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A New Approach to Wildlife Management in France The Formulation of the ORGFSH¹ as Tools for the Conservation of Biodiversity

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At a time when the conservation of biodiversity has already inspired a number of public policies on nature,² the ORGFSH represent an attempt to rethink the French approach to wildlife management. A circular issued by the environment ministry in May 2002 defends the creation of the ORGFSH in the following terms: "Wildlife and its habitats are (...) vital components of our natural heritage, which is characterised by considerable biodiversity. The richness of this wildlife is highly dependent on the overall context in which habitats are managed, and on the management of existing populations and the protection of the most sensitive species." It is thus a matter of identifying the main threads of a regional wildlife policy which prioritises the preservation of habitats. Given this aim, the ORGFSH were conceived as collectively developed frameworks of action which would provide incentives. In effect, their purpose is to bring together a variety of actors, some of whom have been in conflict for many years, to work towards the conservation of biodiversity through a process of discussion and consultation.³ This in turn makes it possible to define major issues (the preservation of wetlands, for example) and to develop proposals in the form of regional guidelines (such as the restoration of the habitats of small grassland fauna).

Unlike most official policies on the environment, the ORGFSH are not restricted to the management of habitats located in 'special' sites but also take into account the impact of human activities on those areas which may be described as 'ordinary' (Mougenot, 2003). An analysis of the way in which the guidelines were formulated thus provides an insight into the ideas and practices current among the wide variety of social groups involved in wildlife management and also shows how each group puts its own interpretation on biodiversity conservation. Our findings are derived from the way the ORGFSH were drawn up in three regions of France⁴ and from the national debates⁵ they have stimulated. This twofold perspective soon revealed to what extent the initiation of regional consultations acquired meaning only in relation to the recent history of French wildlife management, in which hunting is a central issue.

¹ Orientations Régionales de Gestion de la Faune Sauvage et des Habitats (regional guidelines for the management of wildlife and its habitats).

 $^{^{2}}$ Particularly the Habitats Directive promulgated by the European Union in 1992. See the work of the Grenat network of sociologists coordinated by Pinton (2005). More generally, the ideas behind French government initiatives were expressed in the national biodiversity strategy (February 2004), which was developed "to use public policy, actors and citizens to raise awareness of the value of the living world, whether special or ordinary."

³ The ORGFSH drafting process focused on consultation and the involvement of the maximum number of local partners whose activities had an impact on wildlife and its habitats : official representatives of local collectives, hunters, naturalists, local government bodies, farmers, foresters, landowners, users of space (walkers, etc).

⁴ Haute-Normandie, Franche-Comté and Nord-Pas-de-Calais. We attended a number of meetings but worked chiefly from interviews and documents. We also studied all the regional summaries produced by the Office National de la Chasse et de la Faune Sauvage (ONCFS).

⁵ We interviewed staff at the environment ministry and ONCFS, and also followed parliamentary debates.

Although the ORGFSH apply to all those involved in wildlife management and all species, they are unique in that they emerged in 2000 from a law on hunting designed to redefine its legitimacy so as to make it socially acceptable. There is an institutional ambiguity here that recalls the influence of and the controversies associated with the hunting community. Indeed, there are more hunters in France than in any other EU country; they employ a wide variety of methods and play a vital political, economic and social role in rural areas. The law of 2000, introduced by the Left, was designed to justify hunting in environmental terms by stressing its role in habitat management and by opening up its institutions to other actors. As we shall see, the re-examination of the infrastructure of hunting did little to generate unanimity among those who engage in it. Thus we have suggested that the difficulties surrounding the ORGFSH derived from the fact that the emergence of 'ecological hunting' clashed with the hunting community's long-held view that it bore sole responsibility for the management of game species.

For this reason, any analysis of the ways in which the ORGFSH were formulated must be related to the issues which have shaped the organisation of French hunting practices over the last half-century. This is the subject of the first part of this text. The second part examines the drafting of the ORGFSH through the schemes for bringing together numerous actors, particularly hunters and naturalists. The final section discusses a vital issue for wildlife management: what we know about nature. In fact, the ORGFSH have revealed that the data on wildlife provided by local observation networks, most of which are run by naturalists or hunters, is very patchy and incoherent. Our work shows the extent to which the ways in which knowledge is produced raises questions about the identity of each group using space and their respective positions with regard to wildlife management.

In the final analysis, the ORGFSH crystallise a range of issues arising from the implementation of a more comprehensive form of nature management. Thus, our work also contributes to the debate on the social and territorial reconfigurations under way in the French countryside by examining aspects of a trend towards what some authors have described as the 'ecologisation' of practices (Mougenot and Roussel, 2005). Practices in agriculture and forestry are no longer justified in terms of production but increasingly with reference to the goals of biodiversity conservation, goals which concern a great many other uses of rural space.

Hunting and wildlife management

The presence of the ORGFSH in the context of a hunting law clearly demonstrates the link between hunting and wildlife management in France. Indeed, the text of the 2000 law stipulates that "Long-term management of the wildlife heritage and its habitats concerns us all. The practice of hunting, an activity with environmental, cultural, social and economic implications, is part of this management; it contributes to the balance between game species, habitats and human activities by ensuring a genuine balance between agriculture, forestry and hunting."⁶ Sustainable wildlife management therefore presupposes changes to hunting practices by increasing hunters' responsibility for the 'common heritage'.⁷ The Patriat report⁸ justifies change in the following terms: "Modern science is leading to the development of a

⁶ Extract from the Code de l'Environnement, article L420-1.

⁷ Under French law, wildlife is described as *res nullius* (belonging to no one) and is therefore incompatible with the stated goals of sustainable management. A bill to revise the legal status of wildlife and bring it into line with European law is currently being drawn up.

⁸ In 1999, the prime minister asked François Patriat to undertake the reform of French hunting legislation.

new relationship between hunters and the natural world. This involves, in return for the taking of wildlife, an investment in the rational management of hunted species, in the regulation of species that cause damage, and in the protection of habitats" (Patriat, 2000, p.144). This amounts to the establishment of a formal duty to manage which encompasses wildlife, and especially its habitats. In this context, the main threat to species is linked more closely with the decline of their habitats than with the pressures caused by hunting.

In seeking to promote the sustainable development of wildlife, legislators were pursuing two objectives : to ensure that France honoured its commitments under the various international conventions on the protection and maintenance of wildlife, and to legitimise hunting. The title of the Patriat report, 'Proposals for Responsible and Non-Controversial Hunting', encapsulates this twofold concern. The overhaul of hunting legislation occurred in a context characterised by significant conflicts: virulent arguments over certain hunting practices, recurrent skirmishes between environmental and hunting groups, growing disagreement between EU officials and the French government, etc. These multiple tensions radicalised some hunters and led to the creation of Chasse Pêche Nature et Tradition (CPNT), a political movement designed to defend a particular conception of rural life. This conception refuses to subordinate hunting to environmental management and seeks to consolidate the position it has held for half a century. A historical perspective is therefore necessary if we are to understand the changes implied in the biodiversity-led approach to wildlife management advocated by the ORGFSH.

The early 1970s marked a break in the modern history of hunting in France. The idea that game was there for the taking began to give way to the stated desire of hunting organisations for a managed approach that would ensure the preservation and growth of their 'capital' (Colin, 1984-85). The desire to modernise hunting and to 'rationalise' its management occurred at a time of profound change (Chamboredon, 1982, Dalla Bernardina, 1983, Fabiani, 1988, Darbon, 1997, Traïni, 2003) due largely to the modernisation of agriculture. A succession of measures such as the consolidation of farmland, the development of monocultures and the increasing use of machines, fertilisers and pesticides led to the decline of habitats and a subsequent reduction in grassland game species. This was followed by a change in attitudes. The greater variety of ways into the activity (there were far fewer hunters from the farming community) combined with diversification in the use of rural space led to changes in the way hunting practices were represented. Lastly, the emergence of an environmental sensitivity focused on the idea of 'resources' fostered the growth of an antihunting movement, the stigmatisation of the hunter as *viandart* (someone who kills to collect the maximum amount of meat) and a changing perception of our relationship with the animal world. The hunting community responded to this increasing pressure by promoting a new ethic founded on respect for the balance between the natural environment and the disinterested, sporting character of the practice (Fabiani, 1982). The number of hunters grew steadily between 1960 and 1975, thus exacerbating the decline of game species. Action therefore took place on two levels: on the one hand, encouraging hunted species to reproduce, and on the other, 'regulating' the number of hunters.

During the 1970s, one of the main management tools for restricting the taking of game was the 'hunting plan'.⁹ Introduced for certain species in 1966¹⁰ and made obligatory in 1979, this

⁹ Apart from regulating the dates of the hunting season, other tools included the Verdeille law, created in 1964 to optimise hunting management, and the 1968 law providing for compensation for damage caused by game animals.

¹⁰ Particularly big game such as stags, roe deer, fallow deer, mouflon and chamois.

regulatory measure was designed to achieve a balance between agriculture, forestry and hunting ; in other words, it attempted ensure compatibility between the presence of certain game species and agriculture and forestry. To this end, it introduced a quota system restricting the taking of animals on a given territory, according to its capacity to sustain hunting. This arrangement, based on population counts and selective shooting, was accompanied by a series of measures designed to enhance the reproductive conditions for hunted wildlife including feeding with grain, the rearing of game, environmental maintenance, protection from predators and attempts at repopulation (releases). Lastly, the 1968 law on compensation for crop damage caused by boars and large game animals¹¹ gave hunters a greater say in wildlife management. These arrangements heralded a period in which hunting would increasingly be regarded as a 'modern' leisure pursuit that was less closely associated with life on the land, which was itself undergoing transformation. The hunter gained autonomy through a series of practices which gave him the status of 'game producer' (Traïni, 2003).

The dominant influence of the hunting world was also evident in the way the activity was organised in France. Once the responsibility of the ministry of agriculture but transferred to the newly created environment ministry in 1971, the government had in fact passed responsibility for its management to intermediary bodies. In effect, the state delegated many of its prerogatives to federations of voluntary organisations which were known to be highly influential by virtue of their financial, organisational and political strength.¹² In this configuration, the hunting federations in each *département*, the Fédérations Départementales de Chasse (FDC), acquired a virtual monopoly over the management of the activity (Darbon, 1997; Traïni, 2003). Although officially controlled by an often sympathetic Préfet (the state's representative at local level), the FDC developed hunting plans in cooperation with local offices of the ministry of agriculture.¹³ Despite criticism, particularly from the ranks of voluntary and politically-orientated environmental movements, this system of tacit agreement to ratify the sharing of responsibilities continued until the late 1990s. Hunters managed 'ordinary' nature, while naturalists managed 'special' sites and species.

Since the 2000 hunting legislation from which the ORGFSH emerged was based on an integrated approach which embraced all managers and users and all types of land, it represented a challenge to existing territorial divisions. In effect, the legitimisation of hunting practice in relation to biodiversity conservation requires a shift from thinking in terms of game species to a holistic view of wildlife. Moreover, it presupposes looking beyond restrictions on the taking of game and guaranteeing the conditions for the 'production' of the resource, by identifying the impact of human activity on ecosystems. The integrated management of wildlife and its habitats must therefore be based on collective action which takes into account all those involved in space management (farmers, forestry workers and various developers), wildlife management (hunters and naturalists) and other users of space (walkers, etc.). One of the cardinal issues in this reform is to ensure that the goals of maintaining – and indeed restoring – biological diversity are integrated into the processes of agriculture and forestry, in other words to promote management practices and methods which are compatible with the demands of wildlife.

¹¹ Under this law, farmers relinquish the right to protect arable land against wildlife (*droit d'affût*) in return for compensation from hunting organisations when they suffer damages caused by game.

¹² The intricate relationship between the politico-administrative system and hunting organisations is not exempt from ambiguity. Gamekeepers, for example, are remunerated by the very people (members of hunting federations) they are supposed to supervise.

¹³ The environment ministry's acquisition of the hunting brief in 1971 did not change the status quo, given the lack of coordination between its departments.

In the final analysis, the kind of 'environmental' hunting promoted by the 2000 law radically modifies the practices and positions of hunting bodies, on two points in particular. The law encompasses game management within an integrated approach to wildlife in general (thus blurring the distinction between the two categories) and also enlists new participants in the organisation of hunting. The Patriat report which preceded this law placed much emphasis on the need for compromise between hunters and environmentalists: "There will be no hunting in the future unless the parties concerned open a dialogue. The minority of officials who reject all dialogue run the risk of bringing about the extinction of hunting" (Patriat, 2000, p. 20). One of the institutional expressions of this new openness lies in the fact that the ORGFSH were conceived as a paradigm for the construction of departmental hunting management plans, the Schémas Départementaux de Gestion Cynégétique (SDGC). Thus the code of practice developed by the hunting federations of each French *département* must conform with regional guidelines that have been established with other partners.

This compromise was unacceptable to some hunters, and the law was modified once again following the change of government in 2002. Honouring its electoral promises, the new administration reviewed the major arrangements of the 2000 hunting law and introduced a series of reforms in 2003 and 2005.¹⁴ In a speech to the National Assembly in February 2003, the environment minister defended the restoration of the right of hunters to manage their own activity on the grounds that they were of central importance to rural life. "Hunters are the first to express concern about the disappearance of wetlands, the preservation of hedgerows and the provision for wildlife. I dare not think what the balance of nature would be like without them ... Who would bear the cost of protection, or of repairing damage?" She concluded by reminding her audience that "Hunters guarantee the maintenance of biodiversity and the balance of the rural environment. In an increasingly alienated world, they ensure that the identity of endangered areas is preserved."¹⁵ The minister's choice of words represented an attempt to justify hunting on the basis of social considerations and issues of identity and also to address the now inescapable reference to biodiversity conservation. The ORGFSH were not officially abolished, but their scope was challenged and their future remained uncertain until 2005.

The scheme for formulating the ORGFSH

The ORGFSH were formulated in a climate of uncertainty created between 2003 and 2005 by parliamentary debates on a law for the development of rural areas, the Développement des Territoires Ruraux (DTR), which were likely to endanger a measure that was disputed within the new ruling party. This situation prompted the environment ministry, which wished to retain the ORGFSH, to speed up their establishment¹⁶, with the technical support of ONCFS,¹⁷ a public body responsible for the organisation of hunting in France.¹⁸ It was decided that the formulation process would follow the same stages in each region: the different natural environments would be listed, a region-wide study of the impact of the major types of human activity on all wildlife species would be undertaken, and the issues would be defined through a large number of measures. Rather than adopt a 'wildlife heritage' approach,

¹⁴ In the context of the hunting law of 2003 and the law of 2005 concerning rural development (Développement des Territoires Ruraux).

¹⁵ Speech by Madame Bachelot, 26 March 2003.

¹⁶ The formulation process was launched in 2003 and ended in early 2005.

¹⁷ ONCFS was thus able to enhance its skills and assert its legitimacy through the use of territorial measures to express an approach to wildlife it had formerly done little to explore.

¹⁸ ONCFS is answerable to two ministries: agriculture and environment.

the scientific bodies working in each region would focus on functional ecology, centred on habitats and corridors. Lastly, the environment ministry's regional offices (the Diren) and ONCFS would promote consultation and dialogue on wildlife through debates among the various actors. Thus, the drafting process took place through the establishment of what may be described as a *dispositif*, a notion defined by Marc Mormont as a system composed of "institutional arrangements which relate representation, standards, practices, spaces and actors to each other" (Mormont, 1996, p. 29). We have assumed that these schemesfor the ORGFSH may be analysed through regional configurations, but also through a more general dynamic linked to national and international contexts. In effect, these arrangements are elements in the context of a history of hunting and conservation in France that has been marked by recurrent conflicts and also by the trend towards ecologisation which has established the conservation of biodiversity as the principal criterion for practices and official action.

The stated willingness of the authorities to stimulate dialogue and discussion between the various actors encountered difficulties linked to local configurations and to the context indicated above. Our enquiries revealed that the conditions required to bring different views on wildlife into confrontation were not created in all regions. It was clear that several had experienced difficulty in obtaining the involvement of a large number of partners, including farmers, local elected representatives and some hunters and naturalists. There are many reasons for this. They stem primarily from the fact that the ORGFSH, a set of measures designed chiefly to act as an incentive, had little immediate impact on the practices of managers and users of open space. A certain amount of resentment and opposition to environmental policies had also built up in the French countryside (Alphandéry, 2001). Some farmers and foresters were angered by the lack of funding for agri-environmental measures and the Natura 2000 network, and had refused to make any further commitment to a process for which funds were not in place. Other actors complained of the growing accumulation of schemes, plans and zoning proposals that divided up rural space in the name of environmental concerns.

The hunting issue proved to be a central factor in arrangements for formulating the ORGFSH and crystallised a number of debates. The most virulent critics came from the ranks of the environmentalists, which may appear paradoxical given that the plan emerged from a law developed in 2000 by Dominique Voynet, a government minister and member of Les Verts (Green Party). In reality, these critics were responding to the situation that had arisen in 2002: the arrival of a new government which environmental organisations broadly regarded as being sympathetic to the hunting lobby. Consequently, in 2003, a few months after the new government took office, the country's largest environmental organisation, France Nature Environnement (FNE), called for a boycott of the ORGFSH as a way of objecting to a raft of decisions that seemed heavily weighted in favour of hunters. One FNE representative justified this approach as follows: "The ORGFSH represent a political ploy by the hunting movement, which is trying to destabilise the environmental movement ... They enable hunters to gain access to every space and to concern themselves with every species." Naturalists feared that hunters would use the environmental legitimacy derived from the 2000 law to exceed their traditional limits and become involved in the management of non-hunted species. This fear was also based on the environmental turn taken by some hunting federations. These bodies purchase and manage sensitive sites and carry out conservation work in fragile habitats in partnership with local collectives; they also organise the collection of data concerning species in which they have previously expressed little interest.

However, not all naturalists opted for a boycott. Some leading figures, like those from Haute-Normandie Nature Environnement (HNNE), chose to use the ORGFSH as a platform from which to denounce the position the state had conferred on hunters: "The ORGFSH are no more than packaging; hunting is the only important issue. What is being concealed is the hunting community's desire to move into land management. They will be handed the role of state representative for open space; citizens are being sidelined and are simply the safety-net in this business." Conversely, bodies such as the Groupe Naturaliste de Franche-Comté (GNFC) and the Groupe Ornithologique et Naturaliste du Nord (GON) preferred to take advantage of the opportunity afforded by the ORGFSH and to work with new partners. This position was generally defended by organisations which claimed to operate on a sound scientific basis (and also cultivated close links with universities), and were determined to prove their worth in the field of management. Thus some naturalists - in France the ambiguous term ecologiste is also employed (Alphandéry, Bitoun, Dupont, 1991) participated in the formulation of the ORGFSH, while others did not. Moreover, the diversity of their positions broadly reflects the heterogeneous character of a movement which is more a loose network of small groups.

The hunting community itself did not greet the development of ecological wildlife management with unanimous approval, and many of its members remained opposed to the ORGFSH. The guidelines in effect incorporate hunting into the environmental agenda by regarding the management of game species as inseparable from wildlife in general and by prioritising action directed at habitats and human practices. This view assumes that hunters will form partnerships with other users of natural spaces, an assumption which threatens their control over the organisation of hunting practices. Some hunters were therefore reluctant to become involved in the formulation of the ORGFSH. As one FRC official observed, "The hunting world is primarily federal. This means they are going to tell us how we should manage our species and habitats through a regional approach. In other words, they will impose a certain vision of the environment."

Relations between hunters and naturalists were often sensitive because the ORGFSH tended to reveal the extent to which their spheres of activity were related despite their very different ethical frameworks (Larrère, 2004) and views on environmental management.¹⁹ Hunters favour an environment- or habitat-led approach, whereas naturalists prefer a species-led approach. These approaches may seem complementary, but relations have been poisoned by a long history of conflict. Naturalists therefore decry the tendency of hunters to take over new domains although they lack the required skills, and indeed the legitimacy, to do so – they are suspected of being interested only in game. Conversely, hunters question the skills claimed by naturalists and are also critical of their 'static' vision, their focus on protecting species and creating reserves rather than addressing the issues in a pragmatic, dynamic and pluralist way. Hunters claim that their knowledge of the land and financial resources enable them to attract support from more effective networks than those available to naturalists. It seems that the environmental management model promoted by the 2000 hunting law drove hunters and naturalists into a situation of conflict and competition except, as we shall see, in regions where they have taken a markedly different approach.

These elements demonstrate that beyond the circumstantial reasons mentioned above, the difficulties the actors have experienced in debating in the ORGFSH forum should be more fundamentally related to the existence of differing views of wildlife management and the role

¹⁹ This often led the Diren to turn to both groups in order to draw up an inventory based on a particular approach.

played in it by hunters and naturalists. The ecological management model that emerged from the 2000 law challenged but did not supplant the game management model, the origin of which is discussed above, and which was based on the hunting community's right to run its own affairs in cooperation with government departments. A number of hunting federations situate themselves between the two management models, although this intermediate position tends to fluctuate according to events. Similarly, we have seen that naturalists do not present a common front either; each group adopts a position on the ORGFSH according to its own practices and relations with the hunting community. Moreover, most of the *Chambres d'Agriculture* representatives are hostile to the ORGFSH ecological management model, given its condemnation of the damage to habitats resulting from several decades of unbridled intensive farming. But this group, together with representatives of the forestry industry, is also critical of a model which grants hunters autonomy in the interests of a balance between agriculture, forestry and hunting, and furthermore gives them sole responsibility for deciding the level of compensation for the damage to crops and plantations caused by game animals.²⁰

Given the circumstances, consultation more often took the form of a search for consensus than a genuine process of intensive discussions among all the concerned partners. This was particularly true in the case of the Diren, which were wary of the ORGFSH question. As one naturalist working for a consultancy observed, "Most of the Diren were still grappling with Natura 2000 when the ORGFSH came along. Lacking any real presence or legitimacy in the wildlife sphere, they were suspicious of a 'hot potato' that the hunting problem had made explosive." The discussion groups which had been set up were careful to avoid the most controversial topics, which had already led to profound disagreements, especially between hunters and naturalists. Despite these limitations, the research we conducted in three French regions showed that genuine progress had been achieved through a series of debates and expert assessments²¹ which had enabled various actors to come face to face and express their views with diverse configurations.

In Haute-Normandie, the drawing up of the ORGFSH brought together the region's main society of naturalists, which was hostile to hunting, and hunting bodies which, with the exception of water-fowlers, had chosen to become actively involved in the process and wished to follow the guidelines when writing the departmental hunting management plan (SDGC).²² But as we saw earlier, the head of HNNE saw no possibility of open and constructive debate: "The Diren negotiate with hunters behind closed doors. Hunters are not environmental managers; they are only interested in game. The state should be responsible for the management of space. But naturalists do not have the lobbying power that hunters possess through their vote; there are no votes to be gained by attacking hunting." Rejection of the idea of partnership with hunters was deliberately positioned at the political level rather than that of environmental management. As long as hunters and naturalists do not mix, they pose no threat to each other; HNNE eventually refused to endorse the ORGFSH. However, other naturalists, such as the professionally astute director of consultancyquoted above as well as some officials of PNR, welcomed the new partnerships.

²⁰ The compensation issue has often led to heated arguments between hunters, foresters and farmers. Farmers' unions left the national negotiating table late in 2005, declaring that they "no longer wanted their crops to be a self-service restaurant for game species". Meeting of the Commission Nationale d'Indemnisation des Dégâts du Gibier, 22 November 2005.

²¹ An initial assessment appeared in the ONCFS journal. See *Faune sauvage*, no. 270, January 2006.

²² Comité de Pilotage (steering committee) report, 19 May 2004.

Local elected representatives and members of the farming community were lukewarm about the process, while foresters took more interest, although they had no illusions. One forestry official in Haute-Normandie expressed his disappointment that the process was unable to break the hunting community's monopoly on every aspect of its activity. On the other hand, highly intensive farming practices were mentioned for the first time in the ORGFSH framework document (which had been ratified by the Préfet and by land managers) as a major cause of habitat loss. This led to a series of measures such as changes in technical methods and proposals for the maintenance and even re-establishment of 'fixed countryside elements' (infield trees, hedgerows, small woods, riparian vegetation and ponds).²³ At present these are only recommendations, but they show that we have moved from a nature management policy centred on heritage species to a new approach based on functional ecology.

In the Franche-Comté, most actors claimed to agree with the approach developed through the ORGFSH and some could already see positive outcomes. According to an official of the Groupe Naturaliste de Franche-Comté (GNFC), "The good thing about the ORGFSH is that they have changed the way people think. They have also helped to refine a methodology and have given many actors, local collectives in particular, a medium-term vision. I am glad we shunned the FNE call for a boycott." However, the failed attempt to create a regional network for the production of data on vertebrate fauna also shows how difficult it is to unite hunters and naturalists. The GNFC stresses the value of scientific expertise (it has links with universities) and favours "putting the activities of experts on a professional basis" in order to enhance the value of those that hunters do not possess. At the same time, it fears the profusion of environmental management initiatives emanating from hunting organisations, a tendency reflected in the name chosen for the headquarters of the Fédération des Chasseurs du Jura: 'Maison de la Nature et de la Faune Sauvage' ('centre for nature and wildlife'). Hunters themselves are critical of naturalists' tendency to prioritise some species above others: "The categories adopted to define spaces and species create norms that preserve the status quo." Moreover, they believe they have the right to intervene as experts in every aspect of wildlife. According to the president of the Fédération Départementale des Chasseurs du Jura, "Wildlife should not be the preserve of any single body." The Diren takes a jaundiced view of both sides. According to one Diren official, "Species and habitats need to be monitored. We don't know much about mapping the latter and some of the former simply serve as indicators. Hunters have many means at their disposal and are ubiquitous. Either naturalists team up with hunters or they will be lost: it is up to them to defend their own interests. One of their assets is that they can produce publications." In the final analysis, the example of the Franche-Comté illustrates the fact that when naturalists and hunters are invited to share the same ground, their contrasting approaches lead to rivalry rather than to partnership.

In the Nord-Pas-de-Calais region, naturalists and hunters set aside their differences and decided, in agreement with the Diren, to work together in a technical committee whose role was to suggest working methods to a larger steering committee. As in several other French regions, the Diren asked the hunting federation to draw up an inventory of broad types of habitat, while ornithologists from the Groupe Ornithologique Nord (GON) were given the task of compiling a census of non-hunted species. Members of the main agricultural union²⁴ disrupted this harmonious arrangement by refusing to ratify the procedure chosen for drawing up the ORGFSH. They feared that the guidelines, like the environmental conditionality principle recently appended to the EU Common Agricultural Policy, would impose too many

²³ These provide food and shelter for many species and in some cases act as ecological corridors which promote biodiversity.

²⁴ Fédération Nationale des Syndicats d'Exploitants Agricoles (FNSEA).

restrictions on agricultural practices. The technical committee therefore worked closely with farmers and foresters to review the procedure. The ORGFSH were written after some hard bargaining. In this instance, consensus was based on the involvement of the various actors concerned and on a clearly defined division of responsibilities: hunters would deal with all matters relating to game species, while naturalists would deal with all other wildlife. Moreover, hunting bodies stressed their skills and their access to sources of wildlife data. When the steering committee convened all the participants to discuss the redrafting of the ORGFSH,²⁵ the president of the Fédération des Chasseurs du Nord announced his intention to work with foresters to create a regional observatory for hunted species, in parallel with the network set up by naturalists. The situation in the Nord–Pas-de-Calais region is thus distinct from the preceding case studies in that, although most actors were prepared to participate, they rejected the idea of a single overarching network.

The different situations outlined above reveal the difficulty of making an overall assessment of the way the ORGFSH were drafted. Despite its limitations, the adoption of a consultative approach enabled the many actors and institutions who sought to position themselves on the new issues surrounding the preservation of biodiversity to get together and compare their skills and their knowledge of species. Furthermore, it facilitated the construction of frames of reference for wildlife management by relating spaces, species and human practices, applying classifications and creating categories. According to the ONCFS assessment, action plans prioritised habitat preservation (47%), species management and conservation (33%), and lastly the improvement and dissemination of knowledge (15%) (Wencel, 2006). The effects of these proposals remain to be seen. To what extent are the ORGFSH more than a 'wish list', and will they have concrete outcomes? In other words, will the call for actors to federate in the interests of territorial management have any impact? Before the ORGFSH can be translated into actions around the major themes such as 'restoration of the capacity of habitats to support wildlife' and 'fragmentation of environments', it is necessary to forge links of cooperation and opportunities for learning between the concerned parties. The conflicts referred to earlier often impede progress from planning to action, which cannot take place unless common goals have been set and unless the practices and skills of other actors have been accepted as legitimate. Following Nicolas Dodier (2001), we venture to suggest that wildlife management thus faces a situation of institutional 'isolation'²⁶ which is hardly compatible with the quest for partnership, the objective of the ORGFSH. As we shall see, the issue of knowledge production illustrates the difficulty of moving from institutional isolation to institutional 'combination'.

The production of knowledge: rivalry between hunters and naturalists

Sustainable wildlife management requires knowledge of species and habitats and of the way they function. The establishment of the ORGFSH has, from this point of view, revealed the deficient and uncoordinated state of the existing expertise. However, these deficiencies are not confined to data on wildlife but extend to our wider knowledge of the natural heritage. Given the current proliferation of policies on biodiversity conservation, the need to organise the production and organisation of environmental data would seem to be a priority. But as we shall see, progress in this area is beset by a series of obstacles.

²⁵ Lille, February 2006.

²⁶ 'Combination' means operating in a way that links an institution's legitimacy to its ability absorb external influences. In contrast, 'isolation' means constructing institutional legitimacy around the ability to resist external pressures. Nicolas Dodier, 2001, p. 30.

Generally speaking, there are profound cognitive disparities between species. Although on the whole there is a considerable body of data concerning hunted wildlife as well as 'symbolic' and 'heritage' species (rare, endangered and protected species), our knowledge of 'ordinary' fauna is either fragmentary or non-existent.²⁷ Many different actors and institutions produce knowledge about wildlife. They belong to parallel networks, each of which operates according to its own logic. For example, in order to set up a regional inventory, information must be sought from institutions as diverse as the Muséum National d'Histoire Naturelle (MNHN), the Institut Français de l'Environnement (IFEN), ONCFS, hunting federations, conservation bodies, associations of trappers, the Direction Départementale de l'Agriculture et de la Forêt (DDAF) (Game damages) and many others. This data, collected by discrete networks with different objectives and protocols, is hard to access and is often not easily collated or available for publication in its existing state. Making an inventory under these conditions necessarily has limits, a fact emphasised in an ORGFSH working document from the the Nord-Pas-de-Calais region: "The species data provided and handled by hunters' federations and the Groupe Ornithologique Nord (GON) were collected and validated using different protocols. They cannot be compared ... However, meetings between these dataproviders made it possible to combine the two sources" The document also highlights the risks of confusion presented by certain concepts : "The notion of population dynamic means different things to different actor s: for hunters' federations, it encompasses the numbers and communal distribution of the population, while naturalists think in terms of demographic trends and numbers according to a grid divided into areas measuring ten square kilometres."²⁸ Given the widespread awareness of this lack of knowledge, ORGFSH officials in several regions are considering setting up regional wildlife study observatories. These should be conceived less as formal data banks than as sites where knowledge can be organised and shared with others.

In France, the deficit in knowledge extends to all forms of data relating to the natural world. A recent IFEN report includes an inventory of naturalists' skills which tallies with the lessons that emerged from the introduction of the ORGFSH. "Many actors participate in gathering information on nature and contribute to its richness, but they have not established a proper network. This organisational flaw partly explains the thematic and geographical gaps we have observed and limits the development of shared methodological standards. This conclusion maybe supplemented by other factors beside the aforementioned lacunae : data is hard to access and its abundance often conceals redundancies."²⁹ The deficit, dispersal and noncumulative character of knowledge inhibit official initiatives to further the aims of biodiversity conservation. Policies such as Natura 2000, the ORGFSH and the national biodiversity strategy require the establishment of a scheme for organising current data, while the methods required for the production of further knowledge also require careful analysis. The need to plug the gaps has stimulated a series of initiatives, principally at regional level. For example, FNE, which groups together a large number of environmental conservation bodies and claims to be the main source of environmental data in France, aims to promote a network for the management and enhancement of such data, an objective inspired by the ODONAT (Office des Données Naturalistes) project in Alsace. In the Nord-Pas-de-Calais, the Diren, working in partnership with the regional administration, have recently created an information network which brings together most of the scientific associations and voluntary

²⁷ Eighty-five per cent of the wildlife in France is composed of insect species. The most studied groups are mammals, birds, reptiles and amphibians, but these represent barely 2.5% of the total number of species (Institut Français de l'Environnement, 2002).

²⁸ Nord-Pas-de-Calais ORGFSH working document, op cit p. 10.

²⁹ Unpublished report from the IFEN scientific council, 2004, (Edater, p.10).

bodies from the field of nature conservation. A plan to create a network of observatories for the study of vertebrate fauna which would bring together all relevant bodies, including organisations of naturalists, the ONF, hunting federations and the ONCFS,³⁰ is also under discussion in the Franche-Comté.

Many of these initiatives are emerging at a time of major changes in the legal and political frameworks: greater responsibility for the regions, the creation of a national inventory of the natural heritage and the institution of regional scientific councils for the natural heritage – Conseils Scientifiques Régionaux du Patrimoine Naturel (CSRPN) – provided for in the *loi de Proximité* (2002).³¹

The environment ministry has applied great efforts to the creation of a national environmental data network. Faced with a growing demand from EU and international organisations for the dissemination of information (see the 2002 Aarhus Convention and the European INSPIRE directive³²) and with the proliferation of regional projects and initiatives (which, according to one ministerial source, "tend to spread in every direction"), the ministry has sought to ensure the accessibility and fitness for use of all data through the establishment of a nature and countryside information system, the Système d'Information sur la Nature et les Paysages (SINP). The system relies on a network of producers, managers and users of biodiversity data, the natural heritage and the countryside. The network has a national committee composed of representatives from a broad spectrum of organisations, including central and regional offices of the environment ministry, other ministries, public bodies,³³ associations and other groups connected with nature conservation³⁴ as well as research centres, universities, local associations and socio-professional actors. The formation of these networks at both national and regional level is fraught with legal problems (the ownership of data, the rights of partners concerning its publication, the exploitation and presentation of data), technical problems (the definition of the protocols for measurement, the application of standards, etc.), and is also beset by the problem of legitimacy. Is it necessary to privilege scientific knowledge as desired by the FNE, which, as the principal source of natural data, claims a central position in these networks? Is it also necessary to take into account other forms of knowledge oriented towards action, whether they are managerial or developed with reference to local practices and contexts?

In order to shed some light on this debate, we studied the tensions between French hunters and environmentalists that arose from the 1979 European Directive on the Conservation of Wild Birds. A summary of the salient points illustrates the extent to which the production of knowledge and its relationship with science constitutes an issue in environmental policymaking. The controversy centred on the open and close season for the hunting of migratory birds. As the European Commission had not established a calendar, 'defenders of

³⁰ Since 1985, the ONCFS has acquired the Centres Nationaux d'Etudes et de Recherches Appliquées (CNERA). These centres specialise in game species and certain wild species (migratory birds, small sedentary grassland fauna, deer and boar, mountain fauna, predators and scavengers).

³¹ This body is mandated to intervene in all issues relating to regional natural heritage, particularly those concerning the scientific value of inventories, proposals for regional lists of protected species, the granting of authorisation to protect species, the ORGFSH and Natura 2000 (decree no. 2004-292, 26 March 2004 relating to the CSRPN).

³² The Inspire directive is aimed at establishing a European-wide infrastructure for spatial information which will simplify access to environmental data.

³³ Including ONCFS, Office National des Forêts (ONF), Conservatoire du Littoral, Parcs Nationaux, MNHN and Conseil Supérieur de la Pêche (CSP).

³⁴ Conservatoire Botanique National, Conservatoires Régionaux des Espaces Naturels (CREN), FNE, Parcs Naturels Régionaux (PNR), Réserves Naturelles de France (RNF), specialist bodies, Ligue de la Protection des Oiseaux (LPO), etc.

birds' sought to argue their point of view in the courts, supporting their case with scientific arguments. French courts, followed by the European courts of justice, accepted the arguments advanced by societies for the protection of nature, and ruled in favour of shortening the hunting season for migratory species. However, hunters were quick to mount a counter-attack; they challenged the validity of data provided by scientists affiliated to anti-hunting movements, and rejected findings which contradicted their practical experience. This confrontation raised questions about the legitimacy of scientific knowledge and the need to draw on other types of knowledge and even take into account the complexity and variety of local contexts. According to Wynne (1999), their eagerness to produce a form of universally applicable knowledge led scientists to making the complexity and diversity of situations too abstract. Furthermore, disputes over the independence of expert opinion led hunters to mobilise their own network of experts in an attempt to change the courts' decision.

In order to settle the dispute between experts, the newly elected government of 2002 sought to put the management of hunting on an "undeniably scientific basis" by setting up a permanent centre of expertise, the Observatoire National de la Faune Sauvage et des Habitats (ONFSH). Composed of a network of experts appointed by various bodies from the fields of conservation, public management, research and hunting, this committee brought together skills that enabled an approach that was both pragmatic and scientific, in accordance with the aim expressed by the environment ministry. ONFSH resembles what P. Roqueplo (1991) calls a 'parliament of knowledge'. In other words, it is a collective body that can settle interdisciplinary disputes and produce "knowledge that has been subjected to a rigorously objective evaluation and can be integrated into ... the existing body of knowledge."³⁵ However, the creation of the centre³⁶ provoked strong criticism from environmental organisations. The LPO claimed that the government was attempting to "weaken the role of nature protection groups in the provision of environmental data," on the pretext of seeking an "undeniably scientific and independent basis which in fact gave hunters over-representation and offered them a platform.³⁷. Les Verts regarded the establishment of the centre as a way of "operating as if scientific data had no value."³⁸ These disagreements illustrate the clash between two models of expertise. The first, founded on a positive scientific approach, was defended by many environmental protection groups which believed that the only legitimate decisions are those founded on a sound scientific basis. This model may be directly related to the influence on politics of positivistic science described by Jurgen Habermas in the 1960s (Habermas, 1978). The second, favoured by the ONFSH, is described by Hermitte and Roqueplo (1997) as a procedural model. It is based on three major principles: contradiction (which makes possible the expression of opposing positions), transparency, and independence. The procedural model is distinctive in the way it combines scientific knowledge and practical skills.

The disputes between hunters and naturalists over science have also extended to the debates concerning the ORGFSH. During a round-table discussion attended by members of the hunting community, scientists and the principal representatives of rural space,³⁹ hunting officials from the Nord–Pas-de-Calais and Picardie regions took it in turn to attack scientists'

³⁵ See P. B. Joly, 2005. p. 126.

³⁶ The centre is principally concerned with wildlife that causes disputes, particularly migratory birds.

³⁷ LPO programme for hunting in France, April 2003.

³⁸ Htt:// www.lesverts.fr/article.php3?id_article=691

³⁹ Organised in January 2003 during national consultations on the environment charter (Charte de l'Environnement), an environment ministry initiative to insert certain principles designed to raise awareness of the environment and sustainable development into the French Constitution.

claim to supremacy in the rational management of wildlife. "Nobody has a monopoly on science," said one. "There is no single scientific truth," claimed a second. Others went even further : "We rely on subjective expert reports ... there is a problem of intellectual honesty. Scientists are often opposed to hunting." As in the case of the Birds Directive, these conflicts revolved around the existence of different forms of environmental knowledge and conflicting models of expertise. But such tensions also surfaced in the regional and national initiatives to organise data relating to wildlife and the environment in general. A report from a study centre in Haute-Normandie notes that "At present, data centres, which have often mobilised networks of impassioned observers, have no interest in working together. On the contrary, they feel that cultural conflict, conflicts of interest and the government's centralising tendency, give their expertise, which they are quick to protect or overvalue, a certain political value."⁴⁰ The FNE call to boycott the ORGFSH may be interpreted in this sense. An FNE official interviewed in 2005 claimed that "The guidelines represent a danger in that other partners [hunters] might pillage environmental data."⁴¹

In our view, the confrontation between hunters and naturalists originates from a conflict of legitimacy, but it also illustrates the desire of both parties to participate in the definition of 'best practice' and, more generally, to influence the future of rural space. In a context characterised by the paucity of environmental knowledge, the way in which skills are applied is of particular importance insofar as it orientates what kind of data should be produced and designates which bodies are most suited to contribute to the arrangements.

Conclusion

An analysis of the ORGFSH is of interest in several respects, particularly through the scheme on which they are based. This embraces both environmental and social dimensions and makes it possible for the actors - farmers, foresters, hunters, naturalists, etc, to come together at regional level in order to shape the main lines of a sustainable wildlife policy. We can therefore identify the participants and the ways – cooperation or conflict – through which they hope to achieve their goals. Furthermore, we can track the reconfigurations taking place in the rural areas of France. The ORGFSH also shed some light on what is at stake, particularly in terms of the production of environmental knowledge. In effect, sustainable wildlife management presupposes acquiring the resources to combine and enrich a body of incomplete and disputed skills. Lastly, in France public policies designed to further these aims form part of a broader goal – the construction of a paradigm for the conservation of biodiversity. Through initiatives such as Natura 2000, the CAP environmental conditionality principle, the national biodiversity strategy and the ORGFSH, the conservation of life in all its forms continues to gain in legitimacy and to encourage the creation of standards designed to change the way we use rural space. In turn, this paradigm helps to create the conditions for a 'dynamic of ecologisation' which has been described by C. Mougenot and L. Roussel (2005) as an "inevitable lengthening of chains of interdependence bringing together formerly separated spaces and actors and creating new assemblages between human beings and nature." The ORGFSH thus provide the opportunity to observe the process as it unfolds and examine the arrangements and issues emerging from it.

The study of the way in which the ORGFSH were drawn up reveals considerable disparities between regions, but above all it highlights the difficulties that arise from attempting to create

⁴⁰ Environnement Vôtre, 2004, p.24.

⁴¹ Hunters expressed a similar view and displayed little willingness to share their information sources with others.

chains of cooperation (new groupings) between the various categories of actors connected with wildlife. Some of the crucial actors - members of the farming community and elected representatives - did not participate while others - hunters and naturalists - were reluctant to commit themselves to the initiative. Although the process of 'ecologisation' has not materialised in the forms outlined above, the drafting of the guidelines helped to redefine the positions of hunters and naturalists vis-à-vis wildlife management. Until recently, the former were considered licensed to deal with 'ordinary' nature, while the latter saw themselves as managers of 'special' species and sites. The ORGFSH consultation plan made it possible to identify the ways in which relations between hunters and naturalists differed from one region to another, ranging from the refusal to cooperate on ethical grounds (which raised the question of hunting's legitimacy) to acceptance of the necessity for dialogue and the building of partnerships that would extend to the sphere of knowledge production. Both groups are racked by internecine quarrels and differing interpretations of the biodiversity model enshrined in the ORGFSH. We are therefore witnessing the blurring of the distinctions that once separated hunters from environmentalists. Nevertheless, conflicts between hunting groups and associations for the protection of nature still exist; in some cases they will not be reconciled as long as they are based on issues of identity. Tensions between the two groups are also apparent in the initiatives to enhance and share knowledge of wildlife, habitats and the impact of human activity. The schemes for creating regional wildlife observatories and for forming all the actors in possession of environmental data into networks have revealed the profound divergences that exist between the hunting community and those concerned with the conservation of the natural world. The process of knowledge production has generated particularly controversial issues concerning the relationship with science and evaluation methods.

More generally, the difficulty some regions have encountered in uniting all those concerned with environmental management illustrates the extent to which the clash between forms of legitimacy and different practices continues to raise issues and generate conflict in France. Farmers and foresters still manage most of the land, but the emergence of the biodiversity conservation model has led to a reassessment of their practices. The definition of regional priorities in terms of habitats or countryside elements such as wetlands, bocage and marshes that took place during the ORGFSH drafting process led to the status of natural spaces and objects being amended. While collectives work towards their goals in a hesitant fashion and achievements have so far been modest, the level of agreement on habitats, priority measures and an 'inventory' of wildlife illustrates that regional criteria for the management of the environment are gradually taking shape. The ORGFSH, combined with official action in support of biodiversity, are thus contributing to the transformation of regional space into natural environments and to the creation of broad categories ('rare', 'ordinary', 'destructive' and 'invasive', for example) of wildlife species. The classification process, which entails the comparison of a range of skills and areas of expertise, varies from region to region and exemplifies the extent to which classification is a function of social production (Mary Douglas, 1999).

The cumulative effect of a series of public policies on biodiversity is gradually refining the available tools and knowledge which can be applied in the context of consultation-based territorial procedures. Within regional arrangements, consultation itself depends on the redefinition of the role played by institutions, as the ORGFSH have revealed. This trend supports the observations made by Bezes, Lallemant and Lorrain (2005): "Yesterday's institutions fashioned practices and representations more directly; today, these elements tend to be shaped by intermediary bodies which possess information resources that can facilitate

action, coordination and verification."⁴² However, the ORGFSH have also revealed that genuine consultation occurs only when the actors agree to share the same platform. Furthermore, agreements on and commitments to forms of biodiversity management require trust and willingness to work in partnerships, factors which are seldom initially present but which require gradual and patient construction, as our work on the 'local stages' of the Natura 2000 debates (Pinton et al., 2005) has shown. The ORGFSH provided a forum for the expression of different points of view and of profound disagreements concerning the management of wildlife, and tended to substantiate the fact that the process of ecologisation is neither linear nor automatic: it is contradictory and will vary from one region to another. Thus the fact that the hunting community has resisted the ecological management model does not necessarily imply that its governing bodies are not interested in the conservation of biodiversity. We can in fact point to many instances where hunters have partially adopted the concepts of ecological management. This is particularly evident in the growing number of habitat conservation initiatives launched by hunting federations, some of which have entailed the establishment of partnerships with foresters, water agencies, farmers and local communities. To be sure, the degree of active involvement varies from region to region, and has not always met with the approval of the rank and file, but it reflects the desire of their leaders to restore hunting's legitimacy and to break with the 'bunker mentality' characteristic of French hunting organisations.

The ORGFSH have also revealed the considerable role that hunters play in the debates on wildlife management in France. The three laws concerning hunting and the ORGFSH (2000, 2003 and 2005) provided politicians with the opportunity to stress the many ways in which the activity is essential to the fabric of rural society and to the maintenance of biodiversity. Hunting therefore constitutes a link between cultural diversity and biodiversity. But the ORGFSH are significant in another respect: they afford an insight into the way the concepts of wildlife management they convey may be related to two very different worlds. On the one hand, they are still partially attached to the institutional models and alliances which have characterised the French countryside since the age of triumphal agricultural productivism, when the management of ordinary fauna belonged by right to hunting. On the other hand, they testify to the existence of a concept of environmental management derived directly from the model of biodiversity conservation. The disparities evident in the DTR law symbolise both the reality and the difficulty of the coexistence of these two worlds. The measures introduced by this law, adopted in 2005, have in effect cemented the existence of the ORGFSH (despite the desire of some members of parliament to abolish them), and have reaffirmed the central position of hunters in environmental management.

⁴² (Bèzes, Lallement, Lorrain, 2005), op cit, p. 298.

Bibliography

Alphandéry, P., Bitoun, P., Dupont, Y., L'équivoque écologique, La Découverte, 1991.

Alphandéry, P., Fortier, A., Local Knowledge in Nature Management Schemes: Biodiversity and Local Ecological Knowledge in France, CIRAD, IDDRI, IFB, INRA, 2005.

Bèzes, P., Lallement, M., Lorrain, D. (eds), 'Les nouveaux formats de l'institution', *Sociologie du Travail*, 47, 2005.

Colin, G., *Rapport sur la modernisation du droit de la chasse et de la faune sauvage*, Ministère de l'Environnement, 1985.

Chamboredon, J.C., 'La diffusion de la chasse et la transformation des usages sociaux de l'espace rural', *Etudes Rurales*, no. 87-88, 1982, pp. 233-260.

Dalla Bernardina, S., La nature sauvage et ses consommateurs. Des stéréotypes du récit de chasse aux lieux communs de la prose écologiste. Doctoral thesis, Université de Provence, Aix-Marseille 1, December 1983.

Darbon, D., La crise de la chasse en France, L'Harmattan, 1997.

Dodier, N., Les leçons politiques de l'épidémie de Sida, Editions de l'EHESS, 2001.

Douglas, M., Comment pensent les institutions? La Découverte, 1999.

Environnement vôtre, 'La connaissance de la faune sauvage en Haute-Normandie: Qui fait quoi? Qui sait quoi? Quels enjeux pour une gestion?', 2004.

Edater, *Formalisation du système d'information sur la nature et les paysages*. Rapport pour le ministère de l'Ecologie et du développement durable, 2005.

Fabiani, J-L., 'Les prédateurs éclairés: remarques sur la «gestion rationnelle» de la chasse en France', *L'imaginaire de la chasse*, Atelier CRC, France, 1988. pp.111-124.

Fabiani, J-L., 'Quand la chasse populaire devient un sport. La redéfinition sociale d'un loisir traditionnel', *Etudes Rurales*, n° 87-88, 1982, pp. 309-323.

Habermas, J., La technique et la science comme idéologie, Gallimard, 1978.

Hermitte, M-A., 'L'expertise scientifique à finalité politique. Réflexions sur l'organisation et la responsabilité des experts', *Justices*, n°8, 1997, pp.79-103.

Joly, P-B., 'La sociologie de l'expertise scientifique: les recherches françaises au milieu du gué', *Cahiers du GIS Risques collectifs et situations de Crise*, n°3, 2005, pp.117-174.

Larrère, R., 'Les conflits entre les chasseurs et les protecteurs de la nature', *La Ricerca folklorica*, 2004, pp.111-117.

Mormont, M., 'Agriculture et environnement: pour une sociologie des dispositifs', *Economie Rurale*, Nov-Dec., 1996.

Mougenot, C., Roussel, L., 'To poison or to trap? The ecologisation of "pest" control', *Sociologie Ruralis*, 45, April 2005, pp.115-129.

Patriat, F., *Propositions pour une chasse responsable et apaisée*, report commissioned by the French prime minister, La Documentation Française, 2000.

Pinton, F. (ed.), Alphandéry, P., Billaud, J. P., Deverre, C., Fortier, A., Geniaux, G., Perrot, N., *La construction du réseau Natura 2000 en France: une politique publique à l'épreuve des scènes locales*. Report prepared for the Ministère de l'Ecologie et du Développement Durable and l'Institut Français de la biodiversité, Dec. 2005.

Roqueplo, P., 'L'expertise scientifique: convergence ou conflit de rationalités', *Environnement, Sciences et politiques, Les experts sont formels*, Collectif, Paris, Germes, n°13, 1991, pp. 43-80.

Roqueplo, P., *Entre savoir et décision, l'expertise scientifique*, INRA, 1997. Traïni, C., *Les braconniers de la République*, PUF, 2003.

Trivière F-Xavier, La chasse dans l'estuaire de la Loire, Mission du Patrimoine

Ethnologique, Ministère de la Culture, 2002.

Wencel, M.C., 'Les Orgfsh: deux années de concertation en faveur de la nature ordinaire',

Faune sauvage, no. 270, January 2006.
Wynne, B., 'Une approche réflexive du partage entre savoir expert et savoir profane', *Les Cahiers de la sécurité intérieure*, no.38, 1999, pp. 219-236.