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# Controversy over the development of canyoning in the Mercantour National Park

Bernard Massiera, Valérie Morales Gonzales, Imed Ben Mahmoud, Laura Gray

#### Introduction

Our era is characterized by a certain form of institutionalization of natural sites at a departmental (i.e., county) level (Mounet, 2007). It is interesting to explore how canyoning, within protected natural areas, is regulated to contribute to its development, taking into account the practitioners' requests, the development by local communities and the activity of white water sports professionals. In France, 500 000 people take part in canyon hiking on a regular or occasional basis. This activity, which consists of progressing in narrow gorges and ravines, borrows its techniques from various mountain disciplines including climbing, caving and swimming in rapids. The national territory has the largest park of natural canyons in Europe with a distribution of sites predominantly located in the Southeast of the country. Within the alpine massif, it is the local populations and visitors, who aspire to indulge more and more in this type of activity, that lead to equipping the sites through identifying the social, political and economic conjunctures. Canyoning is a demanding activity in terms of the development of the natural area as marking the access routes, laying out moorings to go down the vertical sections, arranging car parks to park practitioners' vehicles and creating information points are all necessary. Thus, various actors intervene in this development including the regional council, the prefecture, the county council, the municipalities, sports clubs, user associations, local owners, sports federations, outdoor sports professionals, protected nature parks (Parcs Nationaux de France, Parc Naturel Régional...).

The availability of numerous equipped canyons makes the alpine massif in the Southeast of France attractive, an interest that is strengthened by the presence of the Mercantour National Park. Indeed, the park plays an important role in the organization and promotion of the sports tourism offers of this territory. Since the enactment of the law relating to the national parks, the marine nature parks and the regional nature parks (LAW n° 2006-436 of April 14, 2006, JORF n°90, pp.5682); nature parks have supported the development of activities taking place on their territories. Equipping the canyon sites has mobilized a group of actors including, local authorities, institutions and professionals. Due to sites being located in the National Park areas, their development preserves landscapes, heritage and cultural qualities that in turn increase their recreational quality. The Mercantour National Park has made accessibility improvements to impact nature-based activities taking place on its territory (e.g., 12 large car

parks, 12 information points, 6 public reception buildings, etc.). It also contributes to the promotion of these activities via different media, using its brand to label hotels, public facilities, sites, resorts and sports operators.

Our article takes an interest in studying the processes that explain the use of canyons located in the Mercantour National Parks' territory. Canyoning is part of experiential tourism practices that provide emotional, psychological and physical benefits. Wilderness tourism would contribute to the general psychological well-being of visitors (Curtin, 2008). Because canyon practices occur in natural sites, anything that can increase users' immersion in the realities of natural features could define its interest (Andrieu, 2011). Let's add that for a canyon to become an attractive natural space, it also requires two complementary elements: the various services available for the needs of the sporting practice (nearby car park, trails connecting the departure and arrival points, rental equipment ...) and specific intrinsic characteristics (elevation, water flow, difficulty of progression, presence of waterfalls and toboggans ...) to meet the desires and sports abilities of customers (chart n°2).

The criteria we used were: the overall visitor attendance at the sites and the canyons degree of interest. On the one hand, the activity development comes from a double dynamic, descending (relating to institutional influences) and ascending (to express the demand of local actors). On the other hand, the interest was conditioned by the economic stakes.

# The setting of a nature park, vector of interest for the territory

Founded in 1978, the Mercantour National Park is a public administrative institution. Its central territory includes a number of seasonally inhabited hamlets spread over 68,500 ha (685 km²), which represent the "heart zone" where all canyoning practices are strictly prohibited (appendix 1- 1a). This national park is also affected by the "Natura 2000" program, a European network of natural sites of Community interest that are to be protected. Our work on canyoning practices is gaining interest in this context because the Natura 2000 program is based on the voluntary commitment of the actors on the territory. In addition, the French national park is part of a cross-border context by association with its Italian counterpart. In this association, it should be noted that the Italian regional park manages its territory in a concerted manner unlike the French national park which is centralized. With this European dimension, the park "Alpi Marittime - Mercantour" is enlisted to appear on the Unesco World Heritage list (application: 1/02/2018). However, though appearing on the Unesco list would

add value and interest to the site, increasing its frequentation could in turn impact the fragility of the natural site, furthermore reinforcing the strategic dimension of the results of our study. Our investigative work focused on the "membership area" of the park that represents a vast peripheral area of 136,500 ha (1,463 km²), surrounding the core area (i.e. the heart zone). Eighteen thousand inhabitants populate 28 communes sharing a housing stock of 36,000 dwellings of which only 25% are permanently occupied. With a vast alpine space of 150 kilometers in length, this territory covers eight valleys (Ubaye, Haut Verdon, Cians, Haute Tinée, Vésubie, Roya and Bévéra) and extends over two French "departments" (counties): the Alpes-Maritimes and the Alpes de Haute-Provence. With its southern part located 35 kilometers from the coast of the French Riviera, the territory is easily accessible by different roads and railways in the bottom of the valleys (appendix 2). There are 2 national roads (Numbers 202 and 204), 11 departmental roads (Numbers 28, 64, 78, 900, 902, 906, 908, 2205, 2565, 2566) and two railways (one national and one local).

If the central mission of a National Park is essentially the conservation of landscapes and the natural and cultural heritage, it has also become a way of contributing to the development of rural areas in the depopulation process all the while preserving the heritage. It is an evolution of the central vocation of preservation (of the great landscapes) that has been extended to include missions such as tourist rehabilitation and economic development in a sustainable manner. The aim is to develop outdoor sports, in a controlled way, to satisfy the aspiration of the public to practice sporting activities in a natural environment conciliated with other uses of these areas, environmental protection and respect for the law of ownership. The Mercantour National Park is open to physical activities by rendering its sites accessible and by promoting its major natural sites (Lake of Allos, Vallée des Merveilles, Haut Boréon, Madonna des Fenestres, Lauzanier, Authion, Col de la Bonnette, Col de la Cayolle, Lake of Vens, Salèze valley and the Gordolasque valley). The results are visible with an attendance approaching the 900,000 annual visitors (2007 survey, www.agc-consultant.com) and the presence of 800 companies with tourist and sporting goals (hosts, renters, operators) including 6 mountain resorts and 7 Nordic ski areas. A first controversy concerns this induced frequentation, because if each large car park welcomes more than 30,000 people between June and September, the survey shows that 20% of visitors do not walk more than 2 hours. The vast majority, 600,000 people, are contemplative visitors who, on average, stay within 30minutes reach of their vehicle. We take an interest in the percentage of visitors who are active in canyons (canyons, gorges, ravines, streams, valleys ...) amply provided in this territory. The Alpes-Maritimes counts 300 equipped sites in total in which more than 150 professionals work. Within the Mercantour National Park, there are 85 sites that have facilities for canyoning, of which 70 are referenced by the French Mountain and Climbing Federation (Annex 3). To achieve this result, local actors have had to overcome multiple problems (institutional authorizations, cost of equipment, preservation of sites, agreements with local residents...). As soon as the site is up and running and the regulations of the territory tolerates canyoning, these sites will make an attractive offer coinciding with an increased attendance. (www.azurcanyonism.com).

The problem that emerges from this context is about In this context, the use of canyons for tourism and leisure purposes is an emerging problem. The development of this activity comes from a double dynamic, downward (institutional influence) and upward (demand of local actors). Does attendance depend on the intrinsic qualities of the sites (ecological wealth, quality of the course ...), the influence of the professionals who use them (the sites reception capacity, the presence of car parks ...) and the political wills of the local communities (installation of equipment, security of sites, communication actions ...) We seek to answer this question and understand the reasons why some canyons are more visited than others. Is it mainly linked to their technical and ecological qualities or is it linked to other determinations emanating from social, political and economic actors? Indeed, more than 10,000 canyoning practitioners frequent the French Alps (www.descente-canyon.com, 2017). However, according to professionals, the activity is concentrated on a limited number of sites with common characteristics including, few stairs from the car park to the site, small rappelling runs and a high presence of jumps and slides: Audin, Aiglun, Barbaira, Bagnolar, Bendola, Bollène, Chaudan, Carleva, Cramasouri, Imberguet, Le Loup, La Lance, Maglia, Morghé, Riolan, Saint Auban, (appendix 3). Conversely, some very unfamiliar sites, such as the Pelat ravine, are neglected with the under use sites, such as the latter, causing them to be closed including dismantling the equipment.

### The theoretical framework of social processes that regulate canyoning

To explore the development of canyon sport practices, our investigation refers to the concept of social constructivism (Spector & Kituse, 1977; Berger & Luckman, 1986; Hacking, 2001). The angle of approach, centered on the sociology of action logics, explores what underlies the choices made and seeks to understand the rational that explains the observed disparities. We try to identify how the development of canyon practices increase in order to understand the mechanisms through which the public is attracted to this touristic sport offer. There are many

different approaches in the way of organizing offer. We orient our research in the field of development logics of the tourism and leisure sector where five main approaches are identified: "boosterism", "economical approach", "spatial approach", "community oriented approach", and "sustainable tourism approach" (Hall, 2008). Even though the two most recent visions "community oriented" and "sustainable tourism approaches" are still in development, we observe that the majority of development actions are aimed essentially at increasing, to a minimum, the interest of an area. Any development designed to make an offer attractive is then linked to the pursuit of economic growth. The interest of a site would then be defined by its ability to generate customer flows towards its tourist offer. Therefore, "this is the focus for a lot of tourism policy and planning, with very few exceptions, countries, regions and destinations are seeking to attract and retain the clients" (Hall, 2008: 8). In addition to the question of the image of the natural site, enhanced by its location in a labeled natural area, in our case, interest would rely on the accessibility, the diversity and the quality of the equipment offered to the various customers (Rodriguez-Dias, Espino-Rodriguez, 2008).

Thus, the different actors of the mountain territory pay great attention to the diversity of offers and work on quality and innovation to maintain the competitiveness of their region. (Wackermann, 1989). In this case, innovation mainly concerns the equipment of sites, knowing that trends have an important role: each period has corresponding products, practices, specific equipment that territories want to have to be differentiated in order to stay ahead of the competition (Christofle, 2003). If a canyon's equipment can be considered as tourist facilities, it is under the influence of endogenous and exogenous factors of the territory (Violier, 1998) and depends on the political determination of land use (Gunn & Var, 2002). These developments are fundamental for the territory: It is "a language, it is the showcase of the destination which thus displays its dynamism" (Lecroart, 2007: 30). Every destination is a complex system involving planning and promotion that adapts to environmental, economic and political dynamics (McKercher, 1999; Farrel & Twining-Ward, 2004).

What are the rationales at work in this membership area of the national park, to develop more than 80 sites but the use of only a minority? The interest of a site is based on public (e.g., local authorities, the State) and private (e.g., individuals, professionals, companies) sectors who have planning and strategies in the concerned areas (Hall, 2008). The goal of the reasoning that lead to the development of these sites is generally the development of the tourist interest of the territory including new customers, new practices and new services

(Clary, 1993). To achieve these goals, two development actions coexist, one that focuses on external interests, which is by far the most widely used, and one corresponding to the location needs "bottom-up approach". In our case, the first action concerns sites located in municipalities that already have major tourist assets such as the Isola 2000 ski resort which hopes to remain attractive by equipping the valleys of Burenta, Trérious and Bonanuech, as well as the Louch waterfall, the Bausset stream and the Agrivoulet ravine (appendix 1). The second case concerns territories in search of economic and social development. The latter are relying on these developments to counter a job migration situation and the aging of the population, as is the case for the village of Chateauneuf d'Entraunes, which carried out the development of the Boussiera and Barlatte Basse valleys (appendix 1).

However regardless the approach chosen, (outside-in or bottom-up approach), the development and promotion of the canyon offers should be globally governed as a lever for the development of the territory in an essentially economic approach combined with motives for sustainable development. In this context, faced with the growth and the increasing solvency of populations wishing to take pleasure in products of nature, deciding to develop and promote canyoning seems to be guided by the desire to develop the interest of the territory to gain new practitioners. Maintaining or increasing the interest of the mountain territory through the development of canyoning and the promotion of mountain activities should represent the only logical action: a coherent and extensive offer of canyons. It could thus present itself as a competitive advantage allowing to partially address the desertification problem in the higher parts of the country. But this governance strategy is not clear. It leads us to formulate a hypothesis explaining the singularity of the offer of canyoning activities: if spaces have been assigned to practices and equipment exists, these elements come from the outside and follow a logic that does not emanate from a collaboration between national or local authorities, the mountain sports institutions or canyoning professionals. While nature sports practitioners represent potential customers to be taken into account in the context of sustainable tourism, it's hard to increase the relationship between a localized intention and an economic opportunism (i.e., a desire for profitability).

### The development of canyon usage under opposing influences

The canyons located in the "area of membership" of the Mercantour National Park have offers undeniably characterized by large variety in terms of the geographical settings, equipment, level of risk, technicality, personal commitment and physical effort. Our study will endeavor

to explain the peculiarities of these characteristics. Originally, the whitewater rafting pioneers were fishermen wanting to go to less crowded places as they were less accessible "to others". It was not until the early sixties, at the same time as the beginning of the expansion of leisure activities, that sportmens seized the opportunities provided by these activities. The activity initially spread discretely in the eighties to grow and quickly reach its peak in 1995-96. Indeed, it was at this point that the offer of nature sports, which initially, anecdotally, only coincided with a few tourist products, became anchored in particular territories (Mounet, 1997).

The earliest practitioners consisted of a population that could not withstand high levels of attendance (Becker et al., 1980). These pioneers were the ones who opened the canyons to neophytes, initially structured within the sports movement and then joined by sports tourism providers offering private guides to actual customers. The multiplication of equipment, markings and topo-guides, helped make the practice accessible to broader categories of the population. Canyoning professionals were generally pioneer practitioners. Having gained a foothold in these trades through their passion for mountains, some developed their business by following a commercial logic, while others engaged in a more moderate development that is respectful of the environment (Bouhouala and Chifflet 2001), and others made the sport activities their main goal (Mounet, 2005). Thus, the offer of the equipped canyons on the Mercantour massif does not seem to have been imagined only to democratize the practice within a natural labeled environment.

The diversity of relationships with the activity (beneficiaries, developers of the offer, competitors, etc.) leads us to take an interest in the profiles of the practitioners. A survey of outdoor activities in the French Alps shows the typology of the practitioners (appendix 1a). Estimated at 15,000 in the Alpes-Maritimes, the consumers are young (28 years old), with a majority being men and belonging to middle class social groups (Suchet et al, 2008). We observe that few practitioners are autonomous, the majority practice with a guide. The choice of the site then comes down to the professionals who supervise. Other elements also contribute to this choice: the duration of the activity, mainly by half-day, and the nature of the co-practitioners, composed of friends and family sometimes with children, encourage the choice of short and fun sites. The clientele often comes from a population of multiple mountain sports practitioners. Many of them also practice climbing, via ferrata and high rope adventure tree climbing. We find that practitioners choose a canyon primarily on the advice of

a guide or through tourist documentation and not for its technical quality or the quality of its natural environment.

The locations usership would thus be the corollary of a regulatory action by professionals. Our hypothesis is based on the cyclical complexity of the canyons where different interests are confronted. The development of a canyoning offer would be the result of a controversy between the preservation of local interests, institutional wills and spatio-economic opportunism.

### Methodological aspects

We designed a study to model the local canyoning offer based on the typology of the French canyoning offer (Suchet et al, 2008). The subject of our study is essentially about the offer, thus the expectations in terms of practice are not concerned. A directive interview (Blanchet, 1985) was conducted with each actor near the practice sites. A total of 60 interviews were carried out over the period of June 2001 to September 2002. Each interview, lasted between thirty minutes and forty-five minutes and took place in the work place of the actors (12 interviews), at their home (25 interviews) or in a café (23 interviews). A precise data extraction of the interviews was carried out to comprehend the characteristics of the canyons and the qualitative aspects of their use. The themes were selected according to the problem to form an analysis framework. Due to the themes being defined prior to the analysis, our analysis followed a categorization procedure (Ghiglione and Matalon, 1991).

The interviews were structured by the same open-ended questions, set out in the same order and accompanied by a non-directive attitude. The interviews captured the positions of the representatives of the local communes, followed by those emanating from the institutions of the sports sector and then professionals of the sector. Since the size of the studied territory (see sketch) is very large, we favored a participatory observation approach (Gold, 1997). In fact, three open-ended questions systematically appeared. The questions started with the structural aspects of the existing sites, their attendance and the decision-making elements that have led to equipping them and exploiting them (chart n°1). The interviewees described the elements that make sites usable (equipment and services). The interviews addressed the site's attractiveness (interest of the offer), the elements that contributed to their creation (site conjuncture) and their position in local politics (decisions to equip). The facilities, equipment and materials, the availability and qualification of the offers, and the comfort of peripheral

elements, such as transport and parking, were also often mentioned (chart n°2). For their interpretation, a content analysis looked for recurrences of repetitions that explain what led to the development and exploitation of the sites.

#### **Results**

Using thematic analysis we sought to validate the hypothesis suggesting that the presence of an offer allowing the practice of physical activities in the Alpine territory would not be based on a single logic of democratization but would result from local, social, legal and economic opportunities.

# **Development determined by local practitioners**

Originally, we are in the presence of physical activities of a self-organized nature (also called "free activities") that escapes all forms of managerial logic. The sites are underused and the attendance mainly composed of initiated practitioners. Practitioners from around the area know the sites and move from one to the other. They sometimes participate in the development of canyoning by developing sites for their own practices, these users are looking for places that are not democratized. The form of organization is quite informal, far from any contractual obligations or constraints related to standards. Nature becomes the pretext for a playful, adventurous, spectacular or fun staging in the midst of an analogue culture (versus digital) (Loret, 2001). The role of the actors is minimized with self-organization being predominant. Practitioners then operate autonomously with the offers being based on relationships instead.

The social and cultural environment (heritage) was also taken into account in the management of tourist locations depending on the importance that the actors give to the area, in terms of the ecosystem, habitat and living area. Different visions and relationships with the nature site appeared. The notion of location is related to culture, to social bonds, to shared values and to the singular history that each one maintains with a site (Augé, 1992). Taking into account the symbolism of the place and the exchanges observed between the different actors involved, local and sports users and / or customers is essential. The challenge is the weight given to heritage, aesthetics, local actors, relational (i.e., social aspects) and identity of the area in the different branches of management.

# A development determined by institutional will

We observed practices developed by an institutional policy on sites whose rationalized equipment accommodates a moderate flow of practitioners. There is a privileged place for established actors (Elias & Scotson,1965), like local families involved in the management of ski resorts or under the influence of traditional sports institutions. The approach remains local with a form of conservatism that affects the various branches of the management of physical activity practice spaces. External rationales such as, marketing, political and economic rationales matter little. The preservation of traditions, the control of the local authorities and the respect of the accords anchored in the territory remains predominant. Legitimate skills are the product of the knowledge that is handed down from generation to generation. A link can be made with Boltanski and Thévenot's (1991) domestic city model, in which there is a common superior principle that must be respected. Not all of the improvements made, the products developed or the commercial actions launched are of high quality. The locals try to take advantage of the annuities (Bouhaouala, 2000, Marchesnay, 1998), unrestricted due to the wealth of the site without necessarily having a well-structured development strategy.

The attendance of each site is linked to compromises between the different actors. Drawing on the work of Bolstanski and Thévenot (1991), we note that the management of nature areas refers to models that can be evoked in terms of "tourist cities or forms". According to the reference cities, the macro economy summoned is not the same. The study of a sporting site requires an understanding of the links between the actors involved in the production of a set of conventions. This common framework, according to the associated level of translation (Callon, 1986), defines the managerial style of a site. From an economic point of view, the actors involved in tourism actions must create partnerships and / or manage social ties to promote the success of their business. Indeed, agreements and rules are established to regulate supplies put on the market and require consultation between the various providers and this independent of the level of competition (Bouhaouala, 2001; Marchesnay, 1998; Raveyer & Saglio, 1984). This situation is all the more notable as these locations are tourist areas invested in the image of maritime, rural or mountain sports resorts. Understanding the dynamics of action in the development of the various forms of management within these tourist areas must therefore be carried out in order to consider their development and to better regulate potential conflicts.

# An interest determined by the economic stakes

The results revealed an amplified use of the natural environment of sites made more attractive by the accessibility related to the equipment and the development of these areas.. From this point of view, nature's appearance, the spectacle of nature and the services offered to the "client as king" take precedence over cultural, ecological and patrimonial considerations. The relation to the authenticity of nature with the smells of the fauna and the flora (e.g., the smell of the wood fire which is impregnated in ones' clothes), the cold water of the traditional lodges or the noise of the mice in the granary – is not taken into account in this perspective of economic development. Only an ersatz of nature is accepted; only the quality it takes to satisfy the new cultural logics of city dwellers with high purchasing power. This approach is based on the principle of marketing management (Marion, 1999). This is the new standard in nature leisure management, seeking to create jobs in this sector. In terms of marketing, policy choices can be considered according to the priority given to standardization of activities and products or to the adaptation to local characteristics (Lambin, 1998). There is an opposition in the two types of nature management that Kalaora (1986) theorized in his sociological approach to forest areas. Private culture is an integral part of the outdoor world when recreational sports providers seek to create profitable products. We leave the world of passion and volunteerism, coming from the federal associative culture or the public or para-public sector, for that of interest (Hirschman, 1980), often anchored in the private sector. The current offer is part of a productivity strategy. In this logic, the aim to improve the productivity of professional operations as the manager is at work as soon as the efficiency of the company and the sector becomes a priority.

### Local and territorial particularities and respect for nature

The administrator and the manager have an entrepreneurial role. Steering by the standard is necessary in relation to the industrial city model (Bolstanski & Thévenot, 1991). Some structures such as the ski lift companies (Transmontagne, SETAM...) operate according to this model. The aim is to improve the company's productivity: a larger rate of flow on the lifts, more passes sold for maximum profitability. In this perspective, we approach a logic of intense flows where the equilibrium is always fragile. Nature is only a means at the service of "the season to be carried out", say the guides. They move from customer to customer on the "normal" trail of the Mont Blanc; the instructors who go through several canyons in one day, sometimes to the detriment of security regulations, are part of this industrial city model. The customer is not the priority either but rather market shares and efficiency guide the actions of

the providers. The important thing is to register new currencies, to be profitable and to satisfy the urban customers.

#### **Discussion**

Regarding local achievements, the Alpes-Maritimes department is involved in organizing and promoting physical activities related to the 2006-2010 national tourism development program. At the local level, the department of the Alpes-Maritimes, through the actions of its Departmental Council, is engaged in the development of canyoning, encouraging the communes to develop their sites. At the same time, the opening of natural spaces, an area in which France seems to be working voluntarily, enhances the offer in the Mercantour National Park. These political wills are regulated by the peculiarities of the populations present on a mountainous territory that, at the same time, suffer from a population drain but also have ski resorts enjoying a certain interest in the winter. The development of a localized canyoning offer within a National Park membership area modifies the positions of the various players. Institutions seek to label several sites with outstanding sporting characteristics, professionals look for sites to optimize the productivity of their work, the communes, in search of an interest and a valorization of their image, seek a hypothetical economic revitalization and finally local practitioners do not always support the massive influx of visitors. This is why the regulation of the supply of canyoning practices in the Mercantour area evolves according to local conditions, institutional wills, and economic and cultural stakes.

A three-level classification for the players' regulation can be elaborated depending on whether or not there is sports tourism equipment, on their location and on their quality. This typology is based on three levels of response: a strategy for avoiding the development of activity, a strategy for engaging in canyoning, and finally an incentive strategy for the local population (chart n°3). Locally, far from a global offer, two ways of perceiving the canyoning practices and the political actions coexist. Some sites have tourist labels and offer specific and standardized facilities. These facilities allow canyoning practitioners to enjoy the sites by means of facilities and involvement on the part of the welcoming community via trained staff who advise and guide the clients. The action is centered on the form to allow sports tourists to access the mountain and benefit from nature activities. The dysfunction noted is of a strategic nature as the development does not change the vision of the local populations towards the visitors who remain perceived in a sense of invasion, even stigmatization.

# An incentive strategy of the local population

Other labeled sites allow visitors to access the sporting activity more autonomously. Facilities are mainly developed through local lobbying, awareness-raising and information activities. The developed sites are then centered on the vision of the visitors who wish to be able to benefit from the sports leisure equipment in the same way as local residents. The answer is provided by various adapted facilities that promote travel and allow to enjoy tourist facilities. The nature sports offer does not take place through a global development strategy, guaranteeing interest, but evolves according to a favorable local conjuncture or a political context. According to a macroscopic view, the possibility of practicing nature leisure activities in the Mercantour area remains difficult because of its geographical discontinuity, the overall deficiency of the supply, and a lack of know-how in welcoming and promoting a market that remains unknown and therefore untapped. Since the offer is only punctually structured, each client must individually imagine their activities according to their physical condition and the availability of facilities and equipment. The latter, of all sizes and all levels of quality are generally not mediatized, except for the National Park, which therefore does not make up a real tourist offer but is rather presented as a simple promotion of isolated sites on the territory.

#### A strategy to avoid the excessive development of an activity

Some territories do not develop sports tourism activities and their sites have little equipment. This configuration exists mainly in municipalities for whom tourism is not the major activity and generally results from a conjuncture that is favorable to the problematic of canyoning. Initially the offer is the product of a joint operation between a local club and a municipality. The commune redesigns the sites it has developed but that are underused. When a sports association requires a site for its practitioners, the town hall installs equipment and cooperates its utilization. In both cases, this is a social economy policy in favor of the resident populations, which is materialized by the structuring of a once-off offer. The local population is not directly involved as the canyons are of moderate interest.

A commitment strategy for canyoning This commitment strategy concerns municipalities voluntarily involved in the tourism and hospitality industries. These communes often have a privileged tourist situation or functioning. In line with the economic logic of the municipality,

the interest of specific developments lay within the strategic vision of a better offer of leisure intended for demanding tourists. These communities often have one or more labeled facilities (French Hiking Federation). This is the case for a municipality that, in addition to a maximum level of quality, offers Tourism Sport labeled equipment. The economic stakes favor the involvement of all the actors (local and decision-makers).

### **Determining factors of the development of canyoning**

The fact that France is the European country with the greatest potential for canyoning sites has prompted the communities to progressively engage in a process of equipping their canyons. The communal territory is the reference level in the regulation of canyoning. The location within the Mercantour National Park does not entail any consequences, in particular economic impacts, due to the determinants of the site usership. Research has highlighted the different sources of local policies aimed at developing canyoning activities. The activity appears either as a response to depopulation, as an obligation to the rank that the municipality must aim to keep, in relation to the rewarding influence of a sports institution wishing to label an exceptional site, or as a means of attracting a new clientele. Yet the supply, considered in parallel to the exceptional quality of the natural territory, would constitute an opportunity to develop strategically. Users with requests for activities and accessibility have recently increased. How will this presence be projected on the territory of membership with its consequences of imbalance and accessibility in a territory that will see a significant increase in the demand for activities and services from its clientele?

#### **Conclusion**

The offer of canyons present in the membership area of the Mercantour National Park presents an imbalance in frequentation. This imbalance results from the problems in the development of canyoning in the Alpine territory. The reasons given are the spatial saturation of certain sites and the conflicts related to the different uses excluding or limiting each other. Canyoning professionals' will to direct the customers to the same offer leads to saturation. This context is an aftereffect emerging within the will of the communities to develop and promote sites upon influences of local practitioners, proposals from sports institutions and pressure from professionals to develop the offer. While different local authorities have made adjustments, the presence of these facilities rarely corresponds to a territorial policy of interest. More often than not, canyon development is a response to a demand (i.e., local practitioners, professionals, institution) or a specific conjuncture seeking to be at the same

level as the other communes. The situation varies in this territory where the discontinuity of the canyoning supply dominates, a variety of facilities of all levels, different quality and interests for the practicing population.

How can we think about the overall development of the sites in order to better accommodate the sports public while protecting the quality of the sites? Starting with the interest, and decisive point of the usership of the different sites observed, how to allow everyone to indulge in recreational activities without jeopardizing this key process of interest, transforming a concrete experience into an enchanting dream? It is in this context that relational skills have to be used at their best between the various actors of a mountain territory. All the technical and experimental knowledge must be mobilized in order to develop a mountainous region with high potential. The future is to change the idea of a balanced development of canyon sites. The development of canyons most often results from a desire to create activities by a technical evolution and then monitor them by imposing regulations. In our case, the global and rational solution would be to concentrate the customers on 20% of the canyons by closing 80% of the least frequented sites to protect them. This political vision however, seems impossible in sites that are part of the microscopic functioning of the mountain areas. Nevertheless, scientific research related to the coupling of canyoning practices within mountain territories is relatively recent and deserves further investigations and future developments.

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Chart  $n^{\circ}1$ : Thematic interview grid

Usership	Local circumstances	Decision	Strategies of all the players involved
Low	Presence of local Local will practitioners.		Inciting the local population
Moderate	Global boost strategy	Institutional circumstance	Avoidance of an unbridled development
High	Alignment requirement	Economic opportunity	Shared commitment of local actors and decision makers

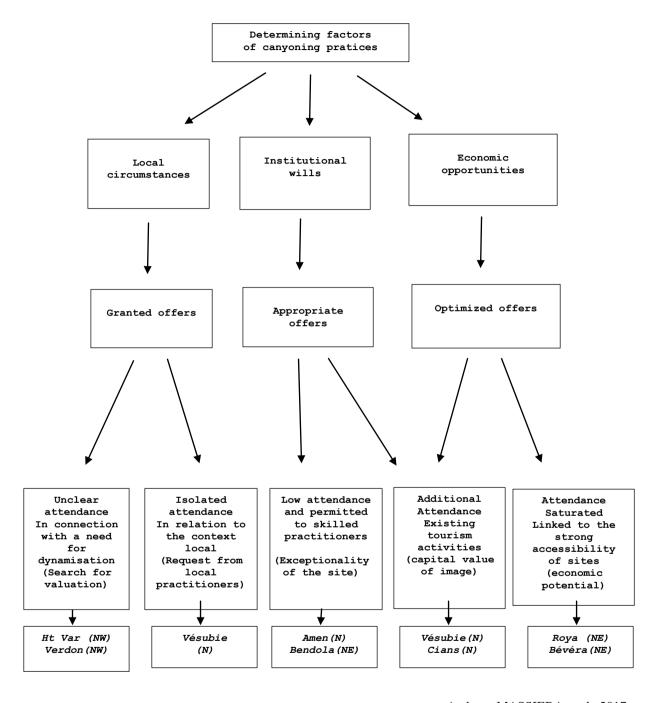
Authors: MASSIERA et al., 2017

Chart  $n^{\circ}2$ : Canyon's interest level

Keys	Descriptions					
*	Canyons without difficulty (trekking in the river) and passable with					
	children of 8 years and lasting less than 2 hours.					
**	Very easy canyons and intended for families with children of 10 years, less					
	than half a day including small abseiling, jumps and / or water slides.					
***	Easy and accessible canyons with 12 year olds including abseiling, safe					
	jumps and toboggans.					
****	Upper level canyons with many vertical descents and demanding a certain					
	level of physical fitness. The minimum age is 16 years old.					
****	Canyons whose progression requires technical skill and demanding					
ate the ste ste	surpassing oneself.					

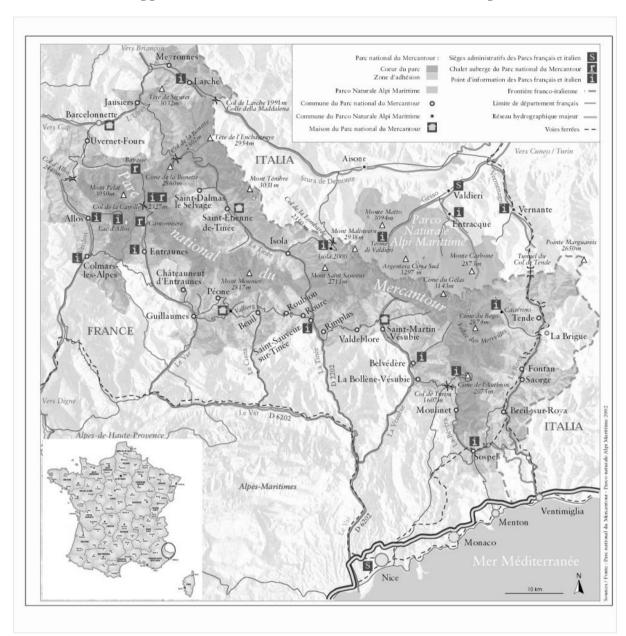
Authors: MASSIERA et al., 2017

Chart  $n^\circ 3$ : Strategic analysis of the canyon supply present in "membership one" of the Mercantour National Park



Authors: MASSIERA et al., 2017

Appendix 1: Mercantour National Park location map



Appendix 1(a): Canyon practices in French Alps

Age groups:	8 - 18 years (16%), 18 - 36 years (15%), 36 - 54 years (16%),
Gender:	Men (74%), Women (26%)
Social positions:	Middle class (35%), Executive (32%), Workers, Employees (15%)
Types of users:	Tourist-customers (67%), Hedonistic participants (16%), Purist (8%)
Practice time :	Half day (2 à 3 hours)
Accompanying:	Friends group (49%), Parental couple (32%)
Pratice level:	First descent (73%), More than fives times (13%)
Choise origin:	Advice of cannoning guide, Tourist office, Guiding syndicate

Source: Suchet A., Jorand D. (2009), Karstologiea, 51, p 15-16

# Appendix 2: Opening, interest and use

This appendix is to be consulted with the help of chart  $n^{\circ}2$ : Canyon's interest level

# <u>Territory of Roya – Bévéra</u> (East)

Ruisseau d'Audin (2500 m)	BREIL-SUR-ROYA	Opening	Interest	Use
Vallon de la Carléva (4000 m)	Ruisseau d'Audin (2500 m)	01/04-31/10	****	+++
Clue de la Maglia (2000 m)	Ruisseau de Brouis (2200 m)	01/04-31/10	?	-
Vallon de Morghé (500 m)	Vallon de la Carléva (4000 m)	01/04-31/10	****	+++
Ruisseau de Mure (300 m)	Clue de la Maglia (2000 m)	01/04-31/10	****	++++
Vallon de Rougna (2500 m)	Vallon de Morghé (500 m)	01/04-31/10	****	+++
Vallon de la Serre de Cabanasso (2500 m)	Ruisseau de Mure (300 m)	01/04-31/10	*	+
Ruisseau de Scuisse (600 m)	Vallon de Rougna (2500 m)	01/04-31/10	?	-
Vallon de Vignourette (2000 m)	Vallon de la Serre de Cabanasso (2500 m)	01/04-31/10	?	-
Vallon de Zouayné (1100 m)	Ruisseau de Scuisse (600 m)	01/04-31/10	*	-
FONTAN	Vallon de Vignourette (2000 m)	01/04-31/10	*	+
Canyon de Bergue (1500 m)	Vallon de Zouayné (1100 m)	01/04-31/10	?	-
Canyon de Bergue (1500 m)	FONTAN			
Torrent de la Céva (1500 m)	Canyon de Bergue (1500 m)	01/04-31/10	**	+
MOULINET   Torrent de la Bevera (7000 m)		01/04-31/10	***	++
Torrent de la Bevera (7000 m)		,		
Vallon de la Bendola - partie supérieure (2800 m)		01/04-31/10	?	-
Vallon de la Bendola - partie supérieure (2800 m)       01/04-31/10       ******       ++         Vallon de la Bendola - partie médiane (1000 m)       01/04-31/10       ****       ++         Vallon de Bolega (2000 m)       01/04-31/10       ****       -         Vallon de Brever (1000 m)       01/04-31/10       ****       +         Vallon de Graon (8200 m)       01/04-31/10       ****       +         Vallon de Grana (2500 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Warne (1200 m)       01/04-31/10       ***       +         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -	Vallon de la Cîme du Simon (700 m)	01/04-31/10	?	-
Vallon de la Bendola - partie médiane (1000 m)       01/04-31/10       ***       ++         Vallon de Bolega (2000 m)       01/04-31/10       ***       -         Vallon de Brever (1000 m)       01/04-31/10       ***       -         Vallon de Graon (8200 m)       01/04-31/10       ****       +         Vallon de Grana (2500 m)       01/04-31/10       ****       +         Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       ?       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de Ininière (700 m)       01/04-31/10       ***       +         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -		01/04/21/10	<b>**</b> ***	1 1
Vallon de Bolega (2000 m)       01/04-31/10       ***       -         Vallon de Brever (1000 m)       01/04-31/10       ***       -         Vallon de Graon (8200 m)       01/04-31/10       ****       +         Vallon de Grana (2500 m)       01/04-31/10       ****       +         Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de la Varne (1200 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	* * · · · · · ·			
Vallon de Brever (1000 m)       01/04-31/10       ***       -         Vallon de Graon (8200 m)       01/04-31/10       ****       +         Vallon de Grana (2500 m)       01/04-31/10       ****       +         Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       +         Vallon de la Varne (1200 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Braus (1600 m)       01/04-31/10       ***       -	1 ,			
Vallon de Graon (8200 m)       01/04-31/10       ****       +         Vallon de Grana (2500 m)       01/04-31/10       ****       +         Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -				
Vallon de Grana (2500 m)       01/04-31/10       ****       +         Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -				-
Canyon de Lagouna (1000 m)       01/04-31/10       ****       +         TENDE         Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ***       ++         Vallon de la Minière (700 m)       01/04-31/10       ***       +         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       **       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	` /			+
TENDE       Riou de Coué (1200 m)     01/04-31/10     ?     -       Vallon de la Consciente (800 m)     01/04-31/10     **     -       Vallon de Lamentargue (2500 m)     01/04-31/10     ?     -       Vallon de Loube (150 m)     01/04-31/10     ?     -       Vallon de Maïma (500 m)     01/04-31/10     ?     -       Vallon de la Minière (700 m)     01/04-31/10     ***     ++       Vallon de Tute (500 m)     01/04-31/10     ?     -       Vallon de la Varne (1200 m)     01/04-31/10     **     -       Vallon de Réfréi (550 m)     01/04-31/10     ?     -       SOSPEL       Vallon de Braus (1600 m)     01/04-31/10     ***     -       Vallon de Basséra (2000 m)     01/04-31/10     ***     -				
Riou de Coué (1200 m)       01/04-31/10       ?       -         Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Canyon de Lagouna (1000 m)	01/04-31/10	****	+
Vallon de la Consciente (800 m)       01/04-31/10       **       -         Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	TENDE			
Vallon de Lamentargue (2500 m)       01/04-31/10       ?       -         Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	, ,		•	-
Vallon de Loube (150 m)       01/04-31/10       ?       -         Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	` /			-
Vallon de Maïma (500 m)       01/04-31/10       ?       -         Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de Lamentargue (2500 m)	01/04-31/10	?	-
Vallon de la Minière (700 m)       01/04-31/10       ***       ++         Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de Loube (150 m)	01/04-31/10	?	-
Vallon de Tute (500 m)       01/04-31/10       ?       -         Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de Maïma (500 m)	01/04-31/10	?	-
Vallon de la Varne (1200 m)       01/04-31/10       **       -         Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de la Minière (700 m)	01/04-31/10	***	++
Vallon de Réfréi (550 m)       01/04-31/10       ?       -         SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -		01/04-31/10	?	-
SOSPEL         Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de la Varne (1200 m)	01/04-31/10	**	-
Vallon de Braus (1600 m)       01/04-31/10       ***       -         Vallon de Basséra (2000 m)       01/04-31/10       ***       -	Vallon de Réfréi (550 m)	01/04-31/10	?	-
Vallon de Basséra (2000 m) 01/04-31/10 *** -	SOSPEL			
Vallon de Basséra (2000 m) 01/04-31/10 *** -	Vallon de Braus (1600 m)	01/04-31/10	***	-
			***	-
	Vallon de la Réoune (1600 m)	01/04-31/10	****	_

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o sites listed	-	-	-
LA BOLLENE-VESUBIE			
iou de la Bollène (2000 m)	01/04-31/10	****	++++
avin des Issarts (1500 m)	01/04-31/10	?	-
allon de Oula (1000 m)	01/04-31/10	?	-
allon des Planchettes aval (2000 m)	01/04-31/10	***	-
SAINT-MARTIN-VESUBIE			
o sites listed	-	-	-
VALDEBLORE / LA COLMIANE			
avin de Vignale (800 m)	01/04-31/10	*	+
	1		1
<u> Territory of Tinée (Midle West)</u>			
SOLA / ISOLA 2000			
SOLA / ISOLA 2000	01/04/21/10	***	1 .
Ravin de l'Agrivoulet (1100 m)	01/04-31/10 01/04-31/10	**	+
Ruisseau de Bausset – amont (1450 m) Ruisseau de Bausset – aval (1600 m)	01/04-31/10	****	-
Vallon de Burenta (1500 m)	01/04-31/10	***	++
vanon de Burenta (1300 m)		***	+
Vallon de Ronanuech (1200 m)			'
Vallon de Bonanuech (1200 m)  Cascades de Louch (500 m)	01/04-31/10	****	+++
Vallon de Bonanuech (1200 m) Cascades de Louch (500 m) Vallon des Trérious (1000 m)	01/04-31/10 01/04-31/10 01/04-31/10	****	+++
Cascades de Louch (500 m)	01/04-31/10		
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE	01/04-31/10 01/04-31/10	***	+
Cascades de Louch (500 m) Vallon des Trérious (1000 m)	01/04-31/10		
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE No sites listed	01/04-31/10 01/04-31/10	***	+
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE	01/04-31/10 01/04-31/10	***	+
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE No sites listed  SAINT-ETIENNE-DE-TINEE / AURON	01/04-31/10 01/04-31/10	-	-
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE No sites listed  SAINT-ETIENNE-DE-TINEE / AURON Trou des Corneilles (300 m)	01/04-31/10 01/04-31/10 - 01/04-31/10	**** - ***	- ++
Cascades de Louch (500 m) Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE No sites listed  SAINT-ETIENNE-DE-TINEE / AURON Trou des Corneilles (300 m) Vallon de Douans (600 m)	01/04-31/10 01/04-31/10 - 01/04-31/10 01/04-31/10	*** - ****	- ++
Cascades de Louch (500 m)  Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE  No sites listed  SAINT-ETIENNE-DE-TINEE / AURON  Trou des Corneilles (300 m)  Vallon de Douans (600 m)  Vallon de Fouat Treuya (1000 m)	01/04-31/10 01/04-31/10 - 01/04-31/10 01/04-31/10 01/04-31/10	*** - **** *	- ++ +
Cascades de Louch (500 m)  Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE  No sites listed  SAINT-ETIENNE-DE-TINEE / AURON  Trou des Corneilles (300 m)  Vallon de Douans (600 m)  Vallon de Fouat Treuya (1000 m)  Vallon de la Lugière (800 m)	01/04-31/10 01/04-31/10 - 01/04-31/10 01/04-31/10 01/04-31/10 01/04-31/10	***  ***  *  ***	+++++
Cascades de Louch (500 m)  Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE  No sites listed  SAINT-ETIENNE-DE-TINEE / AURON  Trou des Corneilles (300 m)  Vallon de Douans (600 m)  Vallon de Fouat Treuya (1000 m)  Vallon de la Lugière (800 m)  Vallon du Pis de l'Aiga (900 m)	01/04-31/10 01/04-31/10 - 01/04-31/10 01/04-31/10 01/04-31/10 01/04-31/10 01/04-31/10	***  -  ****  *  ?  ****  ***	+++++
Cascades de Louch (500 m)  Vallon des Trérious (1000 m)  SAINT-DALMAS-LE-SELVAGE  No sites listed  SAINT-ETIENNE-DE-TINEE / AURON  Trou des Corneilles (300 m)  Vallon de Douans (600 m)  Vallon de Fouat Treuya (1000 m)  Vallon de la Lugière (800 m)  Vallon du Pis de l'Aiga (900 m)  Vallon de Riou Blanc (1200 m)	01/04-31/10 01/04-31/10 - 01/04-31/10 01/04-31/10 01/04-31/10 01/04-31/10 01/04-31/10	***  -  ****  *  ?  ****  ***	+++++

**ROUBION** 

**ROURE** 

Vallon du Moulin de Roubion (300 m)

Cascades de Saint Sébastien (600 m)

Ruisseau de Longon (1500 m)

Ravin de Nougeaïrasse (2000 m)

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01/04-31/10

01/04-31/10

01/04-31/10 01/04-31/10

# **Territory of Haut Var - Cians** (Middle West)

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Clue du Raton (3000 m)       15/06-31/10       *****       +++         Vallon des Traverses (600 m)       01/04-31/10       **       +	Vallon de Challandre (2000 m)	01/04-31/10	****	+++
Vallon des Traverses (600 m)	Clue du Raton (3000 m)	15/06-31/10	****	+++
	Vallon des Traverses (600 m)	01/04-31/10	**	+

# CHATEAUNEUF-D'ENTRAUNES

Vallon de la Barlatte basse (2500 m)	01/04-31/10	?	-
Vallon de Boussièra (1100 m)	01/04-31/10	?	-

# **ENTRAUNES**

Clue de Chaudan (600 m)	01/04-31/10	****	+++

# **GUILLAUMES**

Clue d'Amen – partie amont (3000 m)	15/06-30/10	****	+++
Clue d'Amen – cascade finale (100 m)	15/06-31/10	****	+++
Gorges de Daluis (2500 m)	01/04-31/10	?	=
Vallon de Tireboeuf (1100 m)	01/04-31/10	**	+

# **PEONE**

No sites listed	-	-	_

# **Territory of Haut Verdon** (West)

# **ALLOS**

Ravin de l'Auriac (300 m)	01/04-31/10	**	+
Gorges du Haut Verdon (1800 m)	01/04-31/10	?	-
Ravin du Pelat (1500 m)	-	?	-
Ravin de Valboyère (1200 m)	01/04-31/10	***	+
Ravin de Valdemars (900 m)	01/04-31/10	***	+

# **COLMARS LES-ALPES**

Ravin de Chastelas (600 m)	01/04-31/10	**	+
Torrent de la Lance (3000 m)	01/04-31/10	****	+++
Ravin des Muletiers (1300 m)	01/04-31/10	?	-

# <u>Territoire de l'Ubaye</u> (Nord West)

#### **JAUSIERS**

Combe de Bellon (700 m)	01/04-31/10	*	-
Combe Chave (750 m)	01/04-31/10	***	ı
Torrent de Clapouse (5000 m)	01/04-31/10	***	=
Torrent des Sanières (700 m)	01/04-31/10	**	+
Combe de Tacounas (700 m)	01/04-31/10	*	-

#### **LARCHE**

No sites listed	No sites listed	_	-	-
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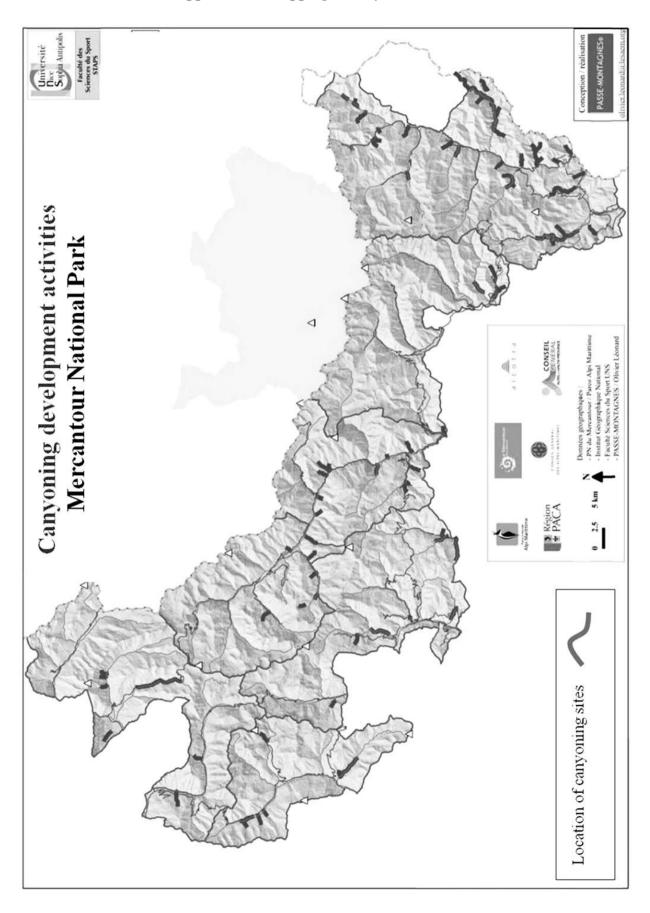
# **MEYRONNES**

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	-	

#### **UVERNET-FOURS**

Ravin du Fau (160 m)	01/04-31/10	**	+
La Combe de Garet (1000 m)	01/04-31/10	*	+
Ravin de Paluel (1500 m)	01/04-31/10	?	-

**Appendix 3: Mapping of canyons (location)** 



**Appendix 4 : Mapping of canyons (use)** 

