



SHEPHERDING CULTURE IN SWITZERLAND:

an analysis of motivation
and attitudes

THE EUROPEAN SHEPHERD NETWORK

SHEPHERD PORTRAITS

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SHEPHERD TRAINING

in Europe



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EDITORIAL

Dear Readers,

In public discussions, policy documents and scientific literature about carnivores and conflicts linked to livestock grazing, one crucial aspect is often neglected: the shepherd.

Shepherding is one of the oldest jobs of humanity, yet it seems today that all around the world nomadic traditions and transhumance are under threat. In many countries, they are under pressure from different types of land use, climate change, economics and social conflicts. Loss of grazing traditions can have a serious impact on cultural landscapes and biodiversity, which were created over centuries and constitute part of our heritage. Neither domesticated animals nor wildlife can be conserved without considering the people living and working in the complex systems that are integrally linked to the management of these resources.

It is not only nomads in the Sahel or Mongolian grasslands who are living as social minorities under economic and political pressure. Transhumant herders in Europe, too, are impacted by the tough situation of liberalized agricultural markets, poor salaries and under-appreciation of their hard work. Extensive shepherded grazing practices, attuned to the cycle of the seasons, have somehow become a relic of an agrarian philosophy that pre-dates industrialised meat and milk production. Nevertheless, passion for pastoralism still exists even under difficult legal, social and economic conditions.

In this issue of CDPNews, we want to give shepherds more of a voice in discussions around the coexistence of livestock and large carnivores. We have included interviews with shepherds from different backgrounds to illustrate their varied lifestyles, methods of animal husbandry and experiences with predators. A better understanding of shepherds' working rhythms between night and day, winter and summer, and the natural cycles of growing and fading, birth and death may heighten appreciation for the hard work they undertake on a daily basis. This, in turn, could help foster a mutually respectful discourse on the inter-relationships between grazing practices and wildlife, including large carnivores, and the habitats they share.

In regions where traditional practices are being lost, it is often uncertain who will go on when the old shepherd dies or leaves. In some countries, shepherd schools play a crucial role not only in keeping traditions alive but also in improving knowledge of herding and protection dogs and the management of natural resources under new challenges including the risk of predation. Here, we provide details of several such training programmes in Europe.

A critical question for the future is: how can shepherds adapt their practices to changes in climate, landscape, global economics and trade regulations, as well as society's attitudes to wildlife and biodiversity? The necessary adaptations are not going to be easy and we do not have all the answers. However, we hope that the persistence of shepherding through the millennia testifies to its resilience to adapt to the future.

We wish you an interesting and informative read and are grateful for your feedback, comments and suggestions.

The Editors

Research Paper

SHEPHERDING CULTURE IN SWITZERLAND: AN ANALYSIS OF MOTIVATION AND ATTITUDES

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1. Introduction

Switzerland is characterised by a diverse landscape, with the densely populated Plateau¹ and two mountain chains: the Jura Mountains in the northwest and the Alps in the south. Agricultural practices are shaped by this topography, with most intense agriculture in the Plateau and extensive agriculture and extensive animal husbandry in the mountainous areas.

The mountainous landscape and the coinciding of the most used agricultural area with the most densely populated area limits the size of farm holdings. Thus,

the transition into fewer, bigger holdings is less immediate in Switzerland than in other countries in Europe. While this trend is certainly happening, Swiss farms are on average still rather small (average of ca. 20 hectares) and there are in spite of everything many small holdings, especially in marginal, mountainous areas.

Alpine farming has its significance for farmers as it allows them to rear more livestock with additional grassland resources. As livestock grazes on alpine pastures in summer, they can conserve feed in lower altitudes for the winter. However, mountain meadows

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¹The Swiss Plateau or Central Plateau is the area between Lake Geneva and Lake Constance, bordered by the Jura mountains in the northwest and the Alps in the south (Fig. 1). It is mostly flat or hilly, intensively farmed and densely populated.

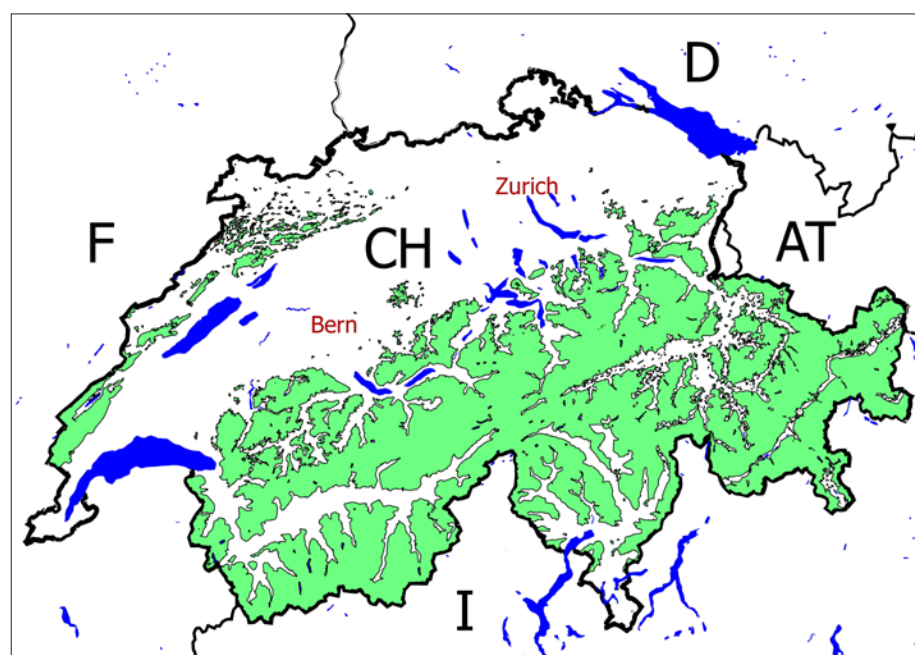


are less nutritious and often steep and hilly. Traditional autochthonous breeds of cows, especially, were robust and well adapted to such landscapes. With agricultural intensification they were replaced by modern, more productive breeds. Since these breeds were less suited for Alpine pastures, this led to a decline in Alpine farming. However, as it is considered of cultural and environmental value, it is supported by the state through subsidies.

Intensification affected not only livestock breeds but also the structures of holdings. Small, peasant-like farms with diverse branches developed into specialised farms. As sheep were often kept as a supplementary income, sheep farming was increasingly abandoned, because it necessitated too much work for little income. At the same time, large carnivores had been extirpated (Breitenmoser, 1998), so sheep could be left to roam freely in the mountains without any protection. All these factors led to the abandonment of the ancient tradition of herding.

In traditional small-scale farms, knowledge about farming was passed on from generation to generation. With the declining number of small family farms and the tendency to have bigger flocks, the need for constant guarding through shepherds started to increase 25 years ago. This change led to a gap between supply and demand of shepherds. In the Swiss tradition, shepherds are strongly connected to rural and agricultural communities, therefore the “typical shepherd” is a man with an agricultural background. Increasingly, shepherds come from non-agricultural backgrounds and have different attitudes and knowledge. This trend has been known in Alpine farming for a long time and influenced the sociocultural exchange between cities and the countryside (e.g. Schütz, 2010). The proportion of female shepherds is steadily increasing too (Miller, 2016).

Fig. 1. Livestock summering areas in Switzerland (green) (AT=Austria; CH=Switzerland; D=Germany; F=France; I=Italy) (Adapted from: FOAG, 2016).



Thanks to the growing ecological consciousness of society, subsidies from the government and the return of wolf, bear and lynx, the herding profession has experienced an upswing in recent years. This means an increase in shepherds who have their background in non-agricultural professions alongside the “traditional shepherd”.

1.1. Transhumance in Switzerland

The most common livestock in Switzerland are cattle, sheep and goats. Cows and goats are more commonly kept for milk production, so they tend to be closer to houses and do not move in transhumant herds. In the Swiss context, transhumant flocks are bound to the seasons and traditionally follow three stages in different altitudes. Herds are moved following the vegetation towards higher altitudes. From the homestead they first move to the spring pastures, mostly fenced and relatively small unities at lower altitudes, and later to the alpine pastures where they spend four months from June to September. In autumn, they move the same way back. First, they graze in the autumn pastures (which can be the same as the spring pastures) and then they return to the homestead for late autumn and winter. For sheep, there is another stage in the transhumant cycle: transhumant migratory herding in winter.

1.1.1. Summer grazing

Pastures for Alpine farming are in the Jura Mountains and the Alps (Fig. 1). Since cows and goats are

traditionally kept for dairy production while sheep are not milked, there is a division of pastures. Dairy cows and goats are handled twice a day for milking and therefore graze on pastures closer to the shed compared to the sheep who do not need this. Therefore, sheep pastures are traditionally the most remote, steepest and highest. Additionally, sheep alpine meadows had accommodation with little comfort and small salaries. This division of pastures as well as accommodation are apparent till today (Gilli et al., 2016).

Switzerland has about 7,000 alpine farms on which about 300,000 livestock units² – about one quarter of the total livestock – are summered (FOAG, 2016). While the biggest proportion by far in terms of livestock units are cows, in terms of number of heads there are almost as many sheep as cows (Fig. 2).

Of the total of 400,000 sheep in Switzerland, about half are summered (FSO, 2016). The majority of sheep holders are in mountainous regions. The widespread practice of free grazing risks ecological damage to Alpine pastures and therefore the government supports the improved management of summering practice with subsidies. Since 2003, rotational grazing and constant guarding by a shepherd are rewarded with higher subsidies compared to continuous grazing (Foppa et al., 2013; Vogel, 2003). Increased subsidies as well as the need for more supervision of flocks due to the return of large carnivores has led to a constant increase in herds under rotational grazing and permanent guarding. Consequently, the need for shepherds has increased since 2003.

1.1.2. Winter grazing

Though part of the seasonal cycle, winter transhumance is less common than the summering of sheep. Traditionally lambs, which were not ready to be butchered by the end of summer, were herded in large flocks in the Plateau and Jura to graze on leftover grass or crops.

The Swiss winter transhumance was shaped through north Italian shepherds who used to herd their sheep

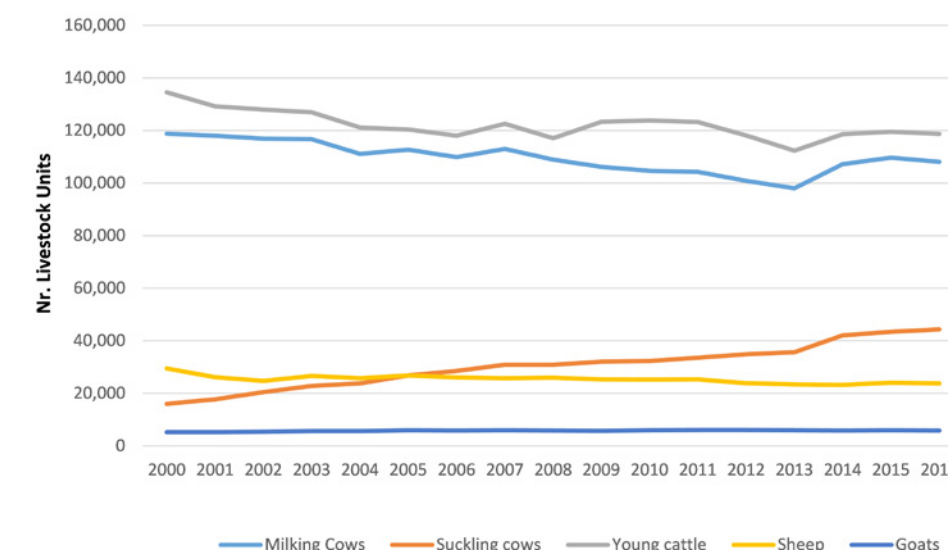


Fig. 2. Livestock units on Alpine farms in Switzerland in 2000–2016 (Adapted from: FOAG, 2016).

through the Swiss Plateau until the beginning of the 19th century (Wirth, 1951). Only after the Second World War did Swiss sheep owners start to herd their animals on pastures in the Plateau. The number of migratory herds has been constant for decades. Nowadays between 25 and 30 migratory herds (ca. 20,000 sheep) graze on the Plateau and Jura every winter (Hoffet and Mettler, 2017).

1.2. Shepherd training

As a response to the growing demand for shepherds by sheep owners and the growing interest in the profession by persons with non-agricultural backgrounds, AGRIDEA – Swiss Association for the Development of Agriculture and Rural Areas, launched the Swiss shepherd training in 2009 (see Shepherd Training in Switzerland, this issue). It is not only a traditional shepherd type who herds sheep in the mountains but a more diverse group of people can now be assumed to work in this area, and thus there was a need to provide them with the necessary skills.

1.3. Aim and research questions

This study aimed to understand what kind of people are shepherds nowadays, what motivates them to tend a flock of sheep year after year under simple if not harsh circumstances, and what are their attitudes towards nature and livestock. Furthermore, the existence of differences between the experienced and unexperi-

² One livestock unit (=Grossvieheinheit) equals one dairy cow or 12 sheep.

enced, and of different types of shepherds, was also investigated. Our motivation was to improve the training through a better knowledge and understanding of the heterogeneous backgrounds of today's shepherds.

2. Methods

Data were collected in 2016 from sample groups of participants of the shepherd training and experienced shepherds. The following questions were asked:

1. What is your motivation to work as a shepherd?
2. What is your attitude towards nature?
3. How is your relationship to the animals under your care?

Based on the responses we received to the above, we tried to answer the following two summarising questions:

1. Is it possible to identify different types of shepherds?
2. Are there any differences between experienced and unexperienced shepherds?

As the main focus of this study was on attitudes and perceptions, qualitative methods were used. Data were collected through an online questionnaire-based survey, developed after several preliminary interviews with experienced shepherds.

2.1. Qualitative interviews

Experienced shepherds were selected according to their experience (10 years or more) from AGRIDEA's shepherd network, which includes 30 shepherds. Selection was made in order to include representatives from different ages and genders, rather than a random sample. They were interviewed using guided interviews: interviewees were given the freedom to vocalise his or her own opinion and to express feelings. The guideline was a set of open questions covering all the themes but not dictating the structure of the interview.

Fourteen shepherds were interviewed: five women and nine men, aged 20–65 years. The interviews, conducted by a female AGRIDEA technician, lasted between 45 and 90 minutes. Whenever possible they were held at the farmstead in the mountains, but three interviews were held at the shepherds' homes or other places besides the Alpine farms.

2.2. Questionnaire

The questionnaire was set up according to the guideline and was revised and adjusted according to the answers and themes covered in the interviews. It comprised 24 mainly closed questions using 4-level Likert scales. This is the most widely used approach to scaling responses in survey research. When responding to a Likert item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements.

The questionnaire comprised three sections: the first collected socio-demographic data (e.g. gender, age, nationality, occupation, roots, education, family); the second included a series of questions to evaluate the shepherd training; and the third had a series of questions focusing on the same themes mentioned during the interviews.

Attendees of the shepherd training were invited to fill in the questionnaire online. From the 102 e-mail addresses to which an invitation was sent, complete responses were received from 39 (38%).

3. Results and discussion

3.1. Socio-demographic and professional background

Most participants of the shepherd training program who responded to the questionnaire were from Switzerland (88%), but a few came from Germany, Austria and Italy (Fig. 3). More than half were women (59%), usually lived alone (40%) or in a relationship (36%), with only 20% having children. Almost half had a university degree and 46% an apprenticeship. Only slight more than half (59%) had rural roots, but the majority (70%) had a personal interest in agriculture (Fig. 3).

As shepherding is a seasonal occupation, shepherds must find another occupation for the remaining six to nine months of the year, which is difficult and straining. This issue was mentioned by both experienced and unexperienced shepherds as one of the main challenges facing them and one of the reasons why they might quit working as shepherds in the long run.

Comparing experienced and unexperienced (trainee) shepherds, there was a striking difference in their professional backgrounds and winter occupations. The majority of experienced shepherds found their winter occupation in agriculture, including as

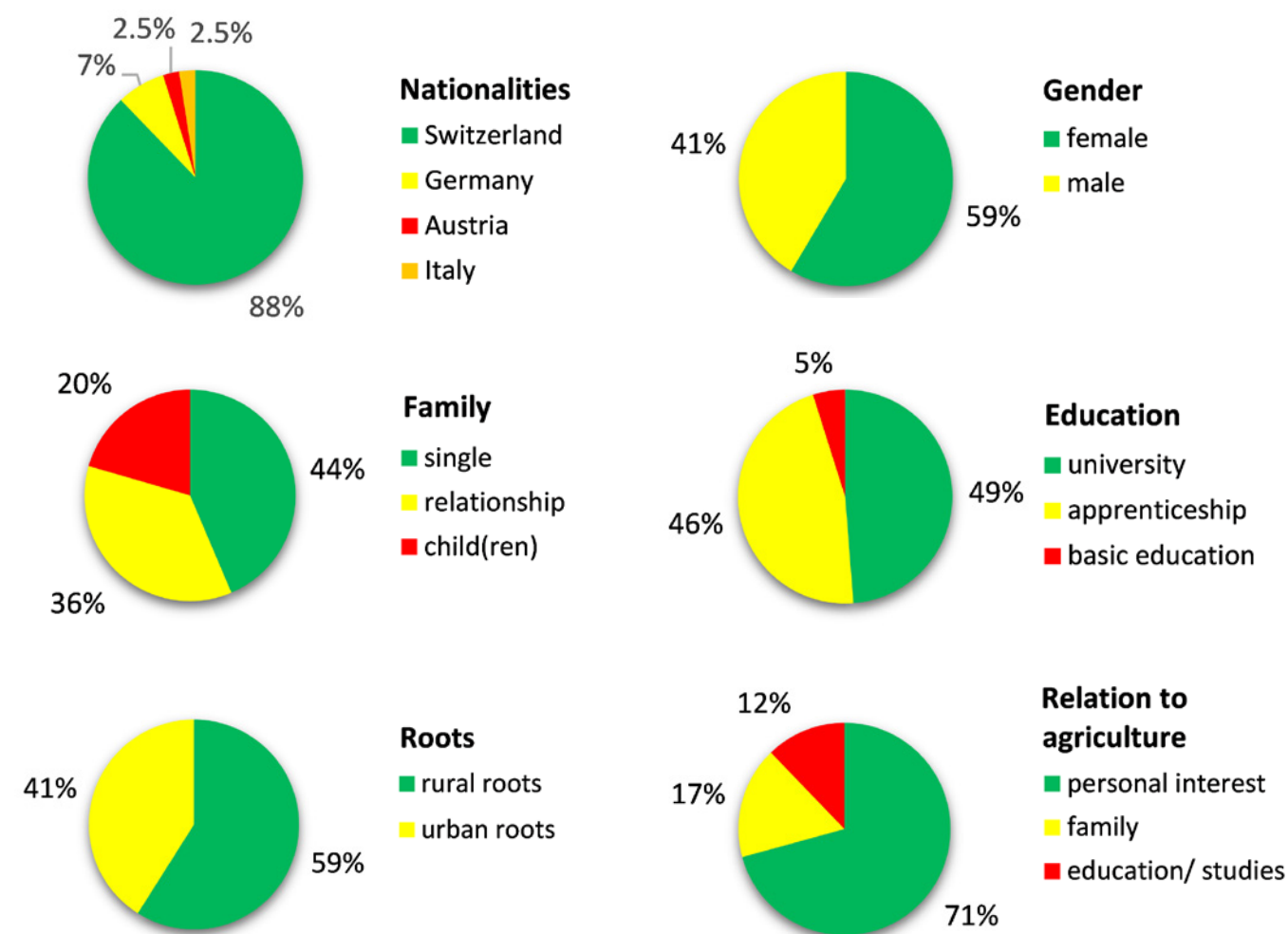


Fig. 3. Socio-demographic characteristics of shepherd training participants in 2009–2016 that replied to the questionnaire.

transhumant shepherds (Fig. 4) while only around 17% of the unexperienced did (Fig. 5). Unexperienced shepherds came from different backgrounds and found their employment in public services, agriculture, technical professions, health and the environment. Some of them followed a life of simplicity and survived on casual jobs or spent their time travelling.

The reason why so many of the experienced shep-

herds found employment in agriculture for the whole year might be either that they had agricultural backgrounds or that this is one of the few sectors where one can find seasonal employment. Many of the experienced shepherds had a non-agricultural background and therefore it can be assumed that in the long run, shepherding can be combined best with a year-round occupation in agriculture.

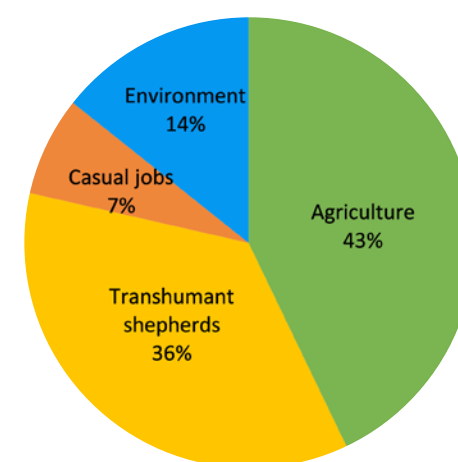


Fig. 4. Occupations during winter of experienced shepherds (Hoffet and Mettler, 2017).

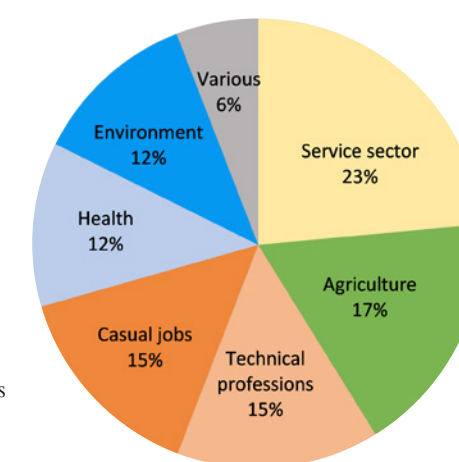


Fig. 5. Occupations during winter of participants of shepherd training (Hoffet and Mettler, 2017).

3.2. Motivation to work as a shepherd

Independent of being unexperienced or not, the most important motivations to be a shepherd were to work with dogs and sheep as well as to work outdoors in nature. Other important motivations were personal development (89% of respondents), a simple way of life (94%) and physical work (92%).

For many shepherds, it was a dream since childhood to become a shepherd. They were deeply fascinated by sheep and the way of living. Their parents were often displeased with their wish to become shepherds and made them do an apprenticeship first. They, however, started working as shepherds as soon as they finished their training.

Spending the summer months guarding a flock of sheep leaves shepherds with less things to deal with compared to the life they lead in the valley during the rest of the year. They focus on the essential things of life. It was clear from their responses that an im-

portant aspect of the work was also the personal experience and the feeling of living in harmony with nature. Many of the shepherds tried other professions before but found that “something was missing”. In shepherding they found an occupation that really satisfied them.

Financial pressure was another reason to be a shepherd. The decreasing price of cow milk, for example, can be an incentive to find an alternative to dairy production. However, the financial pressure that led to this decision does not mean that they are less passionate about their profession. Being a shepherd is more of a way of living than about income generation.

3.3. Attitude towards nature

Apart from being the basis for sheep rearing, nature has various other values for shepherds. Nature can also be a place to relax and do leisure activities even though they work outside all day. For the un-

experienced shepherds it is even more common to see nature as a place for leisure activities. Some of the experienced shepherds said that they used to be interested in nature for leisure activities but that their view changed since working as shepherds.

Nature is the basis of life and the basis to sustain livestock. At the same time it can also make work more difficult and strenuous. Storms, predators such as wolves, bears and lynx as well as diseases and parasites that affect livestock all hinder the work of a shepherd tremendously. The challenge is to neither tolerate it passively nor to fight it. This leaves shepherds with a pragmatic attitude towards nature with little room for romanticism.

The tradition of animal husbandry in the Alps has altered the environment over centuries and created the Alpine pastures as we know them today. If not grazed, they would mostly turn into shrub land and, eventually, forests. While they can be high in biodi-

versity, Alpine pastures are manmade landscapes rather than wilderness. However, they are often seen as natural and they are strongly anchored in the Swiss understanding of mountains and nature. Shepherds value Alpine pastures, too, and most of them see their influence on nature through their work as shepherds as having a positive influence.

Along the same lines, most of them find cultural landscape more valuable than wilderness. As wild animals do not respect borders between wilderness and cultural landscape they cross it freely, which can cause conflicts. Still, 84% of survey respondents (equally experienced shepherds and unexperienced) said that livestock and wild animals have the same right to exist and that they wish for coexistence of cultural landscape and wilderness.

3.4. Relationship with animals

Looking at a flock of sheep, one can either see the flock as a whole or as a multitude of individual animals. The bigger the flock, the more likely it is to perceive the flock as a whole and not the individual animals. As sheep flocks are usually several hundred or thousand animals, shepherds often relate to the flock as a unity. This also means that the well-being of the flock is put above the well-being of the individual animal. The loss of an individual animal is therefore not a big concern for them but rather to maintain the herd as a whole and accept a certain percentage of losses. Nevertheless, 20% of shepherds valued each animal and saw the flock as a multitude of individual sheep.

Although shepherds mostly perceived the flock as an entity and with large flocks it was more difficult to establish contacts with each individual animal, they always have emotional bonds to some individuals. These are usually ewes that stay in the flock for several years. Lambs, on the other hand, especially those destined to be slaughtered, are treated with emotional distance. Working with livestock often causes inner conflicts since at the end of the season the animals that shepherds care for will be slaughtered. A common strategy to deal with this conflict is to keep an emotional distance from them.

Other than slaughter, shepherds are also confronted with killing animals if they are sick or injured. In this matter, there is a difference with the experienced shepherds being mostly used to put down animals and unexperienced shepherds having issues with it. Half



the inexperienced shepherds said that they could not put down an animal if they had to.

Tending to animals is the core of sheep herding and if there are sick or injured animals in the flock it means more work for the shepherd and often an emotional burden. Shepherds feel a strong responsibility to keep animals in their care healthy and to hand them over in good condition. This sense of responsibility is especially strong for shepherds tending to animals that belong to other people.

Asked about the workload and concern caused by natural hazards such as storms, diseases or predators, diseases were said to cause most work and concern, followed by large carnivores. Naturally, this can change between regions and presence of carnivores. However, overall, even with presence of large carnivores, diseases (especially foot rot) were still considered a bigger burden.

When asked about herding dogs, it was frequently said that they are essential for the work of a shepherd. While for some shepherds they are mere working

animals they are more often valued for their companionship and can be a mental support in difficult situations. This is why many dogs are allowed to stay even if they are not the best working dogs.

3.5. Shepherd types

The following classification is based on responses given during interviews and to the questionnaire. The “types” of shepherd described below should not be seen as rigid nor comprehensive. Rather they are meant to give an idea of the diversity of people working as shepherds in terms of their motivations and attitudes. Answers to the questionnaire and interviews were clustered by topics and priorities. The typology is an essay to classify different attitudes towards nature and animals. Other Swiss studies attempted to classify summer seasonal workers on Alpine pastures. These qualitative studies clustered the answers from interviews by different factors to classify identity and roles as a guide to the social and cultural backgrounds of people working on Alpine pastures (Gennaio, 2004; Schütz, 2010).



3.5.1 The traditional shepherd

The attitude of the traditional shepherd type towards nature is rather pragmatic. They accept the positive as well as the negative sides in a practical and rational manner, meaning they use nature but find a way to deal with negative aspects such as storms and predators. Since nature is the source of their livelihood, they are aware of their responsibility and the sustainability of grazing.

They often have an agricultural background and tend to have been shepherds since they were children or they grew up on farms with other animals. They herd their own animals and are often transhumant shepherds over winter or tend their animals on their own farms. Traditional shepherds usually include their whole family in the work which means that the family has a high significance for them.

They do not necessarily like the solitude or remoteness of being shepherds, but rather value that they can decide over their lives themselves. Other motivations are the preservation of the shepherding tradition and the production of nutrition. But the biggest motivation is to work with sheep. They are deeply fascinated by this animal and they can hardly

imagine working with a different kind of livestock. They value their robustness and flocking instinct. As they own their sheep, they depend on them financially which means that they need to balance the profit of the animals.

There are individuals to which they have emotional bonds (usually ewes) but in general they are rather distanced from their animals, especially lambs which are going to be slaughtered. Dogs are an essential part of their work; without them the shepherd “team” would be incomplete.

3.5.2. The nature-loving shepherd

The most important thing for the nature-lovers is to live in harmony with nature. Many among them would like to live on a farm in the mountains throughout the whole year because this is where life makes sense to them. It is limited to the essential and they can be in nature every day. The main motivation of the nature-loving type is hence the desire to work in a natural environment and to live in harmony with nature.

They feel a great responsibility towards nature. While they agree that nature can and should be utilised, this has to be in a responsible and sustainable manner. This



makes herd management especially important. With their flock, they are part of the natural cycle: they take something but also give something back.

Nature is a cycle where life and death are close to each other. Death can be difficult but it is as much a part of life as is birth. For them, slaughtering is therefore, although not pleasant, a part of life. To the nature-lovers it is important that animals live a good life. They share the view that intensive farming and excessive meat consumption is bad for the environment and animals.

3.5.3. The animal-loving shepherd

The animal-lovers work as shepherds because they want, more than anything else, to work with animals. They seek contact and emotional bonds with them. Animal-lovers usually grew up in non-agricultural environments but, in time, some of them started working in the agricultural sector the whole year. Apart from work with animals, freedom and a simple life away from society are especially important for them.

The animal-loving type has a distinctive sense for

animal welfare. They care more than the other types that animals are taken care of well. Slaughter is difficult for them but a certain distancing from lambs that are going to be slaughtered helps them. They would prefer to keep all their animals and not slaughter any of them.

More than the other types of shepherd, they feel a strong responsibility to keep all animals well. This means that a dead animal often causes a feeling of emotional loss and sometimes they even experience feelings of guilt.

For the animal-lovers, dogs are very important and their relationship with them is more than a working relationship. They value their dogs even more for their companionship than for their work. Even though they often started working with dogs because of shepherding, now they could not imagine life without them.

3.5.4. The self-fulfilling shepherd

Shepherd seeking self-fulfilment enjoy working in nature and with animals just as much but their main motivation is a different one. They spend their

summers on alps or their winters outdoors as transhumant shepherds because they value the personal experience. Shepherding gives them something that other professions do not. They want to do meaningful work which satisfies them. Before working as shepherds, they tried other professions but did not find them fulfilling and felt that “something was missing”.

Being a shepherd can also balance the life they lead the rest of the year. When working as a shepherd they feel at peace with themselves, that their work is honest and that it makes sense for themselves and the en-

vironment. It is a life in harmony with nature as well as work with animals that makes the work meaningful and satisfying for them. The simple life lets them focus on essentials. They seek an emotional bond to their animals. For them, the sheep is an intelligent animal with fascinating social behaviour.

They have an even closer relationship with their dogs. They are not only valued working animals but can be just as important as emotional support. Especially in difficult situations they are rather mental support than working animals.



4. Conclusions

This study provided an insight into the diverse motivations and attitudes of shepherds in Switzerland. The “typical” profile of a man with roots in agriculture is no longer representative as there are many shepherds with different social, educational and professional backgrounds as well as more women. Today’s shepherds are a diverse group of people as our classification of shepherd types shows. There are many career changers among the experienced shepherds and as more people change to work as shepherds the transfer of knowledge will be especially important.

Despite a trend towards bigger and more intensive farms which would not necessarily favour shepherds there is a good prospect of shepherding in the future. The general trend in society in terms of food production and environmental consciousness favours extensive animal husbandry. Furthermore, the interest of non-agricultural people in this profession shows that,

despite a decrease in farms and sheep keepers, there is a growing interest in this form of animal husbandry and lifestyle.

The new types of shepherd will contribute to developing the profession in the future. Professional shepherds are the backbone of sheep rearing in the mountains while the other types play important roles in the dynamic seasonal job market. This also means that the often challenging seasonality of the profession might have to be adjusted as many shepherds mentioned the difficulty of combining shepherding with other work and their family in the long term.

Finally, the increasing number of large carnivores, especially wolves, calls for alterations in herd management and shepherds are often needed. This, together with the societal trend for extensive food production and environmental consciousness and an increased interest in “green” jobs, makes good prospects for this age-old tradition to survive in a modern world.

The photographs illustrating this article, as well as those on the front and back covers of this issue, are of flocks shepherded by Markus Nyffeler and Jens Schöndorfer, two transhumant shepherds who graze their sheep during winter in the region of Berne.

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References

Breitenmoser U (1998) Large predators in the Alps: The fall and rise of man’s competitors. *Biological Conservation* 83, 279-289.

FOAG (2016) Agrarbericht 2016 (Agriculture Report 2016). Federal Office for Agriculture. Available: <http://www.agrarbericht.ch/de/betrieb/strukturen/soemmerungsbetriebe>. Accessed January 2017.

Foppa C, Hassler HJ, Mettler D, Sutter F (2013) Bedeutung der Alpwirtschaft. *Die Alpwirtschaft im Wandel der Zeit* (Importance of Alpine farming. The Alpine transhumant economy in the course of time). In: Jubiläumsschrift zum 150 jährigen Bestehen. Schweizerischer Alpwirtschaftlicher Verband, pp. 14-19.

FSO (2016) Landwirtschaftliche Betriebsstrukturerhebung (Farm Structure Survey). Federal Statistical Office. Available: <https://www.bfs.admin.ch/bfs/de/home/statistiken/land-forstwirtschaft/landwirtschaft/strukturen.html>. Accessed December 2016.

Gennaio M-P (2004) Der lebensraum Alpen in den Köpfen der Älplerinnen und Älpler (The alpine habitat in the minds of the alpine farmers). Diplomarbeit am Geographischen Institut der Universität Zürich, Zürich, 139 p.

Gilli M, Werder C, Willems H (2016) SchafAlp Studie. Schafsömmern und Unterkünfte (SheepAlp study. Sheep transhumance and shepherds’ accommodation). Büro Alpe – Beratung für die Alpwirtschaft, 50 p.

Hoffet F, Mettler D (2017) Schafhirtenkultur in der Schweiz: Eine Analyse zu Arbeit, Motivation und Ausbildung (The culture of shepherds in Switzerland: An analysis of working conditions, motivation and training). AGRIDEA, 28 p.

Miller A (2016) Die gute Hirtin (The good shepherdess). Neue Zürcher Zeitung. Available: <http://www.nzz.ch/schweiz/schaeferausbildung-die-gute-hirtin-ld.83758>. Accessed January 2017.

Schütz M (2010) Die Alp als ort der gegenkultur (The Alps as a place of counterculture). Institut für Kulturwissenschaft/Ethnologie, Universität Basel, 129 p.

Vogel S (2003) Mit Sömmernbeiträgen zu einer nachhaltigen Schafalpung (With contributions to sustainable sheep alpine grazing). AGRARForschung 10, 75-77.

Wirth P (1951) Die Wanderschäferie in der Schweiz (Sheep transhumance in Switzerland). *Geographica Helvetica* 6, 233-237.



The following portraits of shepherds from six different countries show how distinct lifestyles and grazing practises represent communities, landscapes and farming stories. They show the typical everyday life, attitudes and trials of shepherds and describe how they cope with issues arising from the presence of large carnivores.

The shepherds were all interviewed in 2017 based on a similar structure to a survey conducted in Switzerland in 2016 (Hoffet and Mettler, 2017). The main difference is that, for this issue of CDP News, questions focussed more on the shepherds’ experience of conflicts with large carnivores and possible solutions, while the main concern of the Swiss survey was their biographical backgrounds and motivations without regard to the role of large carnivores.

The interviews were conducted in each shepherd’s native language. They were translated into English by the various people who interviewed them. The answers and descriptions they gave us are an individual picture of their perceptions, where anecdotes are linked to emotions as well as to experience-based knowledge. The portraits show us that they can have a complementary role to scientific analysis.

Our goal in presenting these portraits here is to give a voice to those people who are most concerned in their everyday work by the presence of large carnivores. We hope this will contribute to a more comprehensive and nuanced understanding of the predator-related conflicts in the shepherding profession. It can also show us the shepherd’s resilience as well as a way to finding successful strategies to mitigate conflicts.

Reference

Hoffet F, Mettler D (2017) Schafhirtenkultur in der Schweiz: Eine Analyse zu Arbeit, Motivation und Ausbildung (The culture of shepherds in Switzerland: An analysis of working conditions, motivation and training). AGRIDEA, 28 p.

LOUISE LIEBENBERG

CANADA

49 YEARS OLD



1. How long have you been working as a shepherd?

27 years, plus four years as a hobby.

2. How did you become a shepherd?

I am self-taught. We have no family tradition and I had no formal training.

3. Please describe your flock and herding system.

I previously shepherded 1,200 ewes in a grazing situation. Currently we have 300 Suffolk x Dorset commercial ewes, feedlot about 1,500–2,000 lambs, 80 Aberdeen Angus cows plus chickens and horses, 8 Sarplaninac guardian dogs and 4 Border Collies.

Grazing only takes place in the summer and fall. In winter we feed the stock in feedlots due to the cold and snow. The summer grazing pastures are on and off the ranch. We own 480 acres and rent another 1,500 acres.

4. Where do you graze the flock?

We live in the subarctic/boreal forest region of Canada at 605 m a.s.l.. The winters are very cold and long (–40°C), while the summers are short and warm with a lot of daylight hours.

5. What is your main motivation to work as a shepherd?

We sell meat from our cattle and sheep. It is our income source. We love farming and feel it is a way of life for us.

6. What difficulties do you face working as a shepherd?

The climate is a big challenge as well as predators.

7. What kind of large carnivores do you have in your area?

Bears, wolves, cougars, coyotes, eagles, ravens, wolverine, lynx, bobcat and fisher.

8. What are your experiences with them?

We see predators daily and they are all around us. We have wolves, coyotes and bears on our ranch regularly. We have lost some animals to predation. If we did not actively manage, we would lose large numbers of stock.

9. Please describe one experience with large carnivores.

A pack of coyotes attacked a ewe and killed her, with only one guardian dog in that field. The coyotes overwhelmed the dog and nearly killed it.

10. Which measures do you take to prevent damage and what are the pros and cons?

We strongly believe that to be able to run sheep or other livestock in regions where predators live, one needs to have a predator management strategy in place. An integrated predator management approach works the best. No single system keeps working due to habituation, but combining various methods, predation can be managed.

We have various strategies; our primary strategy is to implement LGDs. These are the first line of defence and we find them highly effective. We combine the use of the dogs with both permanent and temporary electric fencing. If predator pressure is high we will further subdivide pastures to contain the livestock a little closer

together and night corral if needed. We also hang up game cameras and speak to wildlife officers to monitor what is in the area. We believe flexibility is very important. If predators are active in the area we try to move the livestock further away or closer to home. We change groups, add extra dogs, place additional fencing if need be, increase human presence and in some cases we actively “haze” (chase off predators) using bangers, or simply by being more active in the area, with quads or on horseback and in some cases we place additional lights or sounds.

Our secondary measures include livestock management strategies; things like lambing indoors, removing the sick and weak animals from the main grazing herd, disposing and removing of carcasses, regular counting and daily checks of the animals. If we are grazing in very bushy or wild areas, we will often shepherd the sheep.

Other measure we implement would be considered habitat modification. We remove brush piles, discourage elk on the ranch, clear bush close to fence lines, stack our hay close to the yard to discourage deer and elk from eating it in the winter, remove attractants and compost dead animals. We believe it is a combination of all these strategies and the variable use of them that keeps predation at a minimum.

We also have an emergency plan in place describing what to do in the event of a predation incident, and

that is clear to everyone on the ranch. Having this plan means we know what to do directly to ensure no further incidents happen. It is about being proactive and being vigilant.

By implementing some of these systems, one can also reduce hay predation of deer in feed yards and keep tuberculosis infected deer away from stock. Keeping elk and deer away from areas your stock graze will keep predators further away, as the wolves tend to follow the elk in our region.

A total management strategy, implemented before predation sets in is the best way to ensure that your stock stays safe.

11. Do you get subsidies or counselling support?

We can claim compensation for wildlife kills (except by coyotes), the local Fish and Wildlife officers have to examine the carcass before claims can be approved, but small stock such as sheep often simply disappear and no carcass is found.

12. What are the main challenges when dealing with large carnivores in your area?

The biggest challenge is maintaining the number of dogs we need. You have to be very vigilant with where you place your stock and the number of dogs with them. And actively manage and monitor the flock/herd very often.



JOAQUIM NUNES

PORTUGAL

52 YEARS OLD



1. How long have you been working as a shepherd?

For the last 42 years, since I was 10 years old (excluding 15 months of mandatory military service, when I was 19 years old).

2. How did you become a shepherd?

I had no specific training focused on shepherding, apart from the one given by my grandfather and father, and the experience gained so far. But I took a course for young farmers, provided by a local farmers' association, when I was 38 years old. These courses are necessary to apply for financial support by the state, thus enabling considerable investments in livestock breeding or agricultural activities, but I never applied for it.

3. Please describe your flock and herding system.

We have a flock of 260 sheep, mainly crosses of the *Berrinchona* breed, as well as from/with the *Manchega*, *Merina* and *Bordaleira da Serra da Estrela* breeds; plus two goats and one buck. The flock is currently divided into three groups: 130 sheep with no lambs; 110 ewes with older lambs and 20 ewes with younger lambs. No milk is collected; revenues come from selling the lambs. The lambing sheep flocks are confined for the night in stables and grazed in pastures closer to home, with less surveillance. The other flock is shepherded 5h per day, and then kept in fenced pastures with the dogs during the rest of the day and night, sometimes far from the village. No seasonal movements are made.

I have four livestock guarding dogs (LGDs) of the *Estrela Mountain Dog* breed (short-hair variety): two males (one castrated, and another one from the LIFE MedWolf Project) and two females (one very old – 14 years old). He also has four herding dogs (cross breeds of Spanish origin): two males and two females.

4. Where do you graze the flock?

I live in the county of Sabugal, NE central Portugal. There are mainly plains, some with a gentle slope, at around 800 m a.s.l.. The pastures are mainly clear with sparse oak trees, and some with medium-high bushes (e.g. broom, lavender, rockrose) but not very thick. The climate is warm and temperate, with an average temperature of 12.6°C and 983 mm of annual rainfall.

5. What is your main motivation to work as a shepherd?

I always liked to herd sheep, since I started very young, and liked to help my family. Furthermore, since my family was large (10 brothers) it was hard for my parents to send all of us to school and some had to stay and help. I stayed and continued to shepherd since I always enjoyed it.

An advantage of shepherding my own flock is having the freedom to decide how and when to do things, of being my own boss and having to account to no one, which is not common in other jobs/professions.

6. What difficulties do you face working as a shepherd?

The main difficulties are related with the long working hours every day, with no chance of holidays or timeout, making it difficult to be away to take care of other issues. The cold weather can also be hard to bear, but we get used to it. Moreover, the difficulties in selling lambs during half the year (less demand and lower prices): most are sold from June to the 1st January, and then at Easter. Finally, diseases, frequent in lambs, can cause high costs and sometimes the treatments don't work. This activity is only possible due to the subsidies provided by the EC, which compensate for the costs and low selling prices.

7. What kind of large carnivores do you have in your area?

Wolves are present, but also smaller carnivores like red foxes.

8. What are your experiences with them?

Since we always had LGDs we have no losses to foxes or smaller carnivores in flocks guarded by the dogs. We had some losses to wolves a few years ago after wolves returned to the region (after an absence of almost 30 years) because at the time we only had one LGD. After that we got more dogs and since then had no damages in the flock guarded by them, but we had two attacks in the other flocks. In the past, before the wolves disappeared 30 years ago, we frequently saw one or even two wolves together and even though we had three LGDs, the wolves managed to attack on several occasions and kill several sheep: they were more than. Now, since we have the dogs we have not seen them close to the flock but they are seen crossing nearby roads. Foxes don't get close to the flock but we frequently hear them calling in the night.

9. Please describe one experience with large carnivores.

Thirty years ago, during the summer time, we used to sleep in the pastures with the sheep (they grazed during the night because it was too hot during the day). During one of those nights the sheep startled but continued to graze when the three LGDs we had at the time started to bark and run off chasing something in the night (their metal spike collars rattled as they bolted away). We started to gather the sheep in the dark and found one sheep injured in the throat, and another one in the belly, still another sheep dead with fang marks on the throat. On the trail closer to home I stepped into a dead sheep from which a wolf had been feeding – a neighbour that passed by in a car a few minutes earlier scared it off, thus saving me from another scary encounter that night.

10. Which measures do you take to prevent damage and what are the pros and cons?

We have always used LGDs and since wolves returned we increased their number. We also built two

large metal fences, one 1.6 m high and the other 2 m high, donated by the LIFE MedWolf Project. We use these to confine the sheep during the night and sometimes during the day when they are not shepherded.

LGDs are very helpful since they keep predators away and alert us to the presence of strangers and so prevent thefts of livestock, which can be common in some regions.

The problems of using LGDs are related with the maintenance costs (food, vaccines, licences), the risk of injuring people that may approach the flock and of causing car accidents (when pastures are close to roads and when the flock is crossing roads, mainly at night), although we had no such problems so far. Having insurance is important to account for any legal liability.

Fences are effective but very costly to build to be predator-proof which limits their number and size.

11. Do you get subsidies or counselling support?

Yes, by the government, for the pastures, livestock production and the maintenance of two LGDs to protect against wolf attacks. I also received two LGDs and one metal fence from the LIFE MedWolf Project.

12. What are the main challenges when dealing with large carnivores in your area?

In relation to wolves, the main issue is the damage they cause to flocks and the fact that compensation is below the value of the animals and some are not compensated at all (the animals are not found or there are not enough signs of predation to be eligible). Support for the building of fences and the maintenance of LGDs should be continued and expanded to other farmers. The compensation values and processes should be reviewed to make it easier and fairer.

On the other hand, I recognize that some people can appreciate seeing wolves in the wild, as I expect my family would, and I would too.



PIERRE PIBRE

FRANCE

27 YEARS OLD



1. How long have you been working as a shepherd?

I started working as a shepherd when I was 15, so for about 12 years.

2. How did you become a shepherd?

I was not trained as a shepherd but did my apprenticeship as an organic farmer.

There is no tradition of sheep herding in my family.

3. Please describe your flock and herding system.

As I guard the animals of other people I am not always shepherding in the same location. Usually I herd between 1,200 and 1,600 sheep, sometimes up to 2,000. I prefer the *mérino d'Arles* breed as they have a natural flocking behaviour which makes herding easier. They are also well adapted to the climate and topography with good mothering abilities. Usually there are a few wethers (castrated bucks or rams) with the flock. They are tame and are used to cross difficult passages. When there is an obstacle you call them and the flock will follow.

I have my own sheep dogs that I train myself. Currently I have three adult border collies and a young one. When I work in areas with wolf presence there are usually a few livestock guarding dogs (LGDs) as well but they don't belong to me.

4. Where do you graze the flock?

I work in the region of *Alpes du Sud* in the south of France. Traditionally, people do alpine farming here and let their sheep graze in the mountains during summer (mid-June to mid-October) and in lower altitudes during the rest of the year. Most of the sheep herding takes place during summer. I sometimes help in spring with tending the sheep and in autumn with lambing.

The summer pastures in the mountains are alpine pastures between 1,500 and 2,700 m a.s.l.

5. What is your main motivation to work as a shepherd?

There are many reasons why I like working as a shepherd but the main motivation is to live in harmony with nature. There are not many other professions where you can be part of the natural cycle like that. With my flock of sheep I take something from nature but I leave something as well. I use the natural system to sustain my flock without depending on cultivated feed.

6. What difficulties do you face working as a shepherd?

The biggest challenges here are the working conditions. Often, the huts are in very bad condition, run down and with no water. The sheep owners try to lower the wages while giving you more sheep to guard. This is especially difficult for shepherds with little experience. They have no reference and do not know what to expect and what they can ask for. Inexperienced shepherds are often taken advantage of and I have even heard stories of sheep owners paying unwanted visits at night.

Large carnivores are another challenge. If you compare the work of a shepherd with and without predators around it is a different profession. The whole herding system has to be reimaged: herd management, fences, you have to organise and carry around feed for the LGDs etc. For a shepherd, this change can mean a heavy increase of the workload which often cannot be overcome alone.

7. What kind of large carnivores do you have in your area?

So far I have only worked in areas with wolves.

8. What are your experiences with them?

It depends on the place where I work. Sometimes you can be in an area close to a wolf pack and not get any attacks and sometimes you are right in the middle of the territory of the pack.

The wolves get less shy and become less afraid of

humans. They started to attack in the middle of the day and find ways to overcome livestock protection measures. For example, if the sheep are inside a fence they wait outside until the sheep notice them and start to panic. If the flock tears down the fence the wolves attack them, sometimes there are even sheep tangled in the net. If there are LGDs with the flock the wolves try to lure them away and attack the flock.

9. Please describe one experience with large carnivores.

A few years ago there was an attack during the night. I had the flock in a night corral close to my hut. In my sleep I heard that there was something going on. I heard the bells indicating that the flock was being disturbed. Still half asleep I went outside to check on them. When I got there I found that the flock was totally panicking and the fence was broken. My first reaction was to call them calmly, just as I normally do. I tried not to upset them further and to act as usual. Luckily, the sheep listened to my call and returned. I made a fire, mended the net and fixed the fence and then stayed with the flock for the rest of the night.

10. Which measures do you take to prevent damage and what are the pros and cons?

The primary measures are constant guarding and night corrals which I do even if no wolves are around. If I work in an area with wolves the sheep owners usually already have LGDs in the flock. Another very important thing for me are the *aide bergers*, the shepherd helpers. They help with the night corrals, generally disburden the shepherds of the workload and sometimes they sleep with the flock as well. If you have to get out during the night and guard the whole day it gets very exhausting. With a shepherd helper the workload can be reduced.

Lastly, I think making sounds is a good method to scare away wolves. I play the bagpipe when it is foggy, the weather in which wolves like to attack a flock.

All these measures mean an additional workload and a bit of reorganisation of the work. But as with everything you just have to get used to the new situation. Most of the protection measures are also good for the flock even if there are no wolves around. The animals are better taken care of which is better for the shepherd, the owner and the mountain.

11. Do you get subsidies or counselling support?

The EU partly finances shepherd helpers. They can be hired in case of wolf attacks to support the shepherd.

The sheep killed by wolves are reimbursed, but this only covers the direct loss and not the sheep that get killed by falling down because of a panicking flock, for example.

12. What are the main challenges when dealing with large carnivores in your area?

The presence of large carnivores changes the profession of the shepherd. It can mean more work, more stress, different work and presence of more people. For some shepherds it is the solitude that they enjoy about herding sheep and so they might not welcome the presence of shepherd helpers. So I think it is important not to lose the motivation of the work because otherwise the days become very long and strenuous.

But in the end I think it is not the presence of wolves per se that is the challenge but the management of wolves. Even if there are good protection measures in place, the wolves need to associate them with a negative experience so they actually stay away. If the wolves are getting less and less shy the shepherd should have more liberty to scare them off. The shepherds are the ones working with the sheep and putting livestock protection measures in place. For a better coexistence of wolf and sheep their knowledge and experience should be listened to more and taken into account.



DANIELA ZAMPERINI

ITALY

29 YEARS OLD



1. How long have you been working as a shepherd?

I have always participated in shepherding activities with my family, but I started to be a full-time shepherd eight years ago.

2. How did you become a shepherd?

Shepherding is a family business. My grandparents from both my mother's and father's side were livestock owners. They owned sheep, goats and cows.

3. Please describe your flock and herding system.

I own a mixed holding with 170 sheep, five goats and eight adult bovines with their calves. Two donkeys are also part of the stock. I have two adult livestock guarding dogs (LGDs) and one pup recently received from the LIFE MEDWOLF project.

4. Where do you graze the flock?

I am from *Roccalbegna*, a small village in the west of the province of Grosseto, in a subalpine area at 500 m a.s.l.. In winter I keep the stock in a nearby property, mainly inside stables, while in spring-summer I move to higher pastures and stay with the animals in *Monte Labbro* until October. There, I find rocky pastures with shrubs that are not suitable for being cultivated and therefore the area is used for grazing. It is about 800 m a.s.l. and provides the opportunity to have fresh summers, although it is necessary to leave the sheep grazing overnight because during the day it is too hot and they tend to group in the shade without grazing. This requires constant guarding that I do myself. I usually stay with the sheep until midnight, then I take them into a pen with the dogs overnight. Around 4 a.m. I go again to let them out of the pen. My mother helps me with the workload.

5. What is your main motivation to work as a shepherd?

When I was a little girl I wanted to continue the job of my parents, but they wanted me to have other opportunities and made me go to school. After secondary school I started working as a waitress in a restaurant

for two years but longed to go home and help with the animals. When my father got injured falling off an olive tree and had to rest I was finally allowed to help. I happily left my job in the restaurant and started to be a full-time shepherd!

6. What difficulties do you face working as a shepherd?

The main difficulty is making time to deal with all the administration and bureaucracy required by national laws. The agricultural association provides some support but it is far from satisfactory. This is crucial in the presence of predators: I could not leave the flock even for a few hours without having the feeling that I was leaving my animals unattended and easy prey for wolves. In 2014 I left the animals for one day and lost 12 heads to predation. Now with the LGDs things are getting easier. I get more confident and leave the animals with the LGDs which gives me more time to dedicate to administration.

7. What kind of large carnivores do you have in your area?

Wolves. Before them foxes used to predate on newborn lambs.

8. What are your experiences with them?

I only saw them once for certain, at dusk. On other occasions I saw something at a distance that could have been other animals. I had various attacks, some of them I didn't even claim. Until 2014 it was compulsory to have insurance for obtaining damage compensation, which I did not have so I didn't claim them.

The most vulnerable moment is in summer when they graze and the flock separates into different small groups because of terrain, and the dogs find it diffi-

cult to keep them grouped because of vegetation and topography. I had an average of 4-5 attacks per year in the last 10 years, mainly in summer. From October to December only a few sheep remain in the mountain pastures and they are so few nothing happens to them.

9. Please describe one experience with large carnivores.

I remember my first experience. I was a little girl (4-5 years old) and had no idea about the wolf and the threat it could pose. It was also very rare to have an attack. In the grazing pastures there was a shrub with tender leaves and we used to leave the yearlings grazing there as they liked it very much. I had to go and check them every 2-3 days which I did on a donkey. One day I arrived and found many sheep on the ground dead or wounded. I was shocked and ran back home to call for my grandparents. They were not sure when the attack happened, given the animals were left there for over two days. I was so shocked I didn't go back again to check the sheep. From that event my grandparents decided to build pens to keep the animals at night and after that we only had one more attack. Back then, the attacks happened at night but during the last 4-5 years they also happened during the day.

10. Which measures do you take to prevent damage and what are the pros and cons?

I have three LGDs and an electric fence. In the beginning it was difficult for adult sheep to get used to the dogs. I am generally happy with the dogs and

I try to keep them away from the village, but there are sometimes people in the neighbourhood who are afraid and say they should not be left roaming. Since having LGDs I have noticed a bit of hostility from some villagers. Before I was often invited to graze for free in privately owned pastures which does not happen anymore. I think this is because of the dogs.

I trust less in the electric fences. I am afraid the sheep could get injured by poking their heads through the net holes. I use them in summer to group the sheep at night together with the dogs. In winter I use them as an outer fence in addition to the inner fixed one.

11. Do you get subsidies or counselling support?

I never got any incentive for damage prevention measures before the LIFE MEDWOLF Project offered me a dog and a fence. I received compensation for losses, but so far only for the claims of damages suffered in 2016.

12. What are the main challenges when dealing with large carnivores in your area?

I receive little information from the agricultural associations. I would like to receive more support.

Some livestock owners do not care about their stock as they should do: they leave the older animals unattended and then claim for losses. Those animals were not productive anyway, and for them compensation represents a way to make some profit. The problem is that if they leave the animals nearby they might constitute an attraction for wolves and my animals will also be in danger.

Another problem is that some LGDs are not properly managed. Some owners leave them roaming and neglect to train them. They become aggressive and become a bad example, leading to many people having a negative image of LGDs. A competent authority should make an in-depth analysis of those details in holding management and provide support to those who really care.

Maybe some form of direct guarding of the animals during summer night time could be useful, some kind of shepherd help. But this very much depends on who will be doing it since some people are naturally passionate and have a feeling for animals while others may scare them and do more harm than good.



RUTH HÄCKH

GERMANY

55 YEARS OLD



1. How long have you been working as a shepherd?

I grew up on a farm with sheep and helped with the animals from an early age. When I was 22 I started an apprenticeship to become a shepherd and have been working as a shepherd ever since.

2. How did you become a shepherd?

I did the official shepherd apprenticeship in Germany but I also come from a family with a shepherd tradition: my father, my uncle and great-grandfather were all shepherds. I took over the farm from my father when I was 35 and since then have my own farm and flock of sheep. When I did the shepherd apprenticeship it was still rather uncommon for women to learn this profession and I was one of the few female students. Even though there are a lot more women working as shepherds today, many people are still surprised when they see a woman taking care of the flock.

3. Please describe your flock and herding system.

Up until a few years ago I had 400 ewes with which I practiced traditional migratory herding. The stretch between the summer and winter pastures was covered on foot.

Nowadays I only have a small flock of about 200 ewes. They are all Merinolandschafe, a type of merino sheep which is well-adapted to the conditions in southern Germany and the tradition of transhumant shepherding. They are able to walk long distances and can be outside the whole year round. To guard the flock I use Altdeutsche Hütehunde, old breeds of German shepherd dogs. My main income is generated through the production of lamb and funds for landscape maintenance, which is an income for many shepherds in Germany nowadays.

4. Where do you graze the flock?

The summer pastures are in Schwäbisch Alb, a small mountain range in the south of Germany. There, the sheep graze in the traditional juniper heathlands. The summer pastures are at around 1,000 m a.s.l.

The winter pastures are at Lake Constance. The climate around the lake is milder and therefore it provides good grazing in the winter months.

5. What is your main motivation to work as a shepherd?

My motivation to work as a shepherd is to work with animals and outdoors, in nature.

6. What difficulties do you face working as a shepherd?

The biggest challenges in this profession are the long working hours, with up to 70 hours a week, and the low income, which is with around 6 Euros per hour below the minimum wage. Added to this is the burden of bureaucracy, legal obligations to keep records, controls etc. And the subsidies, on which we depend nowadays, are often paid with a delay. Besides that, more and more grasslands, which provide food for our flocks, are lost due to agricultural intensification and the cultivation of crops for biogas.

And with the return of the wolf comes yet another challenge for shepherds in our area.

7. What kind of large carnivores do you have in your area?

In my area there are no large predators for now. But there have been individual wolves ranging through this part of Germany with occasional damages, so I think they will be an issue for us in the future.

8. Are you are prepared for the return of large carnivores?

Even though there are no wolves in our area yet, it worries me as I think livestock protection measures

are going to increase my workload a lot. I know that the protection measures should be put in place before the problem arises so I have been confronted with the issue.

I generally fence my sheep with an electric fence. If this should be no longer sufficient and I have to use higher nets and fladry it will be a problem for me as it will be more workload and the heavier nets will be difficult to handle.

9. What are your main concerns in terms of large carnivores and livestock protection?

As long as wolves are under unrestricted protection livestock protection will be more and more an issue. As I said in the previous question, I am concerned that the workload will increase and it will be impossible for me to handle it.

Livestock guarding dogs (LGDs), for example, cannot be kept according to the current animal welfare law in Germany (it is not allowed to keep dogs inside electrified nets).

Only some of the federal states support livestock protection measures with subsidies, others not. And if there is an attack by a wolf only 10 to 20% of the actual damage is covered because the flock is frightened over a long time which means they don't eat properly, there are more diseases, miscarriages etc.

For now my sheep are safe. When the wolves will spread more and the requirements for livestock protection are going to be more demanding it will be no longer feasible for me. In the long run, it will be the large sheep farms that are going to survive, the small holdings are going to disappear.



JÁN ŠUCHTÁR

SLOVAKIA

57 YEARS OLD

1. How long have you been working as a shepherd?

Since childhood, with a few breaks for national service and other work in wintertime.

2. How did you become a shepherd?

Shepherding is in our family. My father was a shepherd and so is my nephew. I learned from my father and I have also attended a few courses and training run by the livestock breeders' association.

3. Please describe your flock and herding system.

We currently have about 700 sheep: 600 ewes, 100 yearlings and 12 rams. We also have 28 cows, eight pigs and 12 dogs: seven Slovenský čuvač livestock guarding dogs (LGDs) and five herding dogs. This dog here is a Hungarian Puli.

Half the flock belongs to us and the rest are assembled from private owners who have a few sheep each. Some sheep are improved Valaška (Wallachian) and the rest are mainly crosses with Lacaune. The Valaška is a native breed but I heard there are now fewer than 10,000 original Valaška in Slovakia. Subsidies have been offered to breed them so now everyone wants to have Valaška, but before they all wanted Lacaune for the higher milk production.

The grazing season begins whenever the grass starts to grow, which might be in March or in April, but usually by around 10th April we are out grazing, although the sheep may still be put in a barn overnight then. Lambs are sold for meat at Easter. We milk the ewes and make cheese on site. Three of us work here and we can all make cheese.

Grazing is rotated around different pastures. At night, the flock is gathered in a corral in the pasture which we move every few days. The stock graze in the pasture until the first snow. In winter, we keep our sheep in barns and private owners take theirs home.

4. Where do you graze the flock?

For the last 15 years or more I have kept sheep here, below the Tatra Mountains in the Liptov region of northern Slovakia, where we have 200 hectares of rented pastures at 700–800 m a.s.l. We set up a camp with trailers for sleeping and cabins for cheese-making and spend the summer here.



5. What is your main motivation to work as a shepherd?

I think you have to be born into it, to have it in you. Nobody would do this work for money!

6. What difficulties do you face working as a shepherd?

It is hard work in all weathers, with long hours for little pay. I would like to have a horse so I don't have to walk so far! It takes us about 2.5 hours to milk the sheep, which we do twice a day: once in the morning and again in the afternoon. Not all the private owners take care of their sheep as they should, trim their hooves and so on. I do what I can but I don't have time for everything.

7. What kind of large carnivores do you have in your area?

Wolves and bears. There are lynx in the area, too, but not at our place.

8. What are your experiences with them?

We haven't had any problems yet this year but it usually gets worse in autumn. There are more problems elsewhere, where pastures are overgrown or they have more lame sheep in the flock. We had losses in previous years, mostly to wolves. Bears only attack during the night, but wolves sometimes attack during the day as well. Wolves cover huge areas. They could be here today and 30 km away tomorrow. Maybe one is on the way to us now!

9. Please describe one experience with large carnivores.

During the day a wolf grabbed a sheep by the throat and then used its tail to herd it away from the others. You don't even notice them coming when they do that because the flock stays calm. One morning a bus was going along the road near here and there was a bear just next to the stream close by. That shows how many of them there are – it is not too few!

10. Which measures do you take to prevent damage and what are the pros and cons?

We guard the flock and have LGDs. There is a shepherd with the flock in the pasture during the day and two of us always sleep in trailers near the flock at night. But a person can't see or hear what a dog can. They don't even have to see a predator: they can smell it, hear it. They have all three of those senses better than us. On the other hand, they may go for people sometimes. We had a problem with that in spring when one of the dogs was tethered too close to the track and it bit a lady on a bike. That could deter customers from coming to buy cheese. But people have no business coming here at night. Then, I release one or two of them, the rest are kept tethered, otherwise they would fight or wander off. They wanted to give me a fine because the dogs did not have kennels. But if dogs have shelter, food and water they just sleep and I have to guard the flock myself! They are not here to look nice; their job is to guard the flock! They should

be fed in the morning so they are alert and protective at night.

We use electric fencing to contain the flock, but I don't believe that an electric fence run on a battery can keep bears and wolves away – it would have to be connected to 220V mains electricity.

11. Do you get subsidies or counselling support?

Yes, we take subsidies for livestock farming when they are available. Who knows what will happen to us if they are no longer paid? As for compensation, I don't bother to declare losses because it is too much hassle and too time-consuming, it is not worth it for one or two sheep.

12. What are the main challenges when dealing with large carnivores in your area?

There are abnormally high numbers of bears. I don't go mushrooming anymore because there are so many bears. There are big bears up in the mountains and they force the smaller ones out of their territories and down close to villages. A couple of months ago there was a mother bear with cubs in the middle of the village. But some people say this situation is caused by people taking their food. There are too many wolves but also too many deer and wild boar. Hunters only shoot a few deer and boar so there are many left. It can be dangerous working in the pastures because wild boar dig so many holes, you can break your leg or injure your back. Fences can keep them out, but not red deer – they just jump over.



THE EUROPEAN SHEPHERD NETWORK



Fernando Garcia Dory* *European Shepherd Network - shepherdnet.eu*

1. Our mission

The European Shepherd Network (ESN) is the only continent-wide organization representing pastoralist grassroots groups, bringing pastoralists together and making their voices heard. Our members include custodians of the land from across Europe: from the Arctic tundra and the Atlantic islands to the Mediterranean and Black Sea, from the lowlands and dykes of northern Europe to the Alps and Carpathians. We come from a rich diversity of herding cultures: crofters, transhumant or nomadic herders and other extensive forms of livestock farming. We keep sheep, cattle, goats and reindeer, many of them local breeds that are highly adapted to their local environments.

The ESN's mission is to promote knowledge and recognition of the role of pastoralism in the sustainable development of European territories. Its operation covers disadvantaged or mountainous areas that are underpopulated and suffer from major economic handicaps. ESN brings together different types of territorial partners so that they can establish technical and economic strategies and propose improvements for policies and public action.

ESN directs its activity through different campaigns covering the main issues that we have identified currently facing pastoralism in Europe:

1. Specific legislation for extensive pastoralism under the EU Common Agricultural Policy (CAP);
2. Opposing the Electronic Identification System for sheep and goats and legal bureaucracy;

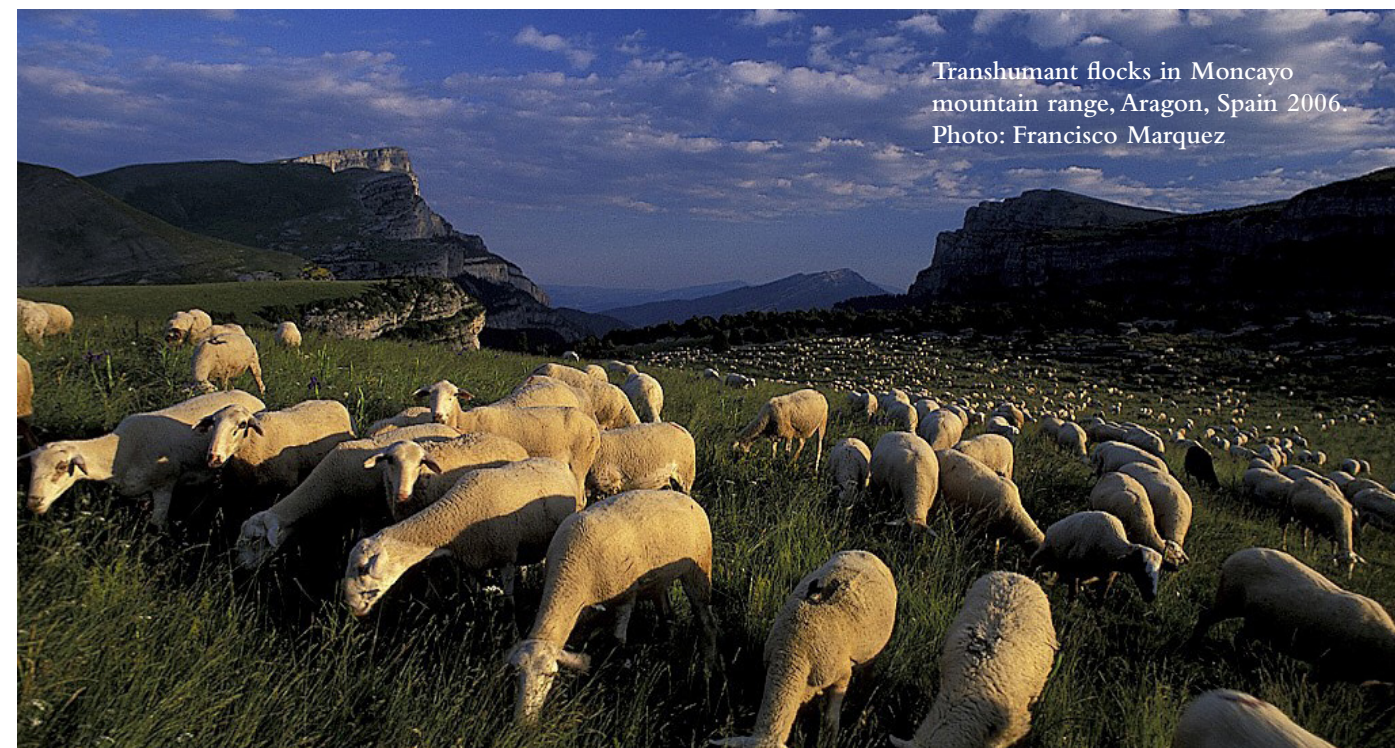
3. The relationship between pastoralism and predators;
4. Shepherds schools and regeneration.

2. Background

The ESN was created in 2008 after realising that, although there are different realities in each country, we all face similar problems and difficulties. Looking back, we can find a certain history of the movement. The Pastomed project from 2003 to 2006 brought together pastoralists from France, Spain, Italy and Greece. We realised that, despite a common European Union (EU) regulation, member states were applying it in different ways. For example, while in France artisan cheesemakers had a more sensible legal frame, in Spain there were only industrial requirements in place with which small pastoralists and cheesemakers had to comply.

In 2007 a delegation of European pastoralists met at the World Gathering of Nomads and Transhumant Herders in Spain, where the World Alliance of Mobile Indigenous Peoples (WAMIP) was created. Inspired by the mobilisation of their colleagues in other parts of the world, there was some intention to stay in contact and establish a European section of WAMIP.

EU legislation from 2010 imposing mandatory Electronic Identification of Sheep (EID) was crucial to catalyse the movement. A first meeting in Frankfurt, under support of the Local Livestock for Empowerment (LIFE)¹, a non-profit organisation that supports pastoralists, brought together shepherds from six countries.



Transhumant flocks in Moncayo mountain range, Aragon, Spain 2006.
Photo: Francisco Marquez

A campaign against EID was launched with actions at national level and in Brussels. It culminated with two important initiatives: i) the denouncement in Strasbourg of the EU Directorate-General for Agriculture and Rural Development that imposed the new rule on pastoralists, led by the German Sheep Herders Union; and ii) the European Transhumance action in 2010 that involved a chain of shepherds from Berlin to Brussels.

The organisation principles were framed in the Ermelo Gathering in the Netherlands, in June 2011. It was not only the imposition of EID but also better access to markets, mandatory vaccination, difficulties for mobility in extensive pastoralism and other specific issues, made clear the need for a special framework acknowledging the specific reality of mobile pastoralism in Europe. We, the different professional shepherds' associations of the country members, would like to continue lobbying for specific legislation for extensive livestock farming within the EU agrarian policy framework.

Shepherds carry out many functions in rural development. They play a direct economic role by maintaining jobs and services in difficult areas and supplying consumers with quality agricultural products. Livestock plays a role in the management of natural areas stretching from coasts to alpine areas, including hundreds of thousands of hectares in each of the regions involved. It is now important to monitor trends, share experience and ensure that they are recognised by all those involved in both farming and non-farming activities in order to improve the efficiency of community, national and/or regional policies.

3. Our contributions to society

In June 2015, more than 50 shepherds from 17 European countries met at the European Pastoralists Assembly organized by ESN in Koblenz, Germany. A Declaration was written and signed, explaining how pastoralism makes Europe a better place.

"We celebrate our many contributions to culture, society, the environment, healthy food and the economy:

- We create economic value by supplying a range of high-quality products for consumers: meat, milk, cheese, wool and hides;
- We protect the environment by preserving valued ecosystems where threatened plants and animals can survive, preventing the spread of shrubs and reducing the risk of fires. We use areas that are unsuited for and complementary to other forms of farming. Grazing helps to store atmospheric carbon in the soil and thereby mitigates climate change. We successfully manage natural resources because we live from them, keeping them for future generations;
- We contribute to society by producing wholesome food, valuable products and attractive landscapes, nurturing local economies and fixing human populations in remote and mountainous areas, keeping the environment alive and rural areas vibrant, enriching these areas and enhancing the quality of life for both local residents and visitors;
- We embody a rich cultural heritage based on ancient skills and knowledge. Our culture encompasses material and intangible heritage, gastronomy and

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¹The LIFE Network (Local Livestock For Empowerment), is an action research and advocacy network of organizations and individuals who are concerned about the future of local livestock breeds, and about the people who rely on these animals for their livelihoods. <http://www.pastoralpeoples.org/partners/life-network/>

animal breeds. It preserves rural populations and societies and represents an opportunity for young people to earn income and live a meaningful life that has its own values.

Our production system is unique and different from conventional intensive farming, with different needs.”

4. Pastoralism under threat

Pastoralism has existed since time immemorial, evolving together with the landscape. It lies at the heart of European culture. But today pastoralism is threatened as never before by the forced industrialization of livestock farming:

- Our cultural richness is in danger. Our identity is being eroded as policies fail to sufficiently include, understand or even recognize the existence of pastoralism. We are losing our freedom and capacity to keep our traditional systems.
- Low economic returns and a lack of recognition mean that young pastoralists in some areas feel forced to leave our way of life or switch to more intensive forms of farming. For young people, it is often difficult to gain access to land.
- We are losing grazing land due to competing types of land use: infrastructure and energy development, mining, nature reserves, leisure housing, biofuel crops, intensive farming, forestry, fragmentation, etc. This makes it increasingly difficult for us to maintain our traditional systems, especially where these depend on moving animals from place to place during the year.
- Our identity is often expropriated by large-scale producers and agri-food corporations that sell inferior, industrially produced imitations of our products. This makes it difficult for us to differentiate the special qualities of our products in order to get a fair

price for them. Rising costs make it ever harder for us to compete with intensive, industrial farming. In some areas, the cost of access to private pastures is becoming prohibitive.

- The symbiotic balance between pastoralism and the environment is put in danger by unfavourable policy decisions that do not include pastoralists in the decision-making process, such as the creation and management of protected areas without consultation with pastoralists. The re-introduction or return of predators and the policy-driven increase in their numbers are causing damages to our flocks. The costs of these damages are incurred by pastoralists but unrecognized and under-compensated. Damage (such as predation) is sometimes hard to document in a way that is acceptable to authorities. However, we want to work together with conservationists on damage prevention, population monitoring and compensation.
- Policy decisions are made with little or no consultation of local communities. We are the traditional land users, but we are systematically excluded from decisions on land management. This lack of consultation extends to all levels: local, national, regional and the EU. The Common Agricultural Policy, in particular, fails to recognize the specific features of pastoralism, putting this production system at an economic disadvantage. Bureaucratic requirements, biased towards intensive livestock production, impose a huge and unrealistic burden of paperwork on pastoralists.

5. A call to policymakers

The final part of the Declaration included specific requirements of our policymakers:

- To recognize the special nature of pastoralism and its products, adapting legislation to promote the artisanal production of traditional foods;

- To establish measures to assure fair prices for pastoralist products, enhance local markets and innovative marketing systems and consider a labelling system that distinguishes them;
- To respect pastoralists’ traditional knowledge and experience of managing, breeding and identifying animals;
- To develop a common framework and repository of heritage and recognize intangible cultural heritage;
- To include pastoralists in the making of decisions that affect them and the areas where they raise their animals;
- To recognize grassroots pastoralist organizations across Europe as partners and support them so they can effectively represent their members, build their capacities and implement the action plan agreed at the European Pastoralists Assembly of 2015;
- To revise the rules of the Common Agricultural Policy with the involvement of pastoralist representatives. The reform currently being implemented perpetuates many of the mistaken assumptions about pastoralist systems we have suffered for years. “Pastures” are eligible for subsidies, but vast areas of historical grazing land, open forests and rocky areas where grazing is a major environmental asset are excluded. Similarly, the value of grazing in preventing fires and in using non-arable marginal lands is ignored. Pastoralists provide many environmental benefits that are not currently recognized and only they can provide these services;

- To re-consider penalties regarding divergence from cross-compliance with CAP requirements;
- To stop the loss of grazing land, “land grabbing” and the restrictions on mobility that make it impossible to maintain a viable pastoralist system. We support the designation and protection of a European network of transhumance trails.

6. Perspectives for the future

In the face of all the challenges mentioned above we still strive to succeed. All across Europe, we are getting organized into federations, building regional networks and gaining international recognition from



European transhumance action from Berlin to Brussels in 2010. Photo: Fernando G. Dory.



European Shepherd Network Assembly during Documenta, Kassel, Germany 2013. Photo: Fernando G. Dory.



European delegation at the third European Pastoralists Assembly, Koblenz, Germany 2015. Photo: Rudi Kumpen.



The World Gathering of Nomads and Transhumant Herders, Segovia, Spain 2007. Photo: Fernando G. Dory.

leading institutions. The 2nd ESN Assembly was organised in September 2016 in St. Floir, France. Despite the difficulties and lack of financial resources to have a stable secretariat, the ESN continues to strive to implement the Declaration. We represent the European Section of WAMIP and take part in various international fora as well as creating alliances with other civil society organisations to work on CAP and other issues.

We hope one day that our vision of a solid, influential and inspiring organisation will not only preserve and maintain the pastoralists’ way of life but will also place them at the centre of an essential debate about the transition of Europe towards sustainability, social and economic justice and food sovereignty.

SHEPHERD TRAINING IN SOUTHERN FRANCE

Compiled by **Franziska HOFFET**¹

France, with its diverse ecosystems, has various forms of herding. Shepherds work most commonly on alpine pastures in the Alps, the Massif Central and the Pyrenees in the typical cycle of alpine farming. Some of the old transhumant droves, or drailles, remain in the Southern Alps and Provence where flocks cover large distances between summer and winter pastures. Several shepherd training courses are offered throughout France which are affiliated to the agricultural education system and are awarded with official degrees. One famous example is at the training centre Domaine du Merle in Southern France.



ORGANISATION

Designation

BPA Berger transhumant
(BPA= Brevet professionnel agricole).

Structure

Shepherd training is offered as a continued training and awarded with an official degree. It lasts for one year, starting in September. The time is divided between theory and practical courses at the agricultural centre and three internships in autumn (for lambing), spring and summer. Theory courses take 1,000 hours while the internships total 760 hours.

Location

Centre de Formation du Merle (Merle Training Center), Salon de Provence, France.
The agricultural centre in Merle is in the middle of an agricultural estate with 1,400 sheep and 150 ha of foin de Crau, a traditional hay made in the crau landscape. The agricultural estate serves as pedagogic support and practical work in real conditions.

Language

French.

Established

Training was initiated in 1931.

Degree

Participants receive an official diploma if they complete all courses and internships.

Focus animal species

Sheep, working dogs.

Average number of participants each year

18 to 20, roughly equal numbers of women and men.

Prerequisites for the training

At least 18 years old.

Partners

Agglopolé Provence (Public Institution of Intercommunal Cooperation), ASP (Service and Payment Agency), CAF (National Fund for Family Allowances), CAP EMPLOI (Handicapped Persons Employment Centre), Chambre d'Agriculture (Chamber of Agriculture), Chambre des Métiers (Chamber of Crafts), Conseil Régional (Regional Council), Directorate (Regional Directorates for Enterprises, Competition Policy, Consumer Affairs, Labour and Employment), Mission Locale (Youth Training and Employment Centre) and Employment Centre.

OVERVIEW

Course content

1. Behaviour of the flock: lambing, reproduction, feeding, selection, herding in different surroundings;
2. Animal husbandry: anatomy, feeding, reproduction, animal behaviour;
3. Agronomy, pastoralism: ecology of landscapes and environment, plant biology;
4. Management of pastoral lands: prairies, Mediterranean transhumance – coussouls de crau (crau steppes), hills and mountains;
5. Training of working dogs: sheepdogs and livestock guarding dogs;
6. Damage prevention measures: behaviour of predators, damage prevention measures, laws and regulations;
7. Herd management on summer pastures: adaptation of herding on summer pastures, utilisation of pack animals, organisation of the personal life of a shepherd during this time;
8. Maintenance of equipment and material: driving a tractor, introduction to welding, clearing of scrub, sawing wood;
9. Other topics: animal welfare, introduction to shearing, marketing, labour laws, salaries, first aid, environmental conservation.

Three internships are available: mid-October till the end of November (lambing); mid-February to mid-March (between seasons); and mid-June to mid-August (summer).



Further information

Centre de Formation du Merle: www.supagro.fr/web/pages/?idl=19&page=233&id_page=199

¹AGRIDEA, Avenue des Jordils 1, CH-1006 Lausanne, Switzerland.

SHEPHERD TRAINING IN SWITZERLAND

Compiled by **Franziska HOFFET**¹

In the Swiss agricultural training system, sheep and herding do not hold a significant position. Most of the shepherds in Switzerland work on alpine pastures in summer; some also work in winter with transhumant sheep flocks. Nowadays, there are around 200

shepherds working on alpine farms in summer and 25 to 30 transhumant shepherds with migrant flocks in the Plateau and Jura Mountains in winter. The training was initiated due to a lack of qualified shepherds as well as a lack of adequate training.

ORGANISATION

Designation

Schweizerische Schafhirtenausbildung / Formation Suisse des bergères et bergers de moutons.

Structure

The training is structured into a theoretical and a practical part. Theory courses are taught at agricultural schools and can be attended independently. Internships are completed with an experienced shepherd. They are divided into a summer and a winter internship. The summer internship takes place on a farm and lasts for about two months while the winter internship takes place in a barn during lambing. After completing all the courses and internships as well as presenting a five-page report about the summer internship an examination is carried out in the form of an interview.

Location

German courses: Agricultural schools in Landquart and Visp.
French courses: Agricultural school in Châteauneuf.

Language

German and French.

Established

German courses initiated in 2009; French courses in 2013.

Average number of participants each year

15 to 20 for each language version of the course, with a total of 42 graduates (28 German and 14 French).

Partners

AGRIDEA, Agricultural Schools (Landwirtschaftszentrum Visp; landwirtschaftliches Bildungs- und Beratungszentrum Plantahof, Landquart; École d'Agriculture du Valais, Châteauneuf), Swiss Sheep Breeders Association, Swiss Sheepdog Society.

Degree

The diploma is not an officially recognised degree nor is it a prerequisite to work as a shepherd in Switzerland. It is merely supposed to provide interested persons with knowledge and skills. At the same time employers know that holders of a Swiss shepherd training certificate have some knowledge and skills about sheep and herding.

Prerequisites for the training

No prerequisites are necessary to participate in the training. It is organised in such a way that no prior experience in farming or with animals is necessary.

Focus animal species

Sheep and working dogs.

Profile of the participants

Generally more women, about two thirds, and people with no agricultural background participate in the training. Concerning age and educational background it is very mixed.

OVERVIEW

The training consists on the following 3 modules, comprising a total of eight days:

Module 1

General introduction (three days): introduction to alpine farming, rights and duties of shepherds, pasture management, plant identification, fences.

Module 2

Sheep husbandry and summering (three days): overview of sheep anatomy, breeds, behaviour, animal welfare and health, first aid, animal welfare ordinance.

Module 3

Overview of working dogs and livestock protection (two days), plus moving and herding of livestock with a dog (two days): breeds, dog maintenance and costs, working with dogs, damage prevention measures, large carnivores, field trips and demonstration with livestock guarding and herding dog, cognitive behaviour of dogs, overview of sheepdogs, practical exercise with own dog.

There are two types of practical training: one in the summer and the other during the lambing season in spring or winter. Additional training for work with dogs is offered by the Swiss Sheepdog Society in winter.



Further information

Livestock protection Switzerland: www.herdenschutzschweiz.ch > Hirten > Ausbildung

¹AGRIDEA, Avenue des Jordils 1, CH-1006 Lausanne, Switzerland.

SHEPHERD APPRENTICESHIP IN GERMANY

Compiled by **Ruth Häckh**

As in other countries, sheep and shepherding is part of the agricultural training. People wishing to become certified farmers can choose to specialise in various branches whereas sheep rearing and shepherding is a specialisation in the animal husbandry branch. It is an official apprenticeship including academic and practical work on sheep rearing farms. Nowadays there are about 1,000 professional, full-time shepherds in Germany working throughout the country.



ORGANISATION

Structure

The first year is only academic and is completed with all apprentices in the field of animal husbandry. For the second and third year, apprentices work on farms while they attend block courses at agricultural schools. At the end of the apprenticeship, participants are examined with practical and written exams. The apprenticeship normally lasts three years, but people who have previously completed an apprenticeship or higher education can skip the first year.

Location

The courses of the apprenticeship can be attended at various agricultural schools, for example Triesdorf in Bavaria and Saalekreis in Saxony-Anhalt. The practical part can be completed at any certified farm.

Language

German.

Established

The apprenticeship was initiated for the first time in 1976. It has been running in its current format since 2005.

Average number of participants each year

Around 70 apprentices in the whole country with between ten and fifteen graduating each year.

Degree

Participants who pass the final exams (written and practical) get the title “Tierwirt Fachrichtung Schäferei”, an officially recognised degree. If a shepherd works for at least 1.5 times the time required for the apprenticeship, he or she can attend the final exam to obtain the professional title of professional sheep keeper.

Focus animal species

Sheep, with some general knowledge about other livestock. Emphasis is also placed on sheep dogs and guarding flocks.

Profile of the participants

As it is an apprenticeship, most of the participants are young people whose parents have a farm with sheep. About half of the participants are women.



OVERVIEW

Year 1

General courses at agricultural schools about agriculture, animal husbandry, animal health and welfare, administrative procedures, environmental conservation, ecology and sustainability. Damage prevention measures (fences and livestock guarding dogs) are only briefly addressed during one day of the apprenticeship.

Years 2 and 3

Working on officially recognised farms as apprentices with block-courses at agricultural schools. The block-courses focus on:

1. Sheep keeping;
2. Lambing and upbringing;
3. Production of wool, milk and meat;
4. Shepherding/sheep guarding;
5. Pastoralism, fodder production;
6. Environmental conservation and landscape maintenance.

Statistics of the trainees:

www2.bibb.de/bibbtools/de/ssl/1871.php?fulltextSbmt=anzeigen&src=berufesuche&keyword=Tierwirt

Further information

www.bildungsserveragrar.de > Ausbildung > Tierwirt

www.lfl.bayern.de > Berufsbildung > Tierwirtin, Tierwirt Schäferei

www.bbs-saalekreis.bildung-lsa.de > Schulform > Berufsschule > Tierwirt/in für Schäferei

SHEPHERD TRAINING IN THE NETHERLANDS

Compiled by **Greet Abbink** and **Hans Abbink**

In the Netherlands, between 200 and 300 shepherds graze their flocks of sheep on dykes, industrial areas, nature reserves or other grasslands. They commonly graze private areas and dykes as a service, and therefore the biggest challenge is finding areas to graze and being paid for it because there is a lot of competition due to public tender and hobby farmers who work for free.

Like many other shepherds, Greet and Hans Abbink provide a grazing service with their flock of sheep to graze different kinds of green patches upon request. They have volunteers helping them regularly when they shear the sheep, during lambing or when they move the flocks from one area to another. They initiated shepherd training because wanted their volunteers to be more skilled. Besides their own volunteers, they soon had volunteers from other flocks interested in their courses and later opened them to anybody who wanted to become a shepherd because there was no such school at that time.



ORGANISATION

Structure

The training comprises eight theoretical lessons and eight practical lessons. Besides the practical lessons the participants can come to their flock as much as they want for more practice on all kinds of subjects. Lessons are organised as day courses, taking place on Sundays (10.00 till 17.00). Besides these lessons, excursions to sheep or working dog events are also provided. Guest speakers are invited including veterinarians, livestock dealers, sheep judges and dog trainers. The main focuses of the training are health care, animal behaviour, nature management and laws and regulations.

Location

Theoretical lessons are held on a biodynamic farm. Practical lessons are held on different farms and areas.

Language

Dutch.

Established

The training was initiated in 2009.

Degree

The participants do not take an official exam. All students get a certificate at the end of the course.

Focus animal species

Primarily sheep but they also teach about goats, cattle, horses, pigs and geese for the use of grazing.

Profile of the participants

Most participants have no agricultural background nor education in the field. Many already volunteer at other sheep flocks, some want a change of life and career. Participants are mostly from the Netherlands and Belgium and some from Germany. There are generally more women than men; age ranges between 18 and 65 years.

Average number of participants each year

Between 12 and 22.

OVERVIEW

The lessons contain the following subjects:

1. Lambing time and all that happens around it. Practical lessons include working with a so-called “birth box” and stillborn lambs;
2. Housing and feeding. Practical lessons at farms and sheepfolds;
3. Organisation and activities (e.g. how to increase profits and be creative). Practical lessons: setting up an event (In this lesson they also have a guest speaker teaching them about insurance and how to set up a business);
4. Shearing sheep and hoof trimming. Practical lessons with sheep;
5. Health and animal behaviour with a sheep veterinarian as a guest speaker. Practical lessons in the field;
6. Natural grazing and nature management. Practical lessons in the field and how to set up a grazing plan;
7. Laws and regulations.
8. Working with dogs: various sheep dogs and livestock guarding dogs. Practical lessons only include herding dogs such as border collies, Australian kelpies and *altdeutsche Hütehunde*.

Damage prevention measures are briefly dealt with as there are no large wild predators in the Netherlands. They have a theoretical lesson from Louise Liebenberg (see Louise's Portrait in this issue) about the use of livestock guarding dogs and electric fences.



Further information

www.schapenhoeve.nl

ABSTRACTS OF SCIENTIFIC ARTICLES

PREVENTION METHODS

SEASONAL HERDING PRACTICES INFLUENCE PREDATION ON DOMESTIC STOCK BY AFRICAN LIONS ALONG A PROTECTED AREA BOUNDARY

Timothy R. Kuiper,
Andrew J. Loveridge,
Daniel M. Parker,
Paul J. Johnson,
Jane E. Hunt,
Brent Stapelkamp,
Lovemore Sibanda,
David W. Macdonald
Biological Conservation 191,
546-554 / **2015**

Livestock depredation frequently results in retaliatory killing of carnivores by people. An understanding of the ecological and sociological factors that precipitate this conflict is essential to mitigation. We investigated the seasonality of lion (*Panthera leo*) depredation incidents in relation to cattle (*Bos primigenius*) herding patterns in Tsholotsho Communal Land and Ngamo Forest adjacent to Hwange National Park, Zimbabwe. Cattle from 14 villages along the protected area (PA) boundaries were fitted with GPS data loggers (2010–2012), and depredation incidents systematically recorded (2008–2012). More cattle were killed by lions during the wet season (October to May) than during the dry months (June to September). In the wetter months, corresponding to the growing season and the need to protect crops, cattle were herded further from their home enclosures, closer to PA boundaries and into more wooded habitats. By contrast, cattle remained closer to home, further from PAs and were left to graze in fallow fields close to villages in the dry months. Seasonal use of wooded areas distant to villages and close to PA boundaries during the growing season increases vulnerability of cattle to lion depredation. In the dry months, cattle grazing close to villages benefit from the close proximity of people, resulting in a lower incidence of depredation. Approaches to mitigate livestock depredation should focus on improving herd protection during the wet season when cattle graze far from villages. Strategies such as communal herding, more intensive livestock guarding and, where possible, avoidance of heavily wooded habitats close to PAs should be encouraged.

HUMAN DIMENSIONS

RELATIONSHIP BETWEEN RURAL DEPOPULATION AND PUMA-HUMAN CONFLICT IN THE HIGH ANDES OF CHILE

Omar Ohrens,
Adrian Treves,
Cristián Bonacic
Environmental Conservation 42,
24–33 / **2016**

Rural depopulation has different effects on biodiversity and ecosystems in many regions of the world. For large carnivores such as pumas (*Puma concolor*) the effects are uncertain. An analysis of relationships between patterns of rural depopulation and perceptions of the risk posed by pumas among Aymara people in the altiplano region of Chile examined perceived risk, as well as self-reported losses, in relation to livestock husbandry, sociodemographic variables (age, household size, and residency status), and reported self-sufficiency. There was no evidence that rural depopulation elevated perceived risk, or the level of self-reported losses of livestock blamed on pumas. Indeed, many respondents, including older respondents and those with smaller households, reported a decline in perceived risk over the preceding five years. These perceptions of risk were not associated with self-reported losses to pumas in the previous year. An increase in perceived risk was associated with the use of guards for livestock, suggesting livestock owners accommodated their absences from herds by using guards. Absolute numbers of livestock lost increased with the distance from households to where livestock were grazed or gave birth. A cost-effective verifica-

tion system for puma attacks is recommended, and further human dimensions research is required to identify the owners who complained and the costs and benefits of different wildlife species. Further interventions to prevent either livestock losses or retaliation against pumas can then be targeted more precisely.

SPATIAL VARIATION IN PUBLIC ATTITUDES TOWARDS BROWN BEARS IN THE FRENCH PYRENEES

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Pierre-Yves Quenette,
Coralie Mounet,
Nicolas Lescureux,
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Etienne Dubarry,
Jean-Jacques Camarra,
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Biological Conservation 197,
90-97 / **2016**

Human dimension is an important component of large carnivore management and conservation. Here, we focus on the human-wildlife conflict related to depredation of livestock by Pyrenean brown bears (*Ursus arctos*), despite the population being among the smallest in the world. Two reintroductions were performed in the past to ensure the survival of the population, yet its conservation status remains critical due to small size, heavy inbreeding and disagreements over its management. We investigated the often-neglected spatial variations in attitude towards predator presence to improve our understanding of the human dimensions surrounding this conflict. We used a questionnaire to assess the drivers explaining the attitude of the local human population (n=577) of the Pyrenees towards bear presence. Our results show that spatial variables (place of birth and county of residence of the respondent) are strong predictors of attitude. The residents of two counties in particular (Haute-Garonne and Pyrénées-Atlantiques) displayed a positive attitude, while the residents of the Hautes-Pyrénées county had the most negative attitude. People born outside of the Pyrenees also showed a more positive inclination towards bear presence than people born and raised in France's southwestern mountain range. Both these results may imply a link between the history of local communities with predator presence and their current attitude. Accounting for small-scale spatial heterogeneity in social-ecological studies of human-wildlife conflicts will prove useful to get a more accurate mapping of attitudes and inform subsequent management decisions.

PATTERNS AND CORRELATES OF PERCEIVED CONFLICT BETWEEN HUMANS AND LARGE CARNIVORES IN NORTHERN TANZANIA

A. Koziarski, B. Kissui,
C. Kiffner
Biological Conservation 199,
41-50 / **2016**

Despite their cultural, economic, and ecological importance, large carnivores are experiencing a global decline, largely due to conflict with humans. In this study we assessed the spatial and temporal patterns and socioeconomic correlates of perceived conflict with lions, leopards, hyenas, cheetahs, and wild dogs in the Ngorongoro Highlands and Tarangire Manyara Ecosystem of Northern Tanzania using structured interviews (n=356). Conflict with large carnivores was mainly prevalent during the wet season, and was spatially highly heterogeneous. Hyenas were the predominant conflict species, followed by leopards. Employing species-specific generalized linear mixed effects models, we assessed spatial, psychological, socio-economic and demographic correlates of perceived conflict. Interestingly, we found few consistencies among correlates for reported conflict frequency. Ethnicity, gender, age, education, fear of large carnivore species, and education had mixed effects on perceived conflict frequency while livestock ownership and relative wealth were negligible in explaining reported conflict frequency. These results suggest that education, psychological and demographic attributes were more influential (though dependent on species and landscape) in wildlife conflict perceptions than economic considerations. Although effective mitigation methods were generally available, they were rarely employed. We suggest that mitigation strategies that address local needs be made more accessible, and that conservation education programs particularly target conflict hotspot areas.

CO-ADAPTATION IS KEY TO COEXISTING WITH LARGE CARNIVORES

Neil H. Carter,
John D. C. Linnell
*Trends in Ecology
& Evolution* 31,
575-578 / **2016**

There is a pressing need to integrate large carnivore species into multi-use landscapes outside protected areas. However, an unclear understanding of coexistence hinders the realization of this goal. Here, we provide a comprehensive conceptualization of coexistence in which mutual adaptations by both large carnivores and humans have a central role.

PERCEPTIONS OF ENVIRONMENTAL JUSTICE AND THE CONFLICT SURROUNDING LARGE CARNIVORE MANAGEMENT IN NORWAY — IMPLICATIONS FOR CONFLICT MANAGEMENT

Kim S. Jacobsen,
John D. C. Linnell
Biological Conservation 203,
197-206 / **2016**

Human-wildlife conflict is increasingly being recognised as containing strong elements of social conflict. The extent to which stakeholders regard a management system as being just and fair is a key social dimension of conflict. This paper investigates the perceptions of justice regarding the carnivore conflict in Norway among sheep farmers, environmentalists and indigenous reindeer herders using Q methodology. Three significant perspectives on environmental justice were identified, which we labelled the Carnivore Advocates (containing most environmentalists), the Carnivore Sceptics (containing most of the sheep farmers and reindeer herders) and the Bureaucratic Carnivore Sceptics (containing the remaining sheep farmers and a reindeer herder). The widest disagreement was over what constitutes environmental harm and environmental goods and how the costs and benefits should be distributed, indicating that fundamental differences in values and perceptions underlie the intractability of this conflict. However, the results of this study suggest that the widespread conceptualisation of justice as strictly a matter of equitable distribution of costs and benefits is incomplete. Recognition justice, in the form of acknowledging group identity, lifestyle, knowledge and viewpoints, and seeking mutual respect for differences constituted a good in itself for all stakeholders. It cannot therefore just be viewed as a means to establish equitable distribution of goods and harms. Issues related to participatory justice were also identified, but were not attributed great importance. These results confirm the common assumption that the carnivore conflict in Norway is highly polarised. Because the two poles differ fundamentally in their value perceptions regarding carnivores and how that relates to their sense of identity, we characterise the human-wildlife conflict in Norway as a “wicked problem” where decisions regarding the management of carnivores is going to entail political prioritisation of one viewpoint over the other.

GRAZING AND BIODIVERSITY

A COMMENT ON THE DISTRIBUTION OF HISTORICAL AND CONTEMPORARY LIVESTOCK GRAZING ACROSS AUSTRALIA: IMPLICATIONS FOR USING DINGOES FOR BIODIVERSITY CONSERVATION

Benjamin L. Allen
*Ecological Management
& Restoration* 12,
26–30 / **2011**

Understanding the causes of faunal declines is important for preserving Australia’s threatened fauna. Both predation and livestock grazing have been investigated as potential causes of declines, but some studies struggle to account for historical grazing impacts due to the lack of historical information on livestock distribution and grazing intensity. This article summarises some trends in the extent of historical and contemporary livestock grazing on mainland Australia. The cumulative effects of historical livestock grazing are discussed in the light of studies investigating the influences of predation and livestock grazing on faunal declines.

MIXED GRAZING SYSTEMS BENEFIT BOTH UPLAND BIODIVERSITY AND LIVESTOCK PRODUCTION

Mariecia D. Fraser,
Jon M. Moorby,
James E. Vale,
Darren M. Evans
PLoS ONE 9: e89054 / **2014**

Background: With world food demand expected to double by 2050, identifying farming systems that benefit both agricultural production and biodiversity is a fundamentally important challenge for the 21st century, but this has to be achieved in a sustainable way. Livestock grazing management directly influences both economic outputs and biodiversity on upland farms while contributing to potentially damaging greenhouse gas emissions, yet no study has attempted to address these impacts simultaneously.

Methods: Using a replicated, landscape-scale field experiment consisting of five management ‘systems’ we tested the effects of progressively altering elements within an upland farming system, viz i) incorporating cattle grazing into an upland sheep system, ii) integrating grazing of semi-natural rough grazing into a mixed grazing system based on improved pasture, iii) altering the stocking ratio within a mixed grazing system, and iv) replacing modern crossbred cattle with a traditional breed. We quantified the impacts on livestock productivity and numbers of birds and butterflies over four years.

Results, Conclusion and Significance: We found that management systems incorporating mixed grazing with cattle improved livestock productivity and reduced methane emissions relative to sheep only systems. Systems that also included semi-natural rough grazing consistently supported more species of birds and butterflies and it was possible to incorporate bouts of summer grazing of these pastures by cattle to meet habitat management prescriptions without compromising cattle performance overall. We found no evidence that the system incorporating a cattle breed popular as a conservation grazer was any better for bird and butterfly species richness than those based on a mainstream breed, yet methane emissions from such a system were predicted to be higher. We have demonstrated that mixed upland grazing systems not only improve livestock production but also benefit biodiversity, suggesting a ‘win-win’ solution for farmers and conservationists.

BOOKS

Wege der Schafe: Die jahrtausendealte Hirtenkultur zwischen Südtirol und dem Ötztal (Sheep paths: The millennial pastoral culture between South Tyrol and the Ötztal)

By Hans Haid / **2008**
Tyrolia / 144 pp

In the Ötztaler Alps, a more than 6,000-year-old semi-nomadic pastoral culture has survived to this day, as can hardly be found elsewhere in the Alps. In mountains over 3,200 metres above sea level, some of them glaciated, year after year thousands of sheep from South Tyrol, from the Vinschgau Valley, the Passeier Valley or the Schnalstal move to the pastureland in remote Ötztal, where they spend the summer with shepherds until autumn, when the long way home begins. Legends of this archaic tradition and menhirs along these sheep paths are evidence of a millennial culture. For the first time, this representative illustrated volume is a documentary on the history and lively culture of transhumance in the Ötztal Alps. The enclosed DVD brings together impressive graphic documentation from renowned landscape photographer Thomas Defner, authentic sound recordings from the upper dynasties and uncivilized folk music from the region in a fascinating multimedia show, which allows the archaic world of shepherds and their herds to be experienced almost at first hand.

Bergers du Monde (Shepherds of the World)

By Bernard Faye / **2008**
Quae - Etudes & Communication / 240 pp

For the past 30 years, Bernard Faye has travelled four continents to meet men who have devoted their lives to animals and the earth. His book evokes the trajectories of shepherds encountered at random through the Sahelian furnace, the sand winds of the steppes of Central Asia, the slopes of the Cévennes mountain or the Abyssinian foothills. They are stories of transhumance, stories of children, born shepherds, plunged from birth into a world where the animal is the beginning and the end of all activity. This book also tells of the links between harsh working conditions and festive moments of passion and tradition, – that the daily work and the exceptional way of life weave between the shepherd and his flock.

Shepherds and Shepherding

By Jonathan Brown / **2013**
Shire Library / 70 pp

The shepherd stands, lamb in one hand, crook in the other and dog at his feet. This is how many of us think of the old-time shepherd – the picture of sturdiness, dependability and independence. He was one of the most important men on the farm, responsible for the care and well-being of the flock, with which he might need to spend days and nights out in open pastures. How did he manage his charges, and his own life? What skills and equipment did he use? How did sheep farming change in the 19th and 20th centuries, and what effect did that have on the shepherd's work? These are the questions considered by this look at shepherding life, with illustrations of the shepherd at work.

The Art & Science of Shepherding: Tapping the Wisdom of French Herders

Edited by Michel Meuret and Fred Provenza / **2014**
ACRES USA / 434 pp

This in-depth, multi-authored work originally published in France takes readers deep into the traditional world of shepherds. Far from being a nostalgic glimpse into a romanticized lifestyle, this book teaches us how the sophisticated art and skills of the shepherd have application in modern, North American range/livestock management. Through academic study, analysis and in-depth interviews with master shepherds, readers will be amazed by the deep connection between the biochemical need for animals to feed, the powers of observation used by shepherds to effectively care for and manage large herds and how the traditional moving of the animals is more fitting to many landscapes than even the most progressive rotational grazing and moveable fencing systems. The compilation carries enough weight to dazzle the most ardent student and enough real-world know-how to equip the 21st century herdsman with new insights and philosophies.

The Shepherd's Life: Modern Dispatches from an Ancient Landscape

By James Rebanks / **2015** / Flatiron Books / 304 pp

Some people's lives are entirely their own creations; James Rebanks' is not. The first son of a shepherd, who was the first son of a shepherd himself, his family have lived and worked in the Lake District of Northern England for generations: further back than recorded history. It is a part of a world known mainly for its romantic descriptions by Wordsworth and the much-loved children's books of Beatrix Potter. But James' world is quite different. His way of life is ordered by the seasons and the work they demand. It has not changed for hundreds of years:

The Shepherd's Life is the story of a deep-rooted attachment to place, modern dispatches from an ancient landscape that describe a way of life that is little noticed and yet has profoundly shaped the landscape over time. In evocative and lucid prose, James Rebanks takes us through a shepherd's year: sending the sheep to the fells in the summer and making hay; the autumn fairs where the flocks are replenished; the gruelling toil of winter when the sheep must be kept alive and the light-headedness that comes with spring, as the lambs are born and the sheep get ready to return to the hills and valleys. This is a story of working lives, the people around him, his childhood, his parents and grandparents, a people who exist and endure even as the culture – of the Lake District, and of farming – changes around them.

Many memoirs are of people working desperately hard to leave a place. This is the story of someone trying desperately hard to stay. It offers a unique account of rural life and a fundamental connection with the land that most of us have lost.

Wildlife Conservation on Farmland. Volume 1: Managing for nature on lowland farms

Wildlife Conservation on Farmland. Volume 2: Conflict in the countryside

Edited by David W. Macdonald and Ruth E. Feber
2015 / Oxford Scholarship Online / 336 + 336 pp

Highlights and examines the most important challenges facing farmers, conservationists and policy makers, using examples of real-life, linked studies from a farmed landscape which bridge the divide between the theory and practice of wildlife conservation on farmland. The integrated and interdisciplinary approach draws on ecology, behaviour, epidemiology, genetics, parasitology, biochemistry, physiology, and environmental economics. It develops workable conservation solutions to the current farmland biodiversity crisis.

Schafe: Ein Portrait (Sheep: A Portrait)

Edited by Eckhard Fuhr and Judith Schalansky/ **2017**
Naturkunden / 136 pp

No animal has such a consoling effect on us as the gentle-looking, outspoken bleating sheep: painted in bucolic idylls, accompanied by the shepherd's longing, and as Agnus Dei, patient bearer of the Good News, symbolizes destiny par excellence. With his animal portrait, Eckhard Fuhr has begun to deliver the sheep from her eternal victimhood. For who knows that on the threshold of the modern age, it was deeply hated among people, since its introduction dragged thousands of peasants into misery? When Dolly the sheep, the first clone, was created, the Lamb of God got a sinister sister who challenged the order of creation. In addition, the portrait also tells the cultural history of the millennial coexistence of humans and sheep under the faithful accompaniment of the dog. This makes it clear that in this animal and its form of life there is actually something hidden from which we can learn and which gives us peace in spite of all the bleating: a culture of sustainability, which we must cultivate in order to move away from our herd instinct to over-exploit nature.

*Texts from the books' publishers.

MEETINGS OF INTEREST

11th European Vertebrate Pest Management Conference

25-29 September 2017 / Warsaw, Poland

www.evpmc.org

First International Canine Science Conference

6-8 October 2017 / Tempe, Arizona, USA

clivewynne.wixsite.com/caninescience2017

Regional Workshop Living Together: Coexistence between People and Large Carnivores

12-14 October 2017 / Parco delle Prealpi Giulie, Venzone (UD), Italy

www.europarc.org/europe/biogeo-seminars/living-together

2nd International Wolf & Carnivore Conference

18-19 October 2017 / Thompson, Manitoba, Canada

www.thompsonspiritway.ca/conference

International Symposium on the Prevention of Wildlife's Caused Damages

8-9 November 2017 / Grosseto, Italy

www.medwolf.eu/index.php/international-symposium-grosseto-por.html

EVENTS

Festival du Film: Pastoralismes et Grands Espaces (Film Festival: Pastoralisms and Great Spaces)

13-15 October 2017 / Grenoble, France

www.alpages38.org/-Festival-du-Film-Pastoralismes-et-.html

LINKS

Commission on Nomadic People

iuaes.org/comm/cnp/index.shtml

IUCN: Pastoralism

www.iucn.org/tags/work-area/pastoralism

LIFE-Network: Local Livestock for Empowerment of Rural People

www.pastoralpeoples.org/partners/life-network

Association Forum Transfrontalier Arc Jurassien (Transboundary Association Forum)

www.forum-transfrontalier.org/a-la-rencontre-des-bergers

COMING TOPICS

The next issues of CDPNews will focus on the use of guarding dogs to protect livestock from predators in different scenarios worldwide, followed by an issue looking into socio-economic aspects of damage prevention.

If you are working on a project or study dealing with these topics please send us a proposal for an article.

Contact us in advance for the CDPNews authors' guidelines.

Thank you for your collaboration!

The Editors

To be added to the mailing list or for further information, contacts us at: lifemedwolf@fc.ul.pt

You can download the Carnivore Damage Prevention News on the MedWolf website:

www.medwolf.eu

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