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Reintroduction of the European Bison (*bison bonasus*) in the Swiss Jura: social acceptance and future areas of conflict

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1. Abstract

This master thesis focuses on the reintroduction of the European bison (*bison bonasus*) in Switzerland, in the canton of Solothurn. This social research therefore accompanied the *Projekt Wisent Thal* in its early stages, in order to measure regional acceptance. Through a statistical survey and qualitative interviews, significant factors influencing one's attitude towards the project were highlighted. In addition, a prediction of future areas of potential conflict between humans and bison was calculated, to highlight the spatial dimension of this coexistence. The main results showed a very strong polarization of the regional public regarding this new debate affecting its landscape. Environmental values, the perception of the bison as a peaceful animal and the communication of the project's committee tuned out to be the strongest predictors of the acceptance of the *Projekt Wisent Thal*. The link between social acceptance and the mapping of shared spaces highlighted the importance of regional landscape perception and valuation as well as the importance of cultural context in this reintroduction project.

Diese Masterarbeit befasst sich mit der Wiederansiedlung des Wisents (*bison bonasus*) in der Schweiz, im Kanton Solothurn. Die Sozialforschung begleitete deshalb das *Projekt Wisent Thal* in seiner Anfangsphase, um die regionale Akzeptanz zu messen. Mittels einer statistischen Umfrage und qualitativen Interviews wurden signifikante Einflussfaktoren auf die Einstellung gegenüber dem Projekt aufgezeigt. Dazu wurde eine Vorhersage zukünftiger Konfliktgebiete zwischen Mensch und Wisent berechnet, um die räumliche Dimension dieser Koexistenz zu betrachten. Die wichtigsten Ergebnisse zeigten eine sehr starke Polarisierung der regionalen Bevölkerung gegenüber dieser neuen Debatte, die ihre Landschaft betrifft. Umweltwerte, die Wahrnehmung des Wisents als friedliches Tier und die Kommunikation des Projektskomitee erwiesen sich als die stärksten Prädiktoren für die Akzeptanz des *Projekts Wisent Thal*. Der Zusammenhang zwischen sozialer Akzeptanz und der Kartierung von den zukünftigen Konfliktzonen verdeutlichte die Bedeutung der regionalen Landschaftswahrnehmung und -bewertung sowie die Bedeutung des kulturellen Kontextes in diesem Wiederansiedlungsprojekt.

Ce travail de master porte sur la réintroduction du bison d'Europe (*bison bonasus*) en Suisse, dans le canton de Soleure. La recherche sociale a donc accompagné le *Projekt Wisent Thal* dans sa phase initiale afin de mesurer l'acceptation régionale. Au moyen d'une enquête statistique et d'interviews qualitatifs, les principaux facteurs d'influence sur l'attitude envers le projet ont été mis en évidence. De plus, une prédiction des futures zones de conflit entre l'homme et le bison a été calculée afin de considérer la dimension spatiale de cette coexistence. Les principaux résultats ont montré une très forte polarisation de l'opinion publique régionale face à ce nouveau débat qui concerne leur paysage. Les valeurs environnementales, la perception du bison d'Europe comme un animal pacifique et la communication du comité de projet se sont révélées être les prédicteurs les plus importants de l'acceptation du *Projekt Wisent Thal.* Le lien entre l'acceptation sociale et la cartographie des futurs espaces de coexistence a

relevé l'importance de la perception et de l'évaluation du paysage régional ainsi que l'importance du contexte culturel dans ce projet de réintroduction.

Questa tesi di master tratta della reintroduzione del bisonte europeo (*bison bonasus*) in Svizzera, nel Canton Soletta. Questa ricerca sociale ha accompagnato il *Projekt Wisent Thal* nella sua fase iniziale, al fine di misurare l'accettazione regionale. Attraverso un'indagine statistica e delle interviste qualitative, sono stati identificati i principali fattori che influenzano l'atteggiamento nei confronti del progetto. Inoltre, è stata calcolata una previsione delle future aree di conflitto tra l'uomo e il bisonte, al fine di mettere in evidenza la dimensione spaziale di questa coesistenza. I risultati principali hanno mostrato una forte polarizzazione dell'opinione pubblica regionale di fronte a questo nuovo dibattito riguardo al proprio paesaggio. I valori ambientali, la percezione del bisonte europeo come animale pacifico e la comunicazione del comitato del progetto si sono rivelati i più importanti predittori dell'accettazione del *Projekt Wisent Thal*. Il legame tra l'accettazione sociale e la mappatura delle future aree di coesistenza ha evidenziato l'importanza della percezione e della valutazione del paesaggio regionale, nonché l'importanza del contesto culturale in questo progetto di reintroduzione.

2. Executive summary

The *Projekt Wisent Thal* aimed to reintroduce European bison (*bison bonasus*) in the Swiss Jura. The project implements several measures, which allow bison to acclimatise to their new natural environment and people to familiarize with their new wild neighbour. This master thesis focuses on the regional public acceptance of the reintroduction of bison, which is a crucial point for this project to success.

Using quantitative surveys and qualitative interviews, this study investigated regional public perception of the *Projekt Wisent Thal*, as well as the extend at which the species cohabitation will spatially occur. This research defined which sociodemographic factors or other parameters promote or hinder the acceptance of this environmental project. The method embeds: 1) a quantitative survey and its descriptive and statistical analysis (including ANOVA tests, paired-sample t-tests and linear regressions and hierarchical regression models in *R*), 2) the realization of semi-structured interviews, their transcribing and their qualitative analysis (*Max-QDA*) and 3) a spatial analysis about humans/bison cohabitation predicting the potential future areas of conflict (directly included in the quantitative survey as a *Public-Participatory GIS*, analysed with *Arc-GIS Pro*).

The survey highlighted significant sociodemographic factors that negatively influence bison reintroduction acceptance in the investigated region: the proximity of village of residence to the enclosure, the residence time, the age and the affiliation to an agriculture association. A high environmental valuation positively influences the acceptance, while frequency of forest use is negatively correlated. Some sociodemographic factors such as the presence of children in the household are more complex to interpret, combining curiosity about the project with apprehension about family security. External factors like a positive encountering experience with a bison, a positive perception of the animal and a positive attitude towards project's management presented positive correlations with the final reintroduction acceptance, the two latter representing the most decisive predictors to ensure public acceptance. The qualitative interviews underlined the importance of the perceived bison habitat, the professional sector, the general attitude renaturation projects and the role of regional or cultural context regarding landscape perception and open-mindedness to reintroduction projects. The spatial analysis highlighted the potential conflict areas between humans and bison, which represents about 40% of the summer bison habitat and 34% of its winter habitat, suggesting opportunities to limit the overlap between the two species.

This study shows that the project committee needs to focus on clear and transparent communication about project management and process, as well as trying to get the public to appreciate the bison a friendly animal, in order to achieve acceptance. This study highlights societal challenges of reintroducing bison in Switzerland, and thus help in selecting measures that consider the needs of all parties (Schenk et al., 2007), both socially and spatially.

3. Introduction and objectives

3.1. The *Projekt Wisent Thal*

The last free-living bison went extinct in 1920 in Poland. Since then, multiple conservation and reintroduction programs were set in place. Reintroducing this species in special protected areas is important for its conservation: in Switzerland, the plan of reintroducing 5 up to 25 wild animals for a trial time of 15 years in Welschenrohr, in the region of the *Naturpark Thal*, aims to test whether the Jura is a compatible landscape for bison, as well as a culturally compatible location. Respecting all the indications of the Swiss animal protection law of 2008, the bison are given their natural habitat with sufficient space (50 to 100 hectares), food and water supply. The animals are monitored, since their position is constantly available. The project is divided into three phases, which are gradually increasing the available space for bison and reducing the presence of fences (phase 1 and 2 correspond both to a open-access enclosure, while phase 3 involves a total release). This project is led by the *Verein Wisent im Thal*.

The aim of bison reintroduction in Europe is to restore ecosystems, in line with the growing number of rewilding projects: as an ecosystem engineer, bison may maintain open forest meadows or dunes, reduce competitive power of dominant herbaceous plants, increase species diversity in herbaceous layer and manure production – thus increasing dung beetle diversity. An increase of dead wood content and habitat tree density through peeling, new microhabitats footsteps and lying tracks are also observed. Thus, bison can increase biodiversity by regulating the landscape architecture (Nickell et al., 2018). Biodiversity monitoring is organised to ensure a continuous check of ecosystem's health.

To test whether this ecosystem-beneficial presence of bison is biologically possible and bearable for humans, security measures have been taken: in the *Naturpark Thal*, fences are clearly limiting the domain where bison live. This space includes agricultural areas as well as a hunting domain. The passageways for walkers and cars are maintained. Possible conflicts stemming from such a project can be expected with the sectors of agriculture, forestry, hunting, tourism, and nature conservation – if the bison are degrading the quality of the ecosystem in a certain way that penalises the quality or the economic value of these activities. Conflicts will be monitored to ensure the maintenance of landscape quality and a normal perpetuation of those sectors. Even though an ever-increasing part of the public feels concerned about the environment, some groups – especially the mentioned stakeholder groups – have difficulties in adhering to the project (Schenk et al., 2007). Therefore, it is necessary to assess the perception of the local inhabitants to highlight the main actors and the significant sociodemographic factors of this the debate surrounding the reintroduction of bison to the region.

To ensure that the regional public is aware of the presence of bison and how to behave in the event of an encounter, some information panels presenting information signs and explanations are attached at the fences of the enclosure.

This Master thesis is part of the *Projekt Wisent Thal* and belongs to the social science part, more precisely of the development of adequate monitoring methods and the first results. While the mandated part from the project committee proposed only a quantitative survey method, I saw in this project an interesting opportunity to have deep-going insights into acceptance predictors: therefore, we chose to design and plan qualitative interviews as well. Finally, as the *Projekt Wisent Thal* represents only a pilot study and the starting point of bison reintroduction in the Swiss Jura, one must also know about the cohabitation potential in a wider spatial context: This reflection about the link between sharing space and social acceptance of environmental projects was pictured by a spatial analysis of potential human/bison sharing future areas and therefore possibly conflict areas.

The official report with quantitative survey results and qualitative interview findings is based on this master's thesis. It can be found in the appendix.

3.2. Relevant background for bison reintroduction acceptance in Switzerland

Bison reintroduction challenges in Europe

Bison reintroduction projects are currently a recurring theme in Europe. In the southern Carpathians, for example, bison herds have been successfully reintroduced and expanded, as well as in Poland, Belarus and Lithuania. In Germany, an attempt to reintroduce bison failed due to public opposition, particularly from farmers. Looking at these examples, one might think that Switzerland landscape would also be suitable to welcome back bison. However, the organisation Rewilding Europe is aware of the potential for European bison to cause damage to agriculture and forestry. The resulting lack of public acceptance could limit the growth of some populations (Rewilding Europe, 2024). A first crucial aspect of the Welschenrohr reintroduction project is how it compares with previous successful and failed projects.

Swiss public tendency towards wildlife

A second important point is the general Swiss attitude towards reintroduction projects. In the very same region of Swiss Jura, deer have been reintroduced in recent years. The reintroduction of the wolf is currently a controversial issue in Switzerland. These aspects should be taken into account in the acceptance of bison by the Swiss public. Indeed, the historical dimension of a region cannot be ignored in situations of human-wildlife conflict; aspects such as previous coexistence with the same animal or the region's experience with past rewilding projects shape perceptions of future reintroduction projects (Sands 2022, Öhman, 2017). It is also important to keep in mind that not all animals are perceived in the same way by the public, and therefore they are not accepted to the same extent. Based on Jürgens' (2022) categories, wildlife can represent different threats or benefits that are directly related to public acceptance – for example, a wolf is perceived as a direct threat and predator to human life, whereas a deer or a bison is perceived more as a problem-maker for the ecological and/or economic balance.

Importance of title and words in the context of acceptance

"Words […] do not stand still – they change over time and take on new meanings, while sometimes simultaneously retaining the older sense" (Jørgensen 2015). This quote highlights the importance of words meanings and history in the context of rewilding projects. The word *rewild* implies different meanings depending on geographical areas and stakeholder groups. Most importantly, the public's understanding of the word may differ from that of the committee specialists in charge of a project, creating new familiar meanings that are not supported by scientific data (Delibes-Mateos et al., 2011). *Rewilding* is now a word that is thrown around and therefore difficult to address for a unanimous reception (Gammon, 2018). The words used for the *Projekt Wisent Thal* can generate different understandings and public perceptions, especially for the tension that exists between the words *rewilding* and *reintroduction*. While the former promotes landscape restoration and human well-being (Gammon 2018, Monbiot 2013, Lorimer 2017), the latter could be seen as the expansion of a potentially dangerous species into human territory.

Relevance for the *Projekt Wisent Thal*

Before even starting a reintroduction project in Switzerland like the *Projekt Wisent Thal*, or exploring what factors influence people's acceptance, it is necessary to draw inspiration and learn from other projects around us in Europe or previous projects within Switzerland. Moreover, communicating with the right words can induce positive perception and acceptance. These relevant background aspects are mentioned early in this study, as the general view of the project must not be lost: the past public experiences and perceptions of wildlife projects form the basis for the situation at Welschenrohr and for future acceptance of the *Projekt Wisent Thal*. However, these historical and documentary themes do not form the core of this thesis; they will be treated and discussed in the final section, which will take a step back to seek a more general perspective of this study.

3.3. State of research: acceptance and attitude towards nature and wild animals

Acceptance of nature, environmental values and identification

Acceptance can be understood as a positive attitude towards something or someone (Job, 1996; Mondini & Hunziker, 2018). Acceptance of nature reserves is showed to be reached if people see a positive functionality and a sort of ideal in them (Arnberger & Schoissengeier 2012, Huber & Arnberger 2016). Recent literature have investigated factors influencing this positive attitude towards nature reserves. Firstly, project-related factors play a role in the public acceptance: the quality of the communication about it, i.e. whether the responsible group is well informing the local inhabitants (Huber & Arnberger 2016, Nienaber & Lübke 2012) and the degree in which this local public is affected by the changes in the landscape and the new resulting resources – like possibilities for new jobs or enhancement of

tourism. A more personal aspect, people's environmental attitude, unconditionally determines their acceptance of nature-preservation-related restrictions, irrespective of the costs: strong environmental valuation overruled aspects of profit (Byrka et al., 2016).

Indeed, according to von Lindern et al. (2019), *identification* – the extent to which the public experiences the region as an important piece of home – corresponds to the most significant factor influencing acceptance of nature reserves.

Acceptance of wild animals

Acceptance of wild animals is defined as the extent to which wild animals have been accepted by society. This is the result of a psychological process driven by various fixed intern factors (socio-demographic parameters), or modifiable intern factors (constructed values, knowledge level), but also by the external context (communication of the project, experience with the animal, etc.). According to Kellert (1994), wild animals acceptance is driven by four main factors: knowledge about wildlife (factual knowledge, ecological understanding and awareness of conservation necessity), perception of the involved animal (aesthetic value, historic and cultural value, dangerousness), human-animal interactions (possible conflicts, damages, utilization) and environmental valuation. All these factors interact and shape people's attitudes towards animals, as shown in figure 1, with the example of bears' acceptance in Switzerland (Mondini & Hunziker, 2018), to which we could add the sociodemographic parameters (not pictured here).

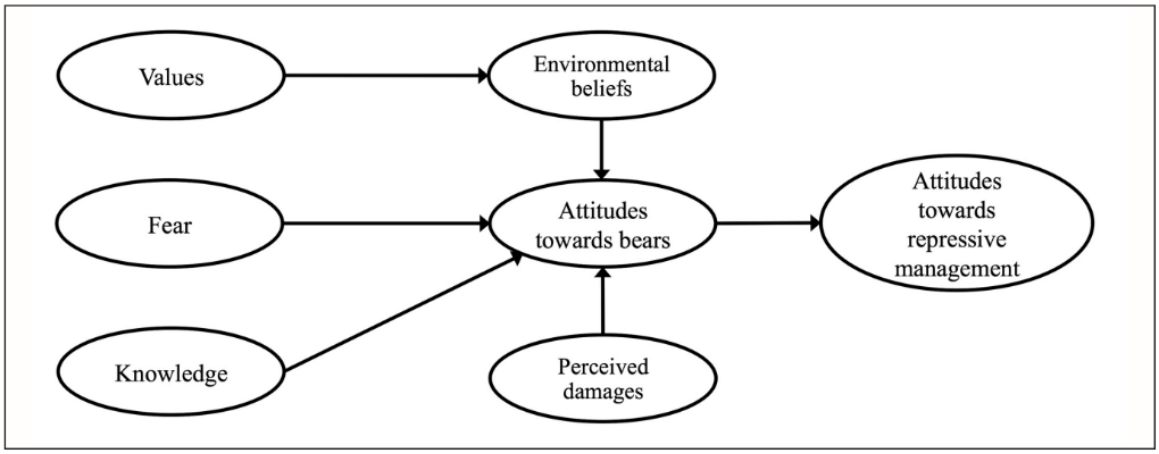


Figure 1 *:* model of acceptance of bears in Switzerland.
This model, in contrast to this master thesis, also considers the psychologic process inducing negative attitudes towards large carnivores (Mondini & Hunziker, 2018). The model is nevertheless quite similar, since people's values, knowledge and environmental beliefs directly influence the attitudes towards wild animals. Sociodemographic factors are not pictured here but are at the source of some of these psychological phenomena.

I wish to differentiate here "internal factors", which can be "fixed" (sociodemographic factors) or "modifiable" (personal values) with the "external factors", which correspond to the reactional attitude towards an external imposed factor.

Several studies already showed the significance of different sociodemographic factors for environmental valuation. For instance, academic level and consequently the degree of information about wildlife is shown to be crucial to level up environmental awareness (Papp, 2022, Kimmig et al., 2020 & Skupien et al., 2016). Following the same idea, a profession in a natural/environmental sector brings more knowledge about wildlife, ecology and environment conservation: this should bring a positive attitude toward such a reintroduction project. We also observe a tendance of young people being closer to the environmental and animal cause (Kimmig et al., 2020). Several research also point that gender turns out to be a significant factor for wildlife acceptance: men show a more positive attitude towards wild animals (for ex. Kimmig et al., 2020, Eeden et al., 2021). The proximity to the reintroduction area also plays a role: it was already observed that nearer inhabitants are more reluctant about bison reintroduction (Klich et al., 2018), reflecting the so-called Not-In-My-Backyard-Effect (NMBY). Residence time is also negatively correlated to acceptance, as people who have been living for a longer time in the region have a broader network, and thus are more sensitive to situations or people that may be altered by the project (Adulaparc Project, Hunziker). A paper about wild animal reintroduction showed that the presence of children in the family is negatively correlated to acceptance of wild animals, people worrying for their children (Balčiauskas et al., 2016).

Environmental and political values are part of the "modifiable internal factors". Political affiliation can also be a predictor for the individual environment's valuation which should also play a consequent role in the approval of the project. Several studies in America showed a significant influence of political ideas on attitudes towards wildlife: voting more to the left is correlated with an higher positive environmental valuation and, thus, wildlife conservation attitudes (Czech & Borkhataria 2001, Hunziker 2015) or wolves acceptance (Eeden et al., 2021). A study in Switzerland showed, not surprisingly, that the political parties 'Greens' and 'Liberal Greens' are the most environment friendly (article of SwissInfo.ch, 2019). Nevertheless, the most represented left party (SP) seems to be more environmental-aware than the most represented right party (SVP). Thus, the tendency appears to be confirmed in Switzerland. Finally, a study pursued in 38 countries opposed the wish of prioritizing the environmental cause against economic growth in politics: – these priorities define the so-called "Greenness" of the different chosen parties (Papp, 2022).

Looking at the external factors, two main factors of a positive attitude towards a reintroduction project are the perception of the aptitudes of the project management and the perception of the communication (Riley & Decker, 2000). Since the acceptance of wild animals is based on environmental values (Kellert, 1994) and this is also the case for the acceptance of nature reserves (Byrka et al., 2016), a correlation between attitude towards *Naturpark Thal* and *Projekt Wisent Thal* is expected. One study shows that if agencies build local trust and minimize risk, attitudes to elk reintroduction are more positive and the chances of success for species and people increase (Watkins et al., 2021). So, the safety information at the Welschenrohr enclosure should help the committee to gain public confidence and ensure the success of the project.

Human/animals cohabitation and space management

The repopulated territories of reintroduction projects are often not purely wild, but represent landscapes used by the local public – as a working, leisure time and living place. This is also the case for the *Projekt Wisent Thal*. The resulting situation is the cohabitation of wild animals and the society. Therefore, wildlife management should not only include the question of suitable habitats for animals, but also the question of a possible conflict-free coexistence with humans. This requires an adequate spatial management to ensure a viable division of the territory. The issue of public acceptance is finally as important as the biological adaptative processes because the chance of survival of reintroduced wild animals directly depends on the tolerance of the local public and their wish to share territory (Mondini & Hunziker, 2018).

The bison's ecological niche contains the following criteria: access to herbs and grasses – as they are mainly herbivores –, presence of twigs and leaves to assure the browsing part of their diet and access to clear water. The resulting habitat is a mix of open areas and forest. Preferences seem due to differences in the ground vegetation (herbaceous and gramineous species) (Kuemmerle et al., 2017).

Recent studies show that European bison present a high capability for adaptation to various habitat (Lopucki et al., 2023), what makes a reintroduction potentially successful in numerous landscapes. The factor limiting the presence of bison in open areas is human activity. This point consequently reduces the suitable locations for bison herds.

According to research done in the Carpathian Mountains (Wołoszyn-Gałęza et al., 2016), bison shows different habitat preferences in summer and winter season. In summer, preferred habitats are close to natural grasslands, (meadows, glades, forest openings), coniferous forests and area at higher elevation (> 540 meters above sea level). Moreover, they seem to avoid proximity with agricultural areas and roads. On the contrary, in winter, bison occupy mostly places near deciduous and mixed forests. Consequently, they are coming closer to little roads, further to natural grassland and nearer from human settlement and agricultural lands.

Concerning people preferences, a paper about Swiss society's favourite rest and leisure spots (Buchecker et al., 2013) (figure 2) underlined some landscapes which are interesting for our research areas: landscape with variation, mixed forests and forest ranges. We expect shared areas between bison and humans covering such land properties. Recent research of the same group at WSL is investigating spatial conflict management between people recreation and biodiversity conservation. This research group developed a layer representing attractivity for outdoor recreationists based on a prior attractivity model for outdoor recreation (Kienast et al. 2012) but altered to better represent all of Switzerland and various recreation activities following various assumptions (Fruh et al., 2024; *Manuscript in preparation*). The project cited above is aiming to map areas of conflicts of people and nature. Such a tool is well-suited to the theme of bison and human cohabitation of this thesis. This layer called *DULN layer* was used to represent human preferences in this master thesis.

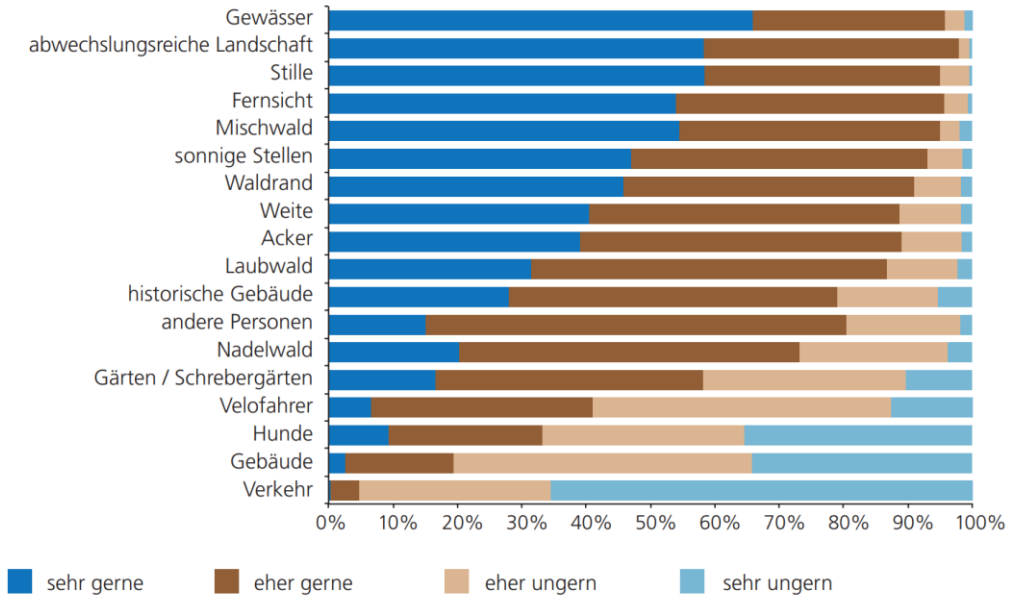


Figure 2 : people's landscape preferences, project "Naherholung räumlich erfassen" from Buchecker et al. (2013).
This highlights the preferred landscape attributes for resting. The developed mapping tool in the ongoing project of WSL is partially based on the data of this research.

Language and cultural influence on nature perception

The question of cultural plasticity is very important in such projects of rewilding or reintroduction. Indeed, a cultural flexibility ensures sort of a "sociocultural durability" regarding the respective project – to use the expression used by canton of Solothurn for deer reintroduction (Kanton Solothurn, Amt für Wald, 2011) a few years ago. People reactions and societal behaviour will, at the end, decide if a rewilding project is accepted and successful. Therefore, I wish to further discuss the cultural effect on environmental values further.

Environmental values can be divided into three main groups: instrumental, intrinsic and relational values. It has been shown that cultural identity underpins relational values, i.e. the way people perceive and value the qualities of the relationships between humans and nature (Inglis & Pascual, 2021). Cultural identity encompasses local places and social groups. As languages continually change over time and their variation is heavily influenced by social, political, and historical elements, they directly describe the cultural identity of a group at a given time and place. Languages are communication channel and are symbols of both individual and community identity: they have a major impact on our perception of our surroundings and thus values such as environment relational ones.

If we see nature in its sense of social-constructed concept, we can say that language, culture and nature are intimately interrelated. Cultural and place identity can be intimately connected with the idea of

relational values; they are a way to express people's relations to nature, which is linked to evaluation and attachment of socio-economical contexts (Inglis & Pascual, 2021).

The idea of "mapping linguistic" is part of environmental humanities research fields and had also been done to highlight cultural values and beliefs. For example, the *Wilderness Babel* (Hall, 2020) shows the different definition and perception of the word *wilderness* in 20 different languages and compare them to the actual wild landscape of the involved biomes. In this *Wilderness Babel*, we observe an example of how languages can reflect cultural perception of one aspect of nature: in this precise case, Germanophones interpret the word "wilderness" [*Wildnis*] as an idea of a land that is not used by humans. Etymologically, "Wildnis" is related to the words "Wald" (forest) and "Wüste" (desert or wasteland), which both remind the meaning of a land that is not cultivated. For French speakers, while it is more difficult to retrace the idea of wilderness because this word does not exist in this language, the attempts of translation would give lead to the definition of an isolated, dangerous, almost frightening place, which is also a refuge for cruel bandits, moody poets, and misanthropic philosophers. We notice here, historically, a slight difference in the interpretation of the natural concept of wilderness: both languages assign wilderness to a dangerous and foreign place, but French speakers do not exclude any human presence. Extending this linguistic detail, we might think that French speakers would place less emphasis on the nature/society divide than German speakers, at least where purely wild landscapes are concerned. It is also interesting to note that France has very few wild landscapes, being mostly rural. In fact, we find very few descriptions of wilderness in ecocriticism, compared with American ecocriticism, for example, which praises its national parks (Subérichot, 2012).

Switzerland is home to four languages. As a result, we can observe many different cultures living side by side and many different ways of perceiving surroundings and natural environment. Let's not forget that that the Swiss railroads linked German-speaking Switzerland with French-speaking Switzerland only in 1862, increasing and standardizing exchanges between cantons of different cultures quite lately in history (LABES report, WSL, 2017).

A study (Hermann, 2002) has compared the nature perception of Swiss people regarding the language areas. The conclusion of this research showed that Swiss-German would correspond to a "ecological" perception with a rather right-oriented political tendency, while "Suisse-romands" seem less environmental-friendly and politically rather left-oriented. A recent study of the WSL (LABES report, WSL, 2023) also showed that language areas presented differences in the manners of perceiving environment. These are accompanied with true differences in landscape and its usage, as it is for example the case in the agricultural landscape: in the French-speaking parts, the variety of landscapes and thus the diversity of land use are lower than in the German-speaking regions (LABES report, WSL, 2017). Significant differences in perception between German-speakers and French-speakers were noticed for the following relevant factors: the attachment to place, the beauty, complexity, fascination and authenticity of the landscape, the perceived landscape quality, the perceived cultural landscape values and services, for which German-speaking Switzerland has always shown a higher value than French-

speaking Switzerland. These results confirm Hermann's 2002 study. Particularly interesting here is the attachment to place, the authenticity of the landscape and the perceived cultural value of landscape, since these factors could have an impact on the *identification* of von Lindern et al. and, thus, the reluctance to any change or perturbation in the existing landscape such as the project of the bison reintroduction: Swiss Germans may attach more importance to their natural surroundings, this does not mean that they are more in favor of restoration projects modifying landscape. Conservative appreciation of the landscape is detrimental to any ecological intervention.

This could explain the contradiction that exists today between Hermann research and the voting tendency in Switzerland (see, for example, the results of the votation about climate change management: SwissInfo, 2023). This idea that people in French-speaking Switzerland are less committed to the environment does not appear to be the case today: when it comes to voting, we see that ecological issues are now the subject of a left-right split, with French-speaking people often voting in favor of left-wing ecology. Thus, opinions have undoubtedly changed since this study, especially since ecology has become a very common theme in everyday life. However, the foundations of a culture and its language, as seen above, are very much part of a region's history and evolution, starting from an influential base, which makes such studies particularly interesting for critically address my results.

Research gaps

Studies show that the perception of large carnivores – emotions, such as joy, fear, disgust or cultural importance – such as lions and hyenas has a direct influence on the acceptance of their presence in the region (Dheer et al., 2021). While such profiles as big predators are applicable to wolves and bears in Switzerland, this is not the case for large herbivores such as bison, which are less frightening to the public. It is therefore possible that the public is not particularly afraid of bison, but still rejects the project. The aim of this research is to understand the relationship between the perception of the bison as an animal *per se* and the acceptance of its presence in the local landscape. It is also a question here of linking this to experience in the enclosure (if a person has ever seen a bison) to this perception of the animal and to its presence acceptance.

In addition, this research aims to highlight the influencing factors that apply to this specific project, its different phases (1-3) and the region, i.e. the parameters that have an effect on the level of concern about potential conflicts generated by the presence of bison specifically, as specific activities, professional sector, affiliation to specific association (i.e. specific interest) or frequency of forest use.

The question of the inhabitants' preference between an accessible enclosure or total freedom for such an animal does not seem to have been addressed. If there is a specific preferred form of the project, this could stem from different perceptions of the damage that bison can cause, i.e. whether the public prefers to see bison spread out over a larger area or to have them concentrated in one spot.

We assume that acceptance of the *Natupark Thal* and the *Projekt Wisent Thal* are positively correlated, since they are both based on environmental values. However, this is not certain since the park aims to conserve the landscape and the usual fauna, whereas the reintroduction of the bison will change the conservative perception of these. The question is whether this phenomenon of *identification* (von Lindern et. al, 2019) to landscape can be applied to the reintroduction of a new species.

This reintroduction project forms an opportunity to have a look closer at the cultural differences on each side of the "Röstigraben" concerning landscape's perception, wild animals perception and cultural plasticity. This can provide new insights into the differences in environmental values within Switzerland and between two of its languages.

Finally, as the reintroduction of European bison to Switzerland is a first, it is a question of testing the affirmations cited in the literature as hypotheses for a given public, animal and context, which makes this work relevant in providing the first results.

Resulting objectives of this master thesis

On this knowledge base, we can set the initial expectations for this work, which are as follows:

1) to understand which form of reintroduction in the *Projekt Wisent Thal* – phase 1,2 or 3 – is more convenient for the involved public and why.

2) to test the above statements – submitted as hypotheses – concerning the significant internal and external factors for the acceptance of the reintroduction of the *Projekt Wisent Thal*, i.e. academic level, profession, political affiliation, age, gender, presence of children in the family, proximity and time of residence, perception of project management and communication, wildlife knowledge/information level, environmental valuation.

3) to find answers to the following research gaps: link between perception of a big herbivore and the acceptance of its presence, correlation between *Naturpark Thal* and *Projekt Wisent Thal* acceptance; factors enhancing degree of perception of potential risks/conflicts – these last ones include frequency risk factor (forest use) and specific activites – or factors linked with opportunities; the foundations of the *identification* (von Lindern et al., 2019) phenomenon, applied specifically on the reintroduction of bison in the regional landscape, and its repercussions on project acceptance.

4) to explore the public perception of bison habitat and its possibilities/desires for sharing the territory and link this spatial acceptance with computed spatial predictions for the specific case of the *Projekt Wisent Thal*.

Figure 3 is resuming the assumed process of bison acceptance for the *Projekt Wisent Thal*: the first internal fixed factors, at the top, the sociodemographic factors and the stakeholder groups (orange), are

leading the acceptance process. These will induce the individual environment's valuation (modifiable internal factors) and wildlife knowledge – the first-made perception of the *Projekt Wisent Thal* (yellow). The project's process, communication and the management of the project are then added to the model (pink), as well as the personal experiences in the parc (blue): this new information will result in a new perception of bison and the project (green). Finally, all these factors together will lead to the acceptance or the rejection of the bison's presence (grey), which is probably linked to the perception of bison habitat, potential spatial conflicts and the actual predicted future areas of cohabitation (red).

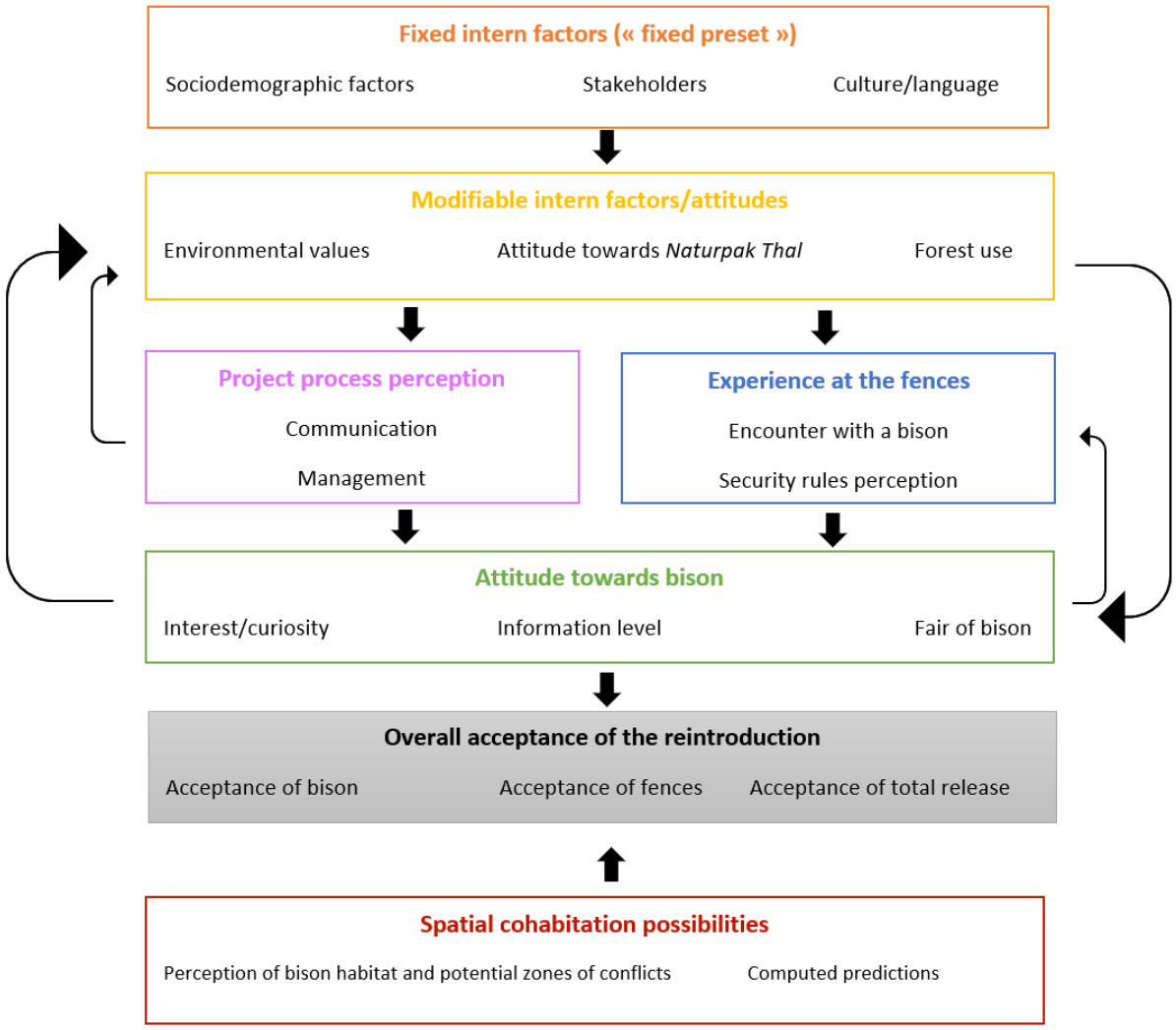


Figure 3 : assumed model of bison reintroduction acceptance in the *Projekt Wisent Thal*.

4. Research questions and hypothesis

The objectives of this work have been grouped into 3 axes, addressing 3 specific research questions:

1) **Measurement of the degree of acceptance of bison reintroduction within the regional public.** In this specific case, three forms of acceptance degree are relevant: (1) the acceptance of the bison, which refers to the animal itself, (2) the acceptance of the bison enclosure and finally (3) the acceptance of the release of the bison. These three degrees of acceptance correspond to the three planned phases of the project and will highlight which form of bison presence allows the most serene cohabitation situation. In a first phase of monitoring, the acceptance of the animal and the enclosure plays a central role. With the expected release of the bison in 5 years, the acceptance for the total release will play a more important role in later surveys. It is important to note that the *Verein Wisent im Thal* will not be able to reintroduce bison without public acceptance. That is why this research is fundamental to the project. Moreover, a long-term goal of this research is to ensure a monitoring of public acceptance along the reintroduction progress by the project's committee. This first trial of a social survey has the objective to highlight the important and crucial questions for further surveys. It will allow shortening the questionnaire by eliminating irrelevant questions. This thesis strives then for providing the basics for such a monitoring, creating a survey instrument and publishing the first results.

   Research question 1 (RQ1): Which degree of acceptance is the local public showing toward the *Projekt Wisent Thal*?

   - Regarding the acceptance of bison itself?
   - Regarding the acceptance of the distribution of the fences?
   - Regarding the total release of bison into the wild (without any fences)?

   No measurements have yet been taken of the inhabitants of Solothurn, so it is not possible to make any assumptions about the degree of acceptance. If we consider the bison in the same way as a wild predator, we can assume that perception of the animal is directly correlated with acceptance of its presence (Jacobs et al., 2014). However, this needs to be confirmed in the case of this herbivore, which is less dangerous than a wolf or a bear. The aspect of preference between enclosure or complete release remains an unanswered question to date.

2) **Extraction of factors influencing acceptance of bison reintroduction**. It is essential to identify the different stakeholder groups in order to understand the reasons and characteristics of the group reluctant to the existence of the project or one of its parts. We will differentiate here between sociodemographic factors ("internal fixed factors or preset"), environmental values ("internal modifiable factors") and the attitudes that may result from them ("external

factors"). Some factors can easily be measured quantitatively, while other factors will be answered qualitatively.

Research question 2 (RQ2): Which factors are influencing the acceptance of the *Projekt Wisent Thal*?

The following factors were explored:

- Sociodemographic factors / stakeholder groups
- Environmental values, frequency of forest use
- Perception of the bison itself, information level about bison/project
- Attitude towards the project's communication, management and process
- Link between the perception of *Naturpark Thal* and the bison project
- Emotional experience at the fences and security rules perception

survey, quantitative

- Culture and language – cultural plasticity
- Perceived problems and dangers, specific high-risk activities
- Perceived opportunities
- Deepening of questions arising from questionnaire analysis

interviews, qualitative

I expect that the profession/education, political affiliation, age and maybe gender to be significantly influencing sociodemographic factors (Papp, 202, Kimmig et al., 2020 & Skupien et al., 2016). I also expect environmental values to be positively correlated with the acceptance of the project (Kellert 1994).

I expect that the following findings from previous research will be confirmed: the proximity of village of residence and the residence time is negatively correlated to the project acceptance (Klich et al., 2018, Adulaparc Project, Hunziker), as well as the presence of children in the family (Balčiauskas et al., 2016). Note that the presence of children could also enhance curiosity or interest for the bison parc (Lee & Graefe, 2010), what makes this factor particularly interesting. Regarding culture and languages, I expect to see slight differences in the semiotics used to describe the landscape or the bison, reflecting different perceptions. The Swiss Germans are assumed to be more conservative thus more reluctant to the idea of having bison reintroduced in the Jura landscape (LABES report, WSL, 2017 & 2023). The level of information, the attitude towards project process should be positively correlated with the acceptance (Riley & Decker,

2000), as well as a positive encounter experience with a bison (Kellert, 1994, Eriksson et al., 2015) and the perception of sufficient security information/rules at the fences (Watkins et al., 2021).

I assume, based on the argumentation presented above, that the attitude towards the *Naturpark Thal* will be positively correlated with the acceptance. I also expect the forest use to be a significant factor for the acceptance, but I do not know in what direction: people spending more time in the nature of Welschenrohr are more exposed to possible conflict and fear but probably have a stronger relationship to nature (DeVille et al., 2021).

The other aspects deepened in the qualitative interviews, such as particular activities enhancing risks/conflicts perception or opportunities seen in the project, are not the subject of specific hypotheses and are addressed during interviews to understand the acceptance process.

3) **Spatial analysis of the bison/human cohabitation zone**. Any reintroduction of wild species implies areas of encounter with the local public, so an analysis of the conflict zones provides an overview of the scale of these potential future problems. Geographical distribution is a key factor in ensuring good cohabitation with wild animals. This part gives basis data for further analysis and discussion. This idea of predicting areas of conflict will be also linked to a similar project in Germany in the discussion, in which the release of bison had to be stopped, precisely because these areas of conflict were too prominent and not as spatially forecasted.

Research question 3 (RQ3): Which areas will be commonly shared by humans and bison after the future release of these and, thus, will be potential conflict's locations?

We expect the bison mostly at the forest's ranges. In the survey, the respondents were asked to indicate where they saw a bison (if they saw one). It is certain that the favourable visibility of grasslands – in relation to the forest – played a role in the outcome of PP-GIS survey. Human preferences are based on the DULN layer designed by the WSL.

By setting out the different spatial challenges between the reintroduction of bison and resting/recreation areas for society, the resulting maps are aiming to build a good base for democratic and scientifically settled planning activities and a successful decision-making predictor (Hade & Soesoo, 2014). In our case, we expect being able to assess to what extent people would cohabit with the bison, which areas are potential source of conflicts and what percentage of bison habitat this represents.

5. Material and methods

5.1. Iterative study design and measurement tools

This research is consisting of two main measurement tools, a quantitative survey and qualitative interviews, both addressed to people living in the near villages and that could see bison in their free time. The quantitative survey gives an account of the people's impression of the *Projekt Wisent Thal*. The qualitative interviews target a few subjects of the survey and provides more details on the acceptance of the bison presence in the parc. The beginnings of the parallel spatial analysis also came from the questionnaire data, after what we decided to base it on more solid literature. The results of the research questions are finally brought together in a conclusion and final discussion.

The research model can be illustrated as follows (figure 4) and is detailed further below:

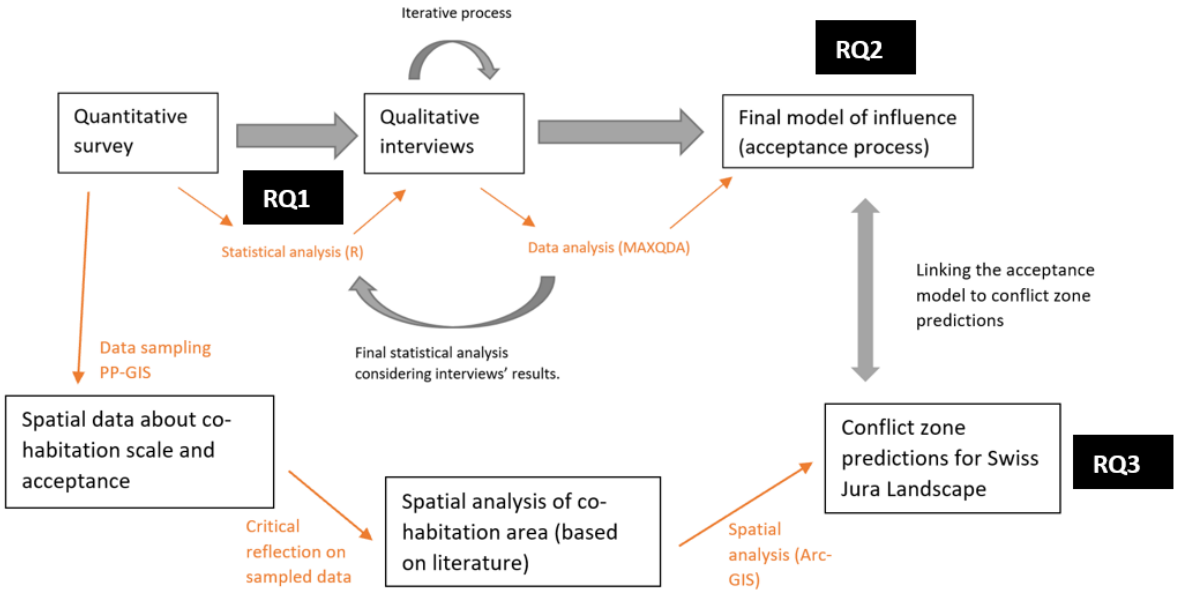


Figure 4 : research design model.

The quantitative survey gives first information about degree of acceptance (answer to RQ1), as well as significant factors influencing it (Statistical analysis on R). The qualitative interviews content is based on the survey results and deepens several topics (Data analysis on MAXQDA). The qualitative analysis allows the construction of a hierarchical influence model, for which further statistical analysis on R tests the different factors. Finally, the acceptance process model is completed and displayed (answer to RQ2).

At the same time, the questionnaire enabled us to obtain spatial data (Public-Participatory GIS) to define future areas of encounter – and therefore potential conflict – with bison. After critical reflection on the data obtained, it was decided to base the spatial analysis on data supported in the literature and in recent research. The results of the predictions, which extend throughout the Swiss Jura, are finally brought into relief with the reintroduction acceptance results also derived from this thesis (answer to RQ3).

5.1. Quantitative survey development, sampling procedures and statistical analysis

The first part of this project consists of a quantitative survey, which was created with the program Survey123. The concept of the survey has already been preliminary thought by WSL. Its implementation was planned with letters and information flyers containing a QR-Code and a link (a printed version could be asked on demand). The questionnaire was sent to the involved villages (Herbetswil, Welschenrohr-Gänsbrunnen, Balm bei Günsberg, Günsberg), via the municipalities themselves (to all households, with the "Promopost method"). In each household, only one person had to answer the questionnaire, the designation was based on the Next-Birthday-Method (Salmon, 1983). The letter and the flyer of can be found in the appendix.

The questionnaire contained information about the project and bison, as well as questions about the perception and evaluation of the project and direct experiences at the bison enclosure – for the people who already visited the parc.

The questionnaire was thought as divided in 8 parts, covering the different themes of the figure 3 : (1) use of the fenced area, (2) acceptance of the reintroduction, (3) feeling of the level of information, (4) perception and acceptance of the bison, (5) evaluation of the process/project, (6) visit to the enclosure, (7) attitude towards *Naturpark Thal* and (8) sociodemographic questions. I chose to begin with the use of the fenced area, because it allows a gentle introduction to the survey, before tackling more sensitive questions about reintroducing the animal. This online survey also included a spatial question about the location of encountering bison within the fences. The in-hand version of the questionnaire can be found in the appendix. The following link leads to the online version – used for this survey: https://arcg.is/r0amG0 .

The parts (2) to (7) correspond to so-called latent concepts. Each latent concept was measured by Likert scale Items: questions with five possible answers (-2 (disagree) to +2 (agree), 0 being neutral). We except the Items of one same latent concept to have a Cronbach coefficient of about 0.8 (measuring the internal consistency or reliability of the questions, in which: $\alpha \in [0;1]$), since they rely on the principle of Likert scales. Part (1) and (8) were non-continuous questions but multiple choice questions or a text field to complete (for open-ended questions).

The survey analysis tested if sociodemographic factors such as for example the education/profession, the municipality or the age of the participants have an influence on the acceptance of the *Projekt Wisent Thal*. A very important factor for this research was the environment's valuation of the subjects, which was planned to be evaluate as ecocentric or anthropocentric (New Environmental Paradigm NEP (Dunlap et al., 2000)). Unfortunately, these questions had to be removed because judged to be too discriminating with regard to the personal values of participants less close to nature (guilt-inducing). We used information about environmental association affiliation, as well as the attitude towards the nature reserve *Naturpark Thal*, as proxies for environmental valuation.

After the responses having been collected, the evaluation was initiated. A statistical analysis was processed on R. Firstly, the Cronbach's alpha value was calculated for each latent concepts, or scales, according to Likert scales answers. Secondly, a Factor Analysis and a Principal Component Analysis (unrotated) defined the interactions between the several latent concepts. We performed then multiple analysis of variance (ANOVA) between the sociodemographic variables and the dependant variables – the latent concepts. Linear regression also tested for correlation between specific latent concepts. Finally, Pair-sampled t-tests were performed to underline change of minds of individuals along the questionnaire, to target the role of extra-information about bison species history in the acceptance process.

A descriptive analysis of the survey and values about the degree of acceptance could be directly analysed and interpreted using Survey123 summaries.

5.2. Qualitative interviews development, sampling procedure and analysis

After assessing the results of the surveys, qualitative interviews were processed, targeting a smaller sample which aimed to represent as good as possible the different stakeholder groups of the regional public. It was decided to prioritise the quality rather than the quantity of the interviewees and chosen to analyse 4 profiles. The aim was to understand the detailed patterns of certain acceptance processes and not to obtain a generality.

The analysis of the interviews followed the model of previous similar studies (Schenk, A. et al., 2007 / Jürgens et al., 2022) and the Grounded Theory method. The whole analysis took place on the program MaxQDA. The interviews were recorded and fully transcribed, including the non-verbal expressions of the subjects (gestures, facial expressions and pauses, etc.), including notes taken during the interview, capturing the respondent's main ideas. The transcribed texts were analysed, by coding for categories: similar statements of different subjects were assigned to the same category. We looked then at relations between these categories. The categories were then compared regarding the sociodemographic traits of the participants. According to the methodology of the Grounded Theory, the four steps can be summarized as follows: 1) full transcription and coding of the data, 2) adaptation of the data in a hierarchical system, 3) definition of categories regrouping codes of similar concepts (known as creative coding) and 4) construction of theories with the software MaxQDA. The fourth step allowed us to have an overview of the results using visual diagrams (MAXmap-function).

The content of the qualitative interviews – which can be described as semi-structured interviews – was based on the results of the quantitative survey. The precise content is presented in detail after the survey results, so that the reader can follow the same reflection process that I myself followed in my work. The interview structure was based on the four main drivers of attitudes towards wild animals (Kellert, 1994): knowledge of wildlife, perception of bison presence (for example cultural value or fear), people-wildlife interactions (source of conflicts or damages) and basic wildlife values. This structure gave a guideline

to ensure the remembering of all important aspects to cover, even if one respondent deviates in another direction for a certain time. The interviews guideline can be found in the appendix.

It was planned to carry the interviews with several respondents that represented a broad spectrum of opinion towards the reintroduction debate: the survey analysis highlighted interesting profiles or stakeholder groups (theoretical sampling with maximal contrast). The interviews were held in an iterative process: the first respondent was interviewed, the collected answers were evaluated and then the interview was adjusted for the next participants. The interviews content and questions are discussed further and aim 1) explore new questions that have emerged from the survey statistical analysis and 2) to confirm the built "influence model of bison reintroduction acceptance" of the quantitative survey results: figure 3 (p. 23) displays the assumed process of acceptance of the reintroduction of the bison in Welschenrohr. The variables represent different layers interacting together. Whereas statistical tests can inform about correlation and effect of sociodemographic variables on the acceptance factor, correlations between latent concepts are often more difficult to understand: which concept is influencing which concept? Figure 3 assumptions are based on literature, supposing that all concepts influence the final "reintroduction acceptance" concept. The elements underlined by the interviews gave this necessary precision for further statistical analysis and adjusted regression models.

As mentioned, the wished profiles (figure 5) of the four interviewed people were based on the significant sociodemographic factors of the quantitative analysis. Figure 5 shows an ideal distribution of these groups of interest. However, these are overlapping. Due to few possibilities of contact with the local public and the overlapping factors, the profiles were distributed as well as possible, as shown in table 1.

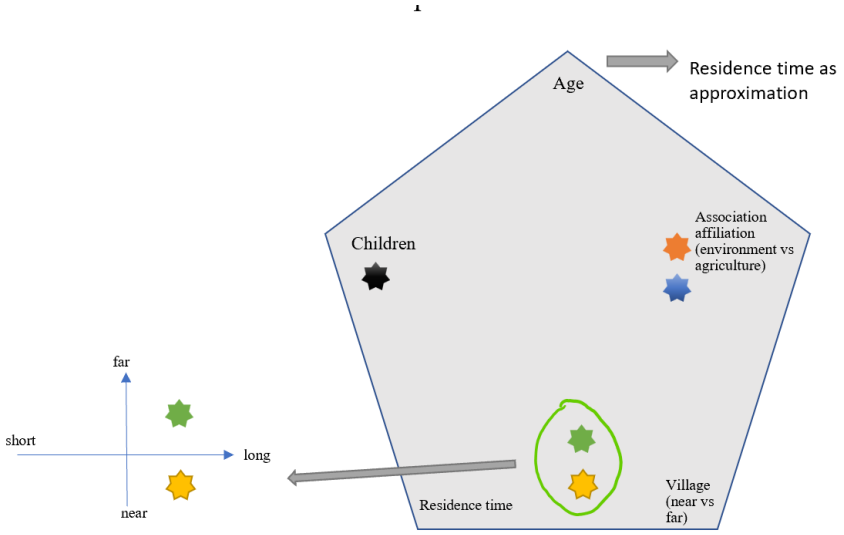


Figure 5 : ideal sampling with maximal contrast for the qualitative interviews.
This ideal scheme is however not reproducible in real context.

Table 1 : table of interviews participants and their typology. The different designed groups of interest appear as a combination of traits. These combinations are the result of a desire to diversify the sample as far as possible. No respondent is part of an agriculture association but two of them are foresters, which also approaches the aspect of land-use or land property/economical aspects.

Participant	**Interview ID**	**Village proximity (+/-)**	**Residence time**	**Children at home**	**Land use association**	**other**	**Environmental association**
1	ID3	+	4 y	+	-	-	-
2	ID2	+	>30 y	-	-	-	+
3	ID1	-	15 jahren	-	+ Forstbetrieb	Civic community	-
4	ID4	-	30 y	-	+ Forstbetrieb	-	-

5.3. Implementation of interviews results into statistics

The interviews examined the partly statistically tested, partly assumed structural relationship of figure 3: for this, a hierarchical regression was performed. To build such a model, we needed to already know the hierarchical structure of the interacting variables, what was possible through interviews analysis. Such a test allows us to understand which factors are most decisive in the prediction of the dependant variable, in our case the acceptance of the bison reintroduction (figure 3, grey box).

The hierarchical regression model was built according to the following steps:

1. Stepwise addition of predictors: variables are entered into the regression equation in blocks or steps. They were added based on assumptions of latent concepts interactions. This stepwise addition included firstly sociodemographic variables as baseline model (only the already highlighted variables in the first statistical analysis) and then specific steps corresponding to specific latent concept as further models: the latent concepts concerned by this hierarchical model are the intermediate concepts between the internal factors in figure 3 (sociodemographic and "modifiable" environmental values) and acceptance of reintroduction, i.e. the pink, blue and green boxes. This are the “external factors”; perception of project management, experience at the fences and perception of bison).
2. Note that multicollinearity was tested for each model, since the concept variables were rather correlated, to ensure avoiding any unreliable regression. This was done by calculating the variance inflation factor (accepted VIF values between 0.25 and 4).
3. Incremental variance explanation: the method assesses how much additional variance in the dependent variable each set of predictors accounts for beyond what was accounted for by the previous sets already entered. This allows us to determine which predictors have more influence on the acceptance.
4. Model comparison: comparison between models with different sets of predictors to determine how much the new set of predictors improves the predictive power of the model. It can be used as a critical verification for a well-grounded model.

5.4. Qualitative Interviews in Romandie

This second interview questionnaire was designed to answer a part of RQ2, i.e. the influence of culture and language on landscape perception, *identification* (von Lindern et al., 2019) of respondents to landscape and the perception and acceptance of bison presence. 5 questions including environmental perception’s aspects were asked to the 3 respondents living in the Swiss Jura region and covering 3 different generations. These questions apply to regional 1) landscape perception, 2) fauna perception and 3) cultural plasticity regarding species reintroduction. These questions were also asked in the interviews in Solothurn. The French version of the questionnaire can also be found in the appendix. The

analysis consisted solely of an exploration of the various responses between the French- and German-speaking groups (transcribing and comparing content and semiotics with MaxQDA).

The sample size is small, but the results could show to interesting explorative first findings. A parallel reading of the literature on the subject supported the analysis. Due to the small scale of this analysis, the results are representing a hypothesis to be tested and corroborated in further research: they will be presented and interpreted in the discussion, in a form of critical observation of the results in relation to the known literature.

5.5. Spatial analysis: prediction of human/bison shared territories

This part of the research was performed using Arc-GIS and the Public Participatory function on Survey123. The Public Particpatory GIS (PP-GIS) part of this study was included in the quantitative questionnaire for people who answered having encountered a bison in the parc while walking through (observation of a bison as filter). This PP-GIS sampled the location of the interaction. This first approach to predict bison preferred habitat using PP-GIS Data as a proxy did not lead to conclusive results - this is explained further in the results section. That is the reason why it was chosen to rather use consolidated knowledge about bison preferred habitat for the mapping: several studies have already tackled this question – cited above in the context and literature part. Comparing the potential suitable bison habitat to human recreation areas, we could predict to what extent the land will be shared by the two species later in the wild nature after a total release.

Already documented bison preferences were spatially selected on Arc-GIS. This was performed filtering the respective vegetation attributes and covers (tables 2 and 3), using the data from CORINE landscape cover map from Copernicus (2018). Once the vegetation cover was defined and filtered for the Swiss Jura, the preferred altitude for bison were also considered, using the dmh25 altitude layer from swisstopo. This process was repeated for the 2 studied seasons, summer and winter. Tables 2 and 3 show an overview of the different considered criteria.

Human recreation areas were also spatially displayed on Arc-GIS, using the DULN layer. Finally, an *Intersection Map* was calculated to highlight the overlapping areas of both bison habitat and human recreation areas.

Table 2 : considered criteria for the summer season habitat preferences of bison. The people preferred recreation areas were selected according to the DULN layer.

	Bison preferences – based on literature	People preferences (recreation)
Vegetation cover (CORINE)	Pastures (CLC 231)	Data from previous and ongoing research: *DULN layer* (WSL, Social sciences for Landscape Research, Buchecker, Früh)
	Coniferous forests (CLC 312)	
	Herbaceous vegetation (CLC 321, 322, 324)	
Altitude	540-960m	

Table 3 : considered criteria for the winter season habitat preferences of bison. The people preferred recreation areas were selected according to the DULN layer.

	Bison preferences – based on literature	People preferences (recreation)
Vegetation cover (CORINE)	Pastures (CLC 231)	Data from previous and ongoing research: *DULN layer* (WSL, Social sciences for Landscape Research, Buchecker, Früh)
	Mixed forests (CLC 313)	
	Deciduous forests (CLC 311)	
	Agricultural areas (CLC 243)	
Altitude	390-740 m	

6. Results

6.1. Descriptive analysis of the quantitative survey

The detailed descriptive analysis of the survey can be found in the appendix. Only the important results answering the RQ1 are presented in this chapter.

The first research question aims to assess the local residents' acceptance of the reintroduction of bison in the landscape. To communicate the results obtained from Likert scales, I extent them into means which represents degrees of acceptance. Figure 6 shows the degree of acceptance for the following 5 items (respectively in descending order on the figure):

a) "I support the presence of bison here in a small, closed enclosure."
b) "I support that bison should live free in the Jura landscape."
c) "The bison species has a right to live (again) in Switzerland."
d) "I support the presence of bison in a bigger open-access enclosure."
e) "I think that bison is a peacefully animal."

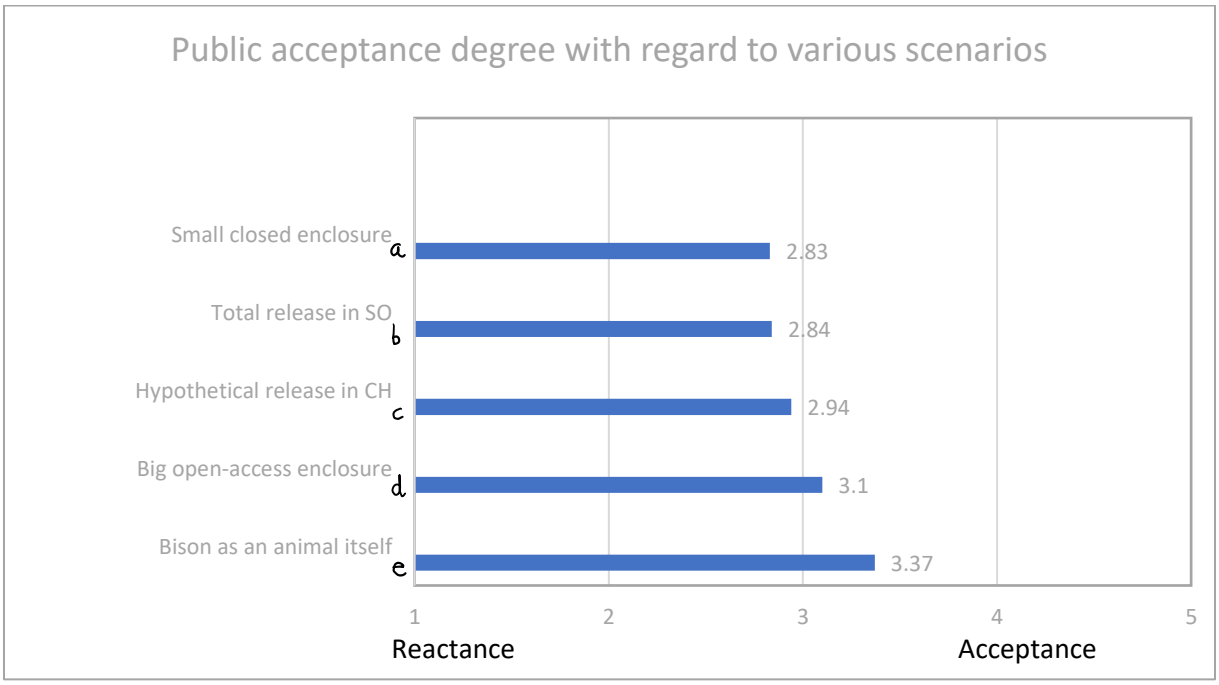


Figure 6 : acceptance of the regional public with regard to various scenarios.
The scale of the questions ranges from 1 (reactance) to 5 (acceptance) and corresponds to the Likert Scale Items Method: a) the presence of bison in a small closed enclosure, b) a concrete release of bison in Solothurn (*Projekt Wisent Thal*), c) a hypothetical release of bison in Switzerland, d) the presence of bison in a large accessible enclosure (as now) and e) the bison as an animal itself.

6.2. Multivariate analysis of the quantitative survey

The first task was to prepare and tidy the data. After downloading the answers from survey123, the data presentation was not adapted to work with in R. This part was in fact the most challenging, since a lot had to be modified in order to be able to analyse the data correctly.

For the statistical analysis, the answers of the questionnaire were divided into 7 groups: firstly, the sociodemographic answers were separated into a data frame which correspond to our several independent variables (the questions about space use were also assigned to this group):

- "age"
- "gender"
- "village"
- "since" – which is the duration of living in this village
- "education"
- "environment" – which is the environment association's affiliation
- "agriculture" – which is the agriculture association's affiliation
- "children" – which is the fact of having children or not
- "dpy" (stays for "days per year" in the forest): frequency of forest use

Secondly, the answers to likert scales items were differentiated into 6 dependant variable (6 latent concepts), which were defined as follows: a) the acceptance of bison, of the animal itself, named **"bison"** in the analysis, b) the acceptance of its reintroduction, named **"reintro(duction)"** in the analysis, c) the attitude towards the project process, management and communication, named **"project"** in the analysis, d) the attitude towards the *Naturpark Thal* (and thus towards nature protection and conservation), named **"naturpark"** in the analysis, e) the attitude towards the fences' security rules, named **"fences"** in the analysis and f) the experience of the encounter with the bison, named **"encounter"** in the analysis. As already mentioned, these six latent concepts are composed of several likert scales items. The statistical approach is composed of 6 steps:

1) The first part discusses the distribution of the data and its residuals and choose the right statistical test for this research.
2) The second part consists in looking at the scale reliability (Cronbach's α) of the latent concepts,
3) The third part examines the correlation (Factor analysis and PCA, unrotated) between the latent concepts and allow us to focus on the most important variables leading the process of acceptance of the *Projekt Wisent Thal* in general.
4) The fourth part analyses the correlation (ANOVA and *glht*) between the sociodemographic variable (independent variables) and the acceptance of the reintroduction (latent concept), as well as the relation between the latent concepts *naturpark* and the *reintroduction* (linear regression).
5) The fifth part examines the role of information in the acceptance of the *Projekt Wisent Thal* (paired-sample t-tests).

1) Distribution of the data and choice of adequate statistical test

In order to have one value per respondent per latent concept, the mean of the Likert Items of one same concept was calculated. These means formed 6 new variables for each respondent, “concept variables”. This allows us to have now one data point for each latent concept for one participant.

This required a correction of some values, since the positive or negative attitude towards the involved thematic must correspond to the same Likert scale values. The positive attitudes were all recoded to 5, whereas negative states of mind were all related to the low values. A question was also to choose if it made more sense to take the mean or the median, since the respondents could only answer in an ordinal scale (1 to 5 as 1,2,3,4,5). The mean was chosen because the response scales provide a “quasi-metric” scale, and it is therefore very common in the social sciences to start with an interval scale.

The models planned for the later statistical analysis are based on the concept variables as dependent variable and the sociodemographic factors as independent variables:

Model = concept variable ~ sociodemographic variable values

Choosing the right statistical test was the second most challenging task of this analysis. Questionnaire data are rarely normal distributed. In our case, the distribution of the residuals shows a heavy-tails-distribution (figure 8). This would rather speak for a non-parametric test. A distribution of the residuals was plotted for each concept variable we are interested in, in an ANOVA model containing all the independent variable (without testing for interaction).

Despite a heavy-tails-distribution, it is supported that a parametric test is often more efficient and precise, also in a situation of a non-normal distribution of the residuals of the value coming from a Likert scale questionnaire (Sullivan and Artino, 2013). After checking the variance of the data, which shows a consistence between the different concept variables, I sustain a parametric test as an adapted one, despite a distribution slightly deviating from a Gaussian one.

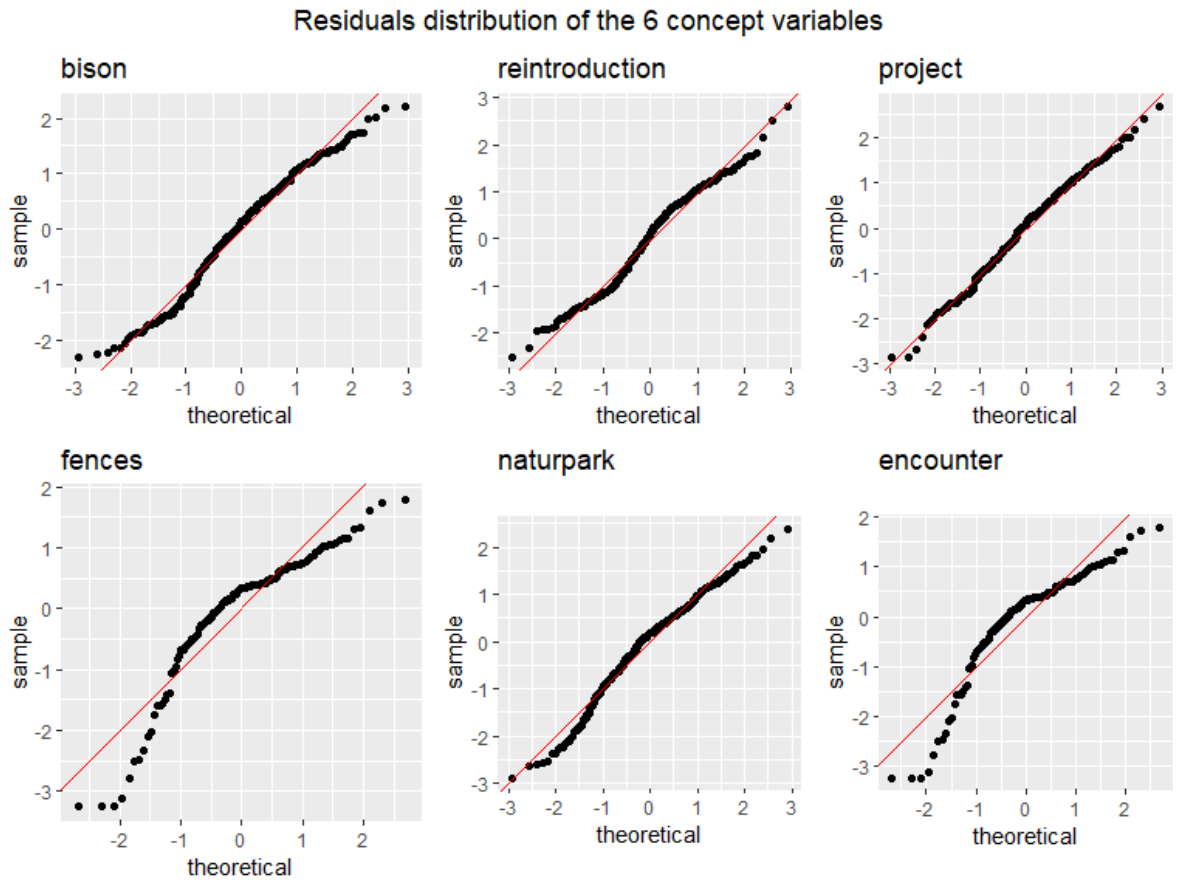


Figure 8 : residuals distribution of the 6 concept variables (mean of latent concepts).

2) Cronbach's α – scale reliability

The scale reliability of each latent concept mean turned out to be good, always $\alpha > 0.7$. Table 4 shows the consistency of each scale and the overall mean for this questionnaire. The mean is 0.887 and considered as good – such a value indicates for overcorrelation, what we will address in the discussion – , according to Cronbach's α scale.

Table 4 : calculation of the Cronbach's α for each scale. Scale 1 corresponds to the acceptance of the bison itself, scale 2 to the acceptance of the reintroduction, scale 3 to the attitude towards the project "Wisent Thal", scale 4 to the attitude towards the Naturpark Thal in general, scale 5 to the opinion about the behaviour rules at the fences, and scale 6 to the experience of the encounter of bison. The mean's value is 0.887, which is considered as good and reliable.

Scales	Cronbach's α value
a. bison	0.841
b. reintroduction	0.954
c. project	0.959
d. naturpark	0.862
e. fences	0.339
f. encounter	0.768
Mean	0.887

3) Exploratory factor analysis and principal component analysis

In order to understand how the 6 latent concepts are linked together, a factor analysis was performed. A first Kaiser-Meyer-Olkin test revealed the data as adequate for a factor analysis (FA) with a KMO value of 0.89. Eigenvalues were then calculated, and the Kaiser's rule suggested only 1 factor. A parallel analysis suggested 2 factors, but once the factor model plotted, we saw that the latent concepts do not have at least 3 loadings into them: it is then preferable to decrease the number of factors to only 1 (which is still normal for only 6 variables). A new factor analysis model (figure 9) shows strong correlation of the concept variables "acceptance of bison", "acceptance of reintroduction", "acceptance of the project" and "experience of the encounter with the bison" with the one latent factor (Factor1), whereas the correlation with the variables "perception of the information at the fences" and "attitude towards the *Naturpark Thal*" is weaker. However, this one-factor analysis assumes that the covariance (or correlation) among items is due to a single common factor.

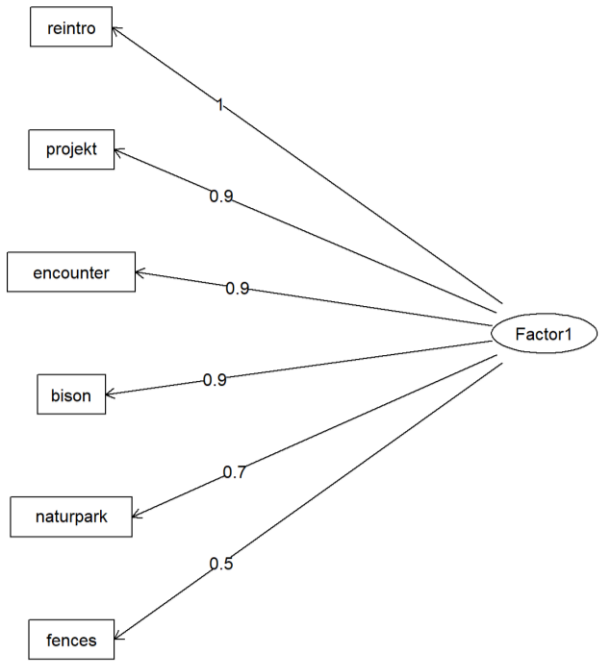
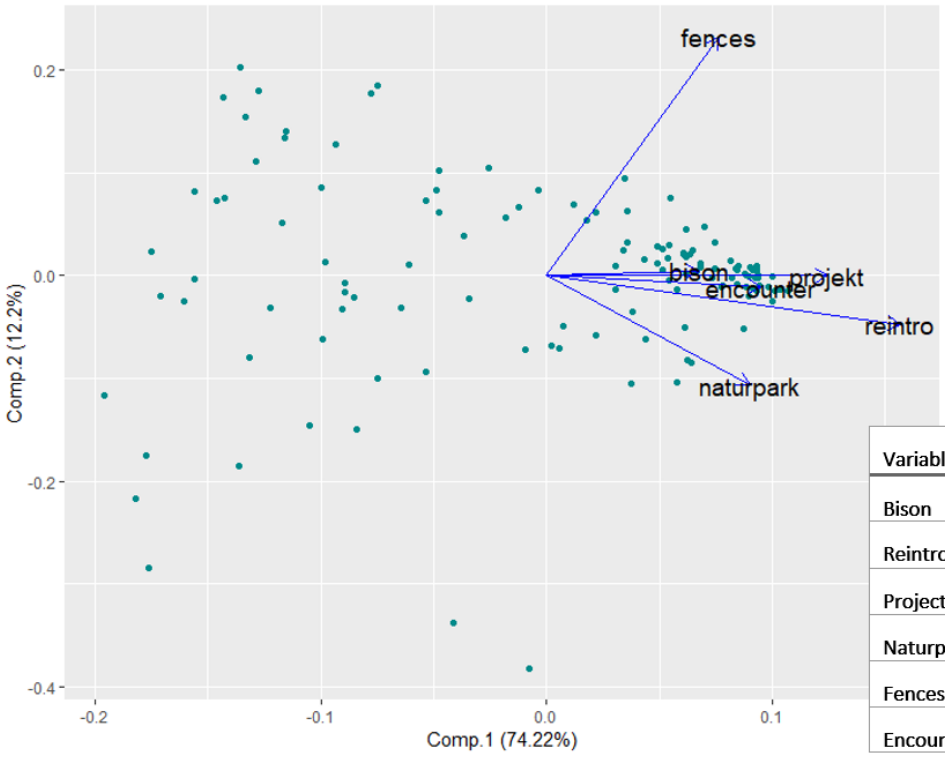


Figure 9 : factor analysis model.
The four upper variables are strong correlated with Factor1 (1, 0.9, 0.9 0.9). The “naturpark” (0.7) and “fences” variable are less correlated to this factor (0.5).

The factor analysis underlying only one latent factor suggests all of our concept variables fit onto a single theoretical construct. As an operational definition, that means they are one dimension or scale. Thus, we do not need to process any rotation. The obtained loadings of each concept variables of this unrotated factor analysis are represented on the arrows of the figure 9.

An unrotated PCA – only one dimension speaks for no rotation – with 2 factors was performed to get a better data visualisation (figure 10). The PCA showed that 74% of the variability is explained by only one component (PC1): this confirms that all concepts (dimensions of acceptance) belong together to an overall acceptance of the bison and all its aspects. As already underlined with the FA, the concept variables *naturpark* and *fences* are more separate aspects but still part of the same dimension of acceptance. A correlation matrix using Pearson coefficient was also plotted to ease the data visualisation (figure 11). It shows, besides, a strong correlation between the acceptance of the *reintroduction* in general and the acceptance of the *project* and its management.



Variable	PC1
Bison	0.26
Reintroduction	**0.60**
Project	0.48
Naturpark	0.35
Fences	0.30
Encounter	0.37

Figure 10 : visualization of PCA of the 6 concept variables.
This is an unrotated PCA. It indicates that one component (PC1) is responsible for 74% of the variance, whereas PC2 only explains 12%.
Bottom right: unrotated loadings table of the principal component analysis. We observe that the acceptance of the reintroduction has the highest value and thus the highest correlation with the PC1.

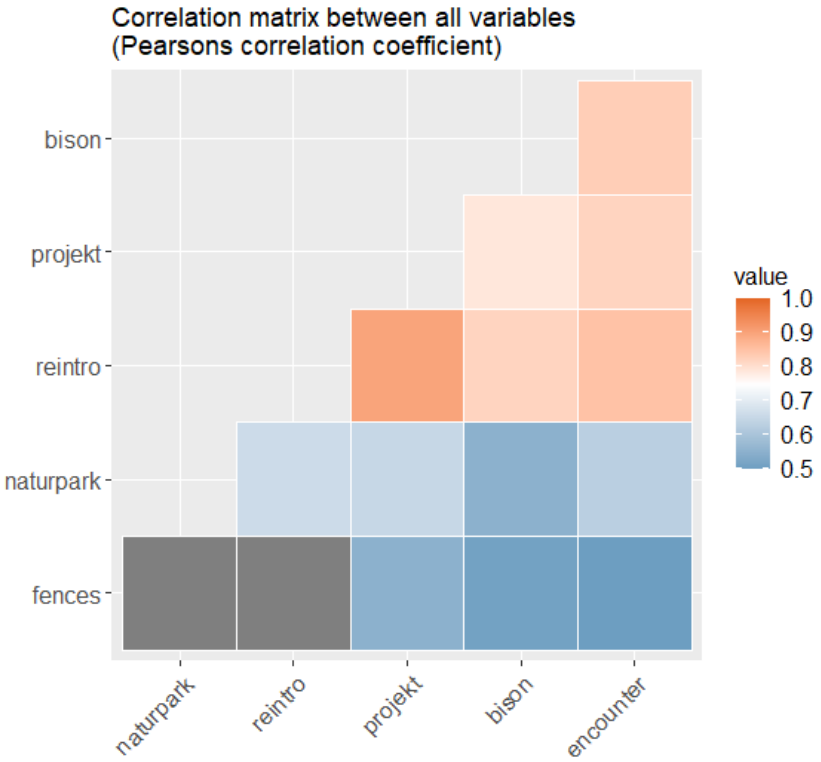


Figure 11 : visualisation of the correlation matrix of the 6 concept variables.
We see that the “naturpark” and the “fences” are less correlated to the other variables. The variables “encounter”, “bison”, “reintro(duction)” and “project” reveal more correlation. The strongest correlation happens between the acceptance of the project and the one of the reintroduction.

Taking into account the results of the FA and the PCA, all the 6 concept variables belong to the same overarching general acceptance of the bison reintroduction with all its aspects. As the acceptance of the bison reintroduction is the ultimate goal of *Verein Wisent im Thal*, we will consider the *reintroduction* concept variable as a proxy for this general acceptance, i.e. a proxy for the Factor 1 of the performed FA. In addition, the *reintroduction* variable showed the highest relationship to the output factor in the FA, what supports this choice.

4) Anova tests and linear regressions results

The statistical analysis relates to the following variables and tests:

4A) ANOVA tests to investigate significant sociodemographic factors for acceptance of the reintroduction. The chosen post-Hocs test for significant ANOVA results is a *glht* (general linear hypotheses testing) corrected with the "Tuckey" method. It will allow us to know which groups is significant in case of a variable containing more than 2 groups.

4B) Linear regression to investigate the concept variable *naturpark* (attitude towards the Naturpark Thal) as an independent variable and its effect on the acceptance of the *reintroduction* (dependant variable). In this case, the attitude towards the nature reserve is considered as a proxy for environmental valuation.

4A) Acceptance of bison reintroduction in Welschenrohr

The sociodemographic factors which turned out significant (p-value < 0.05) are the following: environmental association affiliation, agriculture association affiliation, the village and the time since which the respondent has lived there (variable *since*), the age, the gender and having children or not (table 5).

Table 5 : p-values of ANOVA test acceptance of reintroduction – sociodemographic variables. ANOVA model = concept variable "reintroduction" ~ "one sociodemographic variable". Note that all the variables were tested separately to avoid a summed-up effect. Acceptance is used as a 5-level variable (likert scale items 1 to 5) and is here related to 3 specific questions of the survey. (*) p< 0.10; * p> 0.05; **p < 0.01; *** p< 0.001; n.s. = not significant.

Sociodemographic variables	**Acceptance of reintroduction**
age	***
gender	*
village	***
since	***
education	n.s.
environment	**
agriculture	***
children	*

The association to an environmental association and to an agriculture association is, respectively, positively and negatively correlated with the acceptation of bison (figures 12 and 13).

For the variable village, a *glht* was performed. The comparisons (table 6) show significant differences between Welschenrohr-Gänsbrunnen (4716) and Günsberg (4524)/ Balm bei Günsberg (4525). Indeed, the respondents living in Welschenrohr-Gänsbrunnen (4716) are more reluctant (figure 14) to the reintroduction.

The time since when people live in their respective village is also significant. A *glht* for so many variables – and thus so many comparisons – is quite complicated to read. In our case, a pattern is however immediately obvious: the comparison which are significant contain the category "<10" (table 7). The plot (figure 15) helps to see this, in fact, respondents living in a village of the region only since less than 10 years are significantly more positive towards the idea of reintroducing the bison in their neighbourhood.

Regarding the variable "having children or not", the fact of having children is negatively correlated with the acceptance of the reintroduction of bison in Welschenrohr (figure 16).

The glht model for the gender variable did not reveal any significance. The comparison men-women has a p-value of 0.067, above the significance barrier.

Finally, a *glht* was also performed for the age groups variable. The many comparisons indicate a significant trend between older people (categories "50-65" and ">65") and younger respondents ("30-39", "40-49") (table 8). The plotted data allows us to confirm a negative correlation between an older age and the acceptance (figure 17).

I tested furthermore if the annual forest's use and the type of activities that the respondents are doing in the nature had an effect on the acceptance of the bison's reintroduction. It turned out that the number of days spent per year in the forest was negative correlated with the acceptance of the reintroduction. This was tested by a linear regression (table 9). The linear regression can be visualized on the figure 18. Activities categories did not reveal any significance.

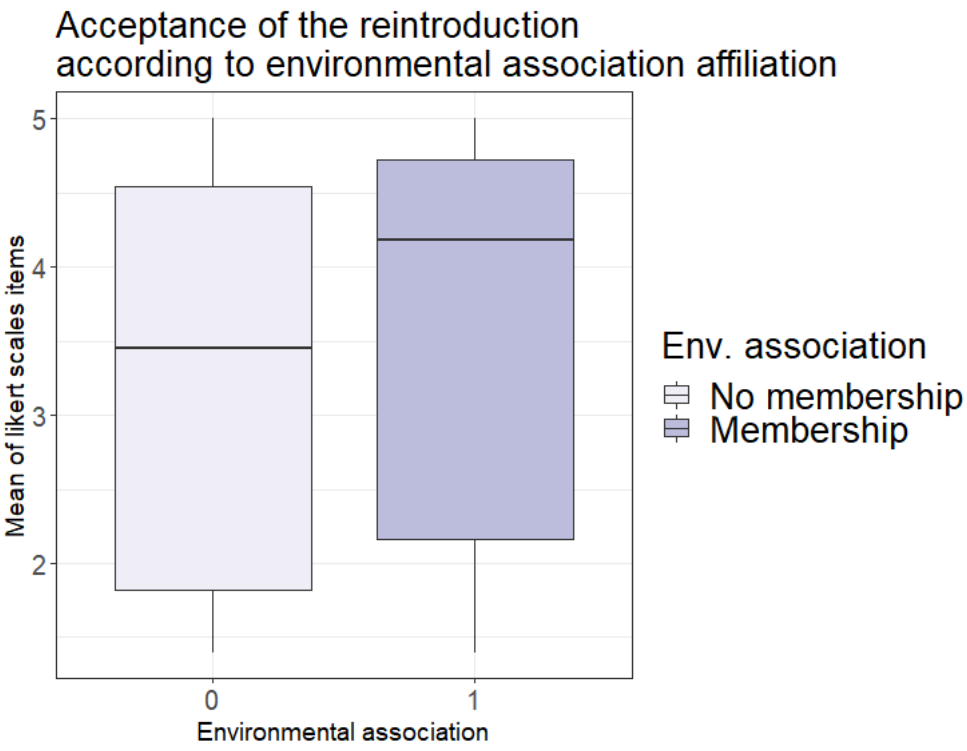


Figure 12 : acceptance of the reintroduction of bison in Welschenrohr according to the environmental association affiliation. People affiliated to such associations have a more positive attitude towards the reintroduction (p-value = 0.0055). On the y-

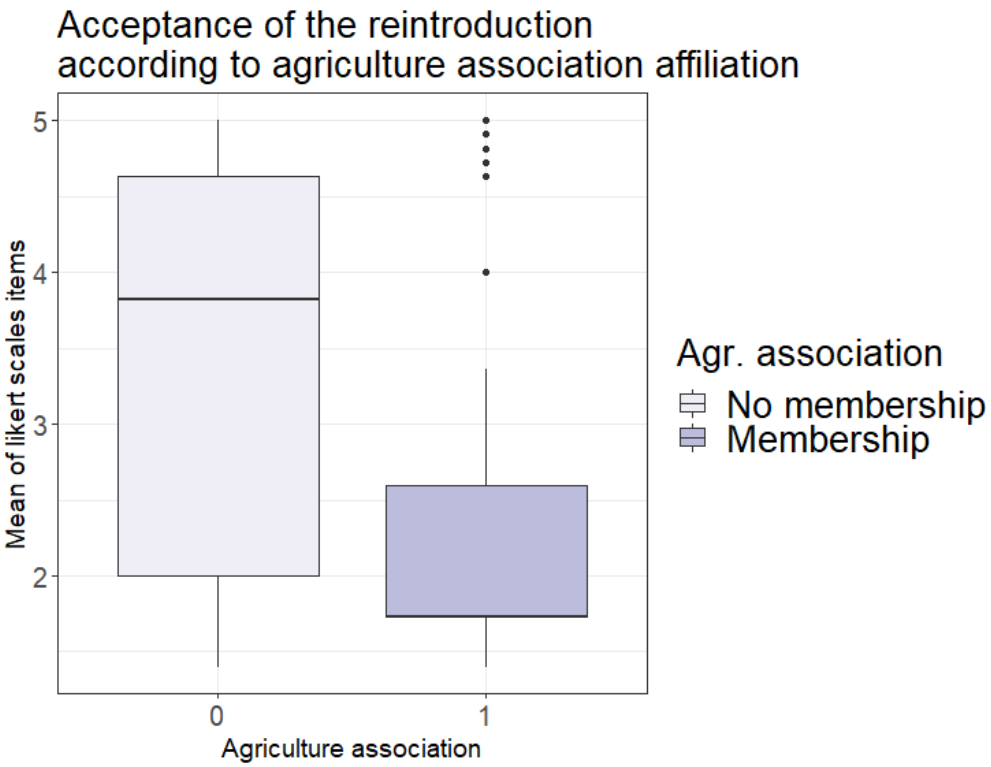


Figure 13 : acceptance of the reintroduction of bison in Welschenrohr according to the agriculture association affiliation. People affiliated to such associations have a more negative attitude towards the reintroduction (p-value = 6.92e-07). On the y-axis, 5 is related to high acceptance, while low values are related to reluctance.

Table 6 : glht's post-Hoc test of the villages variables. It highlights the village of Welschenrohr-Gänsbrunnen (4716), which is more reluctant towards the acceptance of the reintroduction, in comparison with the villages Günsberg (4524) and Balm bei Günsberg (4525).

	Estimate	**Std. Error**	**t value**	**p -value**
4716 - 4524 = = 0	-0.538	0.156	-3.442	**0.00326 ****
4716 - 4525 = = 0	-0.962	0.233	-4.135	**< 0.001 *****

Figure 14 : Acceptance of the reintroduction of bison in Welschenrohr according to the different villages.
The postal codes are 4716 (Welschenrohr-Gänsbrunnen), 4715 (Herbetswil), 4524 (Günsberg), 4524 (Balm bei Günsberg). The mean value of Welschenrohr-Gänsbrunnen (4716) is significantly lower, and so is the acceptance. On the y-axis, 5 is related to high acceptance, while low values are related to reluctance.

Table 7 : glht post-Hoc test of the residence time variable. The analyse of variance for the variable “since” shows a p-value of 4.186e-06. The glht’s comparisons particularly highlight the age group “<10”.

	Estimate	**Std. Error**	**t value**	**p -value**
>50 - < 10 = = 0	- 1. 243	0.326	-3.817	0.00268 **
30 - < 10 = = 0	-1.316	0.339	-3.876	0.00212 **
40 - <10 = = 0	-1.113	0.346	-3.220	0.021*
50 - < 10 = = 0	-2.015	0.490	-4.108	<0.001 ***
10 - > 50 = = 0	0.653	0.189	3.456	0.00970**
30 – 10 = = 0	-0.725	0.212	-3.427	0.010*
50 – 10 = = 0	-1.425	0.412	-3.453	0.00979**
50 – 20 = = 0	-1.227	0.417	-2.943	0.04787*

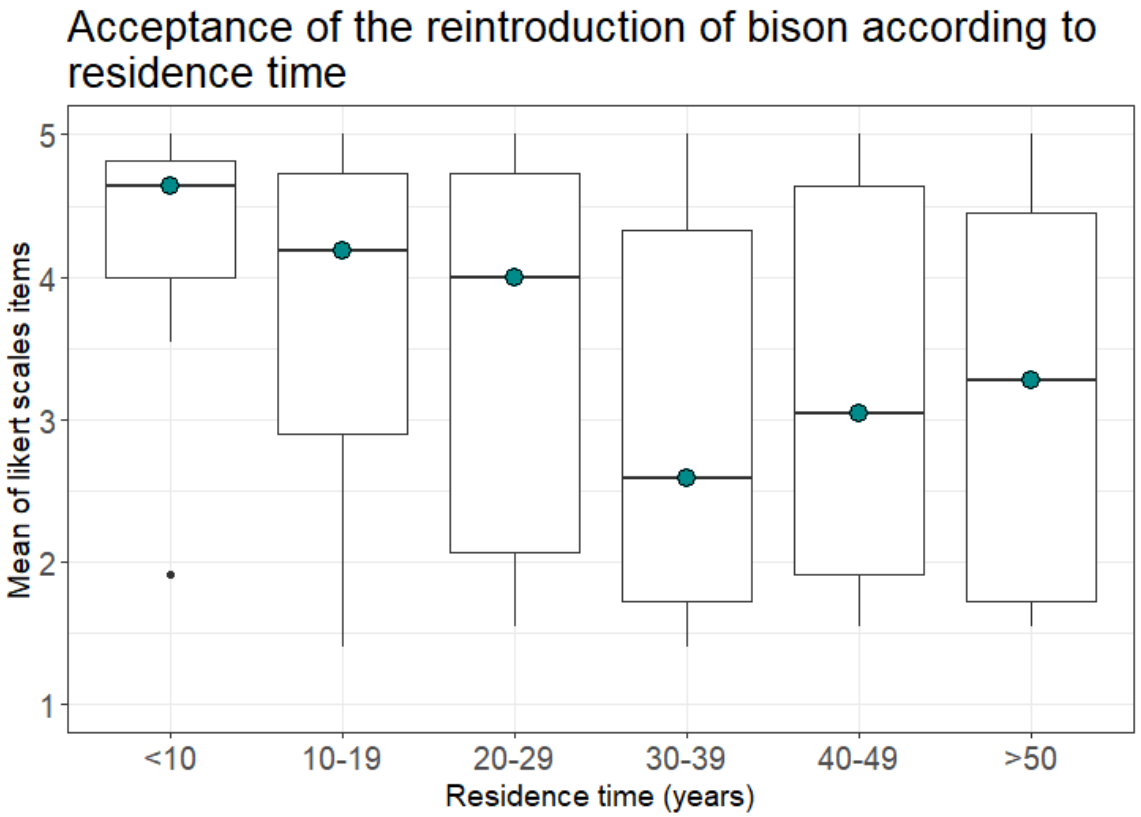


Figure 15 : acceptance of the reintroduction of bison in Welschenrohr according to the time lived in the region.
Looking at the glht results and this plot, we notice the particularly high mean value of the acceptance of the respondents belonging to the category “<10” years lived in the region. On the y-axis, 5 is related to high acceptance, while low values are related to reluctance.

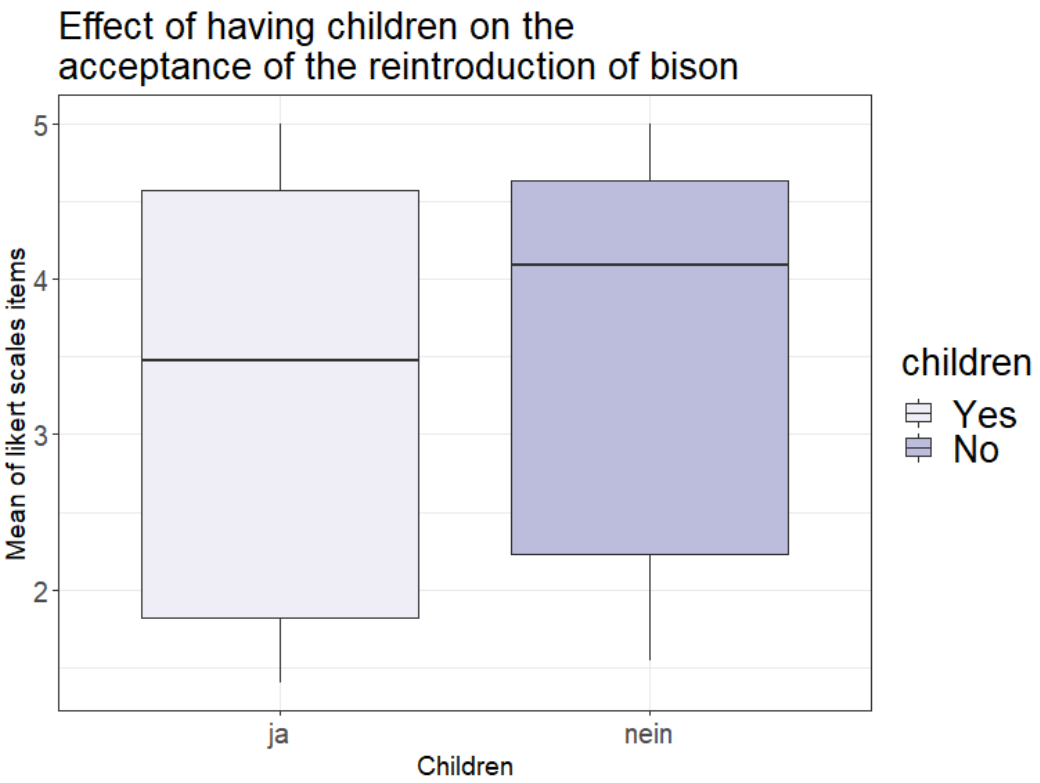


Figure 16: acceptance of the reintroduction of bison in Welschenrohr according to the fact of having children or not.
The analyse of variance shows a significant effect (p-value = 0.01737). Having children is than negatively correlated with the acceptance of the reintroduction (mean value significantly lower). On the y-axis, 5 is related to high acceptance, while low values are related to reluctance.

Table 8 : glht post-Hoc test of the age group variable. The glht's comparisons particularly highlight the age group "50-65" years old and ">65" years old, which are more negative towards the idea of reintroducing bison in the region.

	Estimate	**Std. Error**	**t value**	**p -value**
30-39 - > 65 = = 0	0.854	0.227	3.758	**0.00354****
40-49 - > 65 = = 0	0.651	0.212	3.074	**0.0324 ***
50-65 – 30-39= = 0	-0.627	0.202	-3.102	**0.02906***

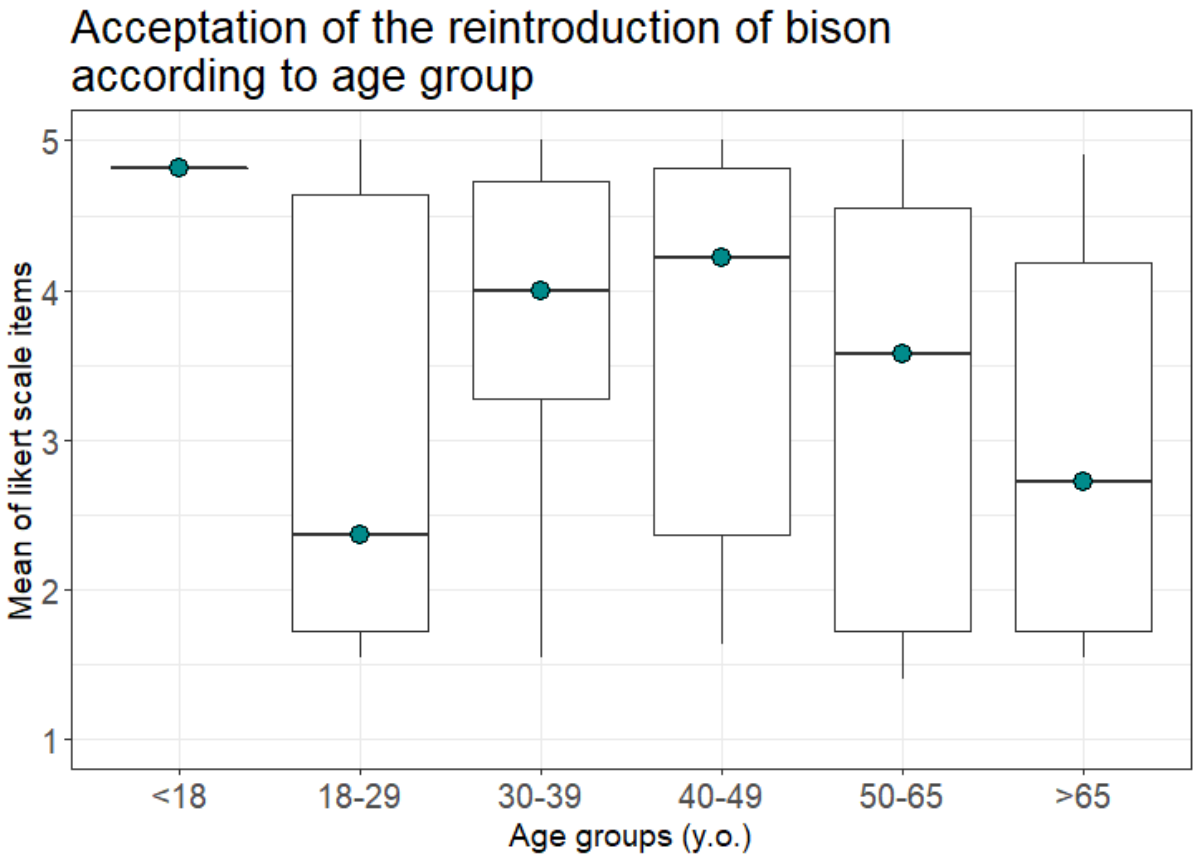


Figure 17 : acceptance of the reintroduction of bison in Welschenrohr according to age groups.
With this plot, we can argue that the age groups "50-65" and ">65" are more negative towards the reintroduction than the age groups "30-39" and "40-49" (comparisons which turned out significant in the glht's results). On the y-axis, 5 is related to high acceptance, while low values are related to reluctance.

Table 9 : Summary of the linear regression *concept variable "reintroduction" ~ days per year (in the forest)*. The coefficient "dpy" corresponds to the days spent per year in the forest the reintroduction of bison and reveals a significant effect on the slope of y.

Coefficients	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
(Intercept)	3.6517766	0.0881186	41.442	< 2e-16 ***
dpy	-0.0028152	0.0005551	-5.072	**6.32e-07 *****

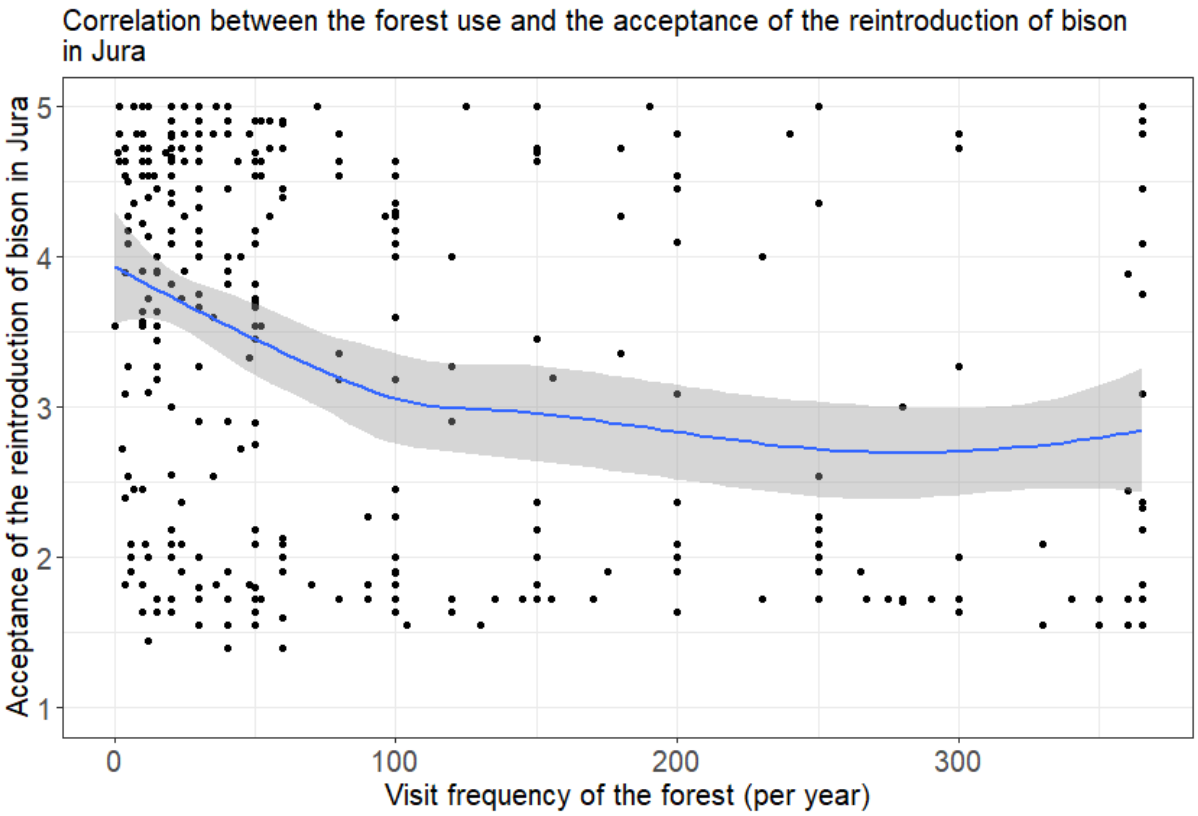


Figure 18 : visualisation of the linear regression reintroduction acceptance ~ forest use.
A higher forest's use is negatively correlated with the acceptance of the reintroduction of bison in Welscehnrohr. The x-axis represents the days spent in the forest per year. On the y-axis, 5 is related to positive opinion, while low values are related to reluctance.

4B) Attitude towards Naturpark Thal as proxy for environmental valuation

To examine the correlation between the attitude towards the nature parc and the acceptance of the reintroduction of bison in Jura, a linear regression (lm) was performed as follows:

lm = concept variable naturpark ~ concept variable reintroduction

The linear regression turned out to be significant (table 10). Indeed, the respondents having a more positive attitude towards the Naturpark Thal – and thus, a more important environmental valuation – are positively correlated with a higher acceptance about the idea of reintroducing bison in Welschenrohr. Figure 19, using the R function *geom_smooth (type= lm)* is displaying this trend.

Table 10 : Summary of the linear regression *concept variable "reintroduction" ~ naturpark*. The coefficient "mean_np" corresponds to the attitude towards Naturpark Thal (concept variable) and reveals a significant effect on the slope of y.

Coefficients	**Estimate**	**Std. Error**	**t value**	**Pr(>|t|)**
(Intercept)	-0.04020	0.22592	-0.178	0.859
mean_np	0.88980	0.05773	15.413	**<2e-16 *****

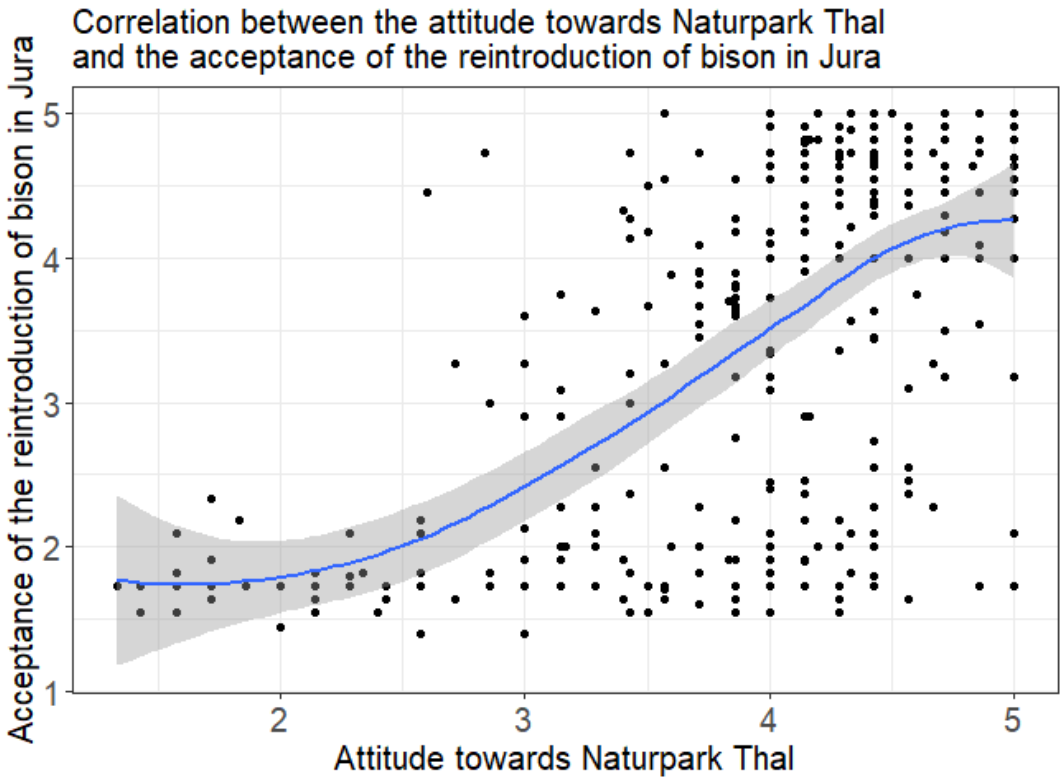


Figure 19 : visualisation of the linear regression *reintroduction acceptance ~ attitudes towards Naturpark Thal*.
A positive attitude towards Naturpark Thal is positively correlated with a higher acceptance of the reintroduction of bison in Welschenrohr. On both axes, 5 is related to positive opinion, while low values are related to reluctance.

5) Importance of giving information about an animal and the project to enhance the acceptance of its reintroduction

In the questionnaire, 3 items were tested as to the importance of information for project acceptance. The involved question are the ones already– only these questions were asked two times, before and after the extra-information.

The people were asked the follwing 3 Likert Items about the *Projekt Wisent Thal*:

- A) How good informed do you feel about bison?
- B) I support that bison should live free in the Jura landscape.
- C) Bison species has a right to live (again) in Switzerland.

After that, they were asked if they had read the information of the flyer received with the survey. A filter question highlighted the respondents admitting not having read the flyer: these people were then pleased to read the very same information as the one on the flyer and the similar questions about reintroduction of bison in the Jura were asked. The information included details about the project but also about bison and its characteristics. Afterwards, this group of respondents had to answer the 3 same questions again. We indicated that a change of mind was no problem and that we wanted to examine this kind of reaction.

The trends of the descriptive analysis showed a change: the people felt more informed and the people with a negative opinion slightly decreased (discussed in the descriptive analysis, p. 9-10, A, B and D, complete report in the appendix). A paired-sample t-test was performed to see if these respondents significantly changed their mind about the reintroduction project after having read the given information, i.e. if the mean value (of each Likert items) before and after the information reading is statistically significant. These means are respectively named “mean before” and “mean after” in the results. That would highlight the importance of information in cases of reintroduction of wild animals to avoid fear, scepticism or mistrust based on non-information.

- A) How good informed do you feel about bison?

The t-test turned out relevant. The information given to the respondents that did not read the flyer could change their feeling of being informed positively (table 11).

Table 11 : p-values of the paired-sample t-test regarding information role in acceptance. We compared the mean of the group before having read the information (“mean before”), and mean of the group after having read the information (“mean after”). The scale of the means goes from 1 to 5, 1= do not agree at all, 5= totally agree, with 3= neutral.

p-value	mean before	mean after	mindset change towards info. level
0.0149	3.4	3.8	positive

- B) I support that bison should live free in the Jura landscape.

The t-test did not turn out significant and the mean moved only slightly, from 2.5 (before) to 2.66 (after) (scale 1 to 5, 1= do not agree at all, 5= totally agree, with 3 = neutral).

- C) Bison species has a right to live (again) in Switzerland.

The t-test did not turn out significant for this comparison. The mean slightly decreased from 3 (before) to 2.8 (after) (scale 1 to 5, 1= do not agree at all, 5= totally agree, with 3 = neutral).

The results of these 4 paired-sample t-tests reveal the importance of considering the level of knowledge of the people in the process of wild animals' reintroduction. People felt more informed, and we observe slight changes in respondents' responses, but not significantly.

6.3. Summary and visualisation of multivariate analysis

Having a look again at the influence model stated in the hypothesis (figure 3), we can highlight which factors were underlined and understood through the statistical analysis (FA, PCA, ANOVA and other performed tests). This is displayed on figure 20 below: the green elements have been underlined and interpreted through the statistical analysis of the survey, while red elements still have to be deepened in the interviews and further statistics. Green <u>underlined</u> elements showed significant statistical results but surprising: they will also be a focus of the interviews to understand them better. Black arrows are literature based (discussed in the introduction of this thesis), blue arrows reflect the statistical findings (figure 20, p. 56).

- The reintroduction acceptance is used as proxy reflecting the overarching Factor 1. This is represented by the concept variable *reintroduction* (A) (having the highest loading value in the FA). We know that all the concept variables are interacting (A, B, C, D) as they are strong correlated. Such interactions and overarching influence are difficult to interpret. That's why these interactions will be deepened in the interviews.
- Within the sociodemographic variables, some factors were tested significant (E). More specific explanations regarding positive or negative correlations of village of residence, residence time and age with the reintroduction acceptance will also be clarified in the interviews. The agriculture professional sector seems to design a relevant stakeholder group, since the biggest concern is that bison trample agricultural fields and that affiliation to such association was significantly correlated. The variable *children* will be further inspected in the interviews, because of the following contradiction: we observed a negative correlation between having children and reintroduction acceptance, but the fear for children was nearly mentioned in the questions about conflict's perception compared to other thematic. The culture and language aspects will be treated in the interviews.

- The environmental internal "modifiable" values were all tested significant for the reintroduction acceptance (environmental association affiliation and Naturpark Thal valuation as proxies for environmental valuation; frequency forest use) (F).
- We found that additional information was needed, as people felt better informed after having read it. This only concerned 7.73% of the sample, i.e. 29 individuals. However, the descriptive analysis (in appendix) showed that 53.9% of respondents wanted to know more about bison, what supports this finding. The information does not significantly change the opinion of the people concerned to any great extent. Information level will be further explored in the interviews.
- Note that the specific questions about reintroduction acceptance level (within A) were already presented and displayed (RQ1).

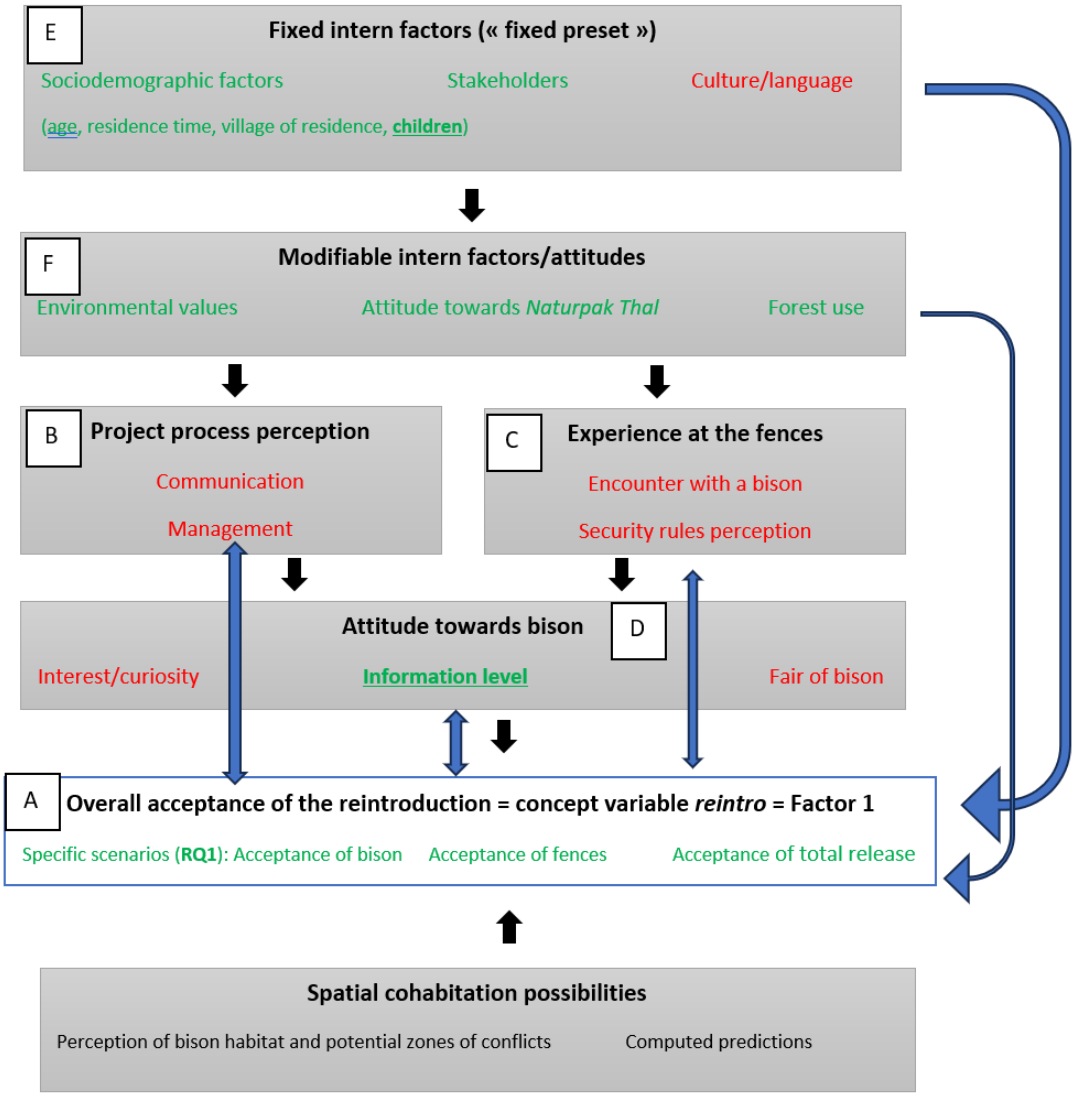


Figure 20 : influence model of acceptance after the survey statistical analysis.
Green elements could be interpreted, while red elements still have to be deepened in the interviews and further statistics. Green underlined elements showed significant statistical results but surprising: they will also be a focus of the interviews. Black arrows are literature based, blue arrows are displaying the statistical findings.

6.4. Qualitative Interviews analysis

The following questions raised through survey analysis and were addressed in the interviews:

- Why are Welschenrohr-Gänsbrunnen inhabitants more reluctant to the project?

- Why is residence time negatively correlated with acceptance?

- Why does family with children seem statistically opposed to bison reintroduction?

- What activities could be altered or limited by the current enclosure for some people? And in the case of the total release?

- What is the acceptance process of people against the project? And for the people supporting it? Is the perception of bison as animal itself a crucial point? Or the perception of project's process, management, or communication?

- Is there a lack of information or knowledge about bison that makes some people opposed to the project?

The full transcriptions of each participant can be found in the supplementary material, transmitted jointly with this master thesis.

6.4.1. Interviews in Solothurn

The interviews of the four respondents in Solothurn were analyzed, firstly, separately (ID1 – ID4, corresponding to the subchapters a) to d)). Afterwards, a general interpretation of these results led to the joint answer to the questions asked for this part (subchapter e)).

a) ID4

The non-acceptance of the final project was principally led by a professional concern: ID4 fears that the professional field of activity (forestry) will be affected. ID4 argues this point with the "economical aspect of landscape", which characterizes Swiss landscape: "[…] hier ist es ein Wirtschaftswald. Der grösste Teil der Schweiz ist ein Wirtschaftswald. Oder ein Schutzwald in den Bergen. Wo der Mensch aktiv ist. Seit Jahrhunderten. Wo er Ziele hat. Wenn wir Holz produzieren, wo man es auf den Markt bringen kann. Wo man etwas daraus machen kann. Einen Tisch. Oder einen Dachstuhl bauen. Wenn gewisse Arten nicht mehr aufkommen. Wird es schwieriger" (4_transkript, 41). The risk of bison attacks on humans is mentioned, but ID4 does not consider this as a big issue: "Logisch, es gab auch schon Angriffe im Gehege. Das ist schon so. Das gibt es auch. Das wird es wahrscheinlich auch ab und zu mal draussen geben. Wie viel, weiss ich nicht. Ich denke, dem kann man ausweichen" (4_transkript, Pos. 55).

For ID4, the perception of the bison itself and the perception of its habitat (in this case, mentioned as not adequate in the region of Solothurn) influence the belief in an unsuccessful project. This is used as

an argument against the final project of free release: “Und rein vom Standort her, der Wisent ist ein Tier auf den Auen. Auen, und weniger die Berge. Wo sie herkommen, sind sie vor allem im Tiefland. Wasser haben sie hier relativ wenig. Es ist im Jura relativ karg, im Sommer trocken. Der Lebensraum hier ist nicht ideal. Es ist zwar ländlich, wir haben sehr viel Naturraum, sehr viel Wald, aber es ist wahrscheinlich zu trocken hier” (4_transkript, 27). Generally, ID4 perceives a reintroduction of bison generally unsuccessful in Switzerland: according to ID4, the landscape densification (roads, landscape with lucrative purpose and proximity of urban areas) makes such projects impossible: “[ein solches Projekt] funktioniert in der Schweiz nicht. Wir sind ein so dicht besiedeltes Land, in jedem Quadratmeter in der Schweiz ist irgendein Ziel unterstellt. Sei das im Wald, in der Landwirtschaft, im Siedlungsraum. Es ist alles beplant, es ist in jedem Quadratzentimeter ein Ziel. Es wird wahrscheinlich schwierig, gerade mit so einem grossen Tier, den man dann auch anrichten kann. Verkehr, sehr viele Strassen” (4_transkript, 25).

ID4 shows some disagreement with the project committees and management: the project does not match the respondent's environmental priorities, which is climate change adaptation for forestry: “Wir kämpfen, möglichst viele Baumarten aufzubringen” (4_transkript, Pos. 91), he also mentions this thematic being already a “Überforderung” (4_transkript, Pos. 91).

ID4’s environmental values lead to an approval of phase 1 of the project (valuation of nature conservation), but not to the total release of the project’s phase 3 (valuation of other “conflict-free” animals and belief in the impossibility of animal welfare in the wild). Indeed, ID4 emphasizes the importance of such projects: “Möglichst viel mit dem Artenschutz. Möglichst viel mit dem Lebensraumaufwerten. Möglichst viel mit dem Erhalten” (4_transkript, Pos. 71).

The following figure (figure 21) displays the relationships between the various factors affecting project acceptance. We see that the path addressed in the hypotheses of this research is partially confirmed: the socio-demographic situation (interest group, blue) influences the personal initial attitude (modifiable values, blue). Perception of the animal and the encounter influence acceptance. Project management and objectives also influence acceptance. But for ID4 it is, above all, the perception of suitable bison habitat that is cited as inappropriate here in Solothurn. Figure 21 description gives information about the key aspects of this visual tool.

If we consider the already presented hypothesis diagram into account (figure 20, p. 56), we can see that the yellow and oranges boxes – socio-demographic data, interest groups (fixed factors) and environmental values (modifiable factors) – are central to the acceptance phenomenon.

In addition, the light and dark blue boxes - the encounter experience and the perception of the animal – also form the path of reflection.

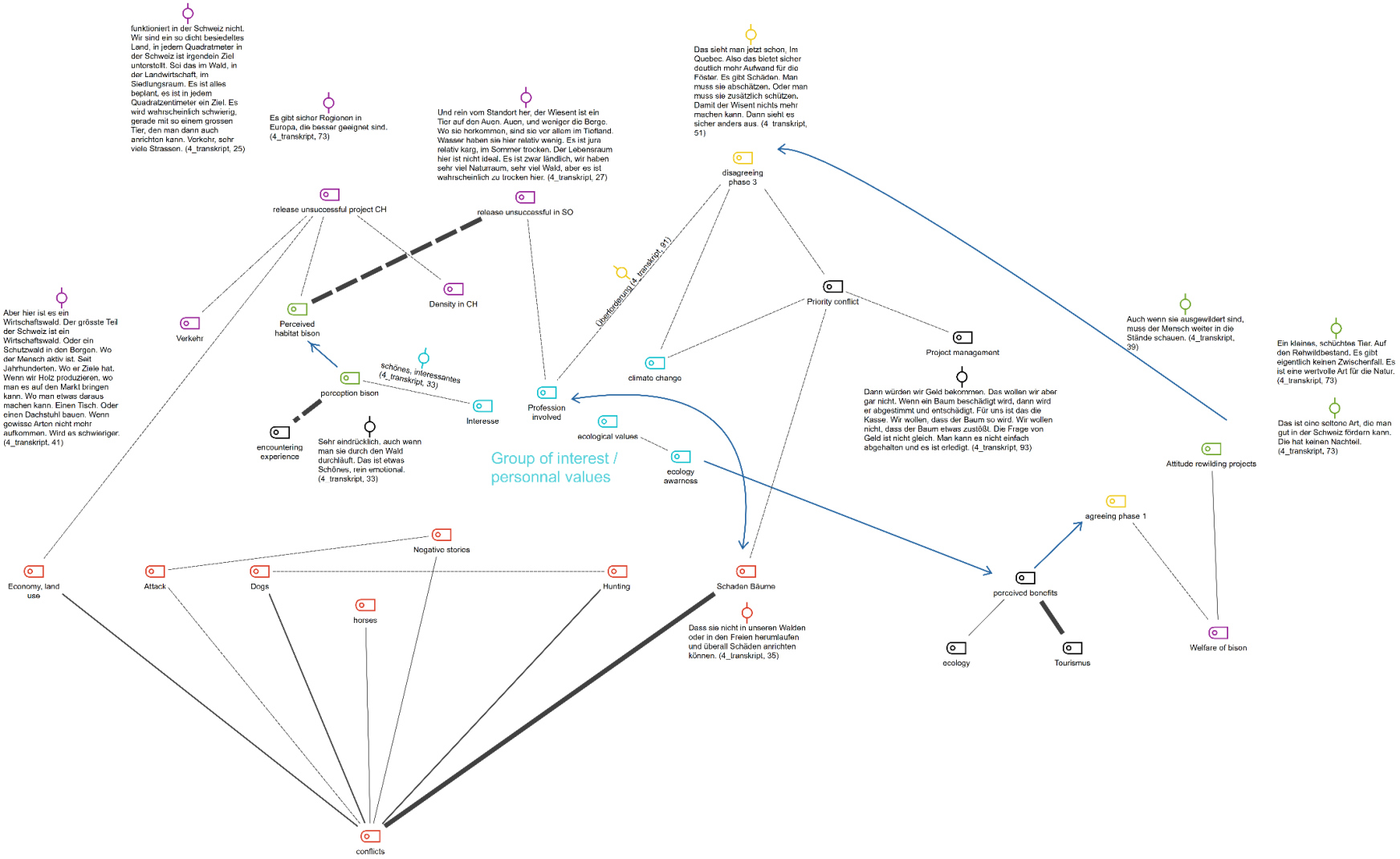


Figure 21 : Max-map of respondent ID4.
This visual map, created with MAXQDA, displays the relations between the different subjects mentioned in the interview. The thickness of the links is proportional to the mentioned connection. Some quotes were integrated to illustrate the links between different factors. The strongest connections are between “conflicts” and “damage on trees”, “perceived habitat of bison” and “release unsuccessful in Solothurn”, “perceived benefits” and “tourism”, “encountering experience” and “perception bison”.

b) ID1

ID1 perceives bison as a peaceful animal and does not see any potential conflict for himself or entourage. ID1 supports phase 2 to proceed to let bison more space and welfare. However, ID1 does not think that phase 3 (full release) is a good idea: “Oder wenn man jetzt sagen könnte, der Wiesent würde sich nur innerhalb des Waldes bewegen. Wenn er mal frei wäre. Dann wäre die Akzeptanz wahrscheinlich eher- . Aber sobald er noch ins offene Land geht, dann gibt es sicher mehr Probleme” (ID1_transkript, Pos. 16).

ID1 thinks that the project will not be successful because of conflicts with agriculture and judges people working in this field as the bigger stakeholder of the reintroduction acceptance: “Aber eben, wir haben vorhin schon gesagt, wenn die Landwirtschaft, wenn der Wisent irgendwann in ein Maisfeld oder in ein Gersten- oder Weizenfeld reingeht und dort schaut, das sind sicher das Problem” (ID1_transkript, Pos. 28). ID1 also mentions that cases of attack against humans could cause the end of this project: “Also die Akzeptanz nimmt ab, sobald es einfach Vorfälle gibt mit dem Wisent. Also wenn es direkten Konflikten gibt, ob es ein Unfall ist, oder könnte ja auch sein, wenn er auf der Strasse-.” (ID1_transkript, Pos. 28).

ID1 also thinks that the Jura landscape of Solothurn is too densified to welcome such a big herbivore. Whereas ID1 recognizes that the landscape is adequate for bison – and that they belong here –, he proposes an alternative solution to the project location in the Swiss Alps, mentioning that less problems would be encountered, and that bison would feel better with more room to move. That is quite contradictory, since the Alps does not correspond to the right habitat: “Aber sonst, unbestritten gehört er wieder hier in unsere Region […] Es gibt sicher Gebiete, wo es ein geringeres Problem wäre. Aber wenn man das Gebiet sucht, oder möchte finden, das heisst einfach richtig Alpen. Je höher hoch, je weniger Menschen, je weniger genutzt wird. Auch dort sind ja Schafe und Rinder, die auf den Alpen weiden, es wird ja alles genutzt. Und ich denke, es gibt sicher Gebiete, die halt noch ein bisschen-. Wo der Wiesent vielleicht noch mehr Freiheiten hätte, wo weniger Konfliktpotenzial ist” (ID1_transkript, Pos. 16).

ID1 talks about hunters as another important stakeholder group: they want to remove the enclosure, because it disturbs the hunting. A question for this stakeholder group is also the consequence of bison presence on the movement of other wild animals (assumption of effect of repulsion): “Aber im gleichen Raum bewegen sich natürlich noch andere Wildtiere. Es kann schon sein, dass dort ein bisschen eine Abgrenzung gibt” (ID1_transkript, Pos. 45).

According to ID1, the perception of a wild animal directly influences its acceptance, as it is illustrated with the wolf’s negative perception among society: “Aber das ist dann wieder das Problem, das wir uns selber gemacht haben. Ich kann mich an das Kind erinnern, wo meine Grossmutter das böse Märchen von dem bösen Wolf erzählt hat. Wenn meine Grossmutter mir die Geschichte anders erzählt hätte, wäre das ein guter. Da wird akzeptiert. Und vielleicht auch Geschichten” (ID1_transkript, Pos. 57).

The positive attitude towards renaturation project, generally, directly affects the acceptance of bison presence. On the contrary, people who see reintroduction as a constraint and as leaving space for other animals may not want to make room for bison again. Deer have already been the subject of discussion a few years ago. Deers would have been better accepted, as it has always been part of the Swiss fauna. ID1 insists on this: “Und weil das andere Problem auch noch kommt, das ist das mit dem Hirsch. Den Hirsch hatten wir ja bis jetzt sehr wenig. Ja. In unserem Gebiet, wo ich mich jetzt eigentlich mehrheitlich aufhalte. Aber der Hirsch ist gekommen, und der hat aber mehr Akzeptanz für die Leute, weil der Hirsch ja immer hier innerhalb der Schweiz vorkommt. Also, man hat ihn auch schon fast ausgerottet. Es ist noch nicht lange her. Vielleicht vor 100, 120 Jahren wurde der Hirsch auch ziemlich ausgerottet. Aber den akzeptiert man. Mehr oder weniger. Und jetzt kommt der Wisent noch. Und wir haben nicht mehr Fläche zur Verfügung, sondern wir sind immer auf der gleichen Fläche. Die Fläche ist einfach gegeben” (ID1_transkript, Pos. 16).

ID1 highlights the importance of clear communication and deliberation of the project acceptance. This should be discussed with the public before any project occurs. For him, rewilding project makes sense when “alles zuerst herum geregelt ist. Also da müssen alle einverstanden sein. Und halt einfach eine gewisse Energie, wo die Besitzer halt einverstanden sein müssen, dass der Wisent sich frei bewegen kann. Erst dann funktioniert es. Ich sehe dort das grösste Problem, dass die Akzeptanz der Bevölkerung sehr geteilt ist” (ID1_transkript, Pos. 51).

The following figure (figure 22) displays the relationships between the various factors affecting project acceptance. For ID1, the sociodemographic and basic values seem important in the acceptance process, as the ecological values and awareness. The perception of bison and bison habitat appear also as central aspects for the reintroduction acceptance. Figure 22 description gives information about the key aspects of this visual tool.

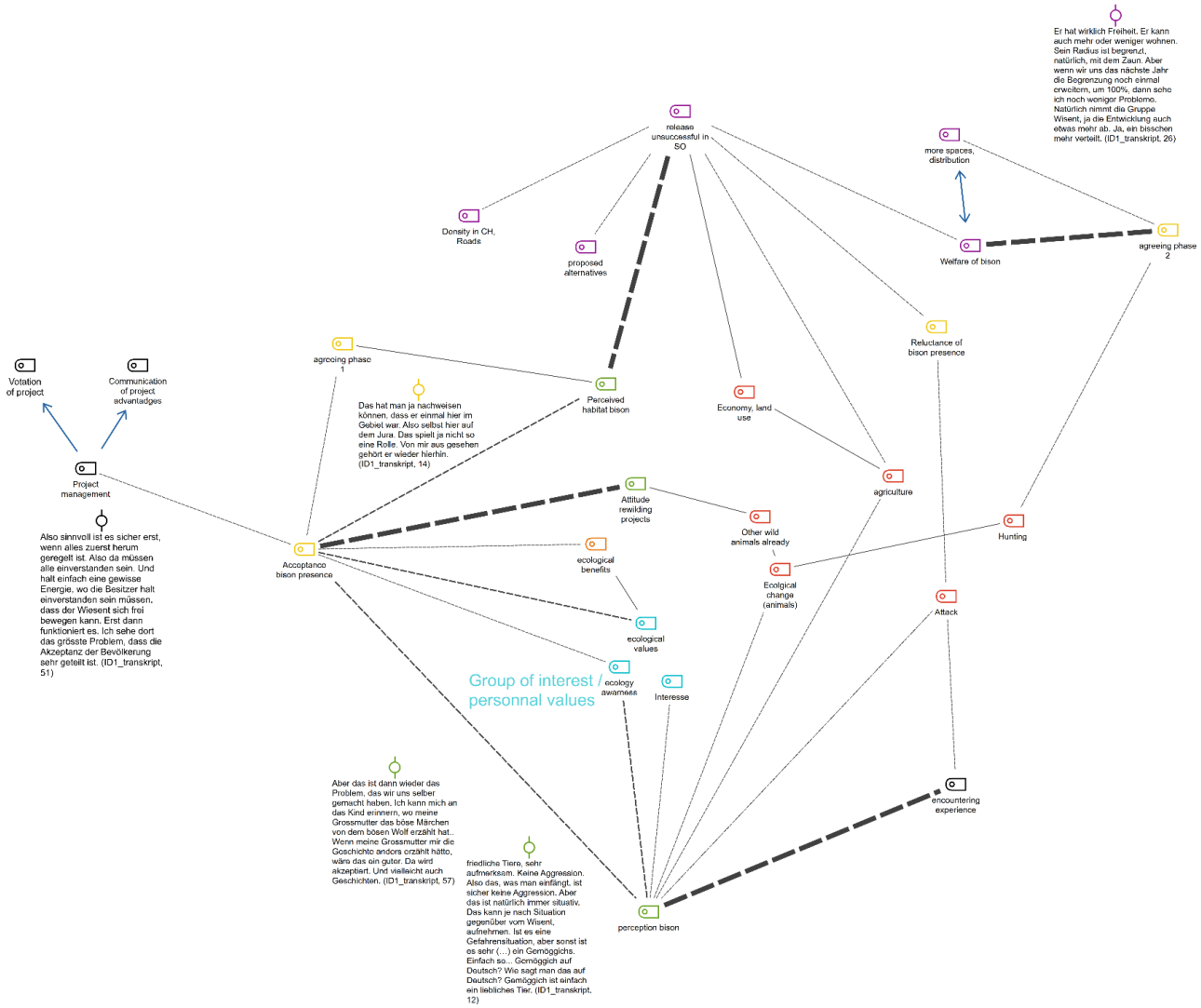


Figure 22 : Max-Map of respondent ID1.
This visual map, created with MAXQDA, displays the relations between the different subjects mentioned in the interview. The thickness of the links is proportional to the mentioned connection. Some quotes were integrated to illustrate the links between different factors. The strongest connections are between “acceptance of bison presence” and “Attitude towards rewilding projects”, “perceived habitat of bison” and “release unsuccessful in Solothurn”, “welfare bison” and “agreeing phase 2”, “encountering experience” and “perception bison”.

c) ID2

ID2 is reluctant to the project led by the association “Wisent im Thal”. This is neither a consequence of the bison itself (seeing as a nice animal, “ein interessantes Tier, das ist ein schönes Tier, das ist alles wunderbar” (ID2_transkript, Pos. 20)), nor due to the idea of reintroduction (not rejected, “Das ist für uns okay, das ist gut. Wir wollen einfach den Zaun weg. Was nachher passiert, ist mir egal” (ID2_transkript, Pos. 40)), nor due to an impact on its professional sector (no business involved as an engineer). ID2 shows a disapproval of the enclosure presence, because it limits its activities (hunting, mushrooms picking, walking the dog: “Es schränkt mich ein in meine ganze Tätigkeit” (ID2_transkript, Pos. 22)), as well as an overall negative attitude against the project management.

Indeed, ID2 completely mistrusts the project committee, and thinks that all the good reasons for reintroduction is a lie. ID2 accuses the project committee of conspiring to communicate only the good parts of the project and hide the bad ones. ID2 does not believe that bison were in Switzerland in the past: “Quatsch, das weiss ja niemand. Wenn mir jetzt jemand sagt, dass er über 1000 Jahre her war, das stimmt einfach auch nicht. Das weiss niemand” (ID2_transkript, Pos. 14). ID2 does not trust the work accomplished by the association “Wisent Thal”: “Wir haben von Anfang an verlangt, dass die aufschreiben, wie viel Wasser sie tränken. Die Tiere werden ja tagtäglich trinken, weil sie sonst nichts finden. Aber das wird nicht aufgeschrieben, das wird nicht notiert oder gemonitort. Und das stört mich […] Ist einfach gelogen.” (ID2_transkript, Pos. 16).

ID2 is not against the total release because, firstly, it would remove the enclosure, and secondly, ID2 thinks that the bison won’t survive anyway in this region and will therefore walk away. This is due to a perceived adequate landscape that does not correspond with the one in the Jura of Solothurn. We can read this in ID2’s perspective about removing the fences: “Das ist okay, das ist okay, sollte sie machen, ist mir scheissegal, was noch hin. Weil die gehen, die gehen weg, ganz klar […] Also die müssen ans Wasser, das ist entscheidend, oder? Und Wasser haben wir hier im Tal, wirklich nur in der Dünnen, das ganze Jahr. Und an der Dünnen, da ist die Kantonsstrasse, das ist hochgefährlich. Und da ist auch Landwirtschaft, das wird Probleme geben, ganz klar” (ID2_transkript, Pos. 42-44).

Therefore, ID2 does not perceive this project as coherent, thinking that rewilding projects only make sense when animals can then live on their own, without any human interventions: “Aber das Problem ist, das ist eine Familie, eine Verwandtschaft. Jetzt diskutieren sie bereits, was sie mit dem männlichen Bullen machen, also mit dem Vater der Tiere machen. Die müssen den wegnehmen und einen neuen bringen oder die Jungen wegnehmen. Aber irgendwas musst du immer tun. Es gibt ja keine natürliche Vermischung (ID2_transkript, Pos. 36) […] deshalb sehe ich keinen Sinn im Wisent, die werden nie selbstständig sein können, weil es gibt genau eine Herde, und da hast du keine genetische Vermischung, du wirst ewig da eingreifen, als Mensch, und deshalb sehe ich da überhaupt keine Möglichkeit” (ID2_transkript, Pos. 68).

We see in this last chosen section that ecological knowledge and values are directly linked to the attitude towards reintroduction projects: ID2 totally discredits the possible ecological benefits of the presence of the bison and in no way considers that the need has a right to live in the region – as already mentioned, ID2 doesn't believe in the fact that bison lived in Switzerland at the time and thinks it's a lie, a false argumentation to convince people.

ID2 is contradicting own argumentation because ID2 fears, at the same time, to walk with the dog in the enclosure, but does not fear any attacks of bison. Moreover, ID2 stands strongly against the project but mentioned not caring at all if the bison are released. This gives the impression that ID2 is opposed to the project without solid argumentation. ID2 shows strong reluctance for any changes in the region, in a very conservative way.

The following figure (figure 23) displays the relationships between the various factors affecting project acceptance. As for ID1, the basic ecological knowledge/perception play a role in the acceptance process. However, key aspects for ID2's acceptance are rather the perception of bison and bison habitat, as well as the attitude towards rewilding project. ID2 shows a very conservative opinion; the perceived Jura fauna and Jura landscape leads to the reluctance of the project, with a view to keeping the culture and the region intact ID2's main argument against the project. A very strong factor here is the project's management, several representative quotes have been selected and are displayed on the map (color-coded black) to illustrate the weight of this factor. Consequently, ID2 confirms the hypothesis of an influence of projects' process perception (pink box of figure 20, p. 56). Figure 23 description gives information about the key aspects of this visual tool.

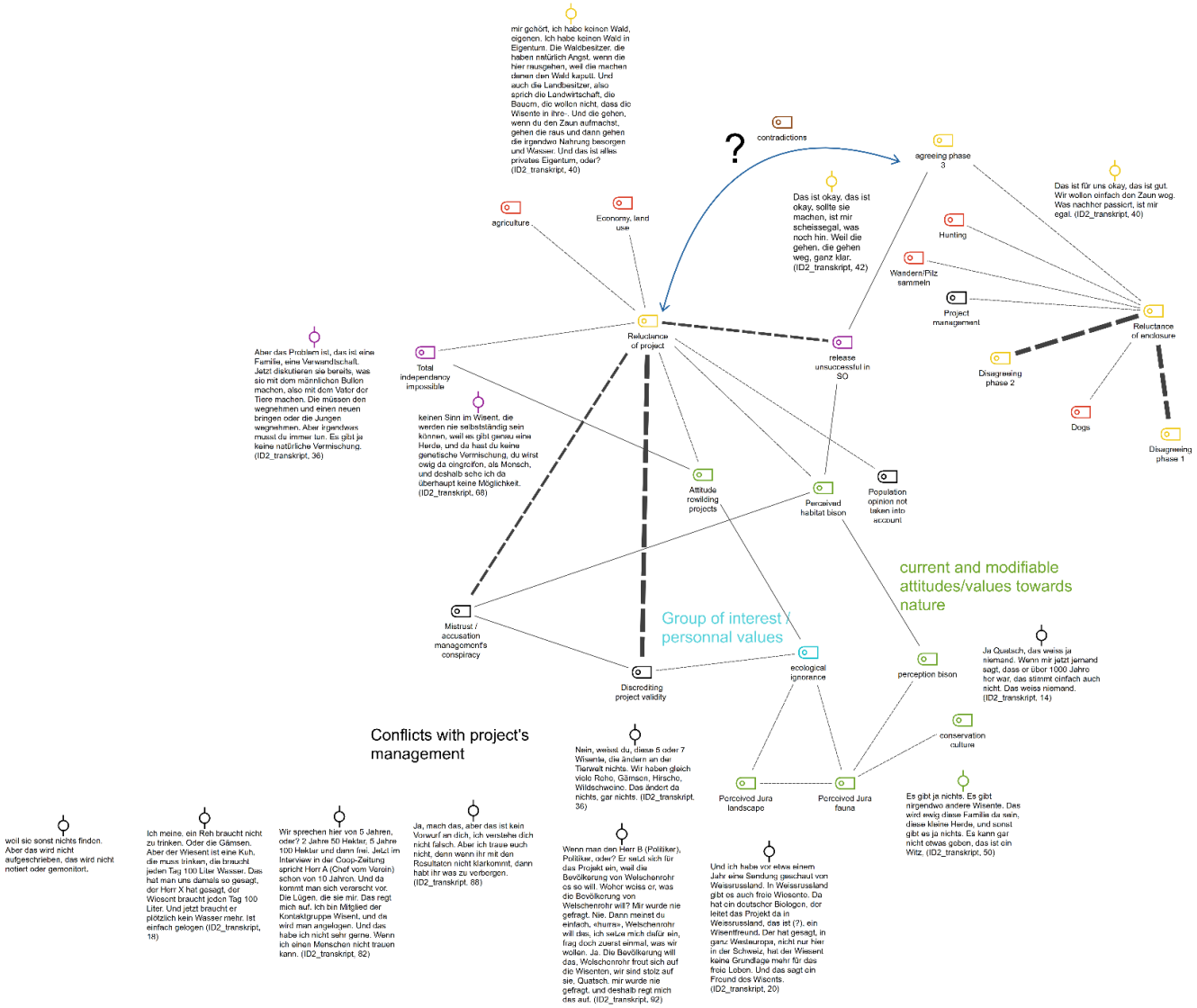


Figure 23 : Max-Map of respondent ID2.
This visual map, created with MAXQDA, displays the relations between the different subjects mentioned in the interview. The thickness of the links is proportional to the mentioned connection. Some quotes were integrated to illustrate the links between different factors. The question mark highlights ID2 contradictions. The strongest connections are between: “reluctance of project” and the following 3 items: “mistrust/accusation of conspiracy to enhance project’s validity”, “discreditation of project’s validity”, “release unsuccessful in Solothurn”. The strong correlation between “agreeing phase 1”, “agreeing phase 2” and “reluctance of enclosure” shows another main motivation of ID2 against the project: the enclosure disturbs ID2.

d) ID3

ID3 shows reluctance to a total release because of children security. ID3 mentions not wanting a constant mental pressure to verify if a bison is in the neighbourhood. ID3 does not directly fear an attack on the children but staying in the phase 2 would reduce the precautions to be taken for children: “Wenn die Wisenten ganz frei wären, ganz ohne Gehege, dann wäre ich jetzt eher kritisch. Weil es schwierig ist, auszuweichen. Ich finde, die Tiere sollen ihren Platz haben. Und wenn man ein grosses Gehege macht, ist es noch eins. Aber wenn du nicht weisst, dass du hier auf dem Flurweg bist, und das Kind springt, und am nächsten Ecke ist es da. Das fände ich jetzt schon eher schwierig. Für Tiere, aber schon ein grosser Raum, fände ich es wichtig, um sicher zu sein, dass man nicht begegnet” (ID3_transkript, Pos. 24).

ID3 agrees with the project based on her environmental values, which are approaching an ecocentrism perspective: “Unser Lebensraum müssen wir teilen. Er gehört nicht uns explizit dem Menschen. Wir nehmen ja schon sehr viel Raum ein” (ID3_transkript, Pos. 16). Her ecological awareness is rather high, as she studied geography at university: she understands the reasons of the project and judges its conditions and processes as well-grounded. She wants to legate this environmental relation to her children: bison is also a good experience for children to observe a wild animal: “Wenn sie es sehen, finden sie es cool. Und der Umgang, wie man mit Tieren umgeht, das ist etwas, das wir ihnen erklären und vorleben” (ID3_transkript, Pos. 68).

ID3 mentions no reluctance to the possibility of bison integrating the typical Jura fauna and culture for the next generations, what represents a quit progressist perspective: “Ich glaube, ich nicht. Ich bin jetzt schon 34 Jahre alt. Wir hatten 34 Jahre keinen Wisenten. Aber vielleicht die nächste Generation oder die übernächste Generation auch irgendwann schon. Aber für mich typisch, würde ich es nicht betrachten” (ID3_transkript, Pos. 8).

ID3 does not know any person directly involved (farmer/forester): ID3 is quite new in the region, residence time plays a role in this network construction and feeling of involvement for others.

ID3 highlights the importance of having experience with wild animals (for example cows) to ensure any conflict from happening: ID3 mentions unresponsible people behaviours, for example with dogs owners, that could make themselves in danger because they can’t keep their dog calm.

ID3 affirms that a big enclosure is a good compromise: for ID3, it is really important that bison have enough space, worrying for their welfare, but it is also important for the project’s success that people still have the choice to probably encounter bison or not. According to ID3, this is the key to a coexistence human/bison, while a total coexistence could be a source of conflict.

However, ID3 mentions a flexibility if the total release happens: “Ganz frei, für uns ist das schwieriger. Aber ich denke, auch das würde gehen. Die sind ja eher schüchtern. Aber eben, ich habe wirklich Erfahrung mit Tieren. Das macht sicher viel aus. Ich denke, für Leute, die keine Angst oder Respekt

haben, ist es sicher schwierig" (ID3_transkript, Pos. 28) […] "Wir müssen unser Leben teilen. In Kanada leben die Leute mit Bären zusammen. Das funktioniert auch" (ID3_transkript, Pos. 16). ID3 mentions bison presence as a factor "den man im Kopf haben muss, wenn man sich in der Natur bewegt" (ID3_transkript, Pos. 34).

The following figure (figure 24) displays the relationships between the various factors affecting project acceptance. We see that the factor "children" is a factor with multiple correlation for ID3. As for the other respondents, we observe an influence of the sociodemographic factors and basic values on the different forms of acceptance of the project. ID3 brings in a new aspect: ID3 mentioned that the security rules and information at the fences gave a feeling of confidence in the project management committee, which ensures the safety of visitors. Figure 24 description gives information about the key aspects of this visual tool.

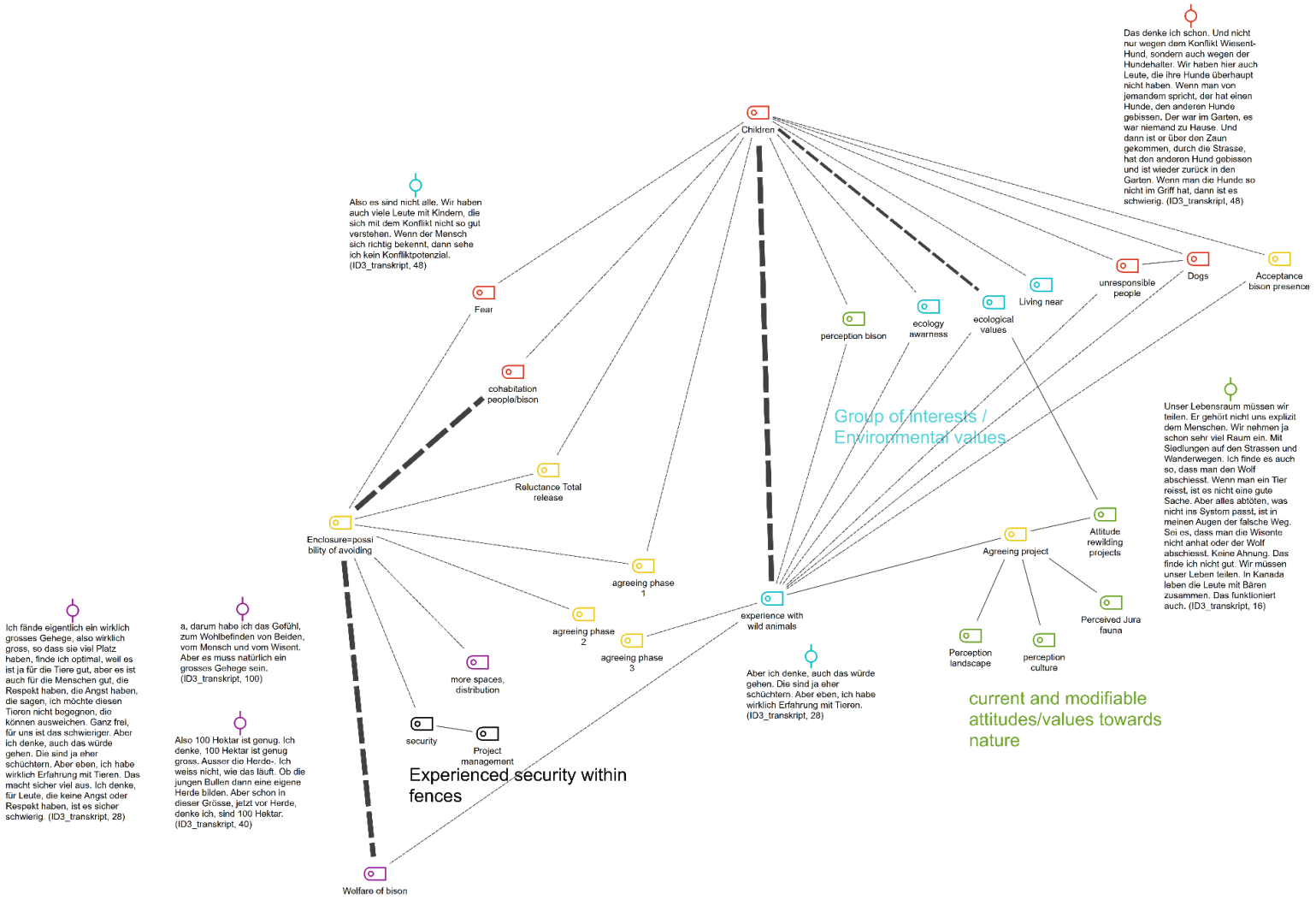


Figure 24 : Max-Map of respondent ID3.

This visual map, created with MAXQDA, displays the relations between the different subjects mentioned in the interview. The thickness of the links is proportional to the mentioned connection. Some quotes were integrated to illustrate the links between different factors. The strongest connections are between: “Enclosure=possibility of avoiding” and the following 2 items: “welfare of bison” and “cohabitation bison/people”. The correlations between “experience with wild animals” “children” and also “ecological values” explains the general acceptance of the project’s concept and the flexibility from ID3: ID3 approves the project and simply wants to keep her children as safe as possible, even if ID3 would know what to do with bison in liberty.

e) Completion of questions emerged from survey analysis

The four performed interviews allow a completion of the gaps identified after the survey analysis. The following questions were still unanswered and are now complemented by the facts confirmed in the interviews.

Why are Welschenrohr-Gänsbrunnen inhabitants more reluctant to the project?

ID2 illustrated that daily activities are truly impacted: inhabitants of Welschenrohr are directly on the involved valley slope. The project site corresponds to their outdoor recreation area. Therefore, inhabitants living closer to the enclosure could show stronger reluctance. Moreover, ID2 knows farmers and foresters that could experience negative financial repercussions in their activities: inhabitants living with closer proximity present an entourage which could be more impacted, causing more discontent.

Why is residence time negatively correlated with acceptance?

This could also be linked to a bigger involved network. It is difficult to answer clearly with this small sample, but we can corroborate ideas: ID3 does not know any person professionally involved, because ID3 has only lived 4 years in the region. ID3 is also the youngest respondent, what could also explain the correlation between reluctance and older people – older inhabitants often having a longer resident time.

Why does family with children seem statistically opposed to bison reintroduction?

ID3 explained the mental charge of having to pay attention in the case of a total release of the bison. ID3 says not letting children run around unsupervised in such a situation. ID3 finds the large enclosure a perfect solution for both parties (humans and bison). Everyone could avoid the animals if needed.

ID3 is, however, in favour of the project, only not for phase 3. Should phase 3 happen, ID3 mentions being able to adapt. ID3 compares the precautions to be taken with free-wandering bison to those to be taken during hunting season or hot weather: the whole family could thus adapt to new precautions. ID3 also compares the herd to a herd of cattle, with which we also must behave in the right way to avoid conflict. ID3 knows how to behave with animals but emphasizes that this is not the case for all parents.

ID3 shows this ambivalence found in the questionnaire: no directly viewable fear for children and no reluctance of the project, but an indirect apprehension of a complete reintroduction - willing to avoid the stress of always having to check for bison presence.

What activities could be altered or limited by the current enclosure for some people? And in the case of the total release?

Considered as limited within the fences were the following activities mentioned: hunting, walking, walking dogs out and mushrooms picking.

Considered as a future conflict in the case of total release were the following aspects mentioned: damages on trees, trampling of fields, pressure to keep children safe, dangers for people who do not know how to deal with wild animals (especially dog owners) and traffic safety.

What is the acceptance process of people against the project? And for the people supporting it? Is the perception of bison as animal itself a crucial point? Or the perception of project's process, management, or communication?

The perception of the animal, which is influenced by the experience of encounter and the stories heard, is alimenting the acceptance process. However, a positive perception of the animal is not excluding a rejection of the project. It is rather the perceived bison behaviours and activities that are causing a rejection of the reintroduction.

The project management was also mentioned to play a role: conflict of priorities and dubious compensation solutions for farmers and foresters cause disagreements and tensions between the different actors. The project association should insist on the correctness of habitat: the perceived adequate bison habitat is sometimes not corresponding the Jura landscape. Therefore, this aspect could be a crucial point to argue for the project. People wish a transparent communication about the consequence of bison presence on fauna and flora (trees, agriculture). Confidence in the soundness and knowledge of the project management is central: for example, ID2 seems to dislike the project just because of a mistrust in the project committee, which, according to ID2, does not consider public opinion about the project.

The environmental values (anthropocentrism vs ecocentrism values) also appear to be an important component concerning the acceptance process. It is interesting that some people use the welfare of bison as an argument, which would be, according to them, negatively impacted by a full release. Three of the respondents do not believe in the success of the project because of the survival capacity of bison into the wild: a complete release would let the bison on their own and these people consider the habitat not adequate, the region too dangerous (roads) or the species too dependent of dependent on human infrastructure (current farm in charge of project). One respondent insists on the nonsense that bison will always need the help of humans to survive or to reproduce. On the contrary, one other respondent said that bison have a right to live here without humans approval, reflecting an ecocentric ethic about rewilding projects by questioning the right of humans and by wishing to give more rights and place to nature.

Is there a lack of information or knowledge about bison that makes some people opposed to the project?

Two respondents mentioned that bison do not have their natural habitat in the region. They use this argument to get around the question of their right to live here, saying that other regions are much better suited. They know that similar projects are underway in Germany, Poland and elsewhere in Europe. For one respondent, it is a lie that bison lived in Switzerland back then, so that would not give them the right to live here. We see here that information about bison habitat, evolution history and ecological niche

could help people to believe more in the project's success. We also see that a lack of information goes hand in hand with a lack of confidence in the committee.

6.4.2. Reintroduction of qualitative findings into a statistics model

A hierarchical regression analysis was performed, where predictor variables were added incrementally to assess their impact on the outcome variable. The aim was to underline how the acceptance of bison reintroduction was influenced by 1) the forest use, 2) the latent concept of project's management and an eventual encounter experience and 3) the latent concept of bison perception. Theses latent concept correspond to the boxes B, C and D on the figure 20, page 56. Note that the predictors B and C were simultaneously added because they are assumed at the same stage in the acceptance influence model. The predictor C, experience at the fences, will be only represented by the concept variable *fences* because the variable *encounter experience* caused for multicollinearity between the predictors (VIF = 4.27). VIF values (table 13) could be reduced to an acceptable range by removing *encounter exp*..
The dependent variable was the concept variable of reintroduction acceptance – as in the survey statistics. The hierarchical regression model can be illustrated as follows:

Baseline linear model = Item 1 ~ children + since + village + landverein + umweltverein (=sociodemographic variables)

Second linear model = Item 1 ~ sociodemographic variables + forest use (= internal factors)

Third linear model = Item 1 ~ internal factors + project management (B) + fences security rules (C)

Fourth linear model = Item 1 ~ internal factors + B + C + perception bison (D)

Results of hierarchical regression model (table 12)

The addition of the factor *forest use* and the addition of the concept variables (B, C, D) improve the model's fit (see values of explained variance at the bottom of table 12). Only one sociodemographic factor remained significant and represents thus a decisive component for acceptance: the affiliation to environmental association, which shows a positive correlation between membership and acceptance – the negative β-value results from moving from the group 1 (member) to the group 0 (no membership).

We see that the latent concepts B and D are very important predictors in explaining acceptance of bison reintroduction – even more so than the so-called "internal" variables, which are no longer significant when the "external" predictors are added. Indeed, the explained variance shows a high bounce by the third step (21.8% to 78.6%). The perception of fences security rules is not a significant factor.

Despite its removal from the final hierarchical model the concept variable *encounter experience* (within C) was tested separately as an independent variable for bison perception (D) to confirm our influence model. The linear regression showed a positive correlation between the two concept variables (p-value $< 2.26e^{-16}$)

Table 12 : hierarchical regression final model (fourth model). Acceptance is used as a 5-level variable (likert scale items 1 to 5) and is here related to 3 specific items of the survey. (*) p< 0.10; * p> 0.05; **p < 0.01; *** p< 0.001; n.s. = not significant. The letters B, C and D refer to figure 20 (p.56). The explained variance of the baseline test (without adding the specific variable) as well as the explained variance of each step (specific variable added) are at the bottom of the table. β -values were given only for significant variables.

	Reintroduction acceptance (concept variable *reintro*)	
Predictors	p-value	β (for significant p-values)
Step 1: sociodemographic variables		
Village	n.s.	
Residence time	n.s.	
Environmental association	0.0088 **	-0.099 (moving from group 1 to 0)
Agriculture association	n.s.	
Children	n.s.	
Step 2: added intern factor "forest use"		
Forest use	n.s.	
Step 3: added concept variables		
Project's process, management, communication (B)	**< 2e-16 *** **	0.6163
Experience at fences – security rules (C)	n.s.	
Step 4: added concept variable		
Perception bison (D)	**7.96e-06 *** **	0.3761

Explained Variance (r^2):

- The baseline model (step 1) explains 18.8% of the variance.
- The second model (step 2) explains 21.8% of the variance.
- The third model (step 3) explains 78.6% of the variance.
- The fourth model (step 4) explains 84.1% of the variance.

Table 13 : variance inflation factors (VIF) of the fourth model (complete). These values were explored to verify if the correlated concept variables showed multicollinearity. The values are considered as moderate, the model could be therefore performed.

Predictors	**VIF value**
Project's management (B)	3.14
Experience at the fences (C)	1.77
Bison perception (D)	2.78

6.4.3. Language and cultural comparison

Some interesting trends could be extracted from the comparison between German-speaking and French-speaking respondents. A document including comparisons of the different quotes and perspectives of the respondents can be found in the supplementary materials, transmitted jointly with this master thesis.

1) Landscape perception

Regarding landscape perception, only French speakers mention the idea of "pastures" ("pâturages") in their description of Jura landscape. Swiss German defines Jura landscape as "various", but they only speak about forests and do not directly mention "pastures". Respondents of both languages spoke of the Jura pure state of nature – positively addressed – and its coexistence with human uses and presence. We therefore observe no great difference between instrumentalist or intrinsic valuation of nature in the two regions.

2) Fauna perception

The main part of evoked typical species is similar between the two language areas. Two French respondents perceive badger as typical in the Jura fauna, whereas this animal was not mentioned by any Germanophone. In the contrary, almost all German respondents mention deer, whereas this animal was not mentioned among French speakers. This is probably due to the Swiss project aiming to reintroduce deer in central Switzerland (cantons Bern und Solothurn), that is particularly affecting people of this region. This means also that inhabitants of Solothurn already had to deal with one reintroduction in their landscape, which can enhance cultural plasticity or, in the contrary, reduce it, making them feel they have already accepted enough for other animals.

Two French respondents evoked the bison herd of the parc at the Chasseral as typical for the region. There is an enclosure with no access in the French-speaking part of canton Bern. Thus, both language areas are already confronted with this new animal. But the projects differ highly: at Chasseral, there are no plans of total release into the wild. Respondents considering the bison herd of Chasseral as typical fauna remains however very interesting in term of cultural plasticity.

3) Cultural plasticity regarding species reintroduction

It is difficult to make any conclusion from the few interviews. The three French speakers do not seem to express any reluctance to the idea of bison assimilation into Jura perception and culture. One citation resuming this mindset could be the following “Ça ne ferait pas tâche dans le paysage” (ID5_transkript, Pos. 22), meaning “it wouldn't look out of place [to have bison in the Jura landscape]”. The three francophones accept bison as close to the culture and eligible, looking very much like the cows that are already there. One respondent shows ecocentric values, even saying he wants to give bison back the place they had long time ago. One Swiss German respondent set out the same ideas.

6.5. Visualisation of completed influence model of acceptance

The figure 25 shows the progress through the influence model of acceptance. Green elements could be interpreted in the statistical analysis, while white elements were yet successfully deepened in the interviews. Red elements represent surprising results. Black arrows are literature based, blue arrows are displaying the statistical findings. Purple element/arrow will be analysed in the next part: the spatial analysis results.

We clarified the effect of having children in one’s household, of the language and culture, of the latent concepts B, C and D – which are very important predictors of the statistical models, note that the arrows have now one precise direction – and of the lack of information regarding bison ecological niche. Indeed, interviews underlined the importance of information about bison habitat (within G) for reintroduction acceptance and beliefs of its success.

The last uncovered aspect are the *spatial predictions* and the relation between *cohabitation possibility* and the *reintroduction acceptance* (G). The next chapter present the data interpretation and results of the spatial prediction. The relationship between reintroduction acceptance and such a territory analysis is addressed in the discussion.

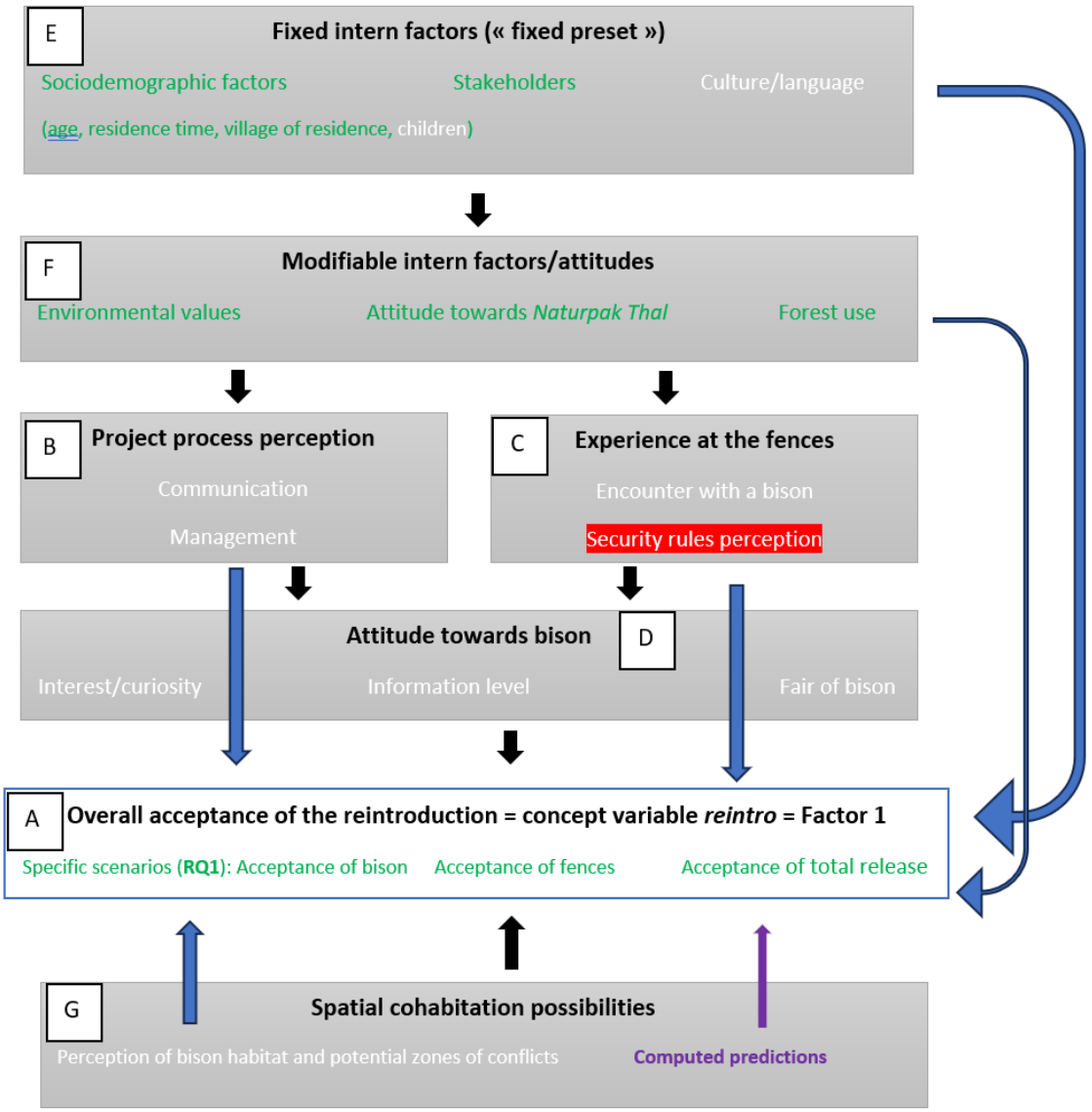


Figure 25 : final influence model of acceptance after the survey and interviews analysis.
Green elements could be interpreted in the statistical analysis, while white elements were successfully deepened in the interviews. Red elements represent unexpected results. Black arrows are literature based, blue arrows are displaying the statistical findings. Purple element/arrow are analyzed in the final result parts: the spatial analysis.

6.6. Spatial analysis: PP-GIS and conflict area prediction

The PP-GIS results show a clustered distribution of the observed bison in the pasture landscape at the forest ranges (map 1). This could be a consequence of the better visibility of those areas in comparison with the forest. Therefore, we cannot assume this correlation as reliable, even though several research papers are also specifying open grass areas as common zone for bison. As the enclosure is still small and does not interact with human infrastructure, it is difficult to draw any conclusions from these data.

However, an interesting social aspect can be extracted from these results: bison are often found in the forest, as confirmed by the literature and the park's farmer. That means that people seem not to fear bison in the forest, since they are not looking at them carefully there. These observations are also important for the management – the safety – of the project: it seems that passers-by are unaware of the proximity of the bison in the forest, which can be dangerous. It may therefore be necessary to make people aware of their invisible presence. Moreover, we see that the forest use mainly relies on pasture roads use, what give more information about people forest use of the region and open new research areas in this thematic.

To address an approach of mapping the cohabitation area people/bison, the data is too unreliable. Therefore, the approach is based on consolidated literature for bison and on the DULN layer recently created by the WSL. I decided to predict the overall possible bison presence in the Jura Mountain in order to extend this part of my research to the Swiss scale. After following the multiple steps mentioned in the method chapter, two seasonal maps were obtained (map 2, map 3).

We can conclude from this spatial analysis that the potential conflict areas between humans and bison represent about 40% of the summer bison (map 3) habitat and 34% of its winter habitat (map 2). For both seasons, more than 50% of the bison habitat does not involve human leisure time zones, which could allow a species management ensuring its presence outside potential cohabitation areas. The summer map (map 3) shows that anthropogenic recreation areas cover a larger area than the potentially cohabited ones: this leaves plenty of scope for spending leisure time away from areas prone to the presence of bison. In winter, the bison descend to lower altitudes and anthropogenic areas seem to be more affected.

Map 1 : PP-GIS results.
The participants were asked to give the location where they saw a bison.

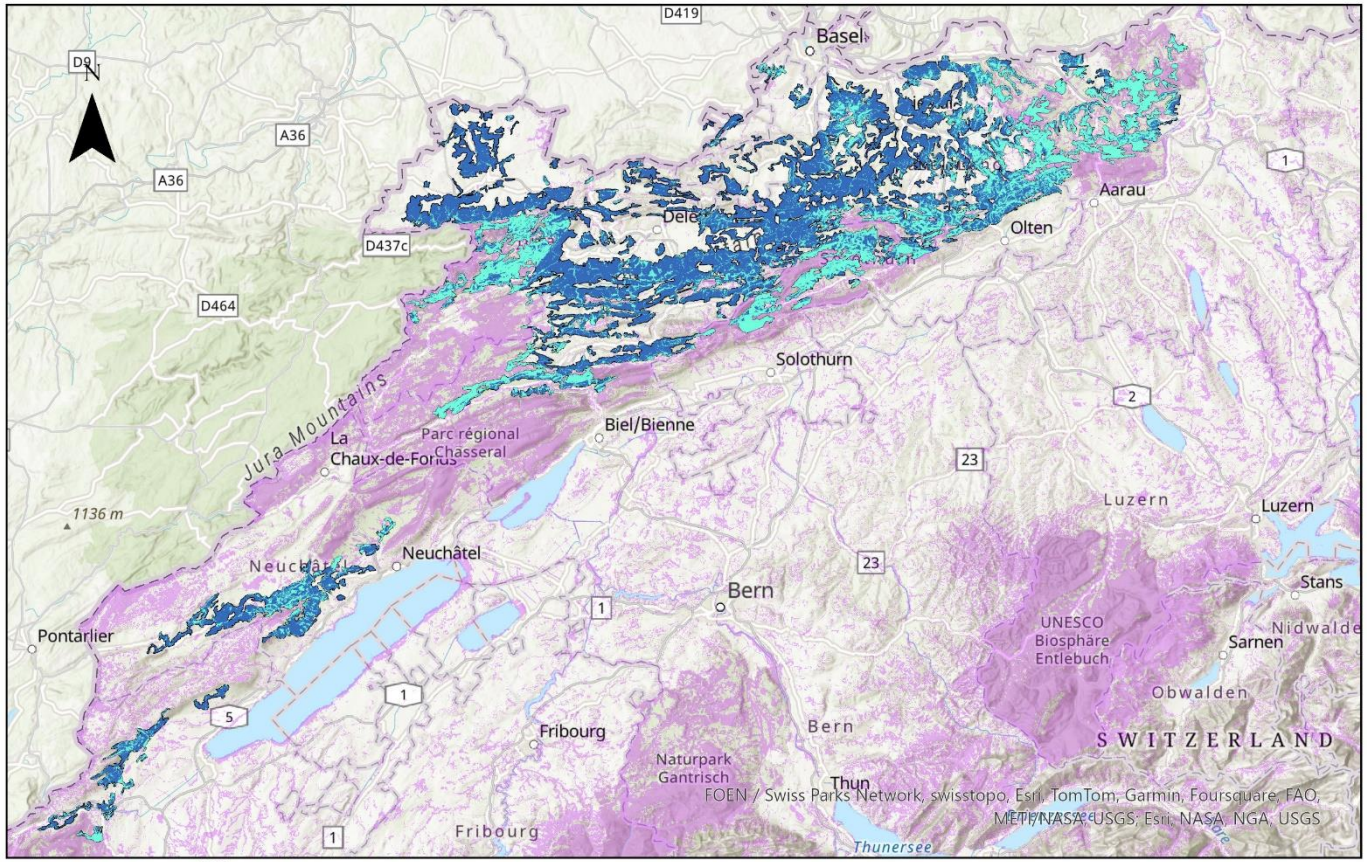
Locations of encounter with the bison - results of the survey (PP-GIS)

Zélie Stauffer, 07.09.2023
Source: CopernicusDEM90, Sentinel-Level-2A, 2023-09-06T16:44:00

We observe that the bison group was only observed in the meadow. The better visibility of this zone may have led to a pseudocorrelation. However, research confirms a preference for forest edges (Wołoszyn-Gałęza et al., 2016).

Map 2 : potential areas of conflicts human/bison – winter season.

Potential winter habitat of bison
Areas of conflicts between bison prefered habitat and humans recreation areas



Legend

- Overlap humans areas/ bison habitat
- Potential presence of bison (adequate habitat for winter)

Humans recreation areas

Value

- non attractive
- attractive

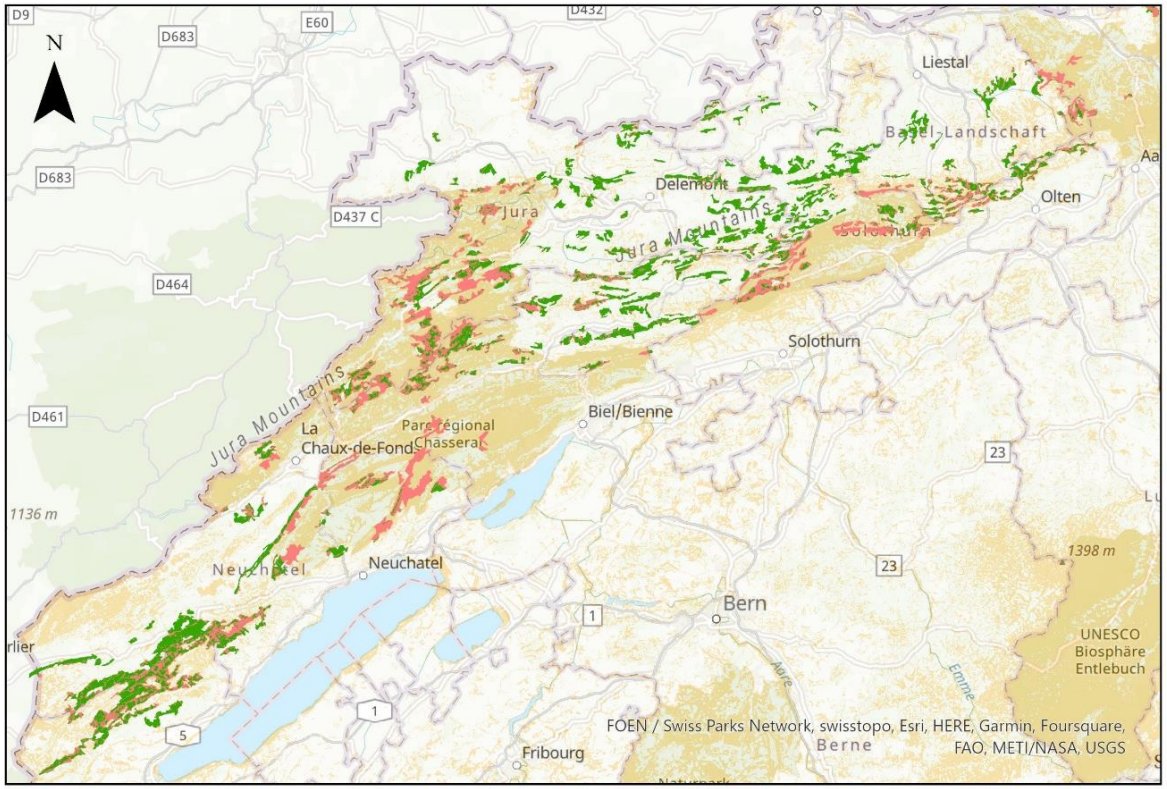
The potential overlapping areas represents 33'830 ha, which is about 34% of the total suitable area for bison in winter within the Swiss Jura.

Zélie Stauffer, University of Zürich / WSL, 28.09.2023

Source: Bundesamt für Landestopografie swisstopo, Copernicus Land Monitoring Services (CORINE CLC18), WSL - Social sciences for Landscape Research Group Database

Map 3 : potential areas of conflicts human/bison – summer season.

Potential summer habitat of bison
Areas of conflicts between bison prefered habitat and humans prefered recreation sites



Legend

Overlapping areas recreation / bison

Potential presence of bison (adequate habitat for summer)

Humans recreation areas

Value

non attractive

attractive

The potential overlapping areas represents 17'486 ha, which is about 41% of the total suitable area for bison in summer within the Swiss Jura.

Zélie Stauffer, University of Zürich / WSL, 28.09.2023

Source: Bundesamt für Landestopografie swisstopo, Copernicus Land Monitoring Services (CORINE CLC18), WSL - Social sciences for Landscape Research Group Database

7. Discussion

7.1. Discussion of the method

Two factors were planned to be asked in the survey but were dropped for reasons of length limitations and public sensitivity: the NEP scale and the political affiliation.

I predicted both to be significant. Environmental association affiliation was used as a proxy for environmental values (instead of NEP) and is positively correlated to acceptance. Environmental association affiliation also gives us rough indication on the political spectrum – considering ecological values as a proxy for left/middle political wing. Note that the strong polarization between pro and contro bison people is a pattern often occurring in political and environmental questions (Birch, 2019). The decision to eliminate these two aspects may therefore have been compensated for, but if the survey were to be repeated, I would emphasize the importance and relevance of these two factors to explore their significance in this specific context more precisely.

Including profession as sociodemographic question in the survey would make sense for the next planned sample of the project, since professional sectors as agriculture and forestry turned out to represent important stakeholder groups.

7.2. Discussion of the results

Discussion of the results of Research Question 1

Which degree of acceptance is the local public showing toward the *Projekt Wisent Thal*?

People do not fear bison and accept the animal itself better than the idea of reintroducing it. We observe a NIMBY ("not in my backyard") effect, in which respondents are more against the concrete reintroduction (total release) in their neighbourhood in comparison with a hypothetical reintroduction in Switzerland. This type of reaction is very common regarding environmental project (Von Essen & Allen, 2020).

Generally, the respondents are at most favourable for a reintroduction within enclosure, but in a bigger open-access enclosure – the current situation, which I find interesting. I would have expected that the NIMBY-Effect would reflect a preference for a national-based reintroduction. The preference for a big open enclosure could be the well-being of bison (through a bigger enclosure) or the desire to get close to these wild animals (thank open-access enclosure), a certain curiosity that can cause an emotional response waking a wish to preserve them (Ballantyne et al., 2007, Klich et al., 2018). A further qualitative exploration would be necessary to understand public's motives better. A further inspection could also seek to understand if the public acceptance for an hypotetical reintroduction in Switzerland

is really reflecting people's attitude or due to social pressure about environmental friendliness, as we can observe in research about people sustainable consumption's motivations (Ghaffar & Islam, 2023).

Discussion to the results of Research Question 2

Which factors are influencing the acceptance of the *Projekt Wisent Thal*?

The survey and the interviews significant results are aligned with the initial hypotheses.

A particularly interesting feature of the survey are the high representation of people affiliated to environmental association (about 25%), which surprisingly corresponds to other surveys data (WaMos3, WSL, 2020).

I expected education to play a role as well, but this variable did not turn out significant in the quantitative analysis. It is maybe here important to differentiate environment concern from environmental-friendly behaviour. Concern for environment is often overridden by precise contexts in which pro-environmental behaviour could be shown (Bamberg, 2003). That is why some research enabled to analyse the link between education and environmental concerns but failed to capture environment-friendly behaviour (Jaoul-Grammare et al., 2022). I also expected the fences security rules perception to be positively correlated with acceptance in the final hierarchical regression, but it was not the case. If we take a closer look at the survey values, we constate that the public majority rates the rules as comprehensible and sufficient, with a very high overall mean of 4.35 (scale 1 to 5, 5 being related to positive perception). In our case, the experience at fences is mostly influenced by the bison encounter (figure 25, p.75), within C).

The last two sociodemographic hypothesis to be discussed regarded age and gender. Whereas age turned out significant – positively correlated with reluctance –, gender did not turn out to be a significant sociodemographic factor. We chose to use residence time as a proxy for age groups, since these two factors are closely related. This decision could be discussed and the two variables separately analysed. While some studies show that gender can play a role in the acceptance of environmental projects (Kimmig et al., 2020, Eeden et al., 2021), others find more complex interactions, significant effect being only revealed through variables combinations; gender and age (Carnovale et al., 2022) or gender and interest group (Pérez-Barbería & Gordon, 2023). These interactions could be subjects for further surveys.

The perception of the animal *per se* is closely correlated with the general attitude towards the project: however, to my biggest surprise, people do not evoke being afraid of bison in the interviews, even if they were against the project. It is necessary to remind that a face-to-face interview can influence respondents' answers (Newman et al., 2002). People could be reluctant to admit that they are afraid of the bison (especially in a case of a woman interviewing a man (Dijkstra, 1983)). This effect is known from face-to-face and telephone surveys and is called the interviewer effect. A social desirability bias

may also be involved, the respondents willing to align their answers with the interviewer's expectations or values. This bias could have a greater impact in a direct conversation than in an online survey. But aside from this possible bias, I think that the perception of the wild animal would have been even more a strong factor if it was about carnivores like wolves or bears, which people are really afraid of. This This brings to mind the relevant factor revealed in the introduction of this thesis: different types of wild animal do not come under the same public perceptions and therefore do not generate the same emotions and reactions. Predators like wolves or bears are intended to present *Menace* behaviours (Jürgens, 2022). In Switzerland, wolf is causing different problems in farming sectors, as it is feared that they will attack livestock and cause excessive economic losses: so much so that the resulting pressure is driving farmers to farm exit (Mink, 2022). Wolf acceptance is rather low in Swiss regions of coexistence human-wolves (Behr et al., 2016) because of direct involvement and fear for public security (Behr et al., 2017). The case of bison is much different; this herbivorous animal is not directly a threat to human or livestock, but the idea of reintroducing it causes conflicts with different interest groups, which suits more to the Jürgens (2022) so-called *unintentional* motives of a species (*Unintentionally*).

Concerning the cultural comparison between the two language groups, my results would agree, since the three French-speaking respondents showed acceptance to bison reintroduction and would accept their assimilation in the cultural landscape. However, we cannot fully support this trend, due to the small sample size and especially as we must not overlook the NIMBY effect (Wexler, 1996): we cannot exclude here the NIMBY effect, since the French speakers and their entourage are yet not directly involved in bison reintroduction and its challenges. Furthermore, all the French-speakers are active in an environmental association, which forms a consequent bias in the results. It is very interesting that people in French-speaking Switzerland seem to perceive the landscape a little differently, with more pastureland. The relations between environmental perceptions, languages, other cultural factors and bison acceptance could be a relevant subject for further research.

Based on these results, we can try to apply the idea of von Lindern et al. (2019) of *identification* for the acceptance of bison. This research shows that a high valuation of the regional landscape can cause two different attitudes: interviews have shown that some people close to nature in Welschenrohr are rather consevative and do not want to add an animal considered as foreign (Lewis et al., 2018). Conversely, some respondents show a broader identification with nature, with its well-being, and thus, from a rather ecocentric perspective, show the motivation to conserve ecosystem functions by welcoming the bison as a member of the landscape with a right to live there. Interviews in the French-speaking part of the country highlighted the idea that the existence of a similar species in the home-landscape of *identification* - herds of cows – could increase benevolence towards the bison's welcome. In this case, it's an extension of the concept of landscape *identification* to the landscape's fauna (Sébastien, 2016). The fixed concept of landscape *identification* alone does not promise a positive reaction to reintroduction projects, and could, on the contrary, provoke reluctant conservative reactions.

Discussion to the results of Research Question 3

Which areas will be commonly shared by humans and bison after the future release of these and, thus, will be potential conflict's locations?

The tool developed by WSL does not yet offer a concrete threshold for the attractiveness of locations: a threshold has been manually added to obtain a binary map. This choice was based on a visual response of the shaded layer (values from 0 to 42). The value of this threshold could be explored in greater detail, an optimal scale could be to link to 1-to-5 scales (*habitat suitability* and *recreation attractiveness*) to create a resulting 1-to-10 *conflict potential* scale. Other aspects could be explored further, such as data on bison habitat preferences, that could be based specifically on the movements of the ones living now in Solothurn. Maps for all seasons could also be developed, addressing different area types and themes of specific conflicts (for example, addressing specifically agricultural fields). This mapping tool created by the WSL and this approach could nevertheless provide useful information for managing the bison herd, avoiding certain spatial conflicts.

Nevertheless, we could generate a map predicting that more than 50% of bison habitat does not disturb human recreation zones. Such data could, firstly, indicates for a specific management and measures from authorities to chase bison herd from problematic areas, and, secondly, enhance the acceptance of bison if it is well presented to the public. Knowing that interventions can be deployed specifically where and when the level of social tolerance toward wildlife is exceeded increases public's trust and acceptance (Fortin et al., 2020).

I was very surprised by the revelation in the interviews that some people don't believe in the characterization of the landscape as suitable for bison: They totally refute this assertion. I think this attitude, highlighted by the results of habitable areas for bison, shows the great misunderstanding about the animal's ecological niche. Furthermore, if people fear the release of bison, it still means that they think the species could expand too much and uncontrollably – which contradicts an unsustainable habitat for the animal. This relation between social acceptance and spatial expansion, which lies at the heart of this thesis, mirrors one of the main problems of such projects, the so-called socio-ecological dimension (Behr et al., 2017). This reflects a tension between the perception of the project as a rewilding of the landscape or the expansion of a potentially problematic animal, two perceptions resulting in two different acceptance process outcomes. This core conflict will be developed in the epilogue.

Generally, the limits of such a spatial prediction can be seen, for example, in a project in Germany, in which the behaviour of bison did not follow the predicted results and the animals began to wander in an unexpected way (Wilderness Society, 2019, article online). This case of rewilding failures will also be examined in the epilogue.

7.3. Limitation of social science research using environmental sciences method and statistics

Coming from an environmental science background, it was quite difficult to approach social science methods: indeed, although the statistical analyses turned out to be similar, the experimental design, the models to be used and the nature of the data differ greatly. In the social sciences, the distribution of questionnaire data does often not correspond to normal distribution. This would indicate more for non-parametric tests. However, for reasons already mentioned in the method, parametric tests are often used despite this distribution. We decided then to carry on with parametric tests.

Out of curiosity, I decided to perform a non-parametric test for the factor with the distribution furthest from a normal distribution, and then compared the results. The tests chosen are the Wilcoxon-Mann-Whitney (for variables with 2 groups) and the Kruskal-Wallis tests (for variables with more than 2 groups). They were applied to the "attitude towards fences security rules", concept variable *fences*, variable, for which the QQ-Plot displayed a non-normal distribution.

The tests showed exactly the same results (table 14): for the sociodemographic factors, only the affiliation to agriculture association has a p-value smaller than 0.05 (p-value = 0.0307). Regarding the regression, we observe a significant positive correlation between the two variables (p-value = 0.015038).

We can then conclude, based on this example, that similar trends would have been observed both with parametric and non-parametric tests.

Table 14 : comparison of parametric and non-parametric tests results. These tests were performed for the sociodemographic variables (x-variable) and the concept variable *fences* (y-variable)

Variable	**Wilcoxon or Kruskal-Wallis (non-parametric)**	**ANOVA (parametric)**
landverein	0.0307 *	0.01869 *
umweltverein	0.8516	0.88324
children	0.5066	0.50512
village	0.4375	0.63205
since	0.6582	0.63058
education	0.8936	0.71744
age	0.1599	0.27338
Gender	0.6995	0.86312

7.4. Flow diagrams of social science *versus* process complexity reality

The figure 25, page 75, shows the final acceptance model of bison reintroduction. Such schemes aim to reconstruct the acceptance process to understand its factors and their interactions. I think that this study builds a good example of the existing complexity of such a model: sometimes, the overall attitude towards a project forms a mass from which it is difficult to extract distinct pieces – which is what we have tried to do in the most methodical and reasoned way. A social science approach for understanding an attitude as the result of a multitude of factors is necessary to quantitatively highlights the overriding influences shaping it. However, we must be aware that the established categories sometimes remains partially subjective, as are the questions targeted by the questionnaire. Are we asking questions, or constructing our flow model, in a way that we find the very answers we are looking for? A more holistic approach could also be used to explore the social acceptance about wildlife reintroduction. Indeed, in our case, bison acceptance seems to be embedded in a cloud encompassing a general attitude shaped by a multitude of aspects which a holistic method would address in its whole. However, whereas holistic approaches manage to tackle questions with more general perspective, they struggle to present methodologies for precise quantification and scientific precision (Verschuren, 2001).

8. Conclusion

Answer Research Question 1

Which degree of acceptance is the local public showing toward the *Projekt Wisent Thal*?

We see that people seem to accept the bison itself as a peaceful animal. This acceptance is higher than the one of the idea of reintroduction of the species. The respondents accept more the current situation of a big(ger) open-access enclosure than a hypothetical total release in Switzerland. The current situation is the preferred form of reintroduction. A hypothetical release in Switzerland is more accepted than a total release in Solothurn. Finally, the lower acceptance is allocated to the idea of a small and closed enclosure for bison in Solothurn.

Answer Research Question 2

Which factors are influencing the acceptance of the *Projekt Wisent Thal*?

Sociodemographic factors have an effect on bison reintroduction acceptance: while the age, the residence time, the proximity of one's village to the enclosure, frequency of forest use and the agriculture sector are negatively correlated to acceptance, the valuation of *Naturpark Thal* and the affiliation to an environmental association have a positive effect. The latter represents the internal factor with the greatest effect, being the only one remaining visibly significant within the final hierarchical regression. The presence of having children in the family is negatively correlated to acceptance, but this factor was revealed more complex and shows ambivalence between interest and fear of the bison project: an interviewed mother explained preferring the project to remain within an enclosure, rather than continue with the planned total release, for security concerns.

However, these significant sociodemographic effects are drastically overlaid by external influences: the perceived project process, management and communication is a decisive factor with the highest weight, and the perception of bison itself is also intimately linked to project acceptance. The latter is directly influenced by the encountering experience with a bison. Therefore, a good campaign for the project should, above all, ensure good communication and management of the project, transparent and accessible to all, as well as an attempt to make people sympathize with the bison itself, to make it perceived as an interesting and peaceful animal.

The perceived risks and sources of conflicts are damages on trees, trampling of fields, pressure to keep children safe, dangers for people who do not know how to deal with wild animals (especially dog owners) and traffic safety. The interviews did not underline perceived opportunities from the project, except from the chance to give more space and right to nature again, revealing an ecocentric perspective from one participant. Furthermore, the project is perceived as activity-limiting for hunters, walkers and mushrooms pickers.

Extra information about bison species let people feel more informed and interviews showed that targeted information could prevent misinformation about suitable bison habitat and eliminate some counterarguments from people opposed to the project.

The interviews emphasize the importance of three other factors that were not directly part of the survey questions: the perception of bison habitat, the professional sector (in our case agriculture and forestry) and the general attitude towards rewilding projects (people's attitude towards nature, for example Kellert typology (1985)).

As already mentioned, it is difficult to draw conclusions from cultural and language comparisons. Firstly, the context of the region plays a role in the perception of bison reintroduction. Indeed, the recent reintroduction of deer in Solothurn or the bison presence at Chasseral are undoubtedly not inert components of acceptance. Both seem to influence the landscape and fauna perception of the respondents. Secondly, the region's landscape is important: all the people in French-speaking Switzerland directly mentioned the presence of pastureland. This implies the typical presence of cattle herds, which can positively influence the acceptance of bison through their resemblance to cows. This means that cultural context, which is undeniably linked to spoken language, could have an impact on the acceptance of such rewilding project.

The relation between results and the concept of *identification* and the acceptance will be addressed in the discussion.

Answer Research Question 3

Which areas will be commonly shared by humans and bison after the future release of these and, thus, will be potential conflict's locations?

This part of the thesis is the subject of preliminary results for further research. It was very interesting to apply the mapping tool recently created by WSL into a concrete ecological project.

The shared areas expected in the summer correspond to pastures, coniferous forest and grasslands between about 550 meters and 1000 meters above sea level. Anthropogenic areas (near roads or infrastructure are weakly involved. The possible shared area in which we allocate high human interest represent 41% of bison suitable habitat.

In the winter, the possible shared territory involves pastures, mixed forests, and deciduous forests between about 400 meters and 750 meters above sea level. This lower altitude has as consequence a potential higher proximity of bison herd to agricultural areas. However, two third of bison predicted habitat does not correspond to the identified human zones of interest.

9. Epilogue

9.1. Rewilding of landscape or rewilding of bison?

One of the questions raised by this research project into the reintroduction of bison to Switzerland is the following: do we want to focus on the conservation of a species or on the renaturation of its ecosystem? Having worked for just over a year with the *Verein Wisent im Thal* association, I noticed that it's easy to get lost in this species/ecosystem ambivalence and lose sight of the project's primary objective. What is the first argument that needs to be put to the public to win sympathy; bison or regional ecosystems? This question of rewilding nature or species is increasingly coming to the fore, as are projects to reintroduce species.

These two perspectives of rewilding diverge importantly in their goals and results: in our case, whereas rewilding bison only wishes the welfare of the animal, rewilding landscape would be focused on the ecosystem role of bison. Scientific encourage rewilding to erase negative impacts of humans on ecosystem, but also warn against the limited top-down control of ecosystems in such projects, in which it is challenging to predict the consequences of introducing novel species in ever-evolving ecosystems (Bravo et al., 2016). Moreover, 70% of reintroduction project fails (Bravo et al., 2016): it is then important to weigh up the risks and benefits carefully, and to have a clear guideline for such projects, including the ethical commitments (human and non-human) involved (Thulin & Röcklinsberg, 2020). We must then be certain that all the species of this ecosystem are regulating themselves in a balanced way. It is important to interrogate ourselves in what extent the reintroduction of one species can restore an ecosystem of a precise region and not to forget that ecosystem health should be primordial: does it make sense to have a healthy bison herd if it does not help the ecosystem to become richer or more resilient? That is an important question to ask in the preparation of such projects to set right objectives.

Another question is directly embedded in the method of rewilding, opposing the ideas of *human-mediated* rewilding or *spontaneous* rewilding – also called *active* or *passive* rewilding. In other words, it interrogates human's legitimacy in targeting renaturation and reintroduction. Although active renaturation aims to give nature more space, isn't it finally also an anthropocentric intervention? We could, as human beings, also simply withdraw from certain places and let nature renature itself, letting it evolve without human action. I think this aspect is directly linked to the duality that exists in the principle of creating a new nature, i.e. between simply wanting to *restore* landscape or wanting to *develop* and *design* landscape. Nowadays, specialists often propose a mix of both perspectives, like the association Rewilding Europe (Website Rewilding Europe): “We can give it a helping hand by creating the right conditions – by removing dykes and dams to free up rivers, by reducing active management of wildlife populations, by allowing natural forest regeneration, and by reintroducing species that have disappeared because of human’s actions. Then we should step back and let nature manage itself”. Some philosophers like the French sociologist Bruno Latour warn against human intervention into nature restoration: in his view, we do not know natural systems with any certainty and are therefore unable to

assess them accurately, preventing us from combating their supposed effects (Subérichot, 2012). This would suggest a passive rewilding without any human intervention, which is defined as facilitating the development of self-sustaining, self-organising and resilient ecosystems shaped by natural processes (Pettorelli et al. 2023). This duality "unterlassen oder tun", which means "to leave or to act" was already a perspective presented by the CIPRA organism in 1995 (CIPRA, Tun und Unterlassen, 1995). However, this can also lead to a high level of unpredictability in ecological outcomes. This is also accompanied by the risks that local communities will reject projects that are not guaranteed to meet their expectations. There's a great deal of discussion surrounding these two renaturation methods (passive and active), both of which have their advantages and disadvantages, whether in social, cultural, moral or ecological terms (Pettorelli et al. 2023). Laura J. Martin also addressed this question in her book *Wild by design*, criticizing the restoration technique, underlining the fact that "to intervene in the lives of wild plants and animals [is] also retaining their 'wildness'" and insisting on the multidimensionality of such projects; "that successful environmental management schemes must address social justice alongside ecological health" (Martin, 2022).

In our case, the project organising committee insisted on using the term *Wiederansiedlung* ([bison] reintroduction) for the survey. This means that the species level is emphasised, not the ecosystem level, for which the world *rewilding* would have been, in my sense, more adequate. I think it is then really important not to forget that bison should help restoring ecosystems and that their presence could not be the objective of the project *per se*. Moreover, using the term *reintroduction* emphasizes the expansion of the species in the territory. This may have negative connotations for a public unwilling to give space to wildlife or to let the landscape recover its rights. In the contrary, many scientists and philosophers try to communicate rewilding as beneficial for humans too, recalling the idea that we are a part of our environment and that we need to "rewild ourselves" as well. Indeed, journalist Monbiot defines rewilding as also being aimed at humans: "I see rewilding as an enhanced opportunity for people to engage with and delight in the natural world" (Monbiot, 2015). This spiritually definition of rewilding is thought by Gammon (2018) to form a *reflexive rewilding*, meaning that it reimagines the identities of humans in relation to non-humans. Another example of reflexive rewilding highlighting the benefits to humans of a wilder nature comes from the geographer Lorimer, whose theory indicates that an ecosystemic rewilding would benefit – and even be necessary – or the health of our micro-biomes, thus speaking of gut's rewilding (or "reworming") (Lorimer, 2017). Thus, *rewilding* can include human well-being in its meaning, also proposing to deepen one's own ethical or relational reflections with the wild world. Although the term *rewilding* should be used with caution due to its current overuse, it may be more appropriate than *reintroduction* to aim for public acceptance of an environmental project reintroducing one specific species.

9.2. Impossibility of controlling nature: failure of a similar project in Germany

Renaturation and reintroduction projects are always sensitive subjects – above all with large predators such as the bear and the wolf. As the ecological movement and awareness grows, so do the number of such projects. Causing much controversy with the locals often reluctant, some of these attempts fail to achieve cohabitation between human and wild animals. This was the case of bison reintroduction in Germany (European Wildness Society, 2019). The project had to backtrack and return the bison to their enclosures, as they were spreading unpredictably across the landscape. The project team spatially predicted bison potential habitat but the results did not reflect the real movements of bison. This arises questions about my work about this will of predicting nature and this wish of ensuring a conflict-free reintroduction. But can we really assume a reintroduction to be conflict-free? Is the idea of controlling nature not in opposition to the renaturation of our landscape?

We notice here how much human beings want to control their environment. The nature/culture duality builds a solid wall between these two worlds and makes wilderness seem frightening and out of place in the civilized world. This brings us back to the idea of relational values with nature: at what point does everyone consