the inflexible wings.
- The main difference between a hang-glider and a paraglider is: a hang-glider flies further and faster whilst a paraglider flies slower but for longer.
- Today, the sport is supported by federations and national governing bodies.
- Every year there are national and international competitions.

## 2.1.3. Basic Equipment

**The Paraglider** - The paraglider is not a parachute. It is a simple aircraft with a very complex design. The shape of a paraglider wing is of a “canopy”, with an ellipsoidal shape, much more elongated than a parachute. There are several layers of material, which form cells inside the canopy. Its aerodynamic shape is maintained during flight by the different pressures caused by the wind and air speed in the cells of the canopy.

Several groups of cables hanging from the canopy converge on the harness where the pilot sits. To control the paraglider you pull on two cables, which, act on the trailing edge of the wing. This allows the wing to brake, turn or increase speed. In slight turbulence, the non-rigid internal structure and elongated shape of the “canopy” cause changes in the pressure acting on the wing. These pressure changes make the wing close. To re-open the wing and recover flight a pilot must rapidly lose altitude and gain speed.

**Altimeter** - This is used to determine what height you are at. It can come in the form of a watch or a separate handheld device.

**Anemometer** - This is used to determine wind speeds before take off. This is important so that you can determine a route plan and likely landing spot before take off.



Source: Club Azibo Aventura (Portugal)

**Harness with back protection** - This attaches you to the wing and allows you to sit comfortably whilst in the air.



Source: Club Azibo Aventura (Portugal)



# Paragliding

**Mountain boots** - You need good boots with ankle support for walking in rough terrain. As paragliding often takes place in mountain areas, you must consider the same factors when choosing suitable boots for paragliding as you would for hill walking and mountaineering.

**Compass** - This is used for navigation both in the air and on land, before take off and after landing. A small lightweight handheld Silva type compass is appropriate.

**Safety helmet** - An obvious necessity for a gravity sport. It must fit your head comfortably and provide insulation, as at altitude it can get cold.

**Flight suit** - This suit protects you from the conditions that you experience whilst in the air. Some suits are very warm, suitable for cold conditions whilst others have few thermal properties and are suitable for warm air conditions.

**GPS** - a global positioning system is a small handheld electronic device to help with navigation. By utilising satellites you can accurately pin point your position anywhere in the world, as long as there is satellite coverage.



**Comfortable gloves** - These are essential to protect your hands against the elements and keep them warm and mobile to make the necessary movements to control your flight.

**Rucksack** - A small rucksack is often useful to carry emergency items with you in case you land off target.

**Glasses** - Glasses, both sunglasses and normal, are useful to protect your eyes from the wind. If your eyes stream you tend to lose visibility, which can cause problems.

**Reserve Parachute** - An essential bit of safety equipment necessary in case there is a problem with the paraglider when in the air.

**Transmission Radio** - Useful to keep in contact with the ground crew or other paragliders.

**Variometer** - Instrument that a pilot uses to tell when he is climbing. The variometer senses slight changes in air pressure (pressure decreases with altitude) and indicates climbing with a tone and/ or a display. They are often built into instruments, which also include altimeters and airspeed indicators.



Source: Guheko S.L. (Spain)





## The lifespan of equipment

The lifespan of a paraglider is affected by excessive exposure to the UV rays of the sun. Over exposure to UV makes the material degrade which causes the wing to lose its performance and safety characteristics. In countries that have high annual exposure to UV, the lifespan of the paraglider is shorter than in a country that has less annual exposure to UV rays.



Source: Club Azibo Aventura (Portugal)

## Maintenance, Storage and Transportation

Simple maintenance includes taking into account dirt, over exposure to the sun, and dampness, which can cause porosity in the wing. This will allow fungus to grow and reduce the wing's capacity to fly. The paraglider must be kept inside a bag in a dry place and sheltered from sunlight.

Simplicity of transportation and storage, as well as the relative ease of flying, account for the enormous success that this activity has gained over a short time.



Source: Club Azibo Aventura (Portugal)

## 2.1.4. Basic Techniques and Knowledge

The phases of flight are the following:

### Preparation:

- Take the paraglider from the kit bag, stretch it out and check that the lines are not tangled.
- Connect the bands with the snap hook.
- Put on the harness, boots, gloves and the flight-suit.
- Turn on the GPS and make the pre-flight checks.

### Take off:

- After preparing the equipment, decide on the flight plan and make sure that the weather is suitable.
- Stand on the slope facing the wind, holding a brake and band in each hand then give a strong and constant push helping the wing to rise with the bands.
- When the wing is overhead, start to run, driving away from the slope and into the air.





# Paragliding



Source: Club Azibo Aventura (Portugal)



Source: Club Azibo Aventura (Portugal)



Source: Club Azibo Aventura (Portugal)

## Flight:

- First flights for a beginner should be limited to preparing yourself for landing using the brakes to turn.
- After mastering the basics you can enjoy a little more time in “the clouds”, using the breezes and the thermals.



Source: Club Azibo Aventura (Portugal)

## Approximation:

- Once nearing the ground it is time to prepare for landing.
- Before landing, it is important to locate the best landing field (free from obstacles).
- Face into the wind to lose speed and place yourself above the field.





Source: Club Azibo Aventura (Portugal)

## Landing:

- Once over the landing site hold the harness allowing the wing to gain speed and freeing the brakes
- When reaching the ground brake by moving your hands, with the brake lines, to your hips. Doing this transforms the kinetic energy (speed) into potential energy (height). You will lose speed and land softly (most of the time!).

## Flight Capacity

Paragliders can take off, fly and land, with winds ranging from 0km/h to 20km/h. A paraglider can fly for hours. It does not need fuel, but it depends on weather conditions, experience, and the pilot's resistance. Air speeds can reach 45 km/h, depending upon the wind. The paraglider can execute low speed landings in small areas with great precision. You should only paraglide in suitable conditions such as light winds and mild thermals.



Source: Club Azibo Aventura (Portugal)



Source: Club Azibo Aventura (Portugal)



## Pilot

This is an individual activity, where all aspects connected with it are centred on the pilot. The pilot must use knowledge and experience to respond effectively to a particular situation.

This knowledge can be categorised into three types:

- 1) Technical characteristics: environmental factors and use of equipment.
- 2) Psychological characteristics: factors associated with character, personality and cognitive aspects.
- 3) Physical characteristics: physical ability of pilot (physical condition and exhaustion), way of life and physical limitations.

## Staying in the air

Paragliders use gravity to “fly”. Gravity is changed into energy through resistance e.g. if you place a hand outside a car window when driving, you can feel the wind resistance allowing the hand to be moved up and down by subtle changes in shape.

Increasing the speed of air on one edge but not another causes a pressure imbalance - known as Bernoulli's Effect. In paragliding the wing profile is asymmetrical; the air goes underneath the wing almost without changing its course. However, if the air goes through the upper side it goes further creating a pressure imbalance, which translates into lift. This lift is made up of 2/3 suction on the upper side of the wing, and 1/3 pressure on the lower side. That is why it is important to know the environment where the activity takes place (air) and the phenomena that occur there.

## Meteorology

The atmosphere extends almost 500km away from the ground. The paraglider pilot is only interested in the atmosphere up to 15km, as this is where pressure and temperature changes, winds, clouds, thermals, breezes and storms, occur.

Air movement in the atmosphere is due to many factors: one of them is the sun. Hot air weighs less than cold air, causing it to rise. The displaced hot air is quickly replaced by cold air that comes from the sides, this forms wind. Hot air that rises contains water vapour. When this water vapour cools, it condenses forming clouds. When clouds condense, the heat (energy) that water vapour has makes them go higher. This increases condensation, and in turn creates more energy, which increases the size of the cloud. When condensation creates drops of water big enough, gravity starts to work and it rains. This is how storms develop.

(NOTE: Never forget, never fly during a storm.)



Source: Club Azibo Aventura (Portugal)



## Winds

Winds and breezes are both air movements, but on different scales.

- winds are produced by big depressions and anticyclones, that can occur some distance away from the site of flying;
- breezes are more localised, they are produced by the different thermal properties of land and water. However, the principle is the same, the hot air rises and is replaced by cold air, producing breezes.

Due to the slow speed of paragliders, pilots must have a good knowledge of winds and breezes and how they are formed.

## Thermals

Thermals are bubbles of hot air formed when the sun heats the land, which in turn heats the air above it. Hot air is less dense than cold air and rises. Pilots make use of the rising air to climb and make long distance flights.

## Clouds

Clouds also allow the pilot to climb. Beneath clouds, such as cumulus, are ascendant zones; these are invisible lifting currents that can be used to gain height.

Paragliding depends on nature, which is why you need to know and understand weather and the environment.

### 2.1.5. Basic Safety

Paragliding is a gravity activity, which means that it involves risk. Knowledge of the hazards, risks and how to manage them will help you to react quickly and safely, and enjoy the pursuit. Beginners must have training from an approved school of paragliding in order to take part in this activity safely.



Source: Club Azibo Aventura (Portugal)

### The following are guidelines to promote safety:

- 1. Use a safe wing** - The first rule of paragliding is to use a wing that matches your experience and ability. Beginners should use a standard wing as long as possible, and only use a performance wing when they are experienced.
- 2. Evaluate your level** - Never fly alone. Always choose places and conditions that you know well.
- 3. Analyse the conditions** - Before each flight, take time to analyse the conditions. Knowledge of meteorology is complemented by carefully observing the sky, clouds, trees, birds, smoke, and other paragliders. The stronger the wind conditions the more serious the consequences if something goes wrong.
- 4. Regulate your harness** - The harness is fundamental in the behaviour of the wing. You should choose your harness according to your level of experience e.g. high fixed and crossed points are suitable for a beginner whilst low points are more suitable for expert pilots. You should be able to adjust the harness according to the conditions that you experience.



To prevent accidents, keep in mind:		
Passive safety:	Active safety:	Defensive safety:
<ul style="list-style-type: none"><li>• helmet</li><li>• back protection</li><li>• reserve parachute</li><li>• gloves</li><li>• careful choice of the wing</li></ul>	<ul style="list-style-type: none"><li>• measure</li><li>• consider</li><li>• check</li><li>• prepare</li><li>• anticipate</li><li>• know the flight rules</li><li>• basic knowledge of aerology and meteorology</li></ul>	<ul style="list-style-type: none"><li>• practice the parachute landing fall (PLF)</li></ul>

**5. Improve your precision** - You should continually strive to improve your skill and techniques.

**6. Be in a perfect shape** - You should be physically prepared in order to react in a calm, composed manner in a difficult situation. Never fly when tired, stressed or distracted.

**7. Be in the clouds** - To fly is to be in perfect harmony with the air. To know how to move, with fair, precise and serene gestures. It also means being able to make the right decisions, and evaluate and manage dangers.

**8. Learn to say NO** - You should never start a flight that you do not want to do. You should not give in to peer pressure if you feel uncomfortable.

**9. Remember that drinks, drugs and free flight do not combine** - These are the key-points, which we must always keep in mind.

### Incidents

A way to prevent accidents is to learn from the accidents of others. All pilots should take a certified first aid course. In the event of a serious accident, the standard procedure is:

- Check the airway is open.
- Control breathing
- Check the pulse
- Look for blood loss i.e. shock.
- Immobilise fractures where possible
- Call emergency services
- Inform the National Federation of the most serious incidents.

### WHY THE NEED FOR FLYING RULES?

- To avoid collision with other aircraft
- To minimize accidents involving people on the ground
- To avoid accidentally landing in dangerous areas, e.g. military areas, airports

### 2.1.6. Legislation and Air Rules

Once a paraglider is airborne, it comes under the jurisdiction of the air law of that country. It is important to know and follow the guidelines and legislation:





## World aerial law

Aviation laws tend to be uniform; this is the main object of the International Civil Aviation Organisation (ICAO). It is the pilot's duty to know these laws.

### Anti-collision Rules:

1. **Two aircraft flying "face to face"** - both aircraft must turn to their right.
2. **Aircraft in convergent flights** - the aircraft on the right has priority: the other must change course.
3. **When taking off from a hill** - overtaking is forbidden.
4. **In thermal ascendancy** - priority goes to the lower aircraft but it must keep the direction of rotation of the one that is already in the thermal

5. **When landing** - priority goes to the lowest aircraft
6. **Flying over populations** - you must not fly lower than 300m over a residential area.
7. **Visibility** - You should not intentionally fly into clouds. Visual fly rules (VFR) must be observed at all times.
8. **Restricted areas** - You should identify all restricted, temporally restricted or other areas that may regulate your flight.
9. **Airports** - Flying should not occur less than 5 miles from an airport.
10. **Manoeuvrability** - The aircraft with least manoeuvrability has priority.
11. **Motor aircraft** - give priority to free flight and all give priority to balloons.
12. **Respect land** - Always respect the land where take off and landing occurs.



Source: Guheko S.L. (Spain)

## 2.1.7. Organisations / Useful Sources

### Organisations

**Estonia:** Eesti Lennuspori Föderatsioon  
(Estonian Aerosport Federation)

**Germany:** Deutscher Aero Club e.v.  
[www.daec.de](http://www.daec.de)  
DHV - Deutscher Hängegleiterverband  
[www.dhv.de](http://www.dhv.de)

**Greece:** Hellenic Aerithlitiki Omospondia

**Portugal:** Aero Clube de Portugal  
[www.aecp.pt](http://www.aecp.pt)  
FPVL - Federação Portuguesa de Voo Livre  
[www.fpv1.pt](http://www.fpv1.pt)

INAC - Instituto Nacional de Aviação Civil  
[www.inac.pt](http://www.inac.pt)

**Spain:** Real Federacion Aeronautica Espanola  
[www.rfae.org](http://www.rfae.org)

### Useful Sources

[www.aresdaminhaserra.pt](http://www.aresdaminhaserra.pt)  
[www.commeunoiseau.com](http://www.commeunoiseau.com)  
[www.expandingknowledge.com/Jerome.PG/main.htm](http://www.expandingknowledge.com/Jerome.PG/main.htm)  
[www.expedicoespeciais.com.br](http://www.expedicoespeciais.com.br)  
[www.esec-lousa.rcts.pt/parapente.htm](http://www.esec-lousa.rcts.pt/parapente.htm)  
[www.fpv1.pt](http://www.fpv1.pt)  
[www.geocities.com/CapeCanaveral/Hangar/4221/History2.html](http://www.geocities.com/CapeCanaveral/Hangar/4221/History2.html)  
[www.inema.com.br](http://www.inema.com.br)  
<http://international.aero.free.fr/formation/technique01.htm>  
[www.mundobarbanza.com/castellano/deportes/manualiniciacionparapente.htm](http://www.mundobarbanza.com/castellano/deportes/manualiniciacionparapente.htm)  
[www.nca.pt](http://www.nca.pt)  
[www.ojovolador.com](http://www.ojovolador.com)  
[www.para2000.org](http://www.para2000.org)  
<http://parapenteluso.planetaclix.pt/a7factor.htm>  
[www.parapentemag.com](http://www.parapentemag.com)  
[www.portaventuras.com](http://www.portaventuras.com)  
<http://revoar.sites.uol.com.br/dicasparapa.htm>  
[www.shv-fsvl.ch/e/verband/index\\_einstieg.htm](http://www.shv-fsvl.ch/e/verband/index_einstieg.htm)  
[www.ventomania.com.br](http://www.ventomania.com.br)  
<http://voo.no.sapo.pt/aerodinamica.htm>  
[http://voo.no.sapo.pt/origem\\_parapente.htm](http://voo.no.sapo.pt/origem_parapente.htm)



## Chapter 3: Land Activities

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## 3.1. Cycling



### 3.1.1. Introduction

Cycling is very popular in Europe and comes in many forms: road racing, touring and mountain biking. It is an activity that health conscious people of all ages can participate in, whether in the flat countryside or in the mountains. The activity has minimal impact upon the environment and allows people to get close to nature with little disturbance.

Cycling is primarily done in rural regions and as such can play an important role in supporting rural regions lacking an infrastructure. The development of new route-ways and the improvement of the infrastructure attract more and more bikers to rural areas. Catering for the needs of these two-wheeled tourists provides a challenge for the rural population.

Tourism associated with cycling creates jobs within the accommodation and catering sector. In addition, local rural tourism enterprises can offer guided tours in the region, which, in turn, creates employment for guides.

In geographically flat regions, the bike is a principle means of travel, for obvious reasons this is not the case in hilly and mountainous areas. Flatter terrain usually appeals more to the elder generation and families with younger children. Hilly and mountainous areas are more popular with the younger, more physically active generation. Knowledge of this is important when marketing a cycling product, as the needs of each group are likely to differ.

Generally, bikers prefer summer to winter. Touring is done between spring-time and autumn. Mountain-bikers who ride across the country are the

group with the greatest tendency to damage nature. Therefore, recently, maps detailing special routes have been developed for them, to prevent flora and fauna from being destroyed.

### 3.1.2. Brief History

- Leonardo da Vinci drew a picture of a bike with a treadle and chain drive in the 15th century. This model, however, was never built.
- In 1779 the Frenchmen Blanchard and Masurier built a so-called *vélocipède*, a bike driven by feet, which became a preferred leisure activity by French society at the beginning of the 19th century.



Source: Marcus Gloger ADFC (Germany)



- The “Michauline”, which is also called “penny-farthing bicycle”, was marked by a front wheel with a diameter between 90 and 150 cm. It was also the driving wheel.

- In 1868 Michaux organised the first race in Paris.

- In 1869 the first bicycle fair took place in Paris. Shortly after the first wheels made completely of rubber were produced.

- In 1874 the penny-farthing bicycles were replaced by bicycles with two wheels of equal diameter, a chain drive and a mechanism for free-wheeling.

- Since 1885 bicycles tended to look like today's models, though wheels filled with air were developed some years later.

- Cycling competition started in 1876 with the Milan-Turin race. This was followed by: the six-days'-races in England (1889); Bordeaux-Paris (1892); the Tour-de-France (1903); and the Giro d'Italia (1908).

- In the sixties the folding bicycle became popular, as it was easy to carry in the car.

- In the course of social change, during which leisure activities became more and more important, the bike became successful.

- Towards the end of the seventies the racing bicycle was popular and then at the end of the eighties the mountain-bike grew as a favourite mode of transport.

- The mountain-bike with its great facility to manage difficult areas was developed by



Source: Marcus Gloger ADFC (Germany)

Californians in 1974. Serial production began at the end of the seventies.

- In 1987 more than 100 million mountain-bikes were produced.

- Today the bicycle has become an important economic factor.

- People have discovered the advantages of going by bicycle as a means of recreation, as a form of sport underlining health or as a fast means of movement in everyday traffic.





### 3.1.3. Basic Equipment

**Bike** - It is important to get the correct bike for the activity that you are partaking in. If you were predominantly going off road then a mountain bike or robust hybrid bike would be suitable. If, however, you were staying mainly on roads or well kept tracks, then a touring or road bike would be appropriate. It is important for the biker to have his bike set-up correctly. The position of the saddle and the size of the frame should be according to the size of the body. Where bikes for sportive activities are concerned, the click pedals must be put in such a position that it is impossible for the foot to slip off by chance. Only a planned and forceful circular movement should let the foot go free. The bike should be regularly maintained, and it is necessary to check the screws from time to time.



Source: Marco Ferlemann-Senden (Germany)

**Bike helmets** - When cycling it is possible to achieve fast speeds and only fool does not wear a helmet. It is important to acquire a helmet that fits your head snugly. The more air holes in the hat the cooler your head will be, important when working hard on uphill sections. If you have a crash and your helmet takes an impact replace it right away.

**Shirts** - Most of these are designed to keep you cool and comfortable while biking. Try to avoid cotton if you are going to be working hard because it does not wick away sweat and will increase the effect of cooling on your body.

**Shorts** - There are many colours and styles of loose-fitting padded shorts. These are designed to look like normal shorts, but with a little extra padding for those long rides.

**Cycling shorts** - If you are looking for one thing to make your ride more comfortable, this is it. These shorts come in all different materials to fit closely to your skin instead of flapping in the breeze. Cycling shorts should fit snugly, but not so snugly that they cut off your circulation.

**All-purpose shoes** - These shoes usually come with a stiff sole that is great for riding, but not too stiff to walk in. If you have clipless pedals then you will require specialist shoes with cleats in.

**Gloves** - Any serious biker will tell you to get yourself a good pair of gloves. Some gloves come with gel inserts that will make your handlebars very comfortable and will keep your hands from getting blistered or scraped if you fall.

**Eye protection** - While biking, it's important to protect your eyes from wind, mud, ultra violet rays and bugs. The wraparound type offers most protection. For bright days, try a dark or Iridium lens, which reduces glare. On grey days go for amber or yellow tints.





**Bike bags** - There are several types of bike bags that are recommended for mountain bikers. The first type is a small bag that fits on the back of your saddle and is just big enough for emergency repair kit. Another type is a rack bag, which is quite large and sits on a rack attached to the back of your bike. The third bag is the handlebar bag. These are great because they are large enough to carry almost anything you can think of and even has a plastic sleeve where you can slide your trail map in for easy viewing.

**Water bottles** - There are many different types and sizes of bottles to choose from. You will want to make sure that the mouth of the bottle is wide enough to fit ice cubes through for those hot days.



Source: Marco Ferlemann-Senden (Germany)

**Bottle cages** - If you are going to carry a water bottle, the best way to do this is in a cage on the frame of your bike.

**Pumps** - There are various sizes when it comes to pumps ranging from floor pumps to micro pumps that are made to fit in a bike bag. A floor or track pump should be left at home or in your car while a micro pump is great to bring with you when cycling.

**Computers** - Bike computers are great to have because they will usually keep track of trip mileage, total mileage, average speed, maximum speed, cadence, elapsed time and much more depending on the model. Generally, the more the computer costs, the more features it has.

It is also advisable to take along emergency equipment: Mobile telephone; whistle; and spare money. If you are venturing off the beaten track then additional equipment suitable to the terrain should be considered.

### General Information

Before doing any major maintenance to your bike you should refer to the manufacturers manual or take your bike to an approved bike mechanic. Before you head out on your bike you should always check tyre pressure, loose nuts or bolts, any wear on cables.



Source: Marco Ferlemann-Senden (Germany)



### 3.1.4. Basic Techniques and Knowledge

#### Before your first ride

- Make sure your bicycle fits you properly
- Make sure there is adequate top tube clearance
- Adjust the seat and handlebar to suit you.
- Know how your bicycle performs.

#### How to Ride

The only way you're going to enjoy your new found sport is if you are in shape. You cannot jump onto your bike and expect to just ride all day, pain-free, that just won't happen unless you've been training. Once you get fit you will be able to enjoy the true sport of biking.

One of the best ways to keep you motivated is by keeping a training chart or journal. This way you will be able to chart your progress, set goals and probably stick with your training. Don't get too discouraged if you don't reach all of your goals- you will reach them eventually.



Source: Marco Ferlemann-Senden (Germany)

**Cycling** - If you want to get right into cycling, start out slowly. You can begin by climbing hills, which will strengthen your legs and upper body. If you want to improve your power, stay sitting on the saddle. If you want to strengthen your upper body, climb up the hill, out of the saddle. You will use your upper body to propel the bike forward while climbing hills, so try both methods of climbing.

**Running** - If you are a runner, why don't you try some hill training? Running up hills will increase your strength and stamina. You may find this very challenging, but it is worth it because your recovery time will be much quicker after you begin biking.

**Efficiency** - If you are very serious about your training, you may want a heart rate monitor. The way to use a heart rate monitor is to stay at 80% of your maximum heart rate. As a rough guide subtract your age from 220 to get your maximum heart rate alternatively use a heart monitor and carry out a maximum heart rate test.

**Things to expect** - At first, while climbing up hills it is normal for your legs to burn. This is your body's reaction to a build-up of lactic acid. As you become fit, you will no longer feel this burning. You may be sore after your first couple of rides; this is caused by torn muscle fibres. Once they heal they will be much stronger than before.

#### The Riding Position

While on your bike you must feel in control so that you will be prepared to stop or brake at any moment. You should aim for an efficient riding position that may feel uncomfortable at first. Here are some tips:

- Keep your weight distributed over both wheels, this will help with traction.
- Try lowering your seat post about 4 cm to accommodate bumpy terrain.







Source: Municipality of Miranda do Douro (Portugal)

- Keep your head up and look out for obstacles.
- Keep your arms slightly bent to absorb shock, and NEVER lock your elbows!
- Your grip should be loose, but still feel as though you have control over the handlebars.
- You may find that having your handlebars 5-10 centimetres lower than your saddle helps, however this is personal preference and partly determined by how flexible your back is.
- Keep the ball of your foot centred over the pedal axle.

### Braking and shifting

Braking and shifting are the two most important skills to learn when it comes to cycling. If you don't brake properly or use your gears efficiently, you will find that you are not where you want to be.

**Basic handlebar set-up** - The left hand is used to control the front derailleur and the front brake. The right hand is used to control the rear derailleur and the rear brake.

**Braking** - The brakes are one of the most powerful components on your bike. When applied alone, the front brake may cause you to be thrown over your handlebars. It can be used though in conjunction with your back brake to slow you down while descending. The best way to brake is to pull the brakes on and off to avoid skidding or decreasing speed too quickly. The palm of your hand should never leave your handlebars while braking. You will want to adjust the brake levers if they are not easy to reach with just your fingers.

**Emergency Braking** - If you are speeding down a hill and see a huge log sitting right in the trail then you will need to do an emergency stop:

- Get as far back on the saddle as possible so that your stomach is almost over the saddle.
- Start to smoothly apply the front brake-without jamming it on-to slow your bike down.



Source: Marco Ferlemann-Senden (Germany)





Low-speed Turns	High-speed Turns
<ul style="list-style-type: none"> <li>• Keep a loose grip on the handlebars so that you can make any last minute changes if needed.</li> <li>• Being breaking before you start you turn to your control speed.</li> <li>• Try to find the smoothest way around by focusing as far ahead as possible.</li> <li>• Don't worry about finding the fastest line, that not needed when going a low speed.</li> <li>• Most importantly, follow a smooth curve.</li> <li>• Take caution on wet trails because it may be slippery, especially near large rocks or roots can cause you to skid.</li> <li>• If you shift down one gear before leaving the corner, you will be able to pick up acceleration and regain your normal riding pace.</li> </ul>	<ul style="list-style-type: none"> <li>• If you suddenly approach a sharp turn an are going really fast, try to slow down before entering the corner.</li> <li>• Take as wide a turn as possible, as this will give you more time to turn and make it around the corner.</li> <li>• Remember to keep your outside leg extended.</li> <li>• As you are going through the turn, aim for the centre of the apex and keep all of your outside leg to prevent from skidding.</li> <li>• While in the turn do not pull your brakes because this will cause you to lose control.</li> <li>• Try learning into the corner as well: this will help you continue through the corner.</li> <li>• Once you make it out of the corner, stand up and pedal hard until you have regained your speed.</li> <li>• Keep in mind that someone or something could be just around the corner so proceed with caution</li> </ul>

- Chances are you won't go over the handlebars since your weight is over your back wheel.
- Keep the front wheel lined up with the bike frame to avoid skidding.
- You may feel the back wheel lift off of the ground so put your weight over the back wheel and it will go down.
- You should be able to come to a safe stop before hitting the obstacle.
- Remember: Conditions change daily and it's always harder to brake on wet trails. It's best to go more cautiously on a new trail, just in case.

**Shifting Gears** - It doesn't really matter which gear you are in as long as it feels comfortable. You should NEVER look down to see which gear you are in though. Also, try to anticipate which gear will be needed so that you can shift in time.



Source: Marco Ferlemann-Senden (Germany)



## Cornering

There are a couple of things that you need to know before you can attempt cornering. You must always extend your outside leg and lean into the corner. Also, keep your eyes focused on the farthest point of the corner as you turn and don't forget to brake **BEFORE** the turn!

## Climbing

Cyclists often tackle long and steep hills particularly in the French Alps e.g. Galbier Pass. Steep ascents can occur on roads, where a road bike is appropriate, or off road, where a mountain bike is more appropriate. Technique for climbing is as follows:

- Before you start your ascent you should change into an easier gear because it will be difficult to change mid-hill.
- Keep your weight on the saddle to give your wheels some traction.
- Slide forwards and keep your body low over the handlebars by dropping your head and bending your elbows. This will keep your tyres from spinning out.



Source: Marco Ferlemann-Senden (Germany)



Source: Marco Ferlemann-Senden (Germany)

- You need to keep your momentum up the hill to get your bike over things like roots or rocks.
- The best way to do this is to spin your pedals quickly i.e. increase your cadence.
- If you encounter a very technical part of the hill you may want to stand up to keep the bike going forward, however this is quite tiring and should only be used as a last resort.
- Remember to keep your weight over your back wheel because otherwise it may spin out.
- Always look up the hill trying to spot what might make the climb more difficult; spotting these difficulties will allow you to prepare for them e.g. dropping a gear.

## Obstacles

When taking part in mountain biking you are likely to encounter obstacles in your way. Half of the fun of mountain biking is exploring new trails and take biking to the extreme. If the obstacle is too large, don't worry about your reputation, get off your bike and carry it! For smaller obstacles there are some advanced skills that can help you negotiate them.





### Lifting the front wheel:

- You will need to have your bike in a low gear while learning how to lift the front wheel.
- Slide to the back of the saddle, bend down low over your bike - bend your elbows, and lower your head.
- Your stronger leg should be at the top of the pedal revolution.
- While pushing down with your stronger leg, pull up on the handlebars. The front wheel should be well off of the ground at this point.
- Once you've mastered lifting the front wheel, you will be able to tackle the rest of these manoeuvres along with those obstacles.



Source: Marco Ferlemann-Senden (Germany)

**Carrying Your Bike** - At some point in your mountain biking career you'll probably have to carry your bike. Here's how you do it: the frame should go over your right shoulder so that the crank set won't hit your body. Your right arm should go under the top tube and then around it so that you will be able to grab the handlebars. Now, grab the left handlebar to keep the front wheel steady.

**Falling** - When mountain biking you will probably end up falling during every ride, but that's okay, once you learn how to fall then you'll be just fine. Here's the trick: let go of the bike as soon as you feel like you're going to crash. Try to find a soft spot to land on rather than something like a rock. As you are falling try to roll so that your bike won't injure you. And of course, always wear a helmet!

**Jumping a Log** - If you see a log, try to slow down so that you are in control. At the same time, try to decide if the log is too big to jump. If you think you can jump it use the following technique:

- Using your skills lift the front wheel on to the log.
- Once you're up to the log, compress your body and then pull up on the handlebars as you feel the front wheel lift off of the log.
- Whatever you do, don't look down. Just make sure that you've lifted the wheel high enough to clear the log.
- Once your front wheel lands on the other side you'll feel the crank set hit the log. This is when you'll want to lean forward to continue going over the log... otherwise you'll probably crash.
- Now, slide back on the saddle when you feel the back wheel begin to go over the log, this will bring the back wheel down. Remember to keep your knees bent!



Source: Marco Ferlemann-Senden (Germany)





Source: Municipality of Miranda do Douro (Portugal)

**Rocks** - While going over rocks the best thing to do is stand up out of the saddle and relax. If you try to make any sudden moves you will probably end up stopping. The idea is to allow your bike to roll over the rocks as smoothly as possible.

**Roots** - These are very slippery when they are wet so proceed with caution. Don't try to brake or accelerate hard while riding over roots. Make sure that your arms and legs are loose to absorb the shock of landing, hold on and let the bike go where it wants!

**Mud** - Expect to encounter plenty of mud when you go mountain biking. It's very easy to get stuck, but stick with us and we'll get you though. Once you reach the mud, sit back on the saddle to ensure that you won't go over the handlebars. Just before you enter the mud, do a front wheel lift. Continue pedalling after both wheels are in the mud. You will end up getting stuck if you don't maintain momentum. Now, try to get onto dry land as quickly as possible. The easiest way to do this is by lunging forward with your bike. To get your bike out of the mud, shift your weight forward and try to pull up on the handlebars.

**Water** - Before you just decide to plunge into the unknown, slow down to get an idea of how deep the water is. Make sure that you are in a low gear so that you can start pedalling quickly once you land in the water. Keep the bike moving forward so that it doesn't end up digging into the riverbed. Keep lunging forward with your bike until you reach land. As you continue pedalling out of the water, keep your weight low to prevent your wet wheel from spinning.

**Sand** - When you approach sand go into it with as much speed as possible because you will quickly lose speed once you are in the sand. Begin in a high gear and then downshift as you enter the sand. Keep a wide grip on the handlebars because the sand can easily pull the wheel out of control. As you feel your bike slowing down, shift into a lower gear. Pedal as quickly as you can through the sand and try to take a straight path through the sand. Be VERY careful because the sand can easily throw you off of your bike.

**Descending Steep Slopes** - Approach the steep part very slowly so that you will have enough time to shift positions. Slide to the back of the saddle and have your pedals level. Take a wide grip on the handlebars and look ahead of you. Whatever you do, don't brake suddenly! Although your speed will quickly increase, don't brake too hard because it will cause you to crash. The good thing is that your speed will help you roll over the bumps. Quite frequently, you will encounter a rise after a steep descent. To prepare yourself for this, bend down as you get to the bottom of the hill. If you don't, the back wheel can be thrown up causing you to crash.

**Bunny Hopping** - Look ahead where you're planning to bunny hop, keep your weight low and level your cranks. Spring your body up while pulling on the handlebars. As you feel the front wheel lift off the ground, pull up with your feet and bring the back wheel up. Once you feel like you're about to land, relax so that your arms and legs will absorb the landing. Keep your weight over both wheels so that they will land at the same time.





### 3.1.5. Basic Safety

Basic precautions should be taken when riding a bike. Ensure that your bike and personal protective equipment are roadworthy and fit correctly:

- Check that your wheels are straight.
- Check your tyre inflation.
- Check your brakes.
- Check attachment of both wheels.
- Check your handlebars and stem for signs of stress or fatigue.
- Check your suspension adjustment.

In case of emergencies it is important to carry a mobile phone.

Good technique not only makes cycling more enjoyable but also safer. The biker should anticipate what could happen, and be able to brake properly (always with both brakes at the same time) and be able to master the gear-change. When travelling through road traffic the cyclist must adhere to traffic rules and practice a defensive style of riding. Due care and attention must be paid to other road users.

If an accident should take place, it is necessary to know first aid. The most usual injuries are scratches and scrapes, broken collar-bones and

concussion. In most cases the beginner usually only suffers from sore muscles, which can be alleviated by warming up, and light stretching before taking to the bike.

**Health and fitness** - Anyone with an average level of fitness may start biking in his or her leisure time. When you are well nourished, hydrated and used to regular physical training, biking is a very healthy form of physical activity with a high value for recreation and the facility to reduce stress. Biking does not put a heavy weight on the joints. This is important for people who are overweight. Generally it has a positive effect on fitness, on most of the muscles, the blood circulation system and on general fitness.

When taking up cycling it would be useful to follow an individual training programme. To maintain good fitness it is important to have a sensible diet with plenty of liquid. Bear in mind that the training program of a serious racer will be very different from someone who pursues cycling as a recreation, therefore do not try to follow the same training routine as someone like Lance Armstrong.

### Regulations

Bikers must follow certain rules. When riding in traffic a cyclist should know the traffic and local bicycle riding laws of the country. These rules vary throughout Europe and a cyclist visiting another country must follow the rules and abide by the laws of that country. A few of the more important rules include:

- Use proper hand signals.
- Ride single file when riding with other cyclists.
- Ride on the correct side of the road; never go against the traffic.
- Ride defensively; expect the unexpected.



Source: Marcus Gloger ADFC (Germany)



## Mountain Biking: Rules of the Trail

The way we ride today shapes mountain bike trail access tomorrow. Do your part to preserve and enhance the sport's access and image by observing the following rules of the trail, formulated by IMBA, the International Mountain Bicycling Association. These rules are recognized around the world as the standard code of conduct for mountain bikers. Their mission is to promote mountain bicycling that is environmentally sound and socially responsible.

**1. Ride On Open Trails Only** - Respect trail and road closures (ask if uncertain); avoid trespassing on private land; obtain permits or other authorization as may be required. Respect areas that are closed to cycling. The way you ride will influence trail management decisions and policies.

**2. Leave No Trace** - Be sensitive to the dirt beneath you. Recognize different types of soils and trail construction; practice low-impact cycling. Wet and muddy trails are more vulnerable to damage. When the trail bed is soft, consider other riding options. This also means staying on existing trails and not creating new ones. Don't cut switchbacks. Be sure to take away at least as much as you bring with you.

**3. Control Your Bicycle** - Inattention for even a second can cause problems. Obey all bicycle speed regulations and recommendations.

**4. Always Yield Trail** - Let your fellow trail users know you're coming. A friendly greeting or bell is considerate and works well; don't startle others. Show your respect when passing by slowing to a walking pace or even stopping. Anticipate other trail users around corners or in blind spots. Yielding means slow down, establish communication, be prepared to stop if necessary and pass safely.

**5. Never Scare Animals** - All animals are startled by an unannounced approach, a sudden movement, or a loud noise. This can be dangerous for you, others, and the animals. Give animals extra room and time to adjust to you. When passing horses use special care and follow directions from the horseback riders (ask if uncertain). Running cattle and disturbing wildlife is a serious offence. Leave gates as you found them, or as marked.

**6. Plan Ahead** - Know your equipment, your ability, and the area in which you are riding and prepare accordingly. Be self-sufficient at all times, keep your equipment in good repair, and carry necessary supplies for changes in weather or other conditions. A well-executed trip is a satisfaction to you and not a burden to others. Always wear a helmet and appropriate safety gear.

### 3.1.6. Organisations / Useful Sources

#### Organisations

**Estonia:** Eesti Jalgratturite Liit  
(Estonian Cyclists Union)  
[www.ejl.ee](http://www.ejl.ee)

**Germany:** Bund Deutscher Radfahrer  
[www.rad-net.de](http://www.rad-net.de)

**Greece:** Hellenic Biking Omospondia  
[www.cyclingnews.gr/page\\_podilasias.asp?section=6](http://www.cyclingnews.gr/page_podilasias.asp?section=6)

**Portugal:** Federação Portuguesa de Ciclismo  
[www.uvp-fpc.pt](http://www.uvp-fpc.pt)  
Federação Portuguesa de Ciclismo  
e Utilizadores de Bicicleta  
[www.fpcbicicleta.pt](http://www.fpcbicicleta.pt)

**Spain:** Real Federación Española de Ciclismo  
[www.rfec.com](http://www.rfec.com)

#### Useful Sources

[www.adfc.de](http://www.adfc.de) (Allgemeiner Deutscher Fahrrad-Club)  
[www.rad-net.de](http://www.rad-net.de) (Bund Deutscher Radfahrer)  
[www.bikersguide.de](http://www.bikersguide.de)  
[www.sheldonbrown.com](http://www.sheldonbrown.com)







## 3.2. Horse Riding



### 3.2.1. Introduction

Man has used horses for thousands of years as a means of travel, for making work easier and for recreation. As a form of recreation, the horse appeals to both spectators and participants. In activity based tourism the general interest in horses is active i.e. riding, rather than passive i.e. watching.

The use of the horse for recreation requires:

- free time;
- natural paths.

The activity brings people closer to nature and provides them with a different perspective when travelling along rural pathways. The horse has again become an important economic factor in rural areas.

Rural tourism has grown in many European regions, however there is a long way to go until

such development is spread across all rural European areas.

Horse riding can play an important role in the development of rural tourism. The basic requirements are:

- Knowledge of riding.
- Horses.
- Stables.
- Knowledge of local pathways.

Horse riding, either alone or as an integrated product with other activities, can benefit the development of rural areas utilising:

- Local knowledge;
- Local accommodation;
- Local people;
- Local pathways;
- Locally renovated buildings.



Source: AEGEAS-CVT (Greece)



Source: Kaidi-Mari Liping (Estonia)

### 3.2.2. Brief History

- The horse has been used for thousands of years as a tool for work and transport and it is only relatively recently that it has been used for recreation.
- As a military resource, the horse became a very valuable weapon.
- An army that had a lot of horses was a powerful one.
- The empires of Alexander the Great and Genghis Khan would not have been so great if they had not used horses.
- Farmers used horses to reduce the physical labour when turning bogs and woodlands into agricultural land.
- Traders used horses to cover large distances and carry their goods. This also led to cross-cultural exchange of ideas.
- Until the late 1800's the horse meant work for most people.
- In the C18 and C19, leisure use of the horse was usually restricted to royal and noble families.
- Free time was the sole domain of the very rich, which made up less than 1% of the European population.
- This early recreational use of the horse was for tours of local forests and land.
- Today recreational horse riding is accessible by a much wider proportion of the population.

### 3.2.3. Basic Equipment

#### Horses

The number depends upon the size of the business target and the capital investment. Usually the minimum number of horses needed for a small business is 4-5 horses. There must be an area where horses can walk and run when they are not being ridden. Stables where horses can rest, be fed and be protected from harsh weather conditions are also essential. There should be an area where initial training with the horses can take place. This area is usually covered by sand and surrounded by wooden fences.

#### Riders' equipment

1. Saddle for every horse and some spare saddles. Saddles must all have the saddlebow for the protection of the riders.
2. Bridle usually made of leather, which must be in excellent condition.
3. Boots with suitable heel.
4. Riding trousers.
5. Approved industry standard riding helmet.
6. Rain coat



Source: AEGEAS-CVT (Greece)





Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)

## Considerations for riding horses

- A training arena usually covered with sand, where children and beginners can ride supervised by a trainer.
- Local trails, usually no longer from 15 km, where riders can enjoy horse riding for a few hours rather than a full day. Along the trail there must be signs providing directions for riders.
- The horses must have regular check ups by a veterinary doctor.
- Safety procedures must be put in place to prevent injury to the horse, the rider and third parties.

## The design of the trail should take into account the following:

- The route should preferably be on public land.
- Gain permission before crossing private land.
- Avoid roads with vehicles.
- Avoid noisy areas e.g. industrial plants, etc.
- The route should offer good views and scenery.
- Avoid obvious hazards e.g. steep slopes, low branch trees, long grass where the rider or the horse cannot see the ground, etc.





Source: AEGEAS-CVT (Greece)

## Planning multi day routes

- The leader must be with the group for the whole the trip.
- Organise provision of food in advance.
- Make detailed arrangements for overnight accommodation with alternatives in case the programme changes due to bad weather.
- The leader must know the trail well so that they can safely lead the group without mishap.
- Ideally, the route should follow local natural and historic features such as old cork oak forests or castles. This makes it more interesting for the riders.



Source: AEGEAS-CVT (Greece)



Source: AEGEAS-CVT (Greece)

## 3.2.4. Basic Techniques and Knowledge

### The trainer / leader must:

- have excellent knowledge of the horses, horsemanship and horse welfare.
- be experienced in dealing with abnormal horse behaviour.
- have good communication skills with other riders and the public.
- be able to deal with and solve problems when out riding.
- have good knowledge of local trails, routes and terrain.
- be able to tell the group about the local environment.

**Horse riding can be classified by where it takes place:**

*River horse riding* - where most of the riding trail follows a river.





# Horse riding

*Mountain horse riding* - where the riding trail is in a mountainous area. This can be further divided into:

*Athletic mountain riding* - where the rider must be in physically fit and have considerable experience as the terrain can be very difficult.

*Tourist mountain riding* - where the riding trail is still in the mountains but is much easier and does not need a high level of experience or fitness.

*Snow horse riding* - where the riding trail is mostly covered by snow and usually takes place in winter.

*Water horse riding* - where the riding trail is designed mostly by water. Here there are two subcategories:

*Lakeshore horse riding* - where the riding is based along lakes.

*Seashore horse riding* - where the riding takes place mostly on beaches.

**There are other types of classification based on the motivation:**

*Educational horse riding* - where the focus is not primarily upon riding but on some other activity e.g. the local history of an area. The learning subject can be nature, archaeology or culture. Horse riding becomes the 'vehicle' for achieving the primary aim of learning.

*Athletic horse riding* - where the riders practice competition type riding overcoming obstacles and difficult conditions.

*Casual riding* - where the riders' primary aim is to enjoy the ride itself and the trail, which is usually in an attractive area where the rider can appreciate the quietness and the scenery.

A further classification of horse riding is based upon the length of time of a riding session:

*Daily / hourly excursions*, where the trail takes from a few hours to one day (usually 2 to 6 hours)

*Multi-day excursions* where the providers design a long route and include food and accommodation.

**When can I do horse riding?**

You can ride throughout the year. The good thing about this activity is that it does not have to be part time but a full time service providing a good business opportunity.

**Requirements**

You do not need to have previous experience for most types of horse riding. After gaining some experience, you may try all types of riding.



Source: AEGEAS-CVT (Greece)



The providers must take into account some important issues:

- There must be a variety of horses, some should be gentle for beginners and children and some more aggressive or heavy for more experienced riders
- There must be a base with stables, where horses and riders start and finish their riding experience.
- The workforce should be experienced and well trained. They must keep the horses in good condition, to train beginners and to lead riding excursions.

## Technical Knowledge

The technical knowledge that horse riding enterprises need can be split into two areas:

- Resources - animals, trainers / guides, local geography;
- Safety.

## Resources - Animals



Source: AEGEAS-CVT (Greece)

Knowledge of the horse gained over time is very important. The following basic points need to be understood:

- Different horses will suit different people. The guide must know the horses in order to give gentle horses to children and beginners and the more sporty horses to more experienced clients.
- The welfare of the horses is important. The provider must keep the horses clean and happy by giving them rest time, space, baths, and a good environment to live in.
- Good health equals good horses. The provider must ensure that the horses are healthy by giving them a good diet, protecting them from dangers, and ensuring that they are up to date on vaccinations through regular veterinary visits.



Source: AEGEAS-CVT (Greece)

## Trainers / guides - local geography

Providers of horse riding excursions must make sure that their guides have:

- A good knowledge of horses and their behaviour;
- A knowledge of handling horse actions and difficult situations;
- A good knowledge of safety and first aid;





- An excellent knowledge of the equipment required for horse riding excursions;
- An excellent knowledge of the paths and the trails that are followed by the riders;
- A good knowledge of the surroundings and the features, in order to be able to interpret them to the group.

## Planning Activities

Planning activities can be divided into three major categories:

1. Planning - Preparing for the riding experience
2. Implementation - going on the riding excursion
3. Evaluation - going over feedback to plan the next excursion avoiding any mishaps that may have occurred.

A trainee guide must follow all three categories carefully, important things to get from this practical experience are:



Source: IBW-EUROINSTITUT (Germany)

- Experience of planning a horse excursion;
- Experience of riding with a group and providing knowledge and adventure;
- Experience of providing services with the maximum safety measures.

Someone wanting to gain experience as a horse riding guide/trainer should consider the following daily activities:

- Get to know the horses by taking them for a walk and feeding them;
- Put on and take off the riding tack of the horses;
- Ride the horses to find out their character;
- Ride the horses around the centre;
- Ride along the trails in order to learn as many things as possible about the surroundings so you can explain them to riding groups;
- Practice first aid regularly;
- Take a local map and try to design a long route (e.g. over three days) to ride. Then ride the route to identify the difficulties, the dangers and all the sites of interest (natural and man made) along it;
- When leading a group for the first time try to do so under the guidance of an experienced guide;
- Always check the equipment needed for the riding session to be ready and safe;
- Before a rider starts a session check their equipment;
- Make sure that what new customers tell you about their experience with horses is true. Watch closely during the first few minutes of riding to check;
- Always inform customers about the words used with the horses and tell them about things that a specific horse likes or dislikes.

## 3.2.5. Basic Safety and Legislation

### Priority Action Approach

Priority action approach is the sequence of actions taken on arrival at a scene of an accident or sudden illness to ensure that life-saving first aid is given safely. Generally it should be performed in the following sequence:



1. Take charge of the situation.
2. Call to attract the attention of others to help you.
3. Assess hazards - from the original cause of the accident and from other causes.
4. Make the area safe for yourself and others.
5. Identify yourself as a first aider and offer to help.
6. Quickly assess the casualty for life-threatening conditions.
7. Give first aid for life-threatening conditions.
8. Send someone to call for help i.e. police, ambulance.

### Legislation

Legislation is another important issue that has to be taken into account when setting up a horse riding business. Each country has its own legislation. Some will be specific for horse riding businesses whilst others may be controlled by a related area e.g. tourism. Here are some general guidelines:

- The provider should follow all rules relating to health and cleanliness required of the service sector;
- The provider should always take the maximum precautions for the safety of visitors and the work force;
- The provider should always take the maximum precautions for the safety of the animals;
- The quality of services provided should always follow international laws and guidelines, whilst keeping in mind the traditional way of life of an area;
- The provider should always be ready for legislation changes at any time and for adapting to new needs and new trends.

### 3.2.6. Organisations / Useful Sources

**Estonia:** Eesti Ratsaspordi Liit(The Equestrian Federation of Estonia)  
[www.ratsaliit.ee](http://www.ratsaliit.ee)

**Germany:** Deutsche Reiterliche Vereinigung  
[www.fn-dokr.de](http://www.fn-dokr.de)

**Greece:** Hellenic Horse Riding Omospondia  
[www.equestrian.org.gr](http://www.equestrian.org.gr)

**Portugal:** Federação Equestre Portuguesa  
[www.fep.pt](http://www.fep.pt)

**Spain:** Real Federación Hípica Española  
[www.rfhe.com](http://www.rfhe.com)



## 3.3. Trekking

### 3.3.1. Introduction

Walking is an almost perfect form of exercise. It is an environmentally friendly means of travel and a very popular outdoor activity. Almost everyone can enjoy walking. No special equipment or knowledge is needed. You can walk almost anywhere, including parks, woodlands, coastal areas, lowlands, highlands and protected areas. Walking is the best way to explore the environment, especially when you use walking routes marked with internationally recognised signs and codes.

Different levels of walking are defined depending on the time it takes to complete a route and the need for an overnight stay. If a route can be completed in one day, it is called a walk (UK) or

a hike (USA). If a route needs more than one day to complete it then it is known as trekking. Walking can be done in different seasons and territories. It thus reduces the seasonal effect of tourism and contributes to the region's diversity and year round appeal to visitors.

Walking is good for health. It develops muscular and cardiovascular fitness, and reduces the risk of, diabetes and cardiovascular disease. Regular walking can aid weight control and decrease obesity. This, in turn, reduces blood pressure, depression symptoms and anxiety and decreases the risk of cancer of the colon. The health related benefits of walking could be used in marketing a walking product/programme in a rural area.



Source: David Rodriguez (Spain)



### 3.3.2. Brief History

- Walking is as old as mankind.
- Man has always needed to walk to find food, shelter or company.
- In Europe, the first long walks were the routes of religious pilgrimages. For example, the famous “Camino de Santiago” is one of the oldest walking routes.
- Greek philosophers were walkers. They believed that “movement in the body brings movement in the mind”
- In France and other European countries, the figure of the walking philosopher emerged.
- Jean Jacques Rousseau and the Danish philosopher Soren Kierkegaard belong to this group that associated walking and thinking.
- Writers and poets, spent long periods walking as a way to find inspiration.
- In England, during the 18th century, people walked for recreation.
- During the 19th century walking for recreation spread through Western Europe.
- In the 20th century the appearance of youth movements, such as the scouts, led to further development of walking as a rural pastime.
- Trekking is thought to have originated in France during the Post war period.



Source: Municipality of Miranda do Douro (Portugal)



Source: EESTII MAAUTURISM (Estonia)

- In 1947, the Comité National de Sentiers de Grande Randonnée (CNSGR) developed walking routes and itineraries, designed to open up the whole of France to walkers.
- Other countries such as Germany, Holland, Switzerland and Belgium, followed suit
- Walking became more popular when transport became cheaper and more accessible for all.
- The European Ramblers Association was set up, in 1969. One of its first tasks was to link member countries together by a series of long distance footpaths.
- Today, there are 11 European routes, most of them still in the conception phase.
- Long distance footpaths can also be found in other countries such as USA and South Africa.
- France currently has more than 18 000 km of long distance footpaths and a quarter of its population regularly take part in walking.
- Germany has more than 210 000 km of footpaths and more than 650 000 walkers who are members of clubs.





### 3.3.3. Basic Equipment

Walking requires little specialist equipment apart from clothes and shoes.

**Boots** - Boots are the most essential item and comfort depends on the fit. Many people complain of blisters when they are walking. This is often due to poor fitting boots or inappropriate socks. There are many different makes and types of boot on the market. It is important to buy the correct boots for the activity that is taking place. Most reputable retailers will provide a fitting service to ensure that the boots they sell fit well.

**Rucksack** - For journeys that can be completed in one day a small rucksack (20-30 litres in volume) should be adequate. For multi day journeys a larger rucksack, which can carry camping equipment, is essential. Rucksacks come in different sizes, so make sure you buy the correct fitting rucksack. A good backpack is functional, durable and the right size. The ideal backpack is anatomic and has thick

belts on the waist and shoulders. Outer pockets are useful for carrying items you need often. An opening in the bottom means you can easily get to things stored there, such as a sleeping bag.

**Clothing** - You should wear clothing suitable for the weather conditions. This should be comfortable and able to draw sweat away from the body. Avoid materials such as cotton, which retain sweat and can draw heat away from the body causing hypothermia. In the mountains weather can change quickly so carry extra clothing to cope with such changes.

**Weatherproof clothing** - You should carry a waterproof jacket and trousers to protect against rain and wind. Modern materials are 'breathable', which means that sweat is drawn away from the body and expelled through the material. This keeps the wearer cool and dry even under physical exertion.



Source: David Rodriguez (Spain)



### For special weather conditions:

**Heat** - Wear light coloured clothing to reflect sunlight. Sun hats and sunglasses protect against direct sunlight and glare. It is better to wear trousers than shorts to protect your legs against UV rays. Taking these precautions will help to prevent hyperthermia.

**Cold** - Warm clothes (synthetic fleece or wool), gloves and a warm hat prevent excessive heat loss, which can lead to hypothermia.

**Walking in the mountains** - Wearing several layers of clothes is an effective way of conserving heat. Wear a thin thermal layer next to the skin that allows sweat to pass through it. The next layer should be a heavier fleece that provides warmth. The final layer should provide a protective shell against the elements. This system allows you to alter the number of layers worn depending upon the weather conditions and how hard you are working. A single layer system is not so flexible.



Source: Cristina Martínez (Spain)

### Basic Equipment List

Item	Item
<ul style="list-style-type: none"> <li>• Backpack of appropriate size</li> <li>• Compass and map</li> <li>• Extra food and water</li> <li>• Extra clothes</li> <li>• First Aid kit</li> <li>• Plastic bags for litter</li> <li>• Documents addresses and phone numbers</li> <li>• Fire making equipment</li> <li>• Knife</li> <li>• Nylon rope</li> <li>• Dark glasses, hat or cap</li> <li>• Insect repellent</li> </ul>	<ul style="list-style-type: none"> <li>• Walking stick</li> <li>• Writing pad, pencil, camera</li> <li>• Camping gear: tent, sleeping bag</li> <li>• Eating kit: pot, plates, spoon, fork, knife, mug</li> <li>• Hygiene material: oral (tooth brush, body soap, shampoo, towel)</li> <li>• Safety material / rope</li> <li>• Flashlight with extra batteries and bulbs</li> <li>• Emergency whistle</li> <li>• Sun cream</li> <li>• Repair kit (needles, buttons, pins)</li> <li>• Kizoo shelter or bothy bag</li> <li>• Toilet paper</li> </ul>







Source: Guheko S.L. (Spain)

### 3.3.4. Basic Techniques and Knowledge

Walking is the most basic nature-based activity. It requires little technical skill or special equipment. Although there is not a precise way to measure the difficulty of a route, we can distinguish between the technical and physical complexity.

Technical complexity refers to the route itself: the existence of well-marked paths, the need to use map or compass, safety techniques and technical equipment. Technically, routes vary from easy to complex.

Low level walking does not require special tuition or techniques. It is still important to have knowledge in the following areas:

- Navigation techniques (map interpretation, estimating distance, correct use of compass and other navigation instruments).
- First aid.
- Emergency procedures
- Weather predication
- Group leadership.

When using walking routes, knowledge of the signs is useful. Way-marked routes vary from short walks to long countryside walks. They have signs that help you follow the pathway and most have guidebooks that describe the route and give details of history, wildlife and information on local services and facilities.

The physical complexity of the route relates to the distance covered, roughness of the ground, total time needed to complete the route and the existence of any obstacles.

#### Fitness

When walking, people usually forget the most important rules for practising any kind of exercise. Besides stretching before and after the activity, there are some basic techniques that will help the walker and prevent injuries:

- Start walking gently and slowly speed up.
- Between stops maintain the walking rhythm.
- In the first days do not walk too fast and do not walk very long distances.
- Try to take a rest for at least 10 minutes for every hour or two of walking.
- Pay attention to pathway features, especially on uneven ground.
- When walking with a group, each person should walk at their own pace and rhythm, with an agreed meeting place and timescale.





## Walking technique

A good technique will prevent injuries and keep walker comfortable whilst walking. Points to consider are:

- Good posture - Lengthen the spine by standing straight and relaxed, hold your head straight, eyes looking at the horizon and chin parallel to the ground.
- Relax your shoulders. Bend your arms at the elbow and swing them naturally with each step.
- It is difficult to move lower half of your body. Use the abdominal muscles and hip flexors to rotate your hip forward and lead the leg in its forward motion.
- Your ankle should be flexed, with toes pointed upward. Place your foot in front of the body. As your body weight passes over the leading leg, the foot should roll forward and push off from the toes to begin the next step.

## The effect of terrain on walking

We do not always walk the same way. Our walking style will vary depending upon the type of area where we are:

- Flat territories - maintain a normal walking rhythm. While keeping a low rhythm, the body weight goes first to the instep and then to the heel. When walking faster or running, first use the heel and then rest the body weight on the instep.
- Uphill - take smaller steps
- Downhill - going down is when most falls or sprains occur. The best way is to go down with small steps, with the heel first.
- Steep slopes - take a zig-zag route up or down. Sometimes walking sticks can help to distribute the body's weight.
- Walking speed can vary greatly depending upon factors like the aim/type of walk, path and weather conditions or if you are walking alone or in a group.



Source: Guheko S.L. (Spain)





- For flat terrain 12 to 20 minutes per kilometre is an acceptable range.
- Hills slow walkers down. Allow 10 minutes extra for each 100 m of height gain.

### Hazards

Although walking is not considered a dangerous activity, certain conditions make it more challenging. These include, routes through mountains or remote country, walking in winter, or in bad weather conditions in summer.

There are some easily recognisable dangers that result from physical conditions relating to season, territory, weather, snow, water or vegetation. Others, that are not so easily recognisable, result from poor physical and mental preparation. These dangers include: ignorance, inadequate preparation, bad physical condition or psychological aspects such as fear or even over-confidence.

When planning a walk you must consider your level of skill and experience. It is important to move in an efficient and safe way. As well as health issues, navigation, food and drink, clothing and equipment, safety aspects are also important:

### Preparation

- Plan where, how and with whom to go.
- Plan the route and do not forget the trail guide and/or map.
- Look at the weather forecast.
- Inform family/friends about the walk (place, company, and length of time) and leave a trail map.
- Check equipment before going out on a walk.

### Behaviour

- Walk during daylight
- Avoid walking alone



Source: Francisco Moralejo (Spain)



- Avoid wooded areas without knowing the route
- Choose easy and safe paths
- Avoid crossing streams and rivers.
- If you get lost, stay calm, walk back along your route until you reach a known point. Then resume your journey.
- Even during a well prepared walk, situations may change. Calmness and experience are very important.



Source: Marta Lombraña (Spain)

### Example of checklist for organising a walk

Pre-trip	During trip	Post trip
<ol style="list-style-type: none"> <li>1. Knowledge of the route</li> <li>2. Check maps and guides</li> <li>3. Verify path condition</li> <li>4. Identify technical and physical situation and specific problems</li> <li>5. Identify essential equipment</li> <li>6. Personal equipment: shoes, cloths, food and beverages, camping equipment, safety material</li> <li>7. Group material: tents, extra equipment</li> <li>8. Develop a walking itinerary</li> <li>9. Evaluate foreseen walking length and duration</li> <li>10. Verify and confirm the weather forecast</li> <li>11. Inform friends and /or relatives about the itinerary</li> </ol>	<ol style="list-style-type: none"> <li>12. Check the personal equipment to confirm the existence of enough food and beverages, clothes, essential and safety material</li> <li>13. Group material and weight distribution, if needed</li> <li>14. Discuss the itinerary, meeting places, expected risk</li> <li>15. Physical warm up and light stretching</li> <li>16. Maintain a correct body posture</li> <li>17. Arrange a time and meeting places for team members to meet up on route</li> <li>18. Pay attention to the environmental rules</li> <li>19. Reassemble all the team at the prearranged meeting place</li> <li>20. Be careful. There may be unexpected situations. Notice that the majority of accidents occur towards the end of the walk when walkers are tired or relaxed</li> </ol>	<ol style="list-style-type: none"> <li>21. Warm down and stretch</li> </ol>



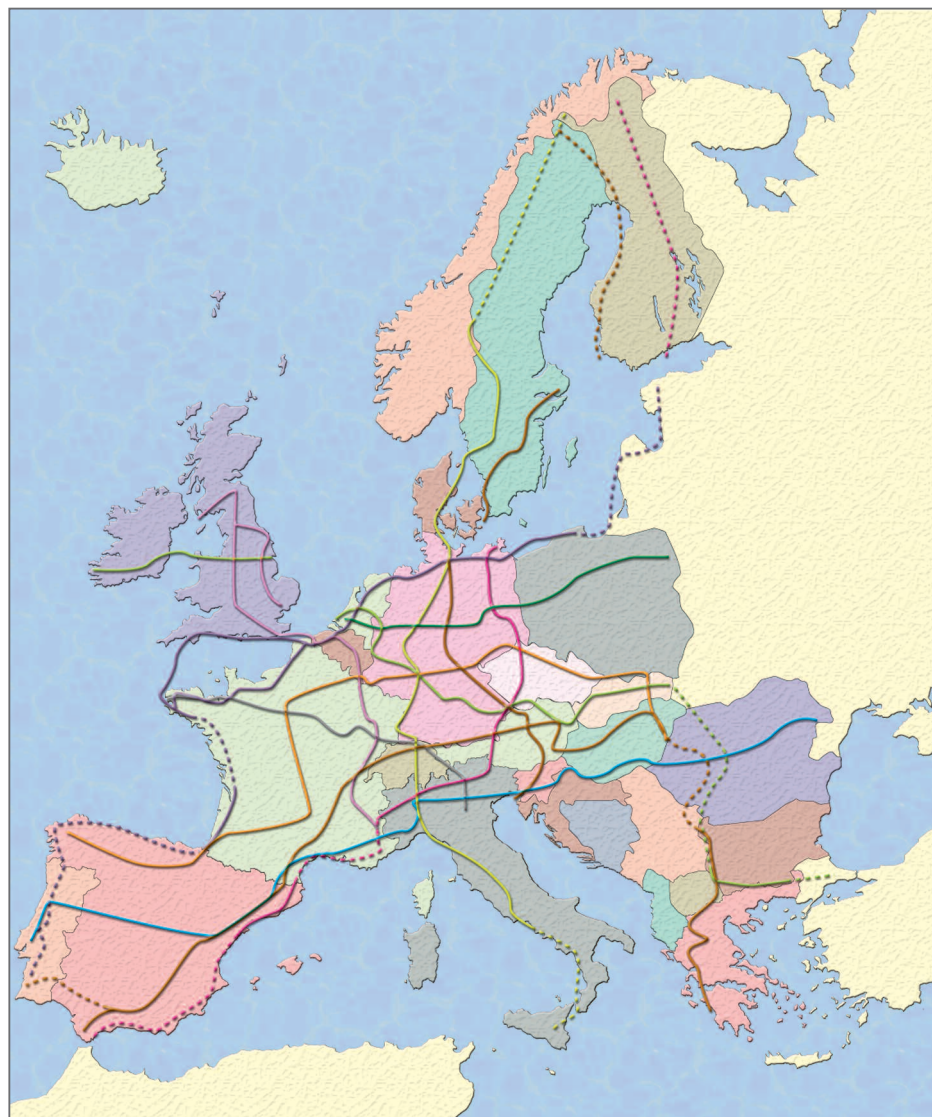


### 3.3.5. Basic Safety and Legislation

#### Regulation

At a European level, the representative body for walking is the European Ramblers Association (ERA). Its responsibilities include the creation and maintenance of paths. Most of the paths are recent, about 90% were developed during the 1990's though many are still in the planning stage. Each path is given a code e.g. E1. There are 11 paths that, when complete, will cover about 54 070 km. Path E4, Mediterranean Arc, is the longest with 10 450 km, whilst the most famous is, probably E3, Black Sea-Iberia.

#### European Long Distance Paths (E-paths)



(Note: hatched lines mean the paths are under construction)

ERA (2003)

At a national level, each country has its own governing body that regulates the activity. Some examples are:

- **Portugal** - FPC (Federação Portuguesa de Campismo)
- **Spain** - FEDME (Federación Española de Deportes Montaña e Escalada)
- **Germany** - Verband Deutscher Gebirgs- und Wandervereine
- **Greece** - Hellenic Federation of Mountaineering and Climbing
- **Estonia** - EML - Eesti Matkaliit
- **France** - FFRP - Fédération Française de Randonnée Pédestre

Each local governing body is responsible for developing and maintaining the network of footpaths within their country.

#### Rules regarding the marking of the paths

##### Marks and colours

The marking and signposting of European pathways (E) are the responsibility of the ERA. The mark has the letter "E" followed by the relating number. Many countries use white and red strips, which originated in France, but this is not universal. The specific rules can be found, in more detail, in the documents "Charte Officielle de Balisage" - França (FFRP) or "Manual de Senderos" - España (FEDME).



## Places

On a well-marked walking route, there must be signs along the path, to guide the walker and prevent him/her from taking wrong direction. According to the FEDME the following places should have signs indicating the route:

- Entrance and way out of villages
- Road intersections and changing of directions
- Near ravines, rivers
- Entrances or way out of woods



Right way



Wrong way

Marks must be easy to find and placed in natural features on the paths, such as stones, which are part of the place itself. (Source of the following pictures: Municipality of Miranda do Douro Portugal))

It is not allowed to place marks or signs in places which could result in damage, such as:

- Monuments
- Buildings made of traditional material, such as stone
- Monumental trees
- Private property without permission

## Impacts of walking

Leisure activities can have an impact on the environment. Whilst walking, there are some simple rules, known as the Countryside Code, that aim to protect the environment whilst allowing maximum enjoyment.

## RESPECT // PROTECT // ENJOY

Find more in [www.countrysideaccess.gov.uk](http://www.countrysideaccess.gov.uk) or [www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)

- Avoid walking off pathways, thereby preventing soil erosion
- Respect private property, local customs, and traditions.
- Leave gates and property as they were found.
- Do not leave rubbish behind
- Do not build fires in fire risk areas e.g. woods and hay fields.
- Avoid chopping wood, use dry sticks only.
- Avoid the use of soap in rivers or fountains.
- Respect the wildlife and the quietness.
- Observe the fauna at a safe distance preferably using binoculars.
- Do not damage or gather flora and vegetation

## 3.3.6. Organisations / Useful Sources

### Organisations

**Estonia:** Eesti Jalgratturite Liit (Estonian Cyclists Union)

[www.ejl.ee](http://www.ejl.ee)

**Germany:** Verband Deutscher Gebirgs- und Wandervereine eV

[www.wanderverband.de](http://www.wanderverband.de)

**Greece:** Trekking Hellas

[www.trekking.gr](http://www.trekking.gr)

**Portugal:** Federação de Campismo e Montanhismo de Portugal

[www.fcmportugal.com](http://www.fcmportugal.com)

**Spain:** Federación Española de Deportes de Montaña y Escalada

[www.fedme.es](http://www.fedme.es)

### Useful Sources

INSKEEP, E. (1991): Tourism Planning: An Integrated and Sustainable Development Approach, Van Nostrand Reinhold, New York

RODRIGUES, Áurea (2003): Trilhos Pedestres, uma análise exploratória dos trilhos pedestres em Portugal, Phd Thesis, University of Aveiro, Portugal

E-PATHS [[www.era-ewv-ferp.org](http://www.era-ewv-ferp.org)]

Walking in FRANCE [[www.ffrp.asso.fr](http://www.ffrp.asso.fr)]

Walking in UK [[www.ramblers.org.uk](http://www.ramblers.org.uk)]

Walking in PORTUGAL [[www.fcmportugal.com](http://www.fcmportugal.com)]

Walking in SPAIN [[www.fedme.es](http://www.fedme.es)]







## 3.4. Climbing and Abseiling

### 3.4.1. Introduction

Climbing can take place in different environments and at different skill levels. Level of exercise can vary from easy and risk-free to very challenging and deceptively risky. Deceptively, because the risk is usually not real, it is only perceived risk. Climbers are usually well equipped and trained. The industry has set strict guidelines for the manufacture of safe equipment. It is important that instructors and guides are adequately trained and experienced to deliver activity tourism programmes.

Rock climbing and abseiling usually take place in rural areas, though with the development of artificial climbing walls this is now available in urban areas. Rural areas attract climbers who enjoy nature: to experience climbing in the natural environment. Ropes challenge courses and climbing/abseiling walls are imitations of the natural environment, and the activities they offer are imitations of activities normally carried out in rural areas.

### 3.4.2. Brief History

- The history of rock climbing is as old as mountain climbing.
- Mountain climbing has always been related to crossing mountains or reaching mountain peaks.
- Rock climbing has been a way of life for many communities e.g. mineralogists in search of rare stones in the Alps and communities harvesting seabird eggs from the cliffs on St Kilda.
- During the late nineteenth and early twentieth century a few hardy individuals tried rock climbing for pleasure.
- During 1960's and 1970's rock climbing developed fast in the United States of America when climbers discovered their "climbing paradise" - Yosemite National Park.
- Free climbing and aid climbing developed and longer trails and routes were established.



Source: Lorena Vázquez (Spain)

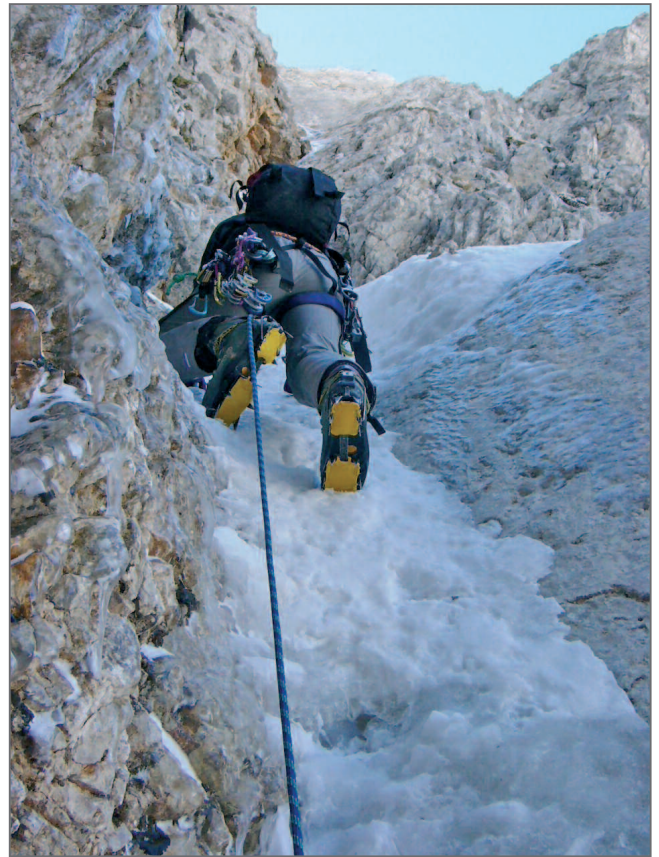




- At the end of 1980's indoor walls were introduced. Climbing became accessible to people all year round and no longer depended on the weather.
- By the end of 1980's, sport climbing was established, along with international sport climbing competitions.
- On sport routes, bolts are often used to make them safer in the event of a fall.
- The advent of bolted sport routes meant that climbers required less equipment for their pursuit.



Source: EESTI-MAAUTURISM (Estonia)



Source: Óscar Munir (Spain)

## 3.4.3. Basic Equipment

### PPE - Personal Protective Equipment

**PPE concept** - applies to a product that is designed to protect the health of a person or ensure his/her safety in different risk situations.

There are three categories of PPE regulations:

*Low risk* - those products that protect from minor injuries, e.g. a small mechanical injury, sunburn.

*Medium risk* - those products that protect from major injuries e.g. sports helmets, protective vest.

*Serious or fatal risk* - those products that protect from serious or potentially fatal injuries e.g. respirators, ropes, climbing harnesses, karabiners.





## Safety marks

All safety equipment should have a CE or UIAA mark. Named safety marks show that these products have been tested according to the requirements.

- EN and a respective number show that the product meets European safety requirements. Manufacturers cannot sell their products in Europe unless they comply with these requirements.
- Safety Requirements Standard of the International Alpinism Association that is based on the EN standards. This standard determines higher added safety requirements to products, which are tested more rigorously.



Source: Ariel Germán Marcosichi (Spain)

## Ropes

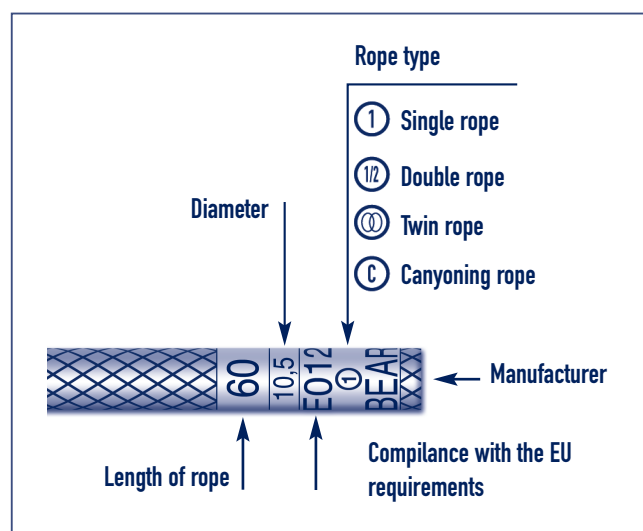
Most modern ropes are of kernmantle construction. The kern is the inner braids and the mantle is the surrounding sheath. Between the braids there is a marking ribbon with the data: manufacturer, year of manufacture, standards, rope type, material, etc.

**Static and semi-static ropes** - These ropes are made for use in rope descending, alpine working and in caves. There are two types:

A - is used for the above mentioned and is always the main rope.

B - with a smaller diameter and less strength, is used as assistant ropes and should not be used as the main rope.

## Marking of ropes



**Dynamic ropes** - These ropes are made for cliff and ice climbing, alpinism and alpine mountaineering. They have an elasticity up to 7-30% which absorbs energy created by a falling climber.

**Single rope** - designed for climbing, best on straight routes. Usually a thick diameter, e.g. 10.5 - 11 mm.



**Double rope** - the preferred choice for alpinism and long routes. Usually they have a diameter between 9 - 7.5 mm. In the event of a damaged rope there is always another one for protection.

## Checking ropes

Visual check: look for damage in the sheath.  
Physical check: feel if the sheath is uneven.

## Climbing slings

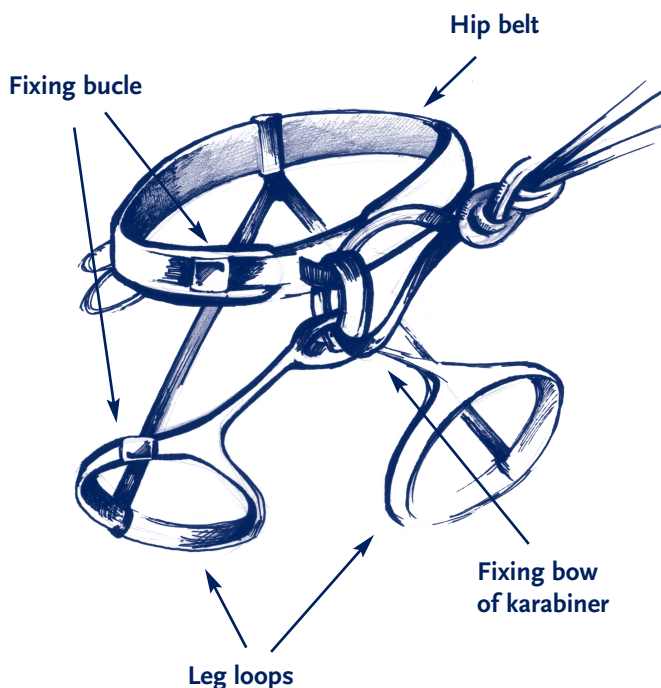
These are static pieces of nylon tape produced in different lengths and thicknesses that are usually sewed into a loop. They are used for fixing the rope in places where there is a threat of damaging the rope.



## Climbing harnesses and safety equipment

**Harness** - This piece of equipment unites the body and the rope with each other and is an integral part of the safety system. It usually consists of a waist belt and leg loops.

*Source of the following drawings: Graciela Fernández (Spain)*



**Chest harness** - This harness goes around the chest and is used together with the waist harness. This harness ensures stability and will not damage the back when a climber falls.

**Full-body harness** - This incorporates a chest and waist harness in one piece. It is particularly suitable for children. It provides a more stable position on the rope whilst descending.

**Helmet** - An essential piece of equipment when working near a rock face. There should be an internal cradle for individual adjustment. Before using a helmet check that:

- There is no damage on the outside of the helmet - cracks, heavy scratches;
- There are no holes in the helmet or damage from burning or caused by chemicals;
- The inside of the helmet is not deformed.
- The straps and the parts hidden under the clamps are not damaged.

**Karabiners** - There are two main types of karabiner used on rope descending:

HMS- a karabiner with a locking gate used on rope descending.

D-karabiner - a karabiner with a clipping gate used as protection karabiner.

**Jumar** - This is a device used for ascending ropes. Before using it, carry out similar checks as for karabiners (see safety section). Also, check that the jumar works on ropes of different diameters.

**Descending device "figure of eight"** - This device is attached to a karabiner on the harness to assist the climber when abseiling. It acts as a friction device slowing the descent of the abseiler. The shape and size help to dissipate heat so that the rope is not damaged.







**Belaying device** - this is attached to a karabiner on a harness or an anchor and can arrest the fall of a climber. It works by creating friction so that the rope cannot slide through. There are many different belay devices with names such as Air Traffic Controller, Cosmic Arrester, Tuber and sticht plate. They all perform the same function though some are more suited to specific types of climbing or ropes.

## Basic Maintenance

1. Make sure there is no history of misuse;
2. Check for mechanical damages;
3. Check for heavy wear and tear or rust;
4. Check that any moveable parts move freely and are not damaged;
5. Check the condition of your climbing harness, slings and ropes regularly;
6. Following manufacturers guidelines after a heavy fall remove the equipment from use and replace;
7. Do not store any harnesses, slings or ropes in direct sunlight, as UV radiation will damage it.
8. Make sure that none of your equipment comes into contact with chemicals;
9. Wash dirty ropes, slings and harnesses by hand in warm water, using natural soap;
10. Replace equipment after the appropriate time as recommended by manufacturers guidelines;

**If any equipment looks damaged do not use it.**

**Knots** - You must be expert in tying some knots before you can take part in any climbing activities

Knot	Features
<b>Bowline</b>	<ul style="list-style-type: none"> <li>Length loss 40 cm</li> <li>Reduction of strength 30-35%</li> <li>Untying very good</li> </ul>
<b>Bowline of the bight (BOB)</b>	<ul style="list-style-type: none"> <li>Length loss 60 cm</li> <li>Diminishing of strength 30-35%</li> <li>Untying very good</li> </ul>
<b>Figure of eight (Austrian leader loop)</b>	<ul style="list-style-type: none"> <li>Length loss 40 cm</li> <li>Diminishing of strength 25-35%</li> <li>Untying very good (in the case of a corrected loop)</li> </ul>
<b>Fisherman (double)</b>	<ul style="list-style-type: none"> <li>Length loss 40 cm</li> <li>Diminishing of strength 10-20%</li> <li>Untying poor</li> <li>Is used for tying ropes together</li> </ul>
<b>Italian hitch</b>	<ul style="list-style-type: none"> <li>Keeping strength 8KN</li> <li>Is use for protection and rope descending</li> </ul>

Anyone planning to climb or use ropes for gravity sports must get training in how to tie knots correctly.



Source: Ariel Germán Marcosichi (Spain)

## 3.4.4. Basic Techniques and Knowledge

Rope and height related activities can be divided into two groups:

- 1) Rock climbing (indoor and outdoor)
- 2) Abseiling

All climbing activities involve some risks and so special training is required.



## Practical activities

### Climbing Technique

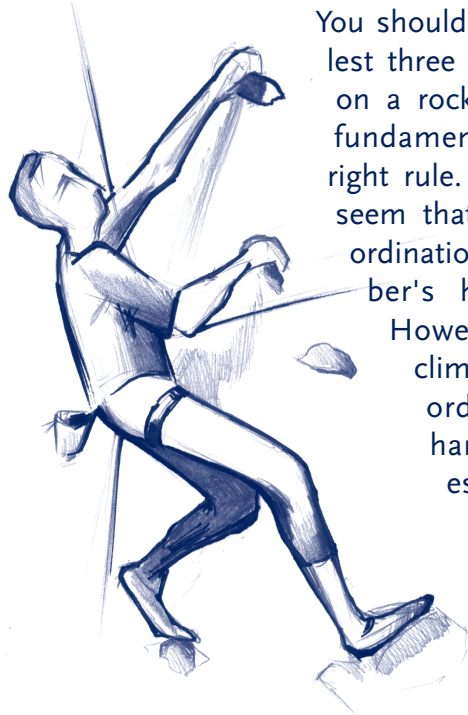
#### Left-right rule

Climbing is based on the same basic principle as walking, running or skiing - in other words, left hand and right leg (or vice versa) move at the same time. Using hands and legs on left-right principle helps you move your hands and legs more effectively (larger grasp and contact force on ledge).



#### Three-point rule

You should normally have at least three points of contact on a rock. This rule is as fundamental as the left-right rule. At first, it might seem that there is no co-ordination between a climber's hands and feet. However, those who climb soon realise co-ordination between hands and feet is essential for effective climbing.



The climber must always think about the position of their body in relation to the balance needed for the next movement. Balance is a compromise between the direction of force applied by the hands and feet and the direction of gravity.

**Using the legs** - It is important to reduce the weight on the fingers and hands when climbing. The climber should always try to transfer most weight onto the bigger muscles of the legs. Unlike fingers, legs can find support from even the smallest ledges. Synchronised movements of the hands and body help to use legs properly - all should complement each other when climbing. Leg techniques are used for:

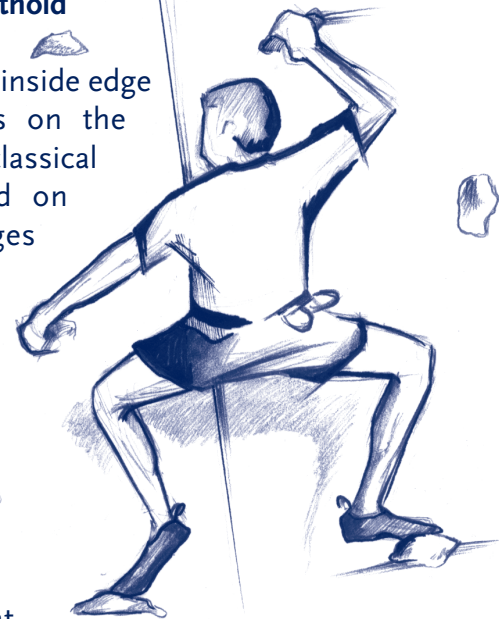


- changing the centre of gravity;
- reducing weight on fingers and upper body;
- increasing the reach of grasp and contact force of fingers on adverse (round, sloping) ledges.

### 3.4.4 Basic leg techniques:

#### Inside-edged foothold

This is when the inside edge of the foot rests on the ledge. This is a classical climbing. It is used on very small ledges where every movement must be sophisticated and balanced to the limit. In that kind of "frog position", the left-right principle and three-point rule must be combined.



At the same time, you must consider the flexibility and friction of your climbing shoes. It is important to ensure that the foot is on a solid hold. The disadvantage of this technique is that it is intensive on the hands and upper body and does not allow for relaxation during climbing.





## Outside-edged foothold

This is when the outside edge of the foot is placed on ledge. To achieve this type of foot position, the waist should be facing along the cliff face in the direction of the foot on the hold. The advantage of this technique is that the climber can relax the hands and upper body. There is also a larger reach compared to the classical climbing technique.

## Backstep and knee lock

Backstep and knee lock are developments of the outside-edged foot technique. The techniques are performed by placing the outside edge of the foot of the inner leg on a ledge and bending the knee, whilst the foot of the outer leg is using an inside edge. To do this you must turn the hip

towards the wall as much as possible. This places most weight on the outside edge of the foot. You can control the centre of gravity by changing the height of the bent knee. Balancing both legs equally, lowering the body's centre of gravity reduces the weight on fingers, allowing you to reach for other holds in awkward positions.

## Finger holds

When climbing, 50% of contact with the rock is by the fingers grasping and holding different ledges. Two main finger techniques are used in climbing: closed palm grasp and open palm grasp, both with a number of variations. Both types of grasp have advantages and disadvantages and use depends on the specific situation.



Source: David Rodríguez (Spain)



## Closed palm grip

This is the most common technique, especially for beginners. Although it seems a natural grip, it puts most strain on the fingers and is, therefore, likely to cause injury. Reasons for this are: it causes uncontrolled tension in the joints and ligaments of fingers, which can cause injuries; it requires maximum use of grip strength, which rapidly consumes your energy supply. Therefore, it is advisable to avoid this technique as much as possible and use it only when necessary.



Two techniques are mainly used in climbing practise. The first involves shaking a loosely hanging arm and fingers for up to a minute. This increases the blood flow to the muscles, though it does not increase the blood flow away from the arm, which can lead to a lack of oxygen to the hand muscles.

The second technique is a development of the first one. As well as shaking the loosely hanging hand, the hand is also shaken above the head, together with curving and stretching of the fingers. This position increases blood flow to the arm and also encourages flow away from the arm.



## Open palm grip



The open palm grip has distinct advantages over the previous technique. Firstly, there is less tension in the joints and ligaments of the fingers, secondly it saves more energy than the closed palm grip and allows the climber more control. This technique may take a bit of getting used to but it is worth it in the long term. It is most effective when climbing on flat edged and pocket-type holds.

**Note:** To avoid fatigue you should try to vary the type of grip used. You can achieve this through experience of knowing what grips to use for the type of holds available.

## Relaxation techniques

Climbing requires considerable effort and the longer and harder the route the more effort is required. It is important that you know how to relax your arms and fingers while climbing.

**Taping fingers** - When climbing, up to 50% of your weight rests on your fingers (sometimes only one or two fingers). To provide strength and protection against the sharp rock some people wrap a cloth based tape around their fingers.



Source: Lorena Vázquez (Spain)





# Climbing and abseiling

## Abseiling

Abseiling is when a rope is descended.

- Static ropes are preferred for continual abseiling, though non-static ropes are used by climbers to descend routes.
- Anchors should be thoroughly checked before any descent.
- Personal equipment should also be thoroughly checked.
- Make sure that there are no sharp edges against the rope (use padding to protect the rope as well as any trees used).
- Loose clothing should be secured away so it does not get caught in the descender device.
- Gloves and helmet should be used when abseiling.



Source: David Rodríguez (Spain)



Source: Guheko S.L. (Spain)

## Descending position

Legs shoulder width apart, slightly bent at the knees with feet flat on the wall.

Sit in the harness with your legs at 90 degrees to the wall.

Your control hand should be holding on to the rope and placed below the hips.

## Summary of safety points for abseiling

1. Make sure that the rope does not run over any sharp edges.
2. Make sure that the rope is anchored at two or more points.
3. Always check the integrity of the anchor points before using them.
4. Always test the descending rope - hanging at the lower end of the rope with four people.
5. Make sure that the participants are physically and medically capable of taking part safely.
6. Check that harnesses and other safety equipment are being correctly used.
7. Make sure that all participants are wearing helmets and gloves.
8. There should always be two instructors providing support and positive guidance for the abseilers.
9. Make sure that there are no loose items e.g. clothing or hair that can get caught in the descending device.
10. Make sure that the abseiler is attached to an additional safety rope.



### 3.4.5. Basic Safety and Legislation

#### Checking of equipment

1) Before any climbing or abseiling activity takes place check the equipment visually and by hand.

2) Any equipment found to be faulty should be discarded.

**Belt** - check that there is no splitting at the seams and that the belt does not look worn out.

**Rope** - check the rope visually and physically after every climbing session. If there are any uneven places on the rope, you should not use it.

**Technical gear** - there should be no strong signs of wear and tear on the karabiners or other

technical gear. If any technical gear, made from metal or alloys, is dropped from a height onto a hard surface, it should be discarded. There may be micro stress fractures that could cause it to fail under normal use.

#### Rescue

As with all safety issues, it is better to avoid rescue situations. You can achieve this by thorough planning, good communication and solid preparation. However, there may be times when someone has an accident and needs to be rescued. As each situation presents its own challenges, the instructor or guide must be well practised in all rescue techniques. All organisations involved in ropework should include training and practice in rescue techniques in their professional development programme. They should seek tuition from a recognised expert in ropework rescue.



Source: David Rodríguez (Spain)





In the event of a rescue situation:

1. Ensure that the group are safe. You don't want to have to carry out more than one rescue.
2. Identify the problem.
3. Make a plan to solve the problem.
4. Tell everyone involved what the plan is.
5. Share appropriate tasks with members of the group.
6. Make sure that everyone knows exactly what is expected of them.
7. Carry out the plan, making sure to communicate well throughout.
8. Once the rescue has been carried out apply first aid principles.
9. After the event, evaluate what went wrong and how the problem could be avoided in the future.
10. Put in place, and tell staff about, procedures to make sure that the problem does not occur again.

## Legislation

- In some countries, instructors must hold certain national body qualifications or training before they are licensed to operate with clients.
- The activity provider must know local legislation and be aware of laws that regulate customer safety.
- The activity provider must also know their responsibility with regards to insurance requirements.
- External agencies or insurers often require a written risk management plan before the organisation can deliver a ropework based programme for clients.

## 3.4.6. Organisations / Useful Sources

### Organisations - Climbing

**Estonia:** Eesti Matkaliit (Estonian Ramblers Association)  
[www.matk.ee](http://www.matk.ee)

**Germany:** Bundesverband IG Klettern eV  
[www.ig-klettern.de](http://www.ig-klettern.de)

**Greece:** Hellenic Climbing Omospondia  
[www.eoaa.gr](http://www.eoaa.gr)

**Other Links:** Routes In Greece  
[www.routes.gr](http://www.routes.gr)

**Portugal:** Federação de Campismo e Montanhismo de Portugal  
[www.fcmportugal.com](http://www.fcmportugal.com)

**Spain:** Federación Española de Deportes de Montaña y Escalada  
[www.fedme.es](http://www.fedme.es)

### Organisations - Abseiling

**Estonia:** Eesti Matkaliit  
(Estonian Ramblers Association)  
[www.matkaliit.ee](http://www.matkaliit.ee)

**Germany:** DAV - Deutscher Alpenverein  
[www.alpenverein.de](http://www.alpenverein.de)

**Portugal:** Federação de Campismo e Montanhismo de Portugal  
[www.fcmportugal.com](http://www.fcmportugal.com)

**Spain:** Federación Española de Deportes de Montaña y Escalada  
[www.fedme.es](http://www.fedme.es)

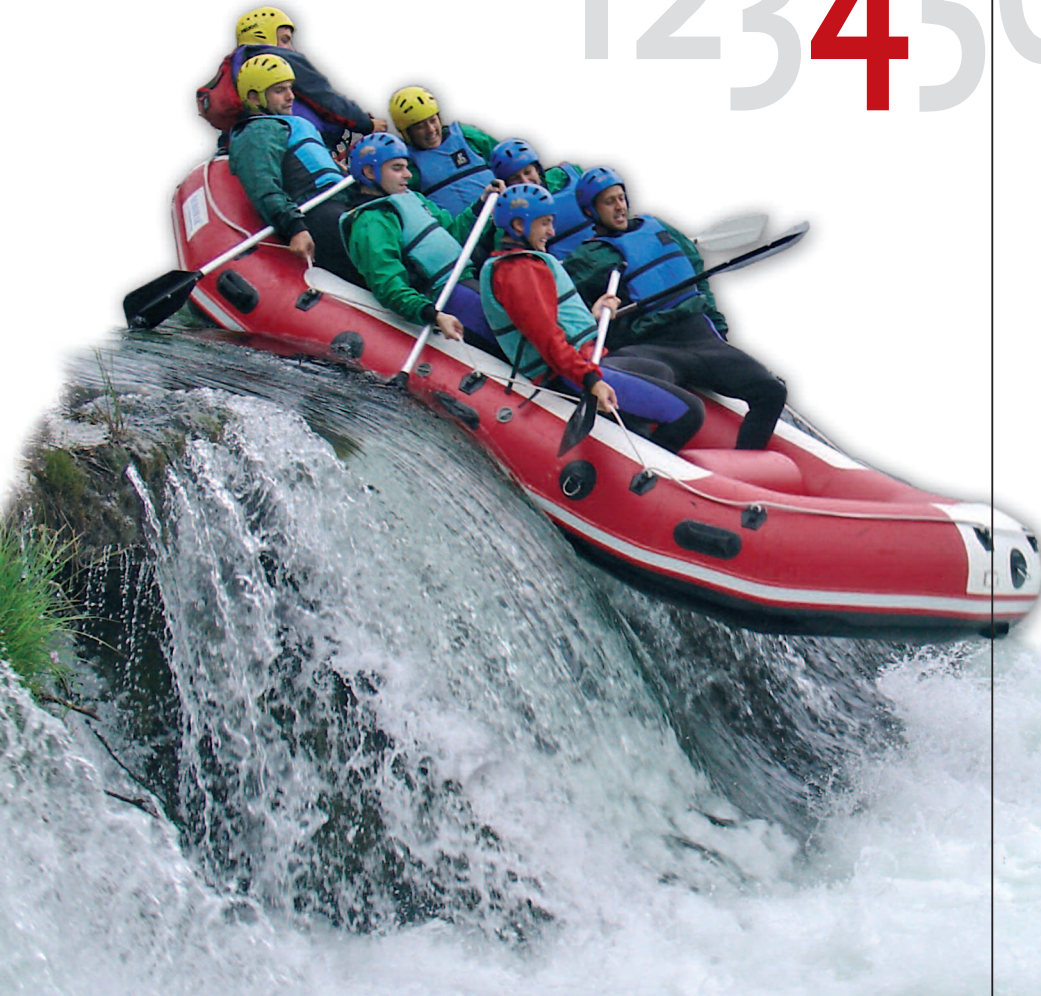
### Useful Sources

[www.seiklusrada.ee](http://www.seiklusrada.ee)  
(Estonian Rope Climbing Enterprise)  
[www.kaljuronimine.ee](http://www.kaljuronimine.ee)  
(Estonian Rock Climbing Club)  
[www.trainingforclimbing.com](http://www.trainingforclimbing.com)  
[www.usoutdoorstore.com](http://www.usoutdoorstore.com)  
[www.singicrock.com](http://www.singicrock.com)  
[www.petzl.com](http://www.petzl.com)  
[www.beal-planet.com](http://www.beal-planet.com)  
[www.camp.it](http://www.camp.it)  
[www.uiaa.ch](http://www.uiaa.ch)



## Chapter 4: Water Activities

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## 4.1. Paddlesports

### 4.1.1. Introduction

#### Canoeing and Kayaking

Man has travelled on rivers, lakes and seas for thousands of years. The dugout canoe has ancient roots though is still used today in certain parts of the world. Native Americans are thought to be the originators of skin covered, framed canoes, similar in design, though not in material, to today's open canoe. The canoe is propelled by a single bladed paddle.

The Inuit people of the Arctic regions developed the kayak. Their craft was of a closed cockpit design essential for hunting on rough seas. The kayak is propelled by a double bladed paddle.



Source: Canoeing Federation of Castilla y León (Spain)

### 4.1.2. Introduction - Rafting

Rafting uses some of the skills developed in kayaking and canoeing though usually involves travelling down rough rather than calm water. It is generally a team sport with more than one person required to move the craft down whitewater. In contrast to kayaking and canoeing people can take part in whitewater rafting with very little experience or technical knowledge. A guide controls the raft and provides commands to the crew to successfully manoeuvre the craft down rapids.

Modern access to waterways has meant that canoeing, kayaking and rafting have become popular leisure activities for the whole family. They can choose calm water conditions or rough water found on river rapids. These craft allow people to travel in remote rural areas and explore the natural, scenic and cultural heritage of that area. It is not surprising that travelling on water has become a major tourism industry for rural areas.

Source: Jesús Núñez (Spain)





## 4.1.3. Brief History

- In 1865 John MacGregor built a touring canoe/kayak, which he called the Rob Roy. He travelled in it over 1000 miles on Continental waterways.
- The first canoe club, Royal Canoe Club, was established in England in 1866.
- During the 1860's John Wesley Powel organised the first exploratory expedition down Colorado River in the USA. His team used dories, a cross between a rowing boat and a raft.
- In 1896, Nathaniel Galloway revolutionised rafting techniques by simply turning the rafts' seat to face forwards, allowing the guide to make necessary manoeuvres.
- The first foldable narrow boat was constructed in 1907 in Germany, by Johannes Klepper. This was the start of European kayak touring.
- Julius Stone's Grand Canyon Company started commercial rafting in 1909.

- In 1927, an Austrian, Hans Pawlata performed the first Eskimo roll achieved by a European.
- The 1950's were a time of development for both technique and equipment. Milo Dufek, a Czechoslovakian canoe paddler, transferred his canoe skills into kayak and created the Dufek stroke that allowed the kayak to turn with more speed.
- During this period international competitions began and were dominated by the Europeans.
- The 1960's saw an increase in skills and the development of equipment. This led to daring expeditions both on whitewater and on the open sea.
- Rafting as a commercial venture was introduced into the French Alps during the 1970's.
- By the mid eighties, rafting had become established as a viable commercial activity in Germany, France, Austria and Switzerland.
- Rafting now occurs throughout Europe even on rivers that have limited whitewater.



Source: Municipality of Miranda do Douro (Portugal)





## 4.1.4. Basic Equipment

**Throwbag** - Each craft should have a rescue rope, consisting of floating rope stored in a small bag. It is used to rescue swimmers or other equipment.

**River knife** - all paddlers who use a throwbag or throwline should have a sharp knife to cut the rope in an emergency.

**Wetsuit** - A neoprene wetsuit can prevent hypothermia in cold water. The neoprene suit provides insulation against the cold as well as protection against cuts and rocks when swimming. A wetsuit absorbs water that is kept close to the skin. The body warms this layer of water thereby providing a warm layer against the colder external water. A wetsuit requires regular cleaning to keep it effective.

### Handy hits when purchasing a wetsuit

- Make sure it's a skin tight fit, since the water and your exertion whilst paddling will loosen the neoprene a little;
- A Long John style suit is more appropriate for paddlesports as it is less restrictive in movement;
- Check how many seams there are in the wetsuit's design, the more seams the more places for cold water to get in;
- Also, more action panels mean greater flexibility.

**Drysuits** - Cold weather paddlers often go for a dry suit under which you can wear a one-piece thermal under suit or even your own clothes to keep you really warm.

**Footwear** - All paddlers require footwear that will protect their feet when portaging and will insulate them when exposed to water.

**Helmet** - This is an essential piece of safety equipment for all paddlers when on moving water. The outer shell is usually made of plastic or a composite material. The helmet should be adjustable to allow a perfect fit for different users. Helmets with foam padding also provide insulation of the head.

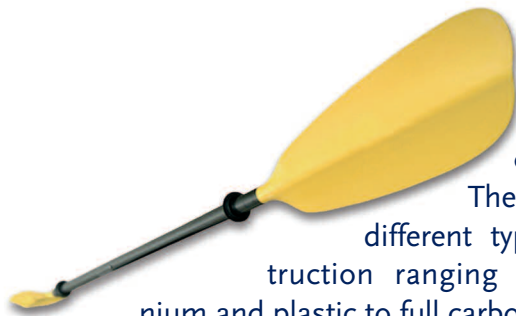


**Buoyancy aid** - A buoyancy aid is a closed cell foam filled waistcoat that can be zipped at the front or pulled over the head. Its primary role is to keep a swimmer afloat. One problem is that an unconscious swimmer may be held face down. An inflated lifejacket will keep an unconscious swimmer face up, allowing them to breathe. The secondary functions of a buoyancy aid are: protection; insulation; carrying safety equipment (those with pockets); and as a safety harness (those with harness attachments).



**Lifejacket** - A device that has the sole function of keeping a conscious or unconscious swimmer afloat and face up. It is more restrictive of body movement than a buoyancy aid and less favoured by paddlers because of this.

**Kayak paddles** - These double bladed paddles vary in length depending upon the activity undertaken. Generally, the longer the paddle the more power gained for moving forwards e.g. when sea paddling. The shorter the paddle the easier it is to react to changing water features e.g. rodeo paddling. Kayak paddles have two elements to them: blades and a shaft. The angle of one blade relative to the other is known as the feather. Whitewater paddlers prefer a feather of 30-45 degrees, whilst touring paddlers can have a feather from 0-80 degrees. As a general rule the more angle there is,



the greater  
the stress  
on the wrists.

There are many different types of construction ranging from aluminium and plastic to full carbon composite. The former tend to be more durable and are preferred by commercial operators, whilst the latter are lightweight, give high performance and are preferred by expert paddlers.

**Canoe paddles** - These are single bladed paddles with a handgrip at one end. As with kayak paddles there are many types of construction though many expert canoeists prefer the feel of a wooden blade.

**Raft paddles** - These are similar to canoe paddles though the blades usually have a larger surface area. As rafting is of major commercial interest, operators tend to use the more durable plastic and aluminium paddles.

**Oars** - These are long shafts with blades on the end that are secured onto an oar rig by rowlocks. In rafting they are used by a rower who sits on a seat on the oar rig facing the direction of movement.



Source: Jesús Núñez (Spain)



Source: EESTI-MAAUTURISM (Estonia)

## Types of boat

**Kayak** - These are closed deck boats in which the paddler sits on a seat. A double bladed paddle is used for propulsion. The longer and narrower the kayak the faster and more unstable it will generally be. Examples of such craft include racing kayaks and sea kayaks. Shorter and broader kayaks with flat hulls are slow but very responsive to turning. Examples of such craft are whitewater and rodeo kayaks. A kayak can be for one person (K-1), two people (K-2), four people (K-4) or eight people (K-8). The latter two are solely for racing. Kayaks can be constructed from rigid materials such as composite materials, marine wood and plastic, or non-rigid materials, such as folding boats and inflatable duckies.







**Canoes** - These are generally open deck boats, though there are also closed deck canoes. The main difference between a canoe and a kayak is the use of a single bladed paddle for canoeing. The canoeist also tends to kneel in their craft rather than sit. Canoes can be paddled by usually one or two paddlers. Canoes can be constructed from rigid material, such as composite materials, aluminium, plastic, or non-rigid material, such as hard frame covered by skin or canvas.



Source: Diario de León (Spain)

**Rafts** - These are open deck boats that have inflated outer and inner supporting tubes. Thin rope is secured around the outer tubes to make it easier to handle and for swimmers to get back into the craft. Rafts are constructed of hypalon, a tough synthetic waterproof canvas, and so require regular maintenance and care. Most rafts are propelled by 6-8 paddlers, using single bladed paddles. These paddlers are distributed evenly around the outer tubes and have straps to secure their feet. Some rafts have a rigid frame, known as an oar rig, in them for a single forward facing paddler to use oars.

**Cataracts or Catamaran**- These are rafts which have parallel tubes supported by a rigid frame. They can be propelled by either an oar rig, or a group of paddlers.

## Type of watercraft



Source: EESTI-MAAUTURISM (Estonia)

- a - a two person kayak
- b - a single person kayak (with different bottom profiles: round, flat and V-shaped)
- c - open canoe
- d - raft
- e - Cataract or catamaran (note two tubes parallel to each other with frame holding them together)



Source: Canoeing Federation of Castilla y León (Spain)



### 4.1.5. Basic Techniques and Knowledge

#### Water Features

##### Knowing where you are

- A river has a right side and a left side that does not change.
- To determine which is river right you must face downstream i.e. the flow of water comes from behind you, river right is then on your right hand side and similarly river left is on your left-hand side.
- If you turn to face upstream river right would be on your left and river left would be on your right.
- It is very important that this is understood as confusion could easily occur when giving instructions to your group.

##### Eddy Fence

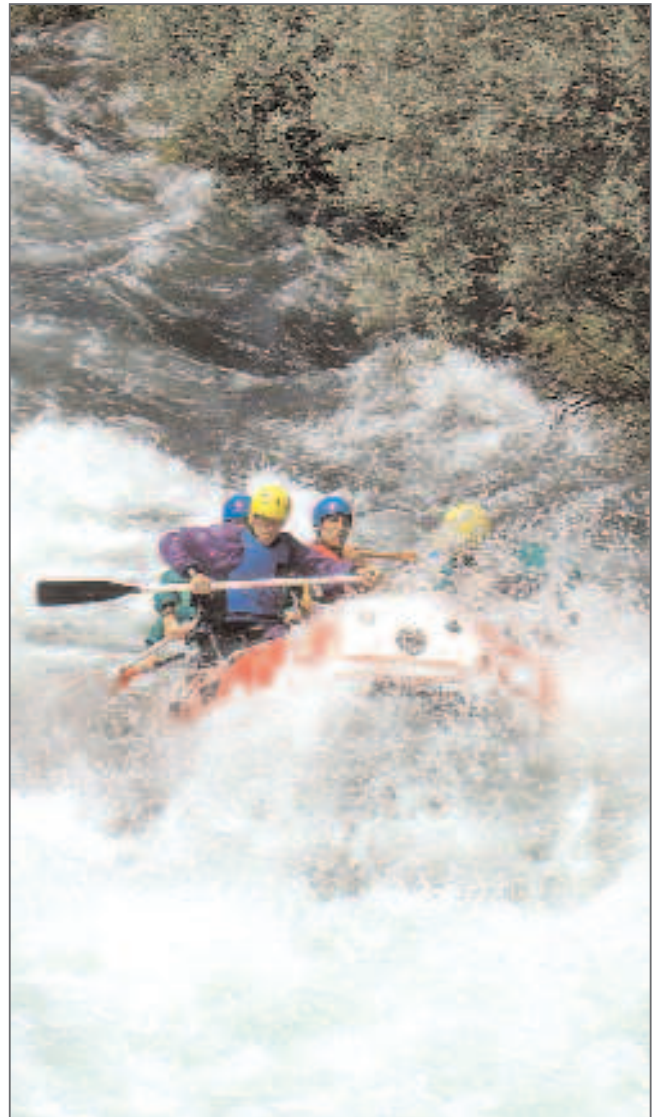
- An obvious line on the river, where the current flows in opposite directions.
- This occurs after an obstacle, such as a rock, when the flow moves around the rock and back up toward it, in the opposite direction to the main flow.
- The different speed between the downstream current and the eddy forms the eddy fence and depending upon the force of the water can be gentle or ferocious.

##### Helicoidal currents

- The fastest current occurs below the surface of a river and away from the sides, these are areas of least resistance.
- Helicoidal currents are formed when a current 'bounces' off the bank, collides with the main current, and then 'bounces' back.
- Also known as the Thalweg.



Source: Canoeing Federation of Castilla y León (Spain)



Source: Canoeing Federation of Castilla y León (Spain)

##### Stopper

- A current similar to an eddy, though of a more ferocious and powerful nature.
- As a flow of water moves over an obstacle it accelerates and plunges lower than the level of the river creating a vacuum.
- As nature dislikes a vacuum, the downstream water is sucked upstream to fill the 'hole'.
- This creates a fast and often ferocious looking whitewater current.
- Stoppers can form after drops, waterfalls and weirs.
- The more uniform the stopper the more dangerous it is likely to be.
- Also known as a hole or hydraulic.



## Strainer

- Rocks, trees, branches, man-made structures and rubbish in the water can create strainers.
- Water can pass through these strainers however floating objects cannot.
- This is potentially dangerous for swimmers as once they become trapped the river pressure can force them under water.

## Cushion wave

- Water hitting an obstacle piles up forming a wave.

## Undercut

- When a rock is eroded below the surface of the water it creates an undercut.
- In this case there will not be a cushion wave as the water sinks instead of rising when it hits the obstacle.
- These areas can be very dangerous, as the current tends to submerge objects and retain them under the undercut rock.

## Standing waves

- These are waves that form uniformly and stay in position on a river.
- They are formed either when a current goes over a rock close to the surface or when a river narrows, the speed of the water increases forcing the river surface to rise.



Source: Canoeing Federation of Castilla y León (Spain)



Source: Canoeing Federation of Castilla y León (Spain)

## Artificial water hazards

- These are weirs, artificial strainers and dams.
- They are often designed to slow a river down preventing flooding and damage to the riverbank.
- This creates artificial stoppers that are very powerful and potentially hazardous to river users.
- Whilst the water features may not appear obviously dangerous, great respect should always be given and such hazards should be portaged rather than paddled.



Difficulty level	Necessary knowledge/ equipment	Risk and Rescue:
<b>Grade I - Easy</b> <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• Rapid currents with small waves, without drops.</li> <li>• Few obstacles, very obvious and easily over passed with a little training.</li> </ul>	Basic manoeuvres (Forwards, backwards, turns and rowing against the tide)	The risk for swimmers is small and self-rescue is simple.
<b>Grade II - Beginner</b> <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• Small rapids with open and clear channels</li> <li>• Medium sized rocks and waves that are easily passed by trained people</li> </ul>	Basic manoeuvres in limited space and time (forward, backwards, turns and against the tide). Warm clothing, life jacket and helmet.	Rare danger for swimmers, help from the group seldom needed to rescue someone falling into the river.
<b>Grade III - Intermediate</b> <i>Water:</i> with moderate to strong water currents. <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• Rapids with moderate and irregular waves that can be difficult to avoid</li> <li>• Big waves and strainers are easily avoided.</li> </ul>	Experience in manoeuvring in reduced time and space (Forwards, backwards and turns against the tide) Company, warm clothing, life jacket and helmet.	Injuries to swimmers are rare and self-rescue is easy, but assistance from the group may be needed to avoid distant swimming.
<b>Grade IV - Advanced</b> <i>Water:</i> strong water current, whirlpools and waves <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• Intense flows, powerful but predictable that requires precise control.</li> <li>• Depending on the river's characteristics, it can have unavoidable water features.</li> </ul>	Experience and control of the technique. Good level of personal fitness. Knowledge of the river, company, warm clothing, life jacket and helmet.	Risk of injuries to swimmers is moderate to high, the water conditions make self-rescue difficult. Group assistance is necessary and requires previously developed skills.
<b>Grade V - Expert</b> <i>Water:</i> very high jumps with strong water currents, wave and whirlpools. <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• Extremely long, violent rapids.</li> <li>• Big, unavoidable waves and hydraulics with steep flows and demanding complex routes.</li> </ul>	Experience and excellent control of all techniques. High level of fitness required. Exploration of the river is essential, occasional difficult areas. Requires company, warm clothing, life jacket and helmet.	Swimming is very dangerous and rescuing is difficult even for the experts.
<b>Grade VI - Expert Team</b> Generally regarded as the limit of navigability. <i>Difficulties:</i> <ul style="list-style-type: none"> <li>• As grade V but more continuous, steeper, greater volume and less obvious routes.</li> </ul>	Total commitment physically and mentally. High level of experience. Luck!	Swimming potentially fatal.



## International river grading system

An international grading system is used for determining the severity of rivers. Grade I being the easiest, and grade VI generally being the limit of navigability.

## Moving about on the water

**Forward paddling** - the most important stroke for all boaters.

- Ensure that the whole blade is placed in the water to get full power of the paddle.
  - Reach as far forward as possible whilst maintaining an upright to slightly forward leaning body position.
  - Slice the paddle out of the water at the hips.
- Try to avoid lifting water on the blade as this will alter your strokework.
- For a kayak ensure that you paddle with equal power on both sides.



Source: Canoeing Federation of Castilla y León (Spain)



Source: Canoeing Federation of Castilla y León (Spain)





## Turning a boat

- Use forward or reverse paddle strokes on one side of the boat to turn it.

For example, if forward strokes are performed only on the right side of the boat then the boat will turn left.

- Similarly, if reverse strokes are only performed on the right side of the boat the boat will turn right.

- Ensure that the whole blade is in the water to be effective.

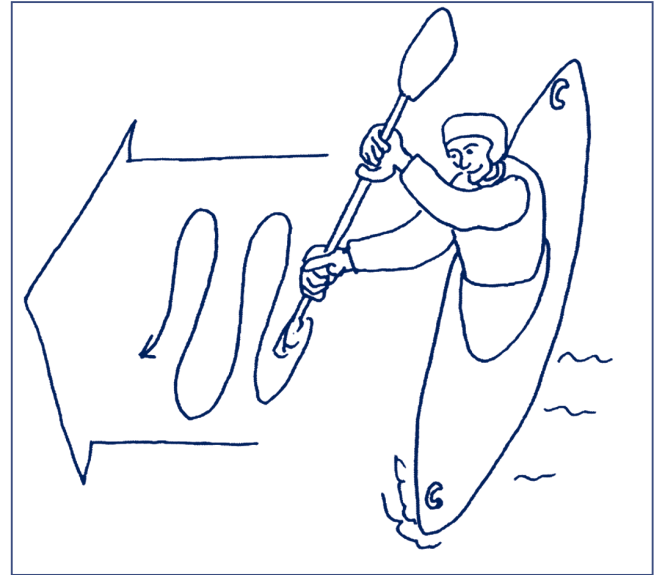
- Also try and maximise the length of the stroke to be effective.

## Making the boat go sideways

- Turn your upper body in the direction that you want to travel.

- Ensure your body is upright and the boat is flat.

- Reach out with your paddle blade parallel to the side of the boat in the direction that you want to travel.



Source: EESTI-MAAUTURISM (Estonia)

- Ensure the whole blade is submerged and pull towards your hips.

- Slide the blade out of the water before it hits the boat.



Source: Canoeing Federation of Castilla y León (Spain)





Source: Canoeing Federation of Castilla y León (Spain)

- If you pull slightly in front of your hips the bow will swing around, whereas if you pull behind your hips the stern will swing around - try to avoid this.

**Steering the boat from the stern** - particularly useful for raft guides and canoeists.

- Rotate the upper body to one side of the boat.
- Place the blade of the paddle at the stern of the boat.
- Ensure that the whole blade is in the water.
- Pushing the blade away from the boat and pulling the blade back towards the boat will cause the stern to move to the left and right.
- Use this to control the direction of the boat when moving downstream.

### Travelling downstream

- Go with the flow where possible as this is less tiring.

- Watch out for the flow taking you somewhere you do not want to be.
  - The middle of the river is usually the fastest flow, whereas the sides tend to be slower.
  - If you are unsure of what lies ahead stick to the slower water at the side of the river.
- Watch out for overhanging branches at the sides.

### Crossing the current

- Depending upon the speed of the river this manoeuvre can be easy or very hard.
- The faster the flow the more power and boat angle is required.
- Determine the direction of the current to be crossed. The direction from which it comes is called 12 O'clock, while the direction it flows to is 6 O'clock, as on a clockface.
- Angle the boat between 10 and 11 O'clock depending upon the speed of the water. Faster water would require an angle closer to 11 O'clock.
- Power across the eddy line, maintaining the angle until the current has been crossed.
- Only use forward strokes and steering strokes, as reverse strokes slow the boat down causing the craft to change direction.
- This is known as ferry gliding.



Source: Diario de León (Spain)





**Breaking into the current** - this is where a boat moves from an eddy or calm water into the main current.

- As with ferry gliding you need to angle the boat in relation to the current to get across the eddy line.
- The speed of the water will determine the angle required. Fast water would require an angle close to 11 O'clock to go river right or 1 O'clock to go river left, whilst slower water would only require an angle to 10 O'clock to go river right and 2 O'clock to go river left.
- If possible raise the upstream edge of the boat and power across the eddy line maintaining the angle.
- Once across the eddy line turn your upper body, look downstream and brace with your paddle.

The current will turn the boat to face downstream.

**Breaking out of the current** - this is the opposite movement to breaking into the current in that you move from the current into an eddy.

- The difference between the two movements is the angle required.
- When in the main current turn the boat towards the eddy at an angle between 7 and 9 O'clock to go river right or 3 and 5 O'clock to go river left.
- Power towards the eddy line, using forward strokes.
- When crossing the eddy line lift the downstream edge and continue with the power until you are in the eddy.



Source: Municipality of Miranda do Douro (Portugal)



## Group Control

### Positioning of boats on a river

- On flat water the distance between boats is not important.
- On moving water there should be at least 2- 3 boat lengths between each boat.
- On whitewater this distance should be at least 5-6 boat lengths between each boat.

### Scouting

- Scouting is important when travelling down a river which has either, never been travelled by you before, or after flooding as there may be new obstacles to over come.
- Getting out of the boat to scout is also an opportunity to stretch your legs.
- Always try and look at a rapid from a number of different perspectives i.e. from above, from below and from the sides.
- When deciding on a route it is important to look at it from the height that you will be at when in your boat. This will allow you to recognise the same features that you will encounter.



Source: Municipality of Miranda do Douro (Portugal)

- Take care scouting as the ground may be steep or slippery and accidents can occur.
- If you cannot see a route portage the rapid.
- As a guide you need to decide if you want to scout the rapid for yourself or you want your clients to see what they have to do.

### Guides Instructions to clients

The most important instructions can be summarised as follows:

- *Forward*: all the crewmembers must paddle in a forward direction
- *Reverse*: all the crewmembers must paddle in reverse direction.
- *Reverse right*: all crewmembers situated on the right side of the raft must paddle backwards and those on the left must paddle forward.
- *Reverse left*: all crewmembers situated on the left side of the raft must paddle backwards and those on the right must paddle forward.
- *Stop*: all the crewmembers must stop paddling without letting go of the paddles.
- *Pack to the back*: all crew have to sit in the central part of the raft. This order is to give stability to the raft when passing big water features.
- *Pack to the right or left*: Used in situations where the raft has to be lifted to avoid obstacles on either side of the river, the crew should be situated in the highest part of the raft to avoid from capsizing.



Source: Diario de León (Spain)





#### 4.1.6. Basic Safety

A safe paddler is one who is both reactive and proactive. They are reactive in that they can react to sudden events whilst on the water. This only occurs with training and experience. The paddler must also be proactive in that they need to plan ahead and identify what could happen and how to avoid such situations. This is the basis for risk management and all paddlesports enthusiasts should incorporate some form of risk assessment and management into their preparations.

##### The throwbag

The throwbag should incorporate the following:

- The rope should be brightly coloured floating line of approximately 6-8 mm in diameter;
- The length should be between 10-25 m depending on the environment in which it is going to be used. For example, a raft throwbag would be shorter as it is used to rescue people who have fallen out of the raft, whilst an expert group tackling a whitewater gorge may require a 25 m rope;
- The rope should be secured to a brightly coloured bag into which it can be loosely stuffed;
- There should be no knots or loops in the rope especially at the non-bag end - this is known as the clean line principle and is an important safety feature;
- The user of a throwbag should always have a knife to cut the rope in the event of a mishap.



Source: Municipality of Miranda do Douro (Portugal)



## Throwing a throwbag

- The rescuer holds onto the loose end of the rope in one hand and the bag in the throwing hand, lifts them up high and shouts “rope!” to attract the swimmer's attention.
- Once the swimmer is aware that they are going to be thrown a rope they open their arms to increase the target for the thrower.
- The rescuer throws the bag at the swimmer whilst holding onto the loose end.
- Once the swimmer has hold of the bag they should roll onto their back so that the rescuer can pull them safely to the side of the river.



Source: Canoeing Federation of Castilla y León (Spain)



Source: Jesús Núñez (Spain)

There are basically three throwing methods to use:

- 1) Overhand;
- 2) Underhand;
- 3) Sidethrow.

Each of the above methods has its advantages and disadvantages. It is recommended that the user of a throwbag practices all of the methods in different situations to determine which one works best for them.

The throwbag can also be used as a line to rescue boats caught on rocks or in trees. Additional training in rescue techniques is recommended.

## Lifting boats

- Boats can be heavy especially when they have water in them.
- Care should be taken when lifting or moving them as injury can occur.
- At least two people should be involved in lifting kayaks and canoes.
- Lifting rafts should have a minimum of four people, with one at each corner.
- Where possible the water should be allowed to drain out naturally before a boat is lifted completely out of the water.
- This can usually be achieved by lifting one end of the craft and allowing the water to flow out.





## Swimming with a capsized boat

- All boats should have some form of buoyancy either built in or tied into the boat to prevent it sinking.
- Hold onto your paddle and make your way to the upstream end of the boat.
- This is important to prevent injury from the boat colliding with rocks.
- Holding onto the boat and paddle lie on your back with your feet up.
- Look around and decide which bank is the easiest to swim to.
- If possible kick with your legs to assist swimming.
- If your boat has a line attached it may be easier to swim to the shore with the line and then pull your boat in after you.



Source: EESTI-MAAUTURISM (Estonia)

## Righting a capsized raft

- Rafts do flip and it is important that a raft guide can right the raft as quickly as possible.
- The guide should climb onto the upturned raft.
  - The guide should clip a cowstail onto the safety rope, which is secured around the raft.
  - The guide then stands on the opposite side of the raft leaning backwards whilst pulling on the cowstail.
  - With this assistance the raft should right itself.
  - If the raft is too heavy the guide can get assistance from other crew members.
  - Once the raft is the right way up, pull in the swimmers and rescue any loose equipment.



Source: Municipality of Miranda do Douro (Portugal)

## Pulling a rafter back into a raft

- The swimmer should face the raft and try to pull themselves in with some assistance from a rescuer.
- Alternatively, the swimmer should face away from the raft while a rescuer holds onto the shoulder straps of the buoyancy aid.
- The rescuer needs to bend their legs and lean back pulling the swimmer back into the raft on their back.

## Defensive swimming in moving water

Use in fast, shallow water.

- Lie on your back with feet up facing forward.
- Use your hands to propel yourself.
- Breathe at the top of waves.



Source: Municipality of Miranda do Douro (Portugal)



## Aggressive swimming in moving water

Only use in deep water or in an emergency.

- Roll onto your front and use your arms and kick your legs to move.
- Keep your head above water to see where you are going.

## Important points to consider

- Everyone should wear buoyancy aids when on or near the water (within 3 meters of the waters edge).
- A risk assessment must be carried out and recorded for each of the specific environments in which the provider operates. Risk management procedures must be put in place.
- Providers must ensure that all instructors have received appropriate safety and rescue training for the environment in which they are working.
- The provider should communicate guidelines on safe practice to all clients prior to any trip.

• Clients must adhere to the guidance and the guidelines provided by the instructor.

• No alcohol or recreational drugs should be taken by anyone whilst participating in water based activities.

• All equipment must be functional and suitable for the water environment on which the journey is taking place.

• The provider should have identified a route plan and approximate duration of journey.

• The route plan should be communicated to a person who is able to take action in the event of an incident.

• Providers should take into account environmental conditions (i.e. water level, water quality, strength of wind, water and air temperature and any potentially hazardous objects) when planning a journey and relate it to the level of ability of the clients.



Source: Municipality of Miranda do Douro (Portugal)



#### 4.1.7. Legislation / Organisations / Useful Sources

##### Legislation

Most countries have their own federal bodies, also known as national governing bodies that deal with national issues relating to paddlesports.

- These bodies will have rules and regulations specific to their country and local environment.
- Whenever operating within a foreign country it is important that the activity tour operator follows the local rules and regulations.
- This requires research beforehand.
- National governing bodies often have training schemes in place to train instructors and guides, though this is not uniform across Europe.

The International Rafting Federation and the International Canoe Federation are the international federations for rafting and kayak/canoeing respectively. These organisations act as umbrella organisations for all national bodies and oversee international competitions.

##### Organisations - Canoeing

**Estonia:** Eesti Aerutamisföderatsioon  
(Estonian Canoeing Federation)

**Germany:** DKV - Deutscher Kanuverband eV  
[www.kanu.de](http://www.kanu.de)

**Greece:** Hellenic Omospondia Of Canoe / Kayak  
[www.canoekayak.gr](http://www.canoekayak.gr)

**Portugal:** Federação Portuguesa de Canoagem  
[www.fpcanoagem.pt](http://www.fpcanoagem.pt)

**International Canoe Federation**  
[www.canoeicf.com](http://www.canoeicf.com)

**Spain:** Real Federación Española de Piragüismo  
[www.rfep.es](http://www.rfep.es)

##### Organisations - Kayaking

**Estonia:** Eesti Aerutamisföderatsioon  
(Estonian Canoeing Federation)  
[www.aerutaja.ee](http://www.aerutaja.ee)

**Germany:** DKV - Deutscher Kanuverband eV  
[www.kanu.de](http://www.kanu.de)

**Greece:** Hellenic Omospondia Of Canoe / Kayak  
[www.canoekayak.gr](http://www.canoekayak.gr)

##### Other Links

[www.seakayakinggreece.com](http://www.seakayakinggreece.com)  
[www.teamadara.com/html/greek\\_site.html](http://www.teamadara.com/html/greek_site.html)

**Portugal:** Federação Portuguesa de Canoagem  
[www.fpcanoagem.pt](http://www.fpcanoagem.pt)

**Spain:** Real Federación Española de Piragüismo  
[www.rfep.es](http://www.rfep.es)

##### Organisations - Rafting

**Germany:** VDFU - Verband Deutscher Freizeitparks und Freizeitunternehmen eV  
[www.freizeit-portal.de](http://www.freizeit-portal.de)

Forum anders Reisen eV  
[www.forumandersreisen.de](http://www.forumandersreisen.de)

**Greece:**  
[www.experience.gr/activities/rafting/index.htm](http://www.experience.gr/activities/rafting/index.htm)

**Portugal:** Federação Portuguesa de Canoagem  
[www.fpcanoagem.pt](http://www.fpcanoagem.pt)

**Spain:** Real Federación Española de Piragüismo  
[www.rfep.es](http://www.rfep.es)

##### Useful Sources

[pmrrc.en.eresmas.com/Rafting/Historia.html](http://pmrrc.en.eresmas.com/Rafting/Historia.html)  
[www.fcyl.com](http://www.fcyl.com)  
[www.gochile.cl/Activ/rafting.asp](http://www.gochile.cl/Activ/rafting.asp)  
[www.grupohuellas.com/rafting.htm](http://www.grupohuellas.com/rafting.htm)  
[www.intraftfed.com/](http://www.intraftfed.com/)  
[www.infoaventura.com/infoaventura/rafting.asp](http://www.infoaventura.com/infoaventura/rafting.asp)  
[www.raftinginthesmokies.com/](http://www.raftinginthesmokies.com/)  
[www.redaragon.com/turismo/deporteaventura/rafting.asp](http://www.redaragon.com/turismo/deporteaventura/rafting.asp)

[www.zone.com.br/rafting](http://www.zone.com.br/rafting)  
[http://paddling.about.com](http://http://paddling.about.com)  
[www.bobfoote.com](http://www.bobfoote.com)  
[www.adventuresportsonline.com](http://www.adventuresportsonline.com)  
[www.netknots.com/html/paddling\\_knots.html](http://www.netknots.com/html/paddling_knots.html)  
[www.paddling.net](http://www.paddling.net)  
[www.outdoorplay.com](http://www.outdoorplay.com)



Source: Municipality of Miranda do Douro (Portugal)





## 4.2. Water Skiing

### 4.2.1. Introduction

Water skiing has become extremely popular, with more than 30 million people taking part in water skiing and wakeboarding around the world. It can be learnt surprisingly quickly. Instead of using a boat for water skiing, it is also possible to practise using a mechanical cable tow. There are about 100 cable tows in the world with half of them in Germany.

Water-skiing offers great opportunities for rural development. It adds to the attractiveness of the landscape and increases rural tourism potential. Water-skiing utilises natural resources such as lakes, reservoirs, former sandpits and gravel-pits. Once developed, these sites become more attractive which in turn leads to an increase in demand. The location of such facilities near urban areas acts as a potential attraction drawing in both urban and rural visitors.

#### Handy hits when purchasing a wetsuits

- Make sure it's a skin-tight fit, since the water and your exertion whilst skiing will loosen the neoprene a little;
- The suit should feel slightly tight around the neck, when you first try it on, once you're up and skiing, you won't notice it;
- Check how many seams there are in the wetsuit's design. For cold weather skiing, you'll want it as watertight as possible, but it works the other way for warmer water.
- Also more action panels mean greater flexibility
- Be sure to try out all the straps, zips and fiddly bits before you buy your suit, because some of them can be very annoying.

Official national and international clubs enforce rules and guidelines for the protection of suitable bodies of water and the surrounding countryside. A cable tow mixes water and air, and so, has a positive influence on the oxygen content of lakes and rivers. This is an advantage for flora and fauna of the lakes. Water skiers have a vested interest in protecting the environment, as the ability to enjoy the sport and good health depends on clean, safe and non-polluted waterways.



Source: Peter Gunter-Strandbad-Wedau (Germany)



Nearly 100 nations with Federations from all around the world are affiliated to the IWSF (International Water Ski Federation). The International Water Ski Federation is divided into three regions: Pan America, Asia Australia and EAME, comprising Europe, Africa and the Middle East. EAME has 44 member countries.

Water skiing has various divisions: barefoot, cable, disabled, racing and tournament. Whilst wakeboarding has two divisions: boat and cable. The season for water skiing is dependent upon temperature e.g. in Germany the season runs from March to October.

Water skiing can be performed at every age. When practised regularly, water skiing has a positive influence on health, in that fitness is improved, and physical exercise in the fresh air is a means of relaxation.

## 4.2.2. Brief History

- In 1922 water skiing was invented by 18 year old, Ralph Samuelson, who attempted to ski on barrel staves and snow skis.
- In 1925 Fred Waller patented the first water skis, called Dolphin Akwa-Skees. It was thought that Waller was the first water skier until 1966 when a reporter discovered Samuelson's accomplishment.
- The American Water Ski Association (AWSA) was created in 1939, by Dan Hains.
- Jack Andresen invented the trick ski in 1940, which is shorter and wider than slalom or jump skis, and had no fins.
- The Foundation of the World Water Ski Union was established in 1946 in Geneva, Switzerland.
- In 1947 the first European Tournament Championships were held in Evian, France.
- Barefoot skiing was conceived by Dick Pope Junior.



Source: Peter Gunter-Strandbad-Wedau (Germany)





# Water skiing

- In 1949 the first World Tournament Championships were held in Juan les Pins, France.
- Water skiing was recognised by the International Olympic Committee in 1967.
- The 1972 Olympic Games featured water skiing as an exhibition sport.
- The first European Cable ski Championships were held in Langenfeld, Germany in 1985.

## 4.2.3. Basic Equipment

The basic equipment consists of a pair of water skis, a mono ski or a wakeboard, a wetsuit, wetsuit boots, gloves and, for the wake boarder, an additional pair of boots. It is important to get experience and advice before purchasing any personal equipment. It is advisable to get used to the sport first, familiarise yourself with the feel of the water, and then start looking around to see what's on the market.

**Skis** - Your first big decision will be to choose between a combi pair or a basic set of skis. A basic set of skis will, indeed, be basic. A combi pair will last you quite a bit longer, and as one of the skis will already be equipped with a rear toe loop, you can make the transition to mono skiing quite easily.

**Wetsuit** - Really serious water skiers will have a number of wetsuits for different weather conditions, including: summer shorts (short legs and short or convertible arms); a summer one-piece for chillier days; and a thick steamer for cold winter days. A popular compromise between shorts and a one-piece is a 3/4-length suit.

**Drysuits** - Cold weather skiers, particularly those who waterski on the sea often go for a dry suit under which you can wear a one-piece thermal under suit or even your own clothes to keep you really warm.

**Towboats** - Towboats are motorboats with an outboard motor to power them.



Source: Peter Gunter-Strandbad-Wedau (Germany)





Source: Peter Gunter-Strandbad-Wedau (Germany)

**Cable tows** - The cable tows used for water skiing serve very different purposes compared to lifts used for snow skiing. They have to accelerate the sportsman to a speed up to 58 km/h. They need to cover distances of more than 300 meters with no support in between, so that there is space enough for the slalom. Moreover, a cable tow should be installed in such a way that a 90-degree-turn can be managed even at highest speed. A complete course can be covered in 1.30 minutes, and up to 12 persons are able to water-ski at the same time.

## 4.2.4. Basic Techniques and Knowledge

### Classic water skiing

Classic water skiing is comprised of 3 disciplines - slalom, tricks and jumps.

**Slalom:** Slalom skiing is probably the most popular skill among recreational skiers. Performed on one ski, this is the skill that most beginner and novice skiers strive to accomplish, and what the

elite skiers manage to make look effortless.

#### *Slalom competition format:*

- A slalom course is made up of 6 fixed buoys positioned 11.5 m to the left and right of a centre-line, which consists of buoys 2.1m apart for boat path alignment.
- Depending upon skiers' category and/or ability level, the rope length can vary between 18.25 m to an incredibly short 9.50 m.
- A successful pass requires each skier to follow the boat through the slalom course entrance gates, pass around the outside of all 6 buoys and proceed through the end gates.
- Upon completing each pass, the rope will be shortened (thus making the run more difficult) until the skier cannot complete the full run.
- A final score will be recorded on the basis of speed, rope length and of completed buoys.

**Tricks:** Trick skiing is a discipline that demands a high level of balance, skill, and creativity.

Unlike the other classic disciplines, you're up against the clock and are judged on the performance of your trick selections.





# Water skiing

## *Tricks competition format:*

- A trick course is approximately 175 m long, and is marked at either end by 2 fixed buoys, positioned 15 meters apart.
- Each contestant is allowed two 20 second passes through the trick course and may perform as many tricks as he/she desires, given the time allotted.
- At the conclusion of both runs, the skier will record a score that is based on the numeric value allocated to each of the successfully performed tricks.

**Jumps:** Ski jumping is by far the most extreme discipline in Classic. Using two specially designed skis, coupled with a helmet and padded wet-suit, contestants approach the ramp at lightening speeds, and can soar through the air for distances of up to 90 meters!

## *Jump competition format:*

- A starting buoy for a jump course is placed approximately 210 m out from the ramp, which provides a reference for the best jumpers to begin a sequence of aggressive wake crossings to maximize their speed approaching the jump ramp.
- The height of the ramp is dependent upon the skier's category, and can range from 1.5 m to 1.8 m.
- The boat speeds for this event are determined by the skier's category, and ranges between 48 km/h to 57 km/h.
- Each contestant is entitled to 3 jumps/passess or falls from the time he/she starts.
- A jump is scored when the skier passes over the ramp and lands without falling and is based only on the horizontal distance of the jump.

## **Marathon**

Marathon, also known as water ski racing, is a fast paced, adrenaline pumping sport.

- A marathon team consists of a boat driver, an observer and a skier.
- The driver will tow the skier, varying the speed as different water conditions are encountered.
- The driver makes judgements according to their knowledge of the skier and the signals relayed by the observer.



Source: Peter Gunter-Strandbad-Wedau (Germany)

- There are two types of events: distance "marathon" and closed circuit. The first type involves either a one-way or a return run. These runs require two teams, one to start the race and to ensure a smooth pace and the other to control the finish. A control boat for officials is required at the end of the course to radio in times. Events are divided into two categories and age groups similar to classical and barefoot.
- The driver, observer and skier share the tasks evenly. The driver follows the speed indications provided by the skier or indicated by the observer who can foresee lack of control or intense fatigue and act to avoid a fall and the resulting waste of time.



Source: Peter Gunter-Strandbad-Wedau (Germany)

- As in all sports, some countries have taken to marathon more than others. Australia certainly has the largest number of marathon ski racers. A race called “The Southern 80” held on the Murray River in Victoria has close to 1000 skiers participating in this annual event with each boat towing 2 skiers at a time.

- Although the best skiers can reach speeds of 175 km/h in men's events and 160 km/h in women's events, the most important thing to keep in mind is to maintain a speed that the skier can control. The athlete must feel safe at all times. This is not a boat race.

## Cable skiing

Cable skiing is very similar to water skiing except that instead of being pulled by a motorboat, the skier is pulled by an electric-powered cable system.

- A cable ski system operates on the same concept of the common “T-Bar” - system used for winter ski lifts with a few important design alterations.

- It works by pulling you on your water skis, wakeboard or any other towed water sports device, around a lake.

- Cables are erected 8 - 12 meters above the water's surface and you are pulled with a variable speed electric motor capable of maintaining speeds up to 68 km/h.

- Cable tows have the capacity to accommodate many users per hour, with most cables circulating 8-12 riders at one time.

- Cable skiing is safe, clean, quiet, and environmentally friendly.

- The system is controlled by a computer and takes relatively little power.

- Since cable skiers are pulled via electric power motors instead of motorboats, there is no risk of oil or fuel contamination.

- The major advantage of cable skiing is that there is no expensive motorboat needed; this makes it very affordable for the individual skier.

## Barefoot

As the name implies bare footing is water skiing on bare feet. The great thing about it is that it requires very little equipment and is easy to learn.

- There are three main events: slalom, tricks and jumping.

- In barefoot slalom, the event is slightly different from water skiing, in that there are no buoys.

- Athletes earn points for crossing the boats wakes.

- Varying points are awarded for crossing both wakes, one wake and for passing on one or two feet.

- Point values increase for the more difficult techniques.

- In tricks, athletes are allowed two passes through the tricks course, each 15 seconds in length, during which they attempt to perform as many tricks as they can.

- There are pre-assigned point values for each trick and an athlete may perform a trick only once.

- The athlete with the most points at the end of the event wins.

- In the jump event, athletes may perform at speeds up to 72 kph.

- Normally athletes are entitled to three jumps per round, over a ramp that is only about 45 centimetres high.

- Faster boat speeds are required in bare footing so that athletes can plane on their two bare feet.

- No tools are needed to make equipment repairs, only a tube of super glue for those nasty cuts. If a cut opens on the bottom of an athlete's foot, normal practice is to glue it shut to finish the event and get it stitched up later.

- Recently, figure eight and endurance competitions have also become popular barefoot events, where the athlete who stays up the longest wins.





# Water skiing

## Wakeboarding

A wakeboard resembles a snowboard but is used to ride on water, like water skiing.

- The boards are shorter in length than snowboards and slightly wider.
- Riders are towed either behind a boat or a cable tow.
- Riders are generally innovative and creative; as a result, they have created a sport that is exciting to watch and more fun to perform.
- Most competitive boarders are quite young, in their teens to early 20's. Their style and attitudes are laid back, similar to the skateboarding or snowboarding scene.
- Wakeboard boats tend to be heavier than water ski boats and have a different shape (to create a larger wake) with a tower or pole to which the rope is normally mounted.
- Generally in competitions riders are allowed two passes through the wakeboard course during which he/she may perform any routine they wish, this is known as a Freeride.
- Riders are judged on three categories - execution, intensity and composition.
- Execution reflects the level of flawlessness to which each manoeuvre is performed, as well as the completion of the routine with minimum number of falls.
- Intensity represents the technical difficulty of the tricks and how big the moves are performed.
- Composition reflects the structure of the routine in terms of the rider's ability to do a variety of tricks in a flowing, creative sequence.



Source: Peter Gunter-Strandbad-Wedau (Germany)

## Hydrofoiling

A hydrofoil is a sit-down water ski type product.

- It is towed behind a watercraft with a driver and a spotter.
- The rider straps into the hydrofoil and secures the safety straps on the seat and the bindings.
- Starting in deep water, they lean back to keep the tip of the board out of the water and then once the board begins to plane, the rider leans forward to keep the hydrofoil from leaving the water.
- To jump out of the water, the rider leans back.
- The rider steers the hydrofoil by moving their knees in the direction they want to go.

## How to get up on two water skis

1. Place the water skis snugly on your feet. A good fit is important.
2. With the rope handle in your hands, place it between your knees.
3. Knees should be bent towards the chest.
4. Point the skis, about shoulder length apart, towards the boat, with at least 15-30 centimetres of ski above the water.
5. As the boat begins to move forward, keep your knees together, skis parallel.
6. Arms straight out (slightly bent at the elbows), chin towards chest.
7. Press slightly forward with both feet.
8. Stay in a sitting position, until the boat pulls you on top of the water.
9. Stand up when the skis are horizontal to the water. This is called "planing". Even when erect, keep your knees slightly bent to act as shock absorbers.
10. If you try to stand too soon you will be thrown off balance and fall backwards or forwards.
11. Do not pull on the rope towards your body, keep the arms straight.
12. Do not point your head towards the sky to avoid getting water spray in the face. Having your sight set towards the boat is essential for keeping a balanced position.
13. If you feel you are going off balance, use your body to slightly steer in the right direction.
14. Remain balanced, head towards the boat, and do not look down at the skis. Keep your back straight, with skis shoulder width apart.



**15.** After you are up and balanced stay inside the wakes for a while to get a feel of the skis.

## *Tips:*

- Let the skis and the boat do the work. Don't fight it.
- Use hand signals to let the driver know if you want to go faster or slower.
- Don't forget to let go of the rope when you fall.

## **How to load the line**

1. "Loading the line" means creating tension in the rope, giving you a good, solid cut towards the wake.
2. The cut begins outside the wake. Only a few feet are needed between you and the wake.
3. Start with a slow turn back towards the wake.
4. Stay wide until the boat begins to pull you naturally to the wake.
5. Make sure the line / rope is tight.
6. Arms extended.
7. Keep a firm grip on the handle.
8. Place weight on one foot or on one side of the board to lower the edge of the skis or board. If the lowered edge is away from the boat the skier will move in that direction. This is known as the cut.
9. To create maximum rope tension while progressing towards the wake, lean away from the boat, while digging the back rail or edge of the board in the water.
10. As you progress in your cut, your speed towards the wake will increase.
11. Maintain the speed until you reach the bottom of the wake's arc.
12. Stand tall.
13. Remember to straighten your legs when you hit the wake.
14. When loading the line is done correctly, you should feel a pop off the wake, giving you enough air to complete your trick prior to landing.

## *Tips:*

- You do not have to be far outside the wake before you begin your cut.
- Being too far outside may create too much speed.
- The pros only need a few feet to get maximum air.

• Make sure you can comfortably cross the wakes in both directions before attempting jumping the wakes.

## **How to two-foot slalom waterski deepwater start**

Here's how to get up on a slalom ski in the water with both the front and rear feet already in the ski boots. This is very similar to the one-foot start.

1. Place both feet snugly in the ski boots. The back boot may just be a toe strap, which does not enclose the entire foot, only the front of the foot.
2. Flex the knees and ankles; bring them tightly up to your chest.
3. Make sure the front knee is close to your body.
4. Place the rope on the inside of the ski. (Right foot in front, rope on left; left foot in front, rope on right).
5. Arms straight out (slightly bent at the elbows), chin towards chest, knees bent.
6. Point the tip of the ski towards the boat at a 45-degree angle, with at least 30 centimetres of ski above the water.
7. As the boat begins to pull, keep the knees bent and shoulders back away from the boat.
8. Let the boat do most of the work.
9. Press forward with both feet and lean back.
10. Slowly stand up by bringing your hips towards the handle. Do not stand up too soon.
11. Do not pull the rope towards your body, keep the arms straight.
12. Do not point your head towards the sky to avoid getting water spray in the face. Having your sight set towards the boat is essential for keeping a balanced position.
13. If you feel you are going off balance, use your body to slightly steer in the right direction.
14. Remain balanced, head towards the boat. Do not look down at the ski.

## *Tips:*

- This method, as opposed to the one-foot slalom start, allows the skier to use both feet to keep the ski straight and absorb force. It is widely used by experienced and pro skiers.
- Use a deep-V handle to keep the ski from wobbling from side to side, stabilizing the ski during the start.





# Water skiing

- Do not get discouraged if you don't succeed right away.
- This usually takes several attempts before you get a successful one.

## How to one-foot slalom waterski deepwater start

Here's how to get up on a slalom ski in the water with the front foot in the ski boot and the rear foot dragging behind.

1. Place front foot in the ski boot. The back foot will act as a rudder to help with balance.
2. Flex the front knee and ankle; bring the front knee up to your chest.
3. Front knee should be snug to your body and your rear foot right underneath you.
4. Place the rope on the outside of the ski. (Right foot in front, rope on left; left foot in front, rope on right.)
5. Arms straight out (slightly bent at the elbows), chin towards chest, knees bent.

6. Point the tip of the ski towards the boat at a 45-degree angle, with at least 30 centimetres of ski above the water.

7. With your back leg dragging behind for balance, allow the boat to pull you and the ski up on the water.

8. As the boat begins to pull, keep the knees bent and back arched away from the boat.

9. Slowly stand up by bringing your hips towards the handle. Do not stand up too soon.

10. Do not stick your rear foot in the rear toe strap right away.

11. Do not pull the rope towards your body, keep the arms straight.

12. Do not point your head towards the sky to avoid water spray in the face; it will throw off your balance.

13. If you are going off balance, use your body to steer in the right direction.

14. Remain balanced, head towards the boat. Do not look down at the ski.



Source: Peter Gunter-Strandbad-Wedau (Germany)



**15.** When you feel on top of the water and balanced, slip back foot in the rear boot.

*Tips:*

- This method, as opposed to the two-foot start, allows the skier to lean forward more to help the ski plane faster.
- It is used by skiers who feel that the boat drags them too much in the water.
- Use a deep-V handle to stabilize the ski, keeping it from wobbling from side to side.
- Don't get discouraged if you don't succeed right away.
- This usually takes several attempts.

## How to do a wakeboard step start from the swim platform

Here's how to do a start without getting in the water first. It is perfect for those days when the water is cold and you'd rather not do a deepwater start.

1. Put on gloves. The towline will be running through your hands and may cause rope burn on bare hands.
2. Let the tow line all the way out so that it is uncoiled behind the boat while in idle.
3. With your wakeboard on, stand on the swim platform, allowing the rear fin to hang off the centre of the platform.
4. With the tow handle already in the water behind you, grab the front section of the rope and hold it tight to help you balance on the swim platform.
5. You can either hold the rope in front of you, or you may feed it behind your back for added balance control. To do the latter, hold the rope with the hand closest to the boat, feed the rope behind your back, and grasp it again with your rear hand.
6. Make sure the rope is tight.
7. Tell the driver to slowly move forward.
8. Lean back and transfer your weight to your back foot.
9. As the speed increases, slowly edge the board off of the platform.
10. After the board leaves the platform ride the board straight behind the boat.

**11.** Slowly let the rope slide through your hands until you reach the handle.

**12.** If you let the rope move too quickly the handle will snap out of your hands when you reach it.

**13.** That's it. Ride the board as normal.

*Tips:*

- A step start requires concentration and safety awareness.
- Since it involves a moving boat, a moving person, and hard things you could hit if you wipe out, take extra care when letting yourself off the platform.
- Make sure you are comfortable with your balance riding a wakeboard prior to attempting a step start.

## 4.2.5. Basic Safety

Water skiing is only allowed on authorised waters. Training should only be provided by authorised water ski federations. Competitions are subject to strict regulation reinforced by national federations. Motor boat users require licences and appropriate training. Water skiing is a great fun sport but it is important not to forget certain safety aspects e.g. first aid, equipment and general water awareness.

### The boat

- Make sure that you have enough fuel (especially if you're on the sea).
- Don't carry unnecessary equipment and ropes in the boat.
- If you are carrying extra equipment, make sure that it is stowed out of the way.
- Make sure that everyone has a life jacket.
- Carry a spare life jacket.
- If at sea, carry a couple of distress flares and always carry a VHF radio.
- Carry a paddle in case you run out of fuel.
- Carry a basic first aid kit in the boat.
- Where possible, carry a mobile phone.
- Carry some dry clothes and a spare towel - especially in winter or if skiing on the sea.
- Where possible carry a floating stretcher.





# Water skiing

## First aid

- There should always be a trained first aider around when water skiing.
- All qualified water skiing instructors should have a first aid qualification.
- The first thing to remember is to turn off the engine before you start to attend to any injuries.
- If you suspect that your skier has a neck injury, do not try to move them into the boat.
- Use a spare life jacket or a floating stretcher to support the casualty.
- If your boat has a back platform, move the casualty to the platform where possible.
- If this is not possible, support the casualty in the water.
- If you suspect a neck injury or any other serious injury call for help immediately.
- If you have no way of calling for help, you may have to get the casualty back to dry land.
- If you have no choice and need to move a casualty with a neck injury back to dry land, do so very slowly.
- Support the casualty as much as possible - this is why you should always have a look out in the boat. One person can support the casualty while the other one drives.

## General water awareness - a few things to keep in mind:

- Water temperature - is the water too cold to ski?
- Especially on large lakes and on the sea make sure your skier can swim or at least float without panicking.
- Make sure that the skier and other boat users have buoyancy aids.
- Know what the tides are doing.

- Know how much daylight you have, especially at sea.
- Don't wear jewellery when skiing.
- Serious injuries are rare, but it's worth being prepared in case an accident does happen.

## 4.2.6. Organisations / Useful Sources

### Organisations

**Germany:** Strandbad Wedau Bertaallee 10  
47055 Duisburg, Germany  
Tel.: 0203 - 72 76 22  
Fax.: 0203 - 72 64 37  
[www.strandbad-wedau.de](http://www.strandbad-wedau.de)

ICA International Cableways Association,  
Baumbergerstraße 88  
40764 Langenfeld, Germany  
[www.wasserski.de](http://www.wasserski.de)

**Portugal:** Federação Portuguesa de Ski Náutico  
[www.fpskinautico.com](http://www.fpskinautico.com)

**Spain:** Federación Española de Esquí Náutico  
[www.feen.org.es](http://www.feen.org.es)

### Useful Sources

[www.wsc-wedau.de](http://www.wsc-wedau.de)  
[www.wasserski.de](http://www.wasserski.de)  
[www.waterskieame.org](http://www.waterskieame.org) (International Waterski Federation - Region Europe, Africa, Middle East)  
[www.iwsf.com](http://www.iwsf.com) (International Waterski Federation)  
<http://waterski.about.com>  
[www.wasserski-online.de](http://www.wasserski-online.de) (Deutscher Wasserski Verband e. V.)  
[www.waterski.about.com/od/educationalterms/a/glossary.htm](http://www.waterski.about.com/od/educationalterms/a/glossary.htm)  
[www.waterski.about.com/library/glossary/bdlef-wing.htm](http://www.waterski.about.com/library/glossary/bdlef-wing.htm)



## Chapter 5: Snow Activities

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## 5.1. General Introduction

### 5.1.1. Introduction

There are many activities related to snow and the mountains. They are accessible to all kinds of people, from children to the elderly, from the timid to the most fearless. Some of the major snow sports activities include:

- Skiing, with its different disciplines e.g. Nordic skiing, Alpine skiing and snowboarding.
- Dog-sledding known as mushing.
- Snowshoeing

Snow sports take place in rural areas, which are becoming increasingly attractive to activity tourists. They help people to discover and respect the natural environment. This is important for the development and preservation of rural areas.

Snow activities are therefore useful in promoting rural areas, their nature, landscape and culture.

The benefits of snow based activity tourism to a rural area include increased use of local accommodation and restaurants as well as other local amenities e.g. chemists, posts offices and shops. In this way, a beneficial relationship can be developed between tourism and the activity. Certain points of good practice are necessary to achieve a balanced relationship:

- Respect regional culture and local customs;
- Follow national or regional guidelines relating to the use of the environment to preserve and protect local flora and fauna;
- Follow local way marking signs for safety and to protect the environment.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

### 5.1.2. Basic Equipment

**Clothes** - Appropriate clothes must be used for the weather conditions. In cold environments, the primary purpose of clothes is to protect against the low temperature. Snow clothes usually trap air to insulate the wearer against external temperatures. The use of a layer system of clothes is the most effective method of keeping warm whilst having the flexibility to regulate internal heat. If the wearer gets too warm, they can take off a single layer until they are comfortable. If only one thick thermal jacket is worn, it cannot be taken off, as the wearer will get cold very quickly. The inner layer next to the skin should be comfortable and able to draw sweat away from the body. Avoid materials such as cotton, which retain sweat and can draw heat away from the body causing hypothermia. The second layer is the insulator layer and its aim is to keep the greater quantity of air heating the human body. The outer layer should be a shell garment that protects against wind and rain. Ideally the material of the outer layer should be breathable i.e. expels sweat from inside without letting water in.



**Sunglasses or goggles** - These are essential to protect the wearer not just from the sun but also from snow glare and wind. Ideally, they should be wide enough to cover and protect the nose and part of the face.

**Gloves** - Hands as extremities are prone to cold damage and should be protected from the cold and wet. Choose gloves that will allow you to continue using your hands.



**Headwear** - The head can lose up to a third of the body's heat and as such, it must be protected from the elements to prevent hypothermia. Good headwear is not only warm but protects against wind and rain and offers protection for the ears and back of the neck as well as the head.



**Helmet** - Using a helmet is good practice for activities that involve speed e.g. Alpine skiing and snowboarding. The helmet must be correctly fitted and offer full head protection.



**Footwear** - Appropriate thermal socks that fit well are important to keep feet warm and comfortable. Correct fitting boots are essential. Whilst they should offer protection from the cold and wet, they should be appropriate for the activity being undertaken. For example the rigid boots used for Alpine

skiing are very different from the more flexible boots used for mushing.



Source: Diario de León (Spain)







Source: Diario de León (Spain)

### 5.1.3. Basic Techniques and Knowledge

#### Warm-up exercises

In order to avoid injury it is advisable to perform some warm-up exercises prior to any exercise.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

Whilst a warm up should cover the whole body knowledge of the activity will tell you which areas that should receive the greatest attention.

The most important parts of the body involved in skiing are the legs and trunk.

#### 5.1.4. Basic Safety

##### Simple rules to follow:

**Respect others** - Behave in a way that does not harm others or their equipment.

**Control your speed and behaviour** - Travel at a speed at which you are in full control taking into account your skill level, the terrain, other users and the weather.

**The upper person must decide their direction carefully** - A person who is above others on a slope has the responsibility to avoid injuring anyone below them.



Source: Diario de León (Spain)



**Overtaking** - Whilst it is okay to overtake others you must make sure that there is a safe distance between you.

**Care at crossroads** - Where tracks cross pay attention to other users to avoid accidents.

**Falling** - If you fall try to move to an area where you are not going to be hit by others.

**Walking on slopes** - If you need to walk up or down a slope or track walk along the edge to avoid collisions with others.

**Respect the environment** - Learn to read the environment e.g. weather and snow conditions and their implications for the activity.

**Pay attention to sign posting and grading of slopes** - Each resort will have its own system of sign posting and regulations which you should become familiar with before using the resort.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

**Avoid becoming isolated** - Wear clothing that is visible from a distance and always tell others your route.

**Acquire appropriate insurance** - Make sure that your insurance covers winter sports.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)





## 5.2. Skiing and Snowboarding

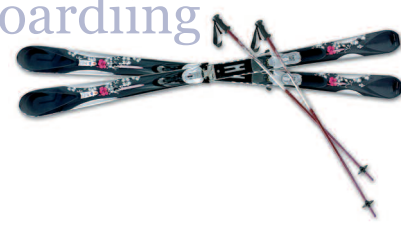
### 5.2.1. Brief History of Skiing and Snowboarding

- The first skis were found in Swedish and Finnish swamps. It is thought that they were 4000 or 5000 years old.
- In the tenth century, the Vikings were recorded using skis.
- Ski sport began in Norway during the fourteenth century and quickly spread to all the Scandinavian countries.
- The first ski races took place in Norway between 1850 and 1860, when Sondre Nordheim developed his ski material and techniques in the Norwegian region of Telemark.
- The Norwegian association of Skiing was founded in 1883.
- The first international tournament took place in 1892, near Cristiania (today, Oslo, Norway).

- The pioneer of the Alpine skiing technique was an Austrian, Mathias Zdarsky, at the end of the nineteenth century.
- The First World War (1914-1918) contributed to the development of skiing through the training of special skiing troops.
- In 1924 Nordic skiing was included as an official sport in the Winter Olympic Games in Chamonix, France.
- Nordic skiing dominated international competitions until 1936, when Alpine skiing was included in the Winter Olympic Games.
- In 1965, the American engineer Sherman Poppen invented the Snurfer, which can be considered to be the first snowboard.
- In 1978 the first snowboard with fastenings for the feet was developed.
- During the 1998 Winter Olympic Games in Nagano, Japan snowboarding became an official Olympic Sport.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)



## 5.2.2. Specific Equipment for Skiing and Snowboarding

**Skis** - These are made of wood, metal or synthetic materials, and have special fastening systems for the ski boots. Two skis are used with one on each foot. The bottoms of the skis are made of very resistant material, which is maintained by applying special waxes. These waxes increase the gliding speed of the skis, depending upon the snow conditions. The length of ski varies not just according to the size of the individual but also according to use. For example, racing skis are



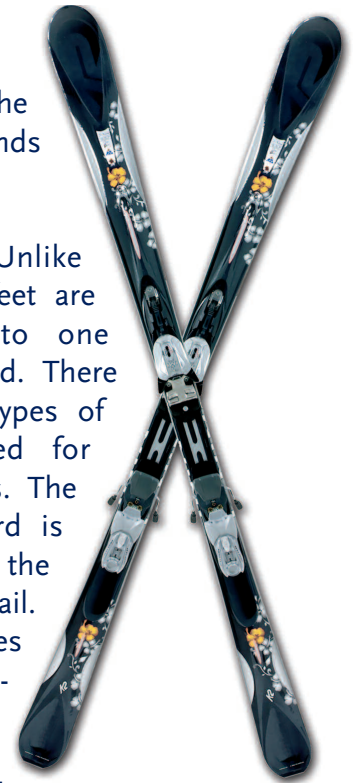
longer than skis used for slalom. For beginners short skis are recommended, as they are more manageable.







**Ski poles** - These are used to help with balance and turning. They are made of metal or synthetic fibres and they have hilts and straps to make the grip easier. They have also a small disc in the lower part, to avoid them sinking

too deep into the snow. The length of the pole depends on the size of the user.

**Snowboard** - Unlike skiing both feet are secured to one snowboard. There are many types of boards used for different activities. The front part of the board is called the nose whilst the back part is called the tail. There are two main types of snowboard: the free-ride or asymmetric board and the alpine or descent board. The free-ride board is more popular because it can be used in all types of snow. These boards have a longer and more round nose tip so that the board glides softer. The tail tip is usually harder to support the weight. It is used with soft boots and automatic fastenings or straps. The alpine board is much more rigid and is more difficult to manoeuvre. This board is only used in competitions and needs rigid boots.



### TYPES OF SKIS

Alpine skis	Short and wide		<i>Good for carving and turning</i>
Nordic skis	Light and long		<i>Good for speed</i>
Telemark skis	Light and narrow with binding tall allows heel movement		<i>Good for uphill</i>
Heliski	Heavier and more robust		<i>For off-piste adventure skiing</i>



## 5.2.3. Basic Techniques and Knowledge

### Main skiing techniques

Your skiing position is very important.

- Flex your knees and elbows slightly, relax your body and lean forwards slightly.
- Your knees provide shock absorption, whilst your arms help you keep your balance.
- Your feet should always be parallel.
- When going across a slope keep your upper ski (the one uphill) slightly ahead of the lower ski (the one downhill).
- Always try to keep your body weight on the lower ski to avoid gliding downwards.
- To turn left or right change your weight from one ski to another.

### Nordic skiing

- This is done on relatively flat surfaces maybe with slight undulations over quite long distances.
- In this discipline, most of the important muscles of the body are used and as such, it is regarded as one of the most complete sports.
- Racing routes are marked by coloured signs.



Source: FEDME (Spain)

- The traditional technique consisted of using the skis similar to marching.
- Now, there is a faster technique called “skating”.
- The basis of this technique is to push out with one foot in a gliding motion using the other foot as a point of resistance.
- This is repeated with alternate feet ideally in a fast and smooth way.



Source: Diario de León (Spain)



Source: FEDME (Spain)

Some of the main competitive disciplines within Nordic skiing include:

**Classic** - The traditional Nordic skiing. The skating technique is not allowed in these competitions.

**Freestyle** - All techniques are allowed. Normally, the skating technique is combined with others.

**Sprint** - This is the shortest distance of Nordic skiing with tracks from 600 to 2000 meters. It's a very spectacular race and it is normally held in circuits where the races make an incredible exhibition of power.

**Teams** - With teams of 4 people the races consist of relay races where the first two participants run in classic style while the second participants compete in free style.

**Ski-jumping** - Traditionally, ski jumping is considered part of Nordic skiing. The jumper glides on a prepared and sloped surface called a ski jump, towards the take-off point. The distance of the jump is measured from the edge of the take-off point to the point where the skis touch the snow on landing.

## Alpine skiing

The most popular discipline of skiing. It is practised on prepared snow slopes using different lift systems to ascend. Each slope is graded according to its steepness and difficulty.

The main disciplines in the Alpine skiing are:

**Downhill** - The main aim is to ski down a very steep slope in the shortest possible time. The skier must keep himself inside the track and pass through some gates located strategically.

**Slalom** - This is the shortest of all Alpine skiing disciplines. The skier must go through a series of gates on a downhill course in as fast a time as possible without missing a gate.

**Giant slalom** - The difference from slalom is that the number of gates is lower over a longer course.

**Super Giant slalom** - This is a combination of slalom and speed on a fast downhill course.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)





Source: FEDME (Spain)

## Telemark

Another downhill discipline whose main difference is the technique used and the binding that allows the heel to be raised.

## Cross country skiing

To practise this discipline the skier must have previous knowledge of both Alpine skiing, for descending, and Nordic skiing, for ascending and moving over flat ground.

## Snowboarding

A single board is used to descend slopes in a similar style to that of surfing waves on the sea.

The snowboarder must flex their legs and try to keep the shoulders in line with the knees. One leg is placed in front of the other so that the boarder looks over their shoulder when moving forward.



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)





Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

The arms should move with the body.

The main disciplines in snowboarding are:

**Free-ride** - Consists of surfing the mountains freely, leaving the tracks and going among trees and virgin snow.

**Free-style** - Consists of jumping and doing aerial tricks. This is practised in snowparks.

**Freecarve or Alpine** - Consists of descending slopes at high speeds.

**Snowboard extreme** - Consists of descending mountains off track. This discipline requires good knowledge of the mountains, avalanche awareness and weather prediction as well as excellent personal snowboard skills.



Source: FEDME (Spain)



## Heliski

This discipline can be carried out using both skis and snowboards.

High inaccessible mountains are ascended using a helicopter.

The skiers are dropped off at the top and often have to descend very steep terrain.

This discipline is usually only accessible to very skilled skiers and boarders who are well organised and aware of all safety issues.

### 5.2.4. Infrastructures

Ski resorts require a complete infrastructure that consists of different lift systems (chair-lifts,

cable-cars, and funiculars) capable of taking all levels of skiers to the top of the slopes or ski runs.

The different difficulty levels are the following:

- Green: easy
- Blue: quite easy
- Red: difficult
- Black: very difficult

Ski resorts also have other facilities such as cafeteria services, first aids posts and information points.

Ski resorts with a greater number of easier runs will appeal to beginner/intermediate skiers, whilst resorts with a majority of hard runs will appeal to expert skiers.



Source: Diario de León (Spain)





## 5.2.5. Skiing and Snowboarding Legislation / Organisations / Useful Sources

### Legislation

The following ski disciplines are governed at international level by the International Ski Federation (FIS):

- Nordic skiing
- Alpine skiing
- Telemark
- Snowboard
- Free style skiing

The International Ski Federation rules can be found in the following web page:

[www.fis-ski.com](http://www.fis-ski.com)



Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

The discipline of Cross-country skiing is governed, at an international level, by the International Mountaineering and Climbing Federation (IMCF):

[www.uiaa.ch/index.aspx](http://www.uiaa.ch/index.aspx)



Source: *Diario de León* (Spain)





Source: [www.san-isidro.net](http://www.san-isidro.net) (Spain)

## Organisations

### **Estonia:** Eesti Suusaliit (Estonian Ski Association)

[www.suusaliit.ee](http://www.suusaliit.ee)

### **Germany:** DSV - Deutscher Skiverband

[www.ski-online.de](http://www.ski-online.de)

DAV - Deutscher Alpenverein

[www.alpenverein.de](http://www.alpenverein.de)

### **Greece:** Hellenic Omospondia Ski

[www.ski.gr](http://www.ski.gr)

[www.snowclub.gr](http://www.snowclub.gr)

[www.snowboard.gr](http://www.snowboard.gr)

### **Portugal:** Federação Portuguesa de Esqui

[www.fpesqui.com](http://www.fpesqui.com)

### **Spain:** Federación Española de Deportes de Montaña y Escalada

[www.fedme.es](http://www.fedme.es)

Real Federación de Deportes de Invierno

[www.rfedi.es](http://www.rfedi.es)

## Useful Sources

[www.educar.org/Educacionfisicaydeportiva/historia/deportesdeinvierno.asp](http://www.educar.org/Educacionfisicaydeportiva/historia/deportesdeinvierno.asp)

[www.geocities.com/Yosemite/Trails/9599/diccione.htm](http://www.geocities.com/Yosemite/Trails/9599/diccione.htm)

[www.infoaventura.com/infoaventura/esqui.asp](http://www.infoaventura.com/infoaventura/esqui.asp)

[www.infoaventura.com/infoaventura/heliski.asp](http://www.infoaventura.com/infoaventura/heliski.asp)

[www.nevasport.com/reportajes/articulos\\_detalle.php?id\\_articulos=155&page=1](http://www.nevasport.com/reportajes/articulos_detalle.php?id_articulos=155&page=1)

[www.nordicca.com](http://www.nordicca.com)

[www.san-isidro.net](http://www.san-isidro.net)

[www.skikamel.com/kamel/articulo3.htm](http://www.skikamel.com/kamel/articulo3.htm)

[www.tiramillas.net/antimuermo/nieve.html](http://www.tiramillas.net/antimuermo/nieve.html)

## 5.3. Mushing and Snowshoeing



### 5.3.1. Brief History of Mushing

- The background of this activity is very ancient, as sledges were used in some regions before the arrival of the wheel.
- Legend states that during the seventeenth century, a little village called Nome in Alaska was infected by a plague whilst it was isolated by snow. The only forms of transport available were sledges and dogs. So, in wild conditions, some of the villagers began a long journey to search for help. The achievement of these men and their dogs became known around the world.
- The use of dogs was also very valuable during polar expeditions.
- The contribution of dogs to these expeditions was decisive and, without them, the expeditions would have failed.
- The use of dogs and sledges has been developed as a sport known as mushing.
- The term Musher refers to the person that drives the sled.
- The French pioneers, who arrived at the Klondike gold mines in Alaska, used sleds for their travels. To encourage their dogs they shouted “marche”, “marche” to increase their speed.
- The word “marche” eventually changed to become “mushe”.
- The most important competition in the sport of mushing is the IDITAROD.
- It is thought that the first European Mushing competitions were held in Switzerland in 1965.



Source: Press Department of Pirena (Spain)







Source: Press Department of Pirena (Spain)

### 5.3.2. Specific Equipment for Mushing

**Sleds** (a.k.a. sledges, sleighs) - The basic parts of the sleds are the skates, skis or gliding pieces. Nowadays the sleds have two skates or skis and an upper surface where the musher and materials can travel. Ancient sleds were made from ash wood with their different components tied together by straps of seal leather. Today, some parts are still made of wood but most are made of steel, aluminium, and other modern products. The total weight of a competition sled, without straps and belting is usually no more than 10 kg.

**Skates or skis** - These are the most important part of the sled. They are 2-4 m long and the space between them is usually about 50 cm. The front tip is bent and they can be made of wood, aluminium or plastic. The soles can be changed and they are usually waxed for a better gliding.

**Handle-bar** - This is what the musher holds to drive the sled. It is usually about 80-90 cm from the ground, depending upon the musher's height.

**Brush-bow** - This is at the front of the sled. It supports and protects all of the structure, like a car bumper. It also protects the dogs from being hit by the sled.

**Basket** - This is the inner tray of the sled and is used to hold any equipment.

**Brake** - This is used to slow the sled. It is located at the back of the sled and controlled by the musher's foot. There are metallic nibs, which, when placed in the snow, act as anchors that slow the sled.



**Pulka** - This is a small sled that looks like a small boat. The team of a pulka is composed by a person on skis pulled by one or two dogs.

**Brancard** - These are the 'arms', which attach the dogs to a pulka.

**Antenna** - This is the rope, which joins the Pulka to the skier. It is tied to the waist of the skier through a suitable belt provided with a spring hook.

**Pulka harness** - This is a harness adapted to the body of each dog and has two harness traces, which are hitched to the Brancard by two spring hooks. Using this, the dogs can pull the Pulka, allowing the skier to achieve maximum speed. It is normally used in sprint competitions.

**Training karts** - These are sled substitutes for when there is no snow. They can be of a simple bicycle construction for one dog, tricycles for a normal group of dogs (2-6) or four-wheel vehicles for a bigger number of dogs. Nowadays they are also used for competitions and not only for training.

**Dog harness** - A well fitting harness is important to allow the dog to run comfortably and effectively.

**Dog boots** - These are special boots for dogs that are used in extremely cold conditions. They are usually made of felt or materials similar to polar lining.



Source: Press Department of Pirena (Spain)





### 5.3.3. Basic Techniques and Knowledge

#### Mushing Techniques







- Mushing is a sport based on the transport of sleds pulled by dogs on the snow.
- This sport depends on perfect co-ordination and harmony between man and dog.
- The sled teams are composed of a musher or pilot, his helper and the dogs (the number of which varies depending on the discipline).
- During a competition the musher decides which dogs can run in each phase.
- There must be enough space in the sled to carry a dog in the event of an injury.
- The driving of a sled varies depending on the type of sled used.
- Sleds used as bulk transports and the sleds used for races and competitions are very different.
- The sleds for bulk transport are usually heavier,

while the ones used in competitions are very light.

- Depending upon the type of sled the musher usually travels standing up, behind the sled where he is able to help to push the sled if necessary.
- The musher must maintain good balance by slightly flexing the knees to absorb any shock when travelling over rough ground.
- The musher can assist with driving a sled by using one foot to push behind, similar to a child on a skateboard. This is known as 'skating'.

#### Commands for the dogs

Apart from the command NO, there are other useful commands. Of course, each musher can use his own commands, but it is recommended to use the international ones in case there are dog exchanges. They must be always short words pro-

Dog Breed		Comments
<b>Alaskan Malamute</b>		The ones running closest to the sled The biggest and most powerful Nordic dog. Very dominant, requires strict training.
<b>Siberian Husky</b>		Placed at front of team to pull the sled. Light and fast, active dogs. Historically was used as a cowherd dog and even as hunting dog.
<b>Greenlander</b>		Normally placed in the centre of the tow-line because of its physical ability Strong dog. The original dog used for Mushing. These dogs were the ones used by the first explorers like Admunsen in their travels.
<b>Eskimo</b>		Similar to Greenlander.
<b>Samoyedo</b>		Usually placed in the centre of the tow-line. Very hairy dog, almost woolly, with a twisted tail. It's a powerful dog but speed is not its speciality.
<b>Akita</b>		Strong and hearty dog, with Nordic features but used and developed for big games in Japan. An excellent sled dog because of its power although it is less used in sprint races.

nounced in the same tone.

The main commands are:

- Shi: right
- Ja: left
- Osh: speed
- Easy: slow
- Go: to begin walking

### Main dog breeds used

Nowadays many different dog breeds are used in this sport, though most are still Nordic breeds.

### The main disciplines of mushing are:

**Sled** - A sled is a vehicle provided with skates or skis instead of wheels, which glides on the snow or on ice. There are different disciplines depending on the number of dogs used, normally from 3 to 10 or 12.

**Pulka** - The Pulka is a small sleigh, generally made of plastic or metal. In this discipline, the dogs pull a small sled to which a skier is tied.

**Skijoring** - Consists of skiing behind the dog, to which the skier is directly bound by a rope with a damper. The tow-line is bound to the skier through a belt.

**Cani-cross** - In this discipline a dog pulls a participant who runs on snowshoes.

## 5.3.4. Mushing Legislation / Organisations / Useful Sources

### Legislation

- In 1992 the International Federation of Sleddog Sports (IFSS) was created to achieve international and Olympic recognition of the activity as a winter sport.
- The General Association of International Sports Federations (GAISF) has already recognised the IFSS as the main body governing

Sleddog activity.

- There are several rules for the practise of this sport all around the world.
- The international federation governs the general rules valid for all the countries, but most countries also have their own specific ones.
- The main international and European organisations for Mushing are:

ESDRA (European Sleddog Racing Association)  
[www.wvnet.at/KUNDEN/ESDRA](http://www.wvnet.at/KUNDEN/ESDRA)

FCI (World Canine Organisation)  
[www.fci.be/](http://www.fci.be/)

FISTC (International Federation of Dog Sledding Sports)  
[www.fistc.com](http://www.fistc.com)

IFSS (International Federation of Sleddog Sports)  
[www.sleddogsportdata.org](http://www.sleddogsportdata.org)

ISDRA (International Sleddog Racing Association)  
[www.isdra.org](http://www.isdra.org)

WSA (World Sleddog Association)  
[www.wsa-sleddog.com](http://www.wsa-sleddog.com)

### Organisations

#### Germany:

DSSV - Deutscher Schlittenhundesport Verband e.V.  
[www.dssv.org](http://www.dssv.org)

#### Portugal:

Federação Portuguesa de Mushing  
[www.homestad.com/fjpm](http://www.homestad.com/fjpm)

#### Spain:

Real Federación de Deportes de Invierno  
[www.rfedi.es](http://www.rfedi.es)

### Useful Sources

[www.infoaventura.com/infoaventura/trineo.asp](http://www.infoaventura.com/infoaventura/trineo.asp)  
[www.perrosdemexico.com.mx/deporte/mushing.html](http://www.perrosdemexico.com.mx/deporte/mushing.html)  
[www.pirena.com](http://www.pirena.com)  
[www.sleddogcentral.com](http://www.sleddogcentral.com)  
[www.tiramillas.net/antimuermo/nieve.html](http://www.tiramillas.net/antimuermo/nieve.html)





### 5.3.5. Brief History of Snowshoeing

- Snowshoes are a very ancient way of travelling over snow.
- Over the centuries snowshoes have been used as a means of transport in areas with snowy winters, where walking on the snow became very complicated.
- The shoes are actually platforms that are secured to the foot.
- The increased surface area of the platform prevents the walker from stepping too deeply into the snow.
- During the 1980's snowshoeing became a popular leisure activity, particularly in North America.
- When ascending hills alpenstocks, long sticks, provide support and assistance.
- The activity is suitable for people of all ages and physical condition.
- In competitions there are different categories



Source: No Limits Sports (Spain)

for men and women.

Generally, walking on snow is hard work because our feet break through the surface of the snow. Lifting our feet up and out of the snow causes additional effort. Snowshoes reduce the distance that the foot falls through the snow and so reduce the effort required to walk over the snow. Learning to walk with snowshoes is relatively easy, though it is necessary to get used to



Source: No Limits Sports (Spain)

the increased foot area.

### 5.3.6. Specific Equipment for Snowshoeing

**Inner footwear includes socks** - These should have the ability to absorb natural perspiration of the feet and to insulate them. Incorrectly fitting socks can lead to serious abrasions and wounds when practising snow activities.

**Outer footwear includes the boots** - These must have a thick, resistant sole with insulating characteristics and be specifically adapted for use in snow. The height and fit of the boots should be enough to avoid unwanted water and snow entering, even in deep snow.





**Snowshoes** - many different models have been developed over the years. Whilst wood is still a popular material it is being replaced by plastics, aluminium and other resistant and light modern materials. Some models even have additional components such as lateral and central nibs (acting as crampons) added to the basic structure to avoid gliding too much on hard snow. The fastening straps have been replaced by different fastening systems, which allow the movement of the feet and which facilitate walking. The weight of a snowshoe varies between 0.4 to 2 kg in the most sophisticated models. The system of fastening the snowshoes generally determines their use:



- With straps: The traditional model incorporated into a modern structure.
- Soft rubber clog: These come in different sizes and are adjustable to every type of foot-

wear. These are best for easy and short walks.

- With straps and rigid plastic insoles: These are suitable to every kind of footwear and give a secure fastening for the foot.
- Automatic fastening and rigid plastic insoles: These can only be used with footwear provided with nicks for automatic crampons. It is a system similar to that used in Nordic skiing. It is used essentially for competition.

### Types of fastenings

- The forward fastening must always be secured to the tip of the boot.
- The heel may remain free or be joined to the platform of the snowshoe.
- Free heel: This is normally used for climbing slopes or walking on flat surfaces.
- Fastened heel: This is used when descending slo-



Source: No Limits Sports (Spain)







Source: No Limits Sports (Spain)

pes. The back part of the snowshoe should be inserted into the snow to avoid becoming unbalanced.

#### **Other equipment includes:**

**Sticks** - those used for trekking and other mountain disciplines are suitable.

**Thermal socks**

**Winter clothes**

**Waterproof or ski trousers**

**Sunglasses**

**Gloves**

**Map and compass**

### **5.3.7. Basic Techniques and Knowledge**

The design of snowshoes forces you to stand with your feet further apart than normal. To develop good snowshoeing technique:

- You should warm-up and stretch for at least

10 or 15 minutes immediately prior to doing the activity.

- The snowshoes must be securely fastened so that both shoe and foot move as one.

- When walking with a snowshoe avoid bending your legs.

- When descending, dig your heel into the snow and open your legs, flex your knees, keep the body straight and the shoulders slightly inclined forwards. This gives good control and helps to avoid gliding.

- Avoid lifting knees too high as this will cause unnecessary fatigue.

- When ascending steep slopes the tip of the snowshoe should be dragged to avoid fatigue.

- Using a couple of ski or trekking sticks can help to maintain the balance.

Snowshoes are not designed for walking on hard surfaces or to overcome unevenness. They





are meant for travelling on relatively flat, snow covered areas that are easy to move over. Snow covered woods, deep valleys and forest paths are perfect places to use snowshoes, whilst experiencing the natural environment.

### 5.3.8. Snowshoeing Basic Safety / Organisations / Useful Sources

#### Safety Considerations

- Snowshoeing should not offer any more risk than walking.
- General recommendations for any winter mountain activity should be considered.
- It is recommended not to practise the activity

alone, to have knowledge of the route beforehand and to be prepared to change the itinerary.

- Snowshoe users should be prepared for any eventuality that could be expected in winter and mountainous conditions.

#### Organisations

The European Snowshoe Committee

The European Cup of Snowshoe Racing

#### Useful Sources

[www.infoaventura.com/infoaventura/raquetas.asp](http://www.infoaventura.com/infoaventura/raquetas.asp)

[www.nolimit-sports.org](http://www.nolimit-sports.org)

[www.snowshoeracing.com](http://www.snowshoeracing.com)



Source: No Limits Sports (Spain)







## Annexes





## I. Training Itinerary

The training programme developed in this project represents a necessary training itinerary to the active tourism market that besides the active tourism activities also refers to other related aspects, as the knowledge of the territory and the importance of providing good quality services.

It aims to be a guide to trainers, giving orientation to the training of Active Tourism Specialists.

It was developed for a total duration of 700 hours divided in eight training modules: **Nature's Interpretation; Active Tourism Activities; Risk Management; First Aid; Client's Attention; English; ICT - Techniques; Labour Orientation and Practises in Enterprises.** Combining theory and practice, the programme adjusts itself to the market, especially to trainers and trainees, providing them tools to develop critical thinking and promoting the exchange of experiences.

**Itinerário Formativo**

ACTIVE TOURISM  
a Leonardo da Vinci Project

Ar Terra  
Água Neve  
Primeiros Socorros  
Gestão do Risco

**Turismo Activo**  
um novo perfil profissional

Inglês para Especialistas em Turismo Activo  
Serviço ao Cliente  
Novas Tecnologias da Informação e da Comunicação - NTIC  
Orientação Laboral  
Estágios nas Empresas

European Union  
Leonardo da Vinci  
Projectos-piloto

ERMA, S.L.  
FEDERACIÓN ESPAÑOLA DE TURISMO  
AIMRD  
Associação Europeia de Montanhismo e Desportos de Inverno  
Associação Europeia de Montanhismo e Desportos de Inverno



## II. CD-ROM



An interactive walk through the exciting world of the Active Tourism is annexed to this handbook.

## III. Glossary of Specific terms of Active tourism Activities

### 1. Paragliding

**Aerodynamics:** The study of the dynamics of gas flow and the problems produced by the relative movement between solids and air, or other gases which come in contact with these solids.

**Aerology:** The study of the high atmosphere.

**Altimeter:** An aneroid or radio barometer used to ascertain altitude.

**Brakes:** Control lines that are attached to the trailing edge of the paraglider near the wing tips.

**Canopy:** Another name used to describe a paraglider wing.

**Cell:** A compartment within a paraglider wing. It is enclosed by the top and bottom surfaces of the wing and by the ribs on the wing on either side. Most cells are open at the leading edge of the wing.

**Controls:** Lines that are attached to the trailing edge of the paraglider near the wing tips. Pulling downward on these control lines pulls down the trailing edge of the respective side of the wing slowing that side of the wing. Controls are also referred to as brakes. However, other lines can be used to control a paraglider that are not the same as the “brakes”.

**Glider:** A term used for a paraglider.

**GPS:** Global Position System; a GPS receiver can identify the user's position from satellite signals, enabling a monitor to spot the proper exit for paragliders when landing.

**Headwind:** A wind that is blowing opposite to your direction of travel. It resists your progress in the direction into the wind.

**Inflation:** The transition of a wing into the flying mode.

**Paraglider:** A wing consisting of strong but light fabric sewn to form cells that are open in the front and are inflated by the pressure created as the wing moves through the air. The pilot hangs from the wing seated in a harness suspended by hundreds of high tensile strength lines. The pilot steers by pulling brake lines attached to either side of the trailing edge of the wing, s/he may also apply weight shift to enhance turning.

**Paraglider harness:** Constructed of ballistic nylon and military spec webbing and hardware it supports the pilot's body, usually in a seated position, while flying the glider. The harness is similar to a sling chair and has webbing straps across the front to keep the pilot in the harness while the legs hang free. Harnesses often have reinforcing plates in the seat and back to reduce injury in case of an impact with the ground. The harness also contains the pilot's reserve parachute and has storage pockets for radios, gear, and equipment bags. They connect a paraglider wing to the pilot.

**PLF:** Parachute Landing Fall. A technique used to minimise injury during rough landings; a PLF distributes the landing shock along feet, calf, thigh, hip, and shoulders. During a PLF, the jumper's chin is tucked, and the risers are grasped protecting the face and throat. The PLF is executed in one of six directions (left front, left side, left rear, right front, right side, right rear), depending on terrain, wind, and oscillation.

**Radios:** These radios offer clear communications with other pilots and chase crews on the ground and can transmit over long distances with very little power.

**Reserve parachute:** Essential piece of equipment for any Paraglider pilot. It provides a backup if the wing stops flying, for whatever reason. Most parachutes are set for hand deployment, where the pilot pulls a handle and throws the packed-up parachute into the air. The deploying pilot does not “bail out” of the glider but stays attached to it, which usually helps slow the descent and perhaps even protects those below.

**Soaring:** When a glider remains aloft by flying in rising air, usually either in thermals or above a ridge. Soaring is the goal of most paraglider pilots.

**Snap hook:** Metallic piece, usually in the shape of a bow that can be easily opened or closed with a safety lock. Stability - The control of body posture, position, and manoeuvrability during flight.

**Tailwind:** A wind that is blowing in your direction of travel. It improves your progress in the direction of wind.

**Thermal:** Thermal is a rising bubble or column of air that is warmer than the surrounding air. A pilot stays in a thermal by turning in circles. A pilot's vario helps identify the rising air. As long as the thermal is rising faster than the glider's sink rate (gliders are always sinking relative to the air they are in) the pilot can keep climbing. Thermals can rise thousands of feet, stopping only when and if they encounter an inversion. Thermalling takes skill, but it allows pilots to cover large distances, which would otherwise be unattainable.

**Thermal soaring:** When a glider stays aloft by flying in rising air, in a thermal. The pilot ascends using the hot air rising from the ground due to heating by the sun.

**Vario or Variometer:** An instrument that a pilot uses to tell when s/he is climbing. It senses slight changes in air pressure (pressure decreases with altitude) and indicates climbing with a tone and/or display. They are often built into instruments that also include altimeters and airspeed indicators.

**Wing:** A flexible structure made by several covering materials (extremely light and resistant) together with a combination of lines. The wing consists of the leading edge, trailing edge, cells, risers, lines and harness.

## 2. Cycling



**Aerial:** The branch of freestyle riding that is mainly concerned with jumps and off-the-ground tricks.

**Aerodynamic:** Parts or riding positions intended to reduce air resistance. In most cycling, air resistance is the major limiting factor on speed.

**Aero Bars:** Handlebars or handlebar attachments that allow the rider to assume a lower, more aerodynamic upper-body position.

**Allen Wrench:** A solid hexagonal bar, usually “L” shaped for leverage that fits into the hollow hexagonal hole of an Allen bolt head. This tool is sometimes confusingly called a “hex wrench,” “Allen key” or “hex key.”

**Ball Bearing:** Ball bearings are used in bicycle bottom brackets, freewheels, headsets, and hubs. They are also occasionally used in derailleur pulleys and brake callipers.

**Bar Ends:** Handlebar extensions that mount on the ends of a straight-ish mountain-bike style handlebar to provide extra hand positions.

**Bidon:** French term for a water bottle.

**BMX:** Bicycle Motocross, a type of dirt-track racing. Races, called “motos” usually last less than two minutes, and feature jumps.

**Cable:** Most modern bicycles use cables to control the gear shifting and brakes.

**Cadence:** The speed at which the pedals turn, measured in Revolutions Per Minute. Inexperienced cyclists tend to ride in higher gears than they should, pedalling at a slower cadence. Most experienced cyclists pedal at cadences in the range of 70-90 RPM. This puts less strain on the joints, particularly the knees. Racing cyclists often use even higher cadences for bursts of acceleration.

**Cantilever Brake:** A cantilever brake has two separate arms, or cantilevers, one on each side of the rim.

**Carbon fibre:** A composite material that is very strong and very light. It is used for frames and forks.



**Cassette:** A cluster of sprockets and spacers designed for use on a freehub.

**Death Cleats:** Clipless pedals that require a manual release before the rider can disengage the shoes from the pedals.

**Deraileur:** A mechanism for moving the chain from one sprocket to another to change gears on a multi-speed bicycle.

**Diamond Frame:** This is the standard design for a bicycle frame, and has been for over a hundred years.

**Disk Brake:** A hub brake, similar to an automotive disk brake, consisting of a disk that screws on to the hub and a calliper attached to the frame or fork that squeezes on the disk.

**Down Tube:** The frame tube that runs diagonally up from the front of the bottom bracket up to the lower end of the head tube.

**Downshift:** The act of shifting to a lower gear. In the case of deraileur gearing, this means shifting to a larger rear sprocket, or a smaller chainwheel in front.

**En danseuse:** From the French: “dancing on the pedals.” Pumping; pedalling while standing up. This is not an efficient pedalling style, but sometimes gives a welcome relief by providing a change of position.

**Extension:** The length of the part of the stem that runs forward from the shaft to the handlebar clamp.

**False flat:** A section of road that looks level, but is actually slightly uphill.

**Fender:** A covering for the upper part of the wheel, to protect the bicycle and rider from spray when riding in wet conditions.

**Flange:** A raised circular rib around a part. The usual use for this term in bicycle usage is to refer to the part of a hub that the spokes attach to.

**Flatland:** A branch of freestyle cycling done at ground level. Usually involves spins, and standing on different parts of the bicycle, sometimes moving forward, sometimes backward, sometimes balancing at rest.

**Flip-flop hub:** A double-sided hub, intended to take a sprocket or freewheel on each side.

**Fork:** Usually refers to the front fork, the part of the frame set that holds the front wheel.

**Frame:** The skeleton of a bicycle. The most common type of frame is called the “diamond” frame, and consists of two (or three, depending on how you look at it) triangles.

**Frame Set:** Usually, a “frame set” will consist of the frame and fork. In some cases, it may also include a headset and/or a seat post, or other parts peculiar to the frame involved.

**Frame Size:** Frame size generally refers to a measurement of the seat tube. This is measured from the centre of the bottom bracket to somewhere near the top of the seat tube. Unfortunately, manufacturers disagree about where to figure the top of the seat tube, so the same frame may have as many as 8 different size numbers, depending on the manufacturer. Frame size may be measured in inches or centimetres.

**Freewheel:** The mechanism that makes coasting possible.

**Gauge:** A measurement of thickness, particularly of wire.

**Gear:** The “gear” of a bicycle relates to the mechanical advantage of the whole drive system. The gear of a bicycle depends on the ratio between the sizes of the front and rear sprockets, and the size of the drive wheel.

**Goose Neck:** Handlebar stem, particularly a stem with a long forward extension.

**Granny Gear:** Slang term for the smallest chainwheel on a triple crank set.

**Handlebar Tape:** Cloth, plastic or leather tape that is wrapped around handlebars to provide better grip and some cushioning.

**Headset:** The bearing assembly that connects the front fork to the frame, and permits the fork to turn for steering and balancing.

**Hub:** The middle part of a wheel, to which the inside ends of the spokes attach.

**Hybrid:** Hybrid bicycles, also known as “cross” or “fitness” bicycles are a cross between a mountain bike and a touring bike.

**Lance Armstrong:** A USA cyclist who has won the Tour de France six times (1999-2004).

**Masher:** A cyclist who habitually pedals hard in a high gear, at a slow cadence. The opposite of a “spinner.” The “mashing” style is likely to cause knee injuries and leg cramps.

**Match sprint:** A track event for two riders, who start together.

**Mountain Bike:** “Mountain bike” (MTB) is the currently preferred term for bicycles made for off-road use.

**Mud Flap:** A triangular flap that hangs down below the front fender to protect the feet from spray.

**Pace Line:** A group of cyclists riding close behind one another in a line, so that each cyclist can draft the cyclist in front, except, of course for the leader, who is taking a turn to pull the rest of the group.

**Pannier:** A bag that hangs alongside one of the wheels of a bicycle.

**Peloton:** A densely packed group of riders, sheltering in each other's draft. In a mass-start race, most of the competitors usually end up in one large peloton for most of the race.

**Penny Farthing:** A high-wheel bicycle. This term comes from old English coinage, where the penny was a very large coin, the farthing a very small one.

**Quick-release Wheels:** Quick Release wheels use a cam mechanism to allow the wheels to be removed quickly, and without any tools.

**Quick-release Brakes:** To facilitate wheel changes, most high-performance road bicycles have a quick release mechanism that allows the brakes to be temporarily opened a bit wider than usual, so that the tyre can fit through the brake pads.

**Randonnée:** The French word “randonnée” is not exactly translatable into English. The closest is probably “hike”, which is not commonly used in bicycle contexts. A randonnée is an organized group ride, with some emphasis on speed, but it is not a race.

**Reflector:** Reflectors are supplied with most bicycles with the intent of making the bicycle visible at night when illuminated by the headlights of another vehicle.

**Rim:** The outer metal hoop of a bicycle wheel. The rim does not include the spokes, or the hub.

**Road Racing:** In one sense, road racing is any racing that is done on roads, but the more usual sense is that of a mass-start race from one place to another, or possibly a loop course with long laps.

**Saddle:** Frequently called a “seat”, a bicycle's saddle is not intended to support the rider's entire weight.

**Shifter:** The hand control for a gear shifting system.

**Shimano:** The leading manufacturer of bicycle parts.

**Spoke:** One of the wires connecting the rim to the hub of a bicycle wheel.

**Sport-touring Bicycle:** Sport-touring bicycles occupy a middle ground between touring and road racing bicycles.

**Sprocket:** A toothed wheel or gear that is part of a chain drive. The front sprockets are also commonly called chainwheels or chainrings.

**Standover Height:** One of the prime dimensions of a bicycle, this refers to the height of the top tube above the ground. If the standover height is too tall for a given rider, mounting and dismounting will be awkward and dangerous.

**Top Tube:** The frame tube that runs horizontally from the top of the head tube to the seat cluster.

**Touring Bicycle:** A touring bicycle is designed for comfort, durability, efficiency and, in most cases, load-carrying capacity.

**Upshift:** The act of shifting to a higher gear. In the case of derailleur gearing, this means shifting to a smaller rear sprocket, or a larger chainwheel.

**Vélo:** French for “bicycle”, commonly used as a root for compound words relating to cycling. Short form of “vélocipede.”

**Velodrome:** A bicycle-racing track.



### 3. Horse Riding



**Athletic horse riding:** Where the riders are riding to overcome obstacles and difficult conditions or to practise sports based on horse riding.

**Bridle:** Equipment made of leather used to control the horse.

**Casual riding:** Where the riders' primary aim is to enjoy the ride itself and the trail, which is usually over an attractive area where the rider can appreciate the quietness and scenery.

**Educational horse riding:** Where the riders focus upon learning about an area. The learning subject can vary from nature to archaeology and culture.

**Natural path/trails:** A narrow path through a natural environment (ranging from grasslands and wetlands up to thick forests and mountainous terrain) without any heavy clearing work.

**Nature protection:** A set of actions and measures that maintain and protect the natural environment.

**Nature appreciation:** An activity where the rider can enjoy natural scenery, unique habitats, wilderness, and natural elements.

**Snow horse riding:** Where the riding trail is mostly covered by snow and occurs in winter.

**Stables:** Buildings used to house and protect animals. Stables for horses usually have individual cabins for every horse, and areas for food storage.

**Saddle:** A piece of equipment made of leather, securely fixed on the horse's back. The rider sits on it to increase control and comfort whilst riding.

**Tourist mountain riding:** Where the riding trail is on mountainous terrain but does not require great experience or excellent physical condition to attempt it.

**Veterinary doctor:** Is the specialized doctor for animals.

**Water horse riding:** Where the riding trail is designed mostly beside water.

### 4. Trekking



**E-Paths:** Paths that cross different countries territories.

**GPS (Global Positioning System):** A system of satellites that allows one's position to be calculated with great accuracy by the use of an electronic receiver.

**Guidebook:** Book that describes the route and sometimes information relating to history, wildlife, services and facilities.

**Hike:** Short distance walk.

**Pedometer:** small device that clips to ones belt and counts the number of steps.

**Piolet:** Iron bound stick used by mountain climbers.

**Treks:** Long distance walks with need to overnight stay.

**Walking:** Activity that consists of travelling distances by foot.

**Walking route:** Route used for walkers. Routes can have signs, on natural elements, such as rocks, that guide the walker along the path.

### 5. Climbing and Abseiling



**Abseil:** Descending by sliding down a rope. Americans usually call this rappelling.

**Aid climbing:** Moving up a rock using fixed or placed protection as a means of progression (and not just for protection).

**Aider:** Webbing ladder used for aid climbing.

**Aid route:** Route that can only be ascended using aid climbing techniques.

**Anchor:** Point where the rope is fixed to the rock. The following make good anchors: sturdy trees, large blocks or boulders, and gazebos.

**Ascenders:** Devices (e.g. Jumars) to ascend a rope.

**Barn door:** To lose the foot and hand holds on one side of the body. Usually causes the climber to swing like a barn door.

**Belay:** To secure a climber.

**Belay:** The person at the belay station securing the climber.

**Bent gate karabiner:** Karabiner with the gate bent to accept the rope more easily.

**Bomber:** Used to indicate that something is exceptionally solid, e.g. an anchor, a hold.

**Bombproof:** The illusion that an anchor is infallible.

**Bowline:** Sailing knot.

**Karabiner :** A device that can be used as a link between the rope and protection, as a rappel brake, or as a clip for carrying various items up a climb.

**Chalk:** Magic powder that makes the hands stick to even the smoothest rock.

**Chest harness:** Bra-like harness (to be used with waist harness).

**Chimney:** A climbing technique used to conquer chimneys. Usually requires the use of the back and feet, arms, head and other body parts.

**Cliff:** A vertical piece of rock good for climbing (see also Crag).

**Climbing gym:** An artificial wall, the second best thing to real rock.

**Climbing shoes:** Shoes made of sticky rubber.

**Clip:** The reassuring action of putting the rope through a karabiner (that is attached to a piece of pro).

**Clove hitch:** A useful, easily adjustable climbing knot usually used to tie the rope into a karabiner.

**Cord:** Thin static rope (5, 5.5 or 6 mm).

**Crag:** Name for a (small) climbing area.

**Descender:** Device used for abseiling.

**Double fisherman's knot:** Solid knot used to tie two ropes together.

**Double rope:** Same as a half rope. Also the technique using two half ropes.

**Downclimbing:** Descending the difficult way.

**Dynamic belay:** A belay method in which some rope is allowed to slip during severe falls. A dynamic belay can severely reduce the impact

force from a serious fall, but can also severely injure you if not done properly.

**Edge:** A sharp edge on a rock face.

**Edging:** Foot technique where one uses the edge of the climbing shoe to stand on small footholds. The opposite of smearing.

**Etrier:** (Pronounce with a french accent). Webbing ladder used for aid climbing. Also known as 'aider'.

**Fifi hook:** An open hook used to allow easy clipping during aid climbing. Usually found on aiders, daisy chains, etc.

**Figure 8:** Metal abseiling device shaped like an 8.

**Figure of eight:** Very popular and solid tie-in knot.

**Fingerlock:** Masochistic technique to twist and wedge the fingers into a crack.

**Fisherman's knot:** Simple knot to tie two ropes together. The double fisherman knot, however, is more popular.

**Free climbing:** Moving up a rock using only hands, feet, and natural holds. Ropes and pro are only used for protection of the climber and not for progression.

**Gate:** The part of the karabiner that opens.

**Grigri:** Belaying device made by Petzl.

**Half rope:** A rope of 9 or 8.5 mm that has to be used together with a second rope when leading a climb.

**Harness:** Unites the body and the rope with each other and is one of the most important parts of the safety system.

**Helmet:** Solid plastic device that can sometimes protect the head from falling stones or impact

**Hex:** Short for Hexentrix. A type of nut with an excentric hexadiagonal shape. Works for wedging (as a nut) but also for camming.

**HMS:** Karabiner with one wide side used for belaying with a munter hitch (aka pearabiner).

**Jumar:** A type of rope ascending device. Jumar is also assistance (device) in rope stretching and pulling.



**Kernmantle rope:** modern climbing rope consisting of bundles of continuous nylon filaments (Kern) surrounded by a braided protective sheath (Mantle).

**Layback/Lieback:** Somewhat clumsy looking climbing technique where hands and feet work in opposition.

**Locking biner:** Karabiner that can be locked (in the UK, a screwgate or twistlock).

**Lowering:** To descend something or somebody.

**Mixed climbing:** Climbing with a combination of different methods of ascent. e.g mixed free and aid climbing, mixed rock and ice climbing, etc.

**Munter hitch:** Knot used for belaying (Aka Italian hitch or friction hitch).

**Overhand knot:** A simple (but solid) knot in a double rope.

**Overhand loop:** The simplest type of knot possible.

**PPE concept:** Is a product that is designed to protect the health of a person or ensure his/her safety in different risk situations.

**Prusik:** The sliding knot or the method to ascend a rope (named after its inventor Dr. Karl Prusik).

**Rope:** long and round nylon fabrication. Climbing ropes are generally between 10 and 11 mm in diameter (with the exception of “half ropes” which are between 8.5 and 9mm in diameter).

**Single rope:** Designed for climbing, best to be used on routes that are straight and there is no descending needed after leaving the route.

**Scrambling:** Easy climbing, usually unroped.

**Screwgate:** The type of karabiner that can be locked with a screw.

**Short roping:** Belaying technique where the belayer keeps the leader under tension in an attempt to reduce the length of a fall.

**Smearing:** Foot technique where a big part of the climbing shoe is used to generate as much friction as possible. The opposite of edging.

**Traverse:** A horizontal climb.

**Twin rope:** Should always be used in pairs, can be used also for descending in full-length.

**Webbing:** Long pieces of tubular nylon, used mainly to tie off to anchors.

## 6. Paddlesports



**Agile Bow:** A member of the paddle crew, who is assigned to get out on shore and hold the boat.

**Bailer:** An open-ended container or bucket used to remove water from the raft.

**Beam:** The width of a canoe or kayak measured at the widest point.

**Blade:** The wide, flat area of a paddle, used for propulsion.

**Boat Angle:** The angle of the boat relative to the current.

**Bow:** The front of the boat.

**Brace:** Paddling technique using downward and sweeping strokes to stabilise a tipping canoe or kayak.

**Broach:** Occurs when a canoe or kayak becomes caught in the current against an obstruction and turned sideways. This can result in severe damage as the current's force wraps the boat around the obstruction.

**Bulkhead:** Sealed compartment fore or aft in a decked canoe or kayak. Primarily required for flotation but also used as storage area.

**Buoyancy Aid:** A personal floatation device, coast guard approved, and worn like a vest.

**Cascade:** A steep fall of water from a terrace situated in a riverbed.

**Cataraft:** An inflatable boat with two pontoons usually powered by an oar rig.

**Chine:** The edge of the kayak; transition area between hull and deck.

**Chute:** A narrow channel through which the flow of water is swifter and deeper than the normal flow.

**Cockpit:** The opening in the deck of a kayak or closed canoe where the paddler sits. The curved lip around its edge, used to secure a spray skirt, is the coaming.

**Current:** Moving water.

**Deck:** Closed-in area over the bow and/or stern of a canoe or kayak. Sheds water and, on a canoe, adds strength to the gunwales.

**Dry Bag, Day Bag:** A bag for keeping gear in on the river, to help keep things dry.

**Dry Suit:** A suit designed to keep all water out, under which any amount of layered clothing can be worn.

**Duckie:** A one or two person inflatable boat, usually paddled with double bladed paddles. Also known as Inflatable Kayak, Funyak, Splashyak.

**Eddy:** A current of reverse water flow sometimes creating a small whirlpool.

**Eddy Line, Eddy Fence:** Where the water flowing upstream passes the water flowing downstream.

**Ferry:** To cross a current or river, without moving downstream.

**Flip:** The boat turned upside down by a wave, a rock, or other mishap.

**Flotilla:** A group of boats together on a trip.

**Freeboard:** The vertical distance measured from a boat's waterline to the lowest part of its gunwale.

**Grab Loop:** Short rope or grab-handle threaded through bow/stern stems of a kayak or canoe.

**Gradient:** Drop in elevation during the downstream flow of a river. Rate of gradient is usually expressed in number of feet decreased per mile.

**Guide:** The person who steers the boat down the river, giving paddle commands to the crew (paddle captain).

**High Side:** The necessary act of jumping to the "high side" when coming up against an obstacle sideways. Always jump downstream, towards the rock or obstacle. When executed properly, it can help prevent a wrap or a flip.

**High Water:** River flow above an expected average. Makes the currents faster. Some rapids get easier, others become more difficult.

**Hole:** A depression in the river caused by reverse water flow. Also may be called a hydraulic.

**Hoop:** Tubular webbing used for multiple purposes in rigging and preparing boats.

**Hull:** The body of a canoe or kayak; the area that has the greatest impact on how the boat and water interact.

**Hydraulic:** A very large hole with reverse water flow.

**Hypothermia:** A lowering of body core temperature, caused by the body losing heat faster than it is produced. Hypothermia is a threat when water temperatures are below 16 °C, or air temperatures are below 10 °C.

**Karabiner:** A clip, used to secure items into the boat, and to construct safety and rescue systems.

**Keel:** A strip or extrusion along the bottom of a boat to prevent (theoretically) side-slipping. Adds rigidity or hull support.

**Laterals:** A wave or hole peeling off an obstacle at an angle.

**Lead Boat:** The first boat in the flotilla, often captained by the trip leader.

**Low Water:** River flow an expected average. More rocks and obstacles may show, rapids become more technical.

**Oar:** A long blade, attached to the boat by an oarlock and used to row.

**Oar Rig:** A boat rigged with oars, so one person sitting in the centre of the boat can row.

**Paddle Boat:** A raft with a crew of paddlers and a guide.

**Paddle Commands:** Commands used by the guide to communicate to the crew.

**Pool:** An area of flatwater without rapids.

**Pool drop:** A whitewater rapid, usually of short duration, that begins and ends with fairly calm water rather than continuous water flow.

**Portage:** To carry the boats around any rapid, which the boater feels they cannot successfully and safely negotiate.

**Put-in:** The starting point of a rafting trip where rafts are put into the river.



**Raft Paddle:** A single bladed paddle, with the blade having a large surface area, held in the hands, not attached to the boat, used to propel the raft forward or backward. Can be single-bladed (for rafting and canoeing) or double-bladed (for kayaking, solo cats, inflatable kayaks).

**Rafting:** Sport modality that consists of descending a river on a craft or rubber dinghy using paddles or oars to direct it round obstacles, always avoiding capsizing the craft or causing any member to fall into the water.

**Rapids:** A series of waves and turbulence.

**River Left:** The left side of the river when facing downstream.

**River Right:** The right side of the river when facing downstream.

**Riffle:** A very small rapid or wave caused by a shallow sand bar or rocks extending across a streambed.

**Run:** A section of river that can be boated.

**Safety Talk:** A talk that precedes every trip, in which paddlers learn about safety on the river.

**Scouting:** To visually survey a rapid from the riverbank to select the best route before running it.

**Sportyak:** A small oar-guided rowing craft fairly unique to the American Southwest. Most commonly seen on Utah's Green and San Juan rivers.

**Standing Waves, Haystack:** A series of stationary waves caused by water converging at the end of a tongue or a submerged object.

**Stern:** The rear of the boat.

**Stern Rig, Paddle Assist:** An oar/paddle boat, in which the guide has oars and frame in the stern, and the crew, sitting forward, has paddles. Often used on high water.

**Stopper:** A standing wave, where most of the wave falls back upstream. Hole i.e. rock drain is a stopper, created by the water flowing over the stone.

**Strainer, Sieve:** An opening or openings where water can flow through, but a solid object such

as a person or boat cannot. Usually formed by trees on the banks, or by rocks on top of one another with water flowing through them. One of the most dangerous river features.

**Sweep Boat:** A boat rigged with first aid, safety and rescue gear which usually runs last in the flotilla.

**Take-out:** The point where the rafting trip ends and the rafts are removed from the river.

**Throw bag:** A small bag containing a coiled rope that is used to rescue rafters in a river.

**Thwart:** A cross-brace between the sides of a canoe. The centre thwart should be the balance point of the canoe.

**Tongue:** A narrow depression between waves.

**Trim:** A trim boat is level, side-to-side and end-to-end. Achieved by shifting the load or position of the paddlers.

**Trip Leader:** A Guide designated to oversee the smooth running of a trip.

**Tumblehome:** Term used to describe a hull cross-section that curves inward from the waterline toward the gunwales.

**Waterfall:** A terrace-type rapid, where the terrace is not vertical. A waterfall is from its nature an in-between form of rapid and cascade.

**Waterline:** A line reached by the water along the hull of a boat; the shape of the waterline and the handling characteristics of the boat change as the load changes.

**Wet Suit:** A neoprene rubber suit, which allows a small amount of water in, to help retain body heat.

**Whitewater:** Moving water whose surface becomes turbulent or frothy either by passing over rocks, through a narrow river channel, or down a steeper gradient.

**Wrap:** A boat held against a rock or other object by the force of the current.

**Z-Drag:** A pulley system used to give a mechanical advantage when trying to free a boat from a "wrap".

## 7. Water Skiing



**Air:** A wakeboarder achieves this when the wakeboard is no longer touching the water. There is essentially “air” between the wakeboard and the water. Air can also be achieved with a trick ski, kneeboard, hydrofoil, and in other boat towed sports.

**Bevel:** Term used to describe the side of the ski, or the transition area between the side of the ski and the bottom of the ski. The rounder the bevel, the deeper the ski will ride in the water, and the more the ski will roll, making it more difficult to control. A sharper bevel causes the ski to sit higher out of the water. Beginner skis generally have sharp beveled edges and more advanced skis have more rounded bevels, allowing the ski to transition better in the water.

**Bindings:** Means by which the skier or wakeboarder mounts their foot on the ski or board. Bindings are made of rubber or hardshell material. Bindings may be adjusted on a ski by moving them backwards or forwards. Bindings may be adjusted on a wakeboard by moving them in different angles. There are different options for bindings on a ski. They can be hard-shell bindings, double high-wraps, a front high-wrap with a rear toe plate, or two adjustable bindings. When worn, bindings should feel snug to the feet. Also known as: boots.

**Boom:** A pole that extends from the centre of the boat to out and over the side of the boat. It is used as a training device for beginner water-skiers or barefooters who are not ready to go long line behind the boat. Its purpose is to keep the skier close to the boat for easy coaching, as well as give the skier something steady and high to hold on to.

**Bridle:** The portion of the rope that attaches to the ski handle in a Y shape fashion.

**Bunny Hop:** When a wakeboarder jumps in the air without the use of the wake.

**Concave/Tunnel:** An inward bent shape of the underneath portion of a slalom water ski. Tunnel is used to improve tracking around high speed turns.

**Dock Start:** When a water skier, wakeboarder, or barefooter begins his run by first being pulled into the water by a boat from standing or sitting on a dock, or the shore.

**Double-Up:** Wakeboarding term used to describe when a boat driver makes a wide turn and crosses over the wake his boat has just made. The wakeboarder rides on the inside of the turn and he hits the two wakes as they meet, where the wakes can be up to three times the size of a normal wake.

**Downed Skier:** A water skier, wakeboarder, barefooter, etc. who has fallen and lost possession of the towrope. Also known as: fallen skier.

**Edge:** Edge exists when the skier or boarder puts their water ski or wakeboard on its edge against the force of the boat in order to increase or decrease board / ski acceleration.

**Fakie:** Riding backwards on a wakeboard. Or riding in the opposite direction to that which is most comfortable to you, a right foot forward rider switching to left foot forward, and vice versa. Also known as: switchstance.

**Fat Sack:** A tubular bag that is filled with water in order to add weight to the boat. Bags may be placed at the rear of the boat or along the sides. Increased weight in a boat creates larger wakes behind the boat, allowing wakeboarders to jump higher. Also known as: phat sac, weight system, wake system, wake enhancer.

**Fin:** A fin(s) is a tracking and turning device to keep the ski or wakeboard travelling in the direction in which you steer it. Without fins the board or ski tends to float freely without much control.

**Flex:** Flex refers to the degree of stiffness in a water ski or wakeboard. Flex patterns generally come in soft, medium, or firm. The softer the flex, the tighter the ski will turn, the more the ski will bend. Wakeboards with softer flex tend to ride better in rough water. The stiffer the flex, the better the ski holds to the water across a wake. Firmer flex on a wakeboard helps the rider maintain proper body position. Also known as: AMP's.



**Flip:** When a wakeboarder takes the board end over end, or tip over tail.

**Goofy Foot:** When your right foot is forward on a water ski or wakeboard. Also known as: right foot forward.

**Grab:** When a wakeboarder grabs the wakeboard with their hand as they are airborne.

**Handle:** The bar which the water-skier or wakeboarder holds on to with their hands. The bar is connected to a rope, and the rope is connected to the boat.

**Heelside:** A cut towards the wake with the heel side of the wakeboard on edge and the rider's chest is facing the wake.

**Holeshot:** The speed at which a boat takes off when put into gear quickly. A quick holeshot is useful when pulling skiers out of the water.

**Hydrofoiling:** A device, a little narrower than a kneeboard, in which a chair-like seat is mounted on top. The rider sits on the seat, with their feet resting on the front of the board. A foil is attached to the bottom the board, allowing board to ride above water. Equipment also known as: air chair, sky ski.

**Inboard:** A boat in which the engine is inside the hull at the centre of the boat. With an inboard engine the propeller is underneath the boat.

**Indy:** When a wakeboarder grabs the toeside of the board with the backhand around the back foot.

**I.W.S.F.:** International Water Ski Federation: the international governing body for waterskiing. All world records must be reviewed and approved by the IWSF.

**Jump Waterskiing:** A form of waterskiing where the skier guides the skis over an inclined ramp to achieve distance and height. Also known as: ski flying.

**Jump Ramp:** An inclined plane with a waxed surface which a water skier uses as a launching pad to achieve distance and height.

**Kite Boarding/Kite Skiing:** A form of wakeboarding where the boarder is being pulled by a kite instead of a boat. Also known as: kite surfing.

**Kneeboarding:** Riding on an extra wide, board shaped ski while in the kneeling position while being pulled by a boat. Also known as: hydrosiding.

**Late:** When a slalom water-skier falls behind when running the course, making it difficult to reach the next buoy. Late also refers to when a jumper is too slow making the cut towards the ramp.

**Lift:** Height achieved as a jumper comes off the ramp.

**Load The Line:** When a wakeboarder puts himself in the position of swinging out away from the boat, slowing down a bit, and then making a progressive cut towards the wake to create more tension.

**Nosebone:** Wakeboarding trick in which the rider, while in flight, tucks one knee to the chest and extends the other leg straight out in front of him.

**Off-side Turn:** When a left-foot-forward water skier or wakeboarder makes a turn to the right and when a right-foot-forward skier or boarder makes a turn to the left.

**On-side Turn:** When a right-foot-forward water skier or wakeboarder makes a turn to the right and when a left-foot-forward skier or boarder makes a turn to the left.

**Pass:** A successful run by a water-skier through a slalom course.

**P.F.D.:** A personal flotation device, is a jacket which the water-skier or wakeboarder wears to keep them afloat in the event they fall. Also known as: life jacket, life preserver, life vest.

**Port:** The left hand side of a boat.

**Pylon:** A pole that extends up from the centre of the boat on which a towrope is attached. When the water-skier, wakeboarder, or jumper pulls against the boat the pylon compensates so the boat will not slide from side to side. An extended pylon raises the height of the rope, thereby increasing the distance the wakeboarder can manoeuvre.

**Rail:** Rail is the curved bottom part of a wakeboard, allowing the board to sink down into the water while the board still rides on top of the water.

**Rear Toe Plate:** A plate with only a rubber casing around the toe area, found behind the front binding boot on a slalom ski. There is no back to the plate so the skier's rear foot may move around freely.

**Rocker:** Rocker refers to the shaped difference between the top tips of a water ski or wakeboard and the centre of the bottom of the ski or board. This is easiest to see when the board or ski is lying on a flat surface and viewed from the side. This shape is called the running surface of a ski. Rocker affects the performance of the ski or board in the way that the greater the curve, the tighter the turn.

**Rollers:** Swells in the water moving as a result of another boat's wake, water bouncing off a sea wall or shore, or wind.

**Shaped Ski:** Shaped water skis are a fairly new breed of skis on the market. A shaped ski is a combination of a traditional ski and a wide ride ski. They were designed to allow skiing at slower speeds while maintaining stability. They are great for beginners and heavier skiers.

**Ski Flying:** A form of waterskiing where the skier guides the skis over an inclined ramp to achieve distance and height. Also known as: jump waterskiing.

**Slalom:** Waterskiing in a zigzag fashion while a boat runs in a straight line through a course marked by buoys set up on the outer edges. The skier moves back and forth behind the boat around the buoys.

**Slalom Course:** Buoys set up in a zigzag fashion in which a water-skier moves around behind a boat. In competition, skiers who complete the course without missing a buoy or falling advance to the next level, consisting of a shorter rope length. Skiers are eliminated as someone falls or misses a buoy.

**Speed Control Device:** A device connected to the boat allowing it to maintain a constant predetermined speed through a slalom course. Also known as: electronic timing systems.

**Spotter:** A designated person in the boat who is in charge of watching the skier. The spotter is the communicator between the skier and the driver, letting the driver know if speed adjustments are needed, when the skier has fallen, etc. Often the spotter is also in charge of watching the rope and making sure it does not get under the boat. They also may be in charge of helping the skier get equipment in and out of the water. Also known as: observer.

**Stance:** How and where your feet stand on your wakeboard. It involves the width at which the feet are apart and the angle at which they point.

**Starboard:** The right hand side of a boat.

**Stern:** Rear end of a boat.

**Switchstance:** Riding backwards on a wakeboard. Or riding in the opposite direction to that which is most comfortable to you, a right foot forward rider switching to left foot forward, and vice versa. Also known as: fakie.

**Three Event:** A water sports athlete who competes in slalom skiing, jump skiing, and trick skiing in a tournament setting. Or a tournament that includes slalom, jump, and trick skiing.

**Toeside:** A cut towards the wake with the toe side of the wakeboard on edge and the rider's back facing the wake.

**Tower:** A cage-like device connected to the centre of the boat. Its purpose is to give wakeboarders height with its high rope hook. Wakeboard racks may be purchased to attach to the tower to hold boards to get them out of the way.

**Transition:** This is when the wakeboard or water ski makes the transfer from one edge to the other edge.

**Trick Release:** A device that disconnects the trick skier from the boat in the event the skier falls with their foot caught in the tow handle. The release reduces the risk of injury.

**Wake:** The V shaped water behind a boat, created by a boat in forward motion.



**Wakeboarding:** A form of waterskiing where both feet are attached to a board that resembles something in between a water ski and a kneeboard. The rider stands on the board with the feet pointing off to the side of the board. Riders like wakeboarding because wakeboards allow lift off the wake, making a multitude of tricks possible. Also known as: skurfing (in the early years of the sport).

**Wakeskating:** A wakeboard with no bindings. It has small snowboard type fins on the bottom. The rider generally wears sneaker type shoes to maintain a grip on the board.

**Wake Surfing:** Wake surfing is using a surfboard or similar board to surf the waves behind a boat. A balasted wakeboat works best. Boat speed is slow and ranges from 9-14 mph. The rider uses a tow rope to pull themselves out of the water. Once the rider has their balance they release the rope and surf the waves (wake). A short board made specifically for wakeskating works best but a traditional surf board may be used as well.

**Wing:** An adjustable tab on the side of a slalom fin. Its purpose is to help the ski slow down during a turn.

## 8. Skiing and Snowboarding



**Alpine board:** A very rigid asymmetric snowboard, which is difficult to turn. Mainly used for competitions.

**Alpine skiing:** The most popular discipline of skiing. It is practised at resorts and consists of going up lift systems and gliding down slopes.

**ARVA:** A special device that is used to find victims caught in avalanches.

**Cable-car:** The most comfortable lift system found at ski resorts. It has can carry up to 30 people and allows the skiers to go inside a closed structure with their skis in one hand or fastened outside the cabin.

**Chair-lift:** A popular lift system. They are comfortable because the skier travels seated.

**Cross country skiing:** A ski discipline for specialists. To practise this discipline, the skier must know both Alpine and Nordic skiing techniques.

**Downhill:** An Alpine skiing discipline. The main aim is to glide down a slope in the shortest possible time. The skier must keep himself inside the track and pass through some gates located strategically.

**FIS:** International Ski Federation.

**Free-ride board:** The most popular snowboard because it can be used in all types of snow.

**Gate:** A pole or pair of poles used to indicate the route on a slalom course.

**Goofie:** If a snowboarder is goofie, his right foot is in front and his left foot is behind.

**Half-pipe:** A snow structure that looks like half a pipe and is used for freestyle snowboarding.

**IMCF:** International Mountaineering and Climbing Federation.

**Regular:** If a snowboarder is regular, his left foot is in front and his right foot is behind.

**Ski Jumping:** A Nordic skiing discipline.

**Slalom:** An Alpine skiing discipline.

**Snowboard:** It is a relatively new ski discipline, which consists of gliding on the snow, on a board similar to those used to practise surfing.

**Snowpark:** An area specifically designed for the practise of snowboarding.

**Super giant slalom:** An Alpine skiing discipline. It is a combination of slalom and downhill.

**Telemark:** Name of a Norwegian region, which was then used for a downhill skiing discipline.

## 9. Mushing and Snowshoeing



**Antenna:** The rope that joins a Pulka with the skier. This rope is tied to the waist of the skier through a suitable belt provided with a spring hook.

**Basket:** The inner tray of a sled that is used to tie the whole complex as well as to transport the equipment and the Pack-sac.

**Brake:** It is used to slow the sled and is located at the back of a sled. Metallic nibs are stuck in the snow in the space between the back of the skis. It operates when the musher places a foot on it.

**Brancard:** The arms that join the dogs with a Pulka. They form an arch similar to those found in horse carriages. The dogs are placed on the inner part of this arch and are tied by a harness on both sides.

**Brush-bow:** Located at the front of a sled. It supports and protects the structure like a car bumper. It also protects the dogs from being hit by the sled.

**ESDRA:** European Sleddog Racing Association.

**FCI:** Fédération Cynologique Internationale, is the World Canine Organisation.

**FISTC:** Fédération Internationale Sportive de Traineau a Chiens, is the International Federation of Dog Sledding Sports.

**Handle-bar:** An arch that the musher can hold on to when driving a sled.

**IFSS:** International Federation of Sleddog Sports.

**ISDRA:** International Sleddog Racing Association.

**Musher:** The person that drives a sled.

**Mushing:** A sport based on the transport of sleds pulled by dogs on the snow.

**Pulka:** This is a small sleigh, generally made of plastic or metal.

**Pulka harness:** A harness adapted to the body of each dog with two harness traces, which are hitched to the Brancard by two spring hooks. So that the dogs can pull the Pulka and the skier can get the maximum speed. It is normally used in sprint competitions.

**Skates or skis:** The most important part of a sled. The forward tip of these skis is bent and they can be made of wood, aluminium or plastic, with interchangeable soles. They are usually waxed for a better gliding.

**Training kart:** A substitute for the sled during periods without snow or for training activities.

**WSA:** World Sleddog Association.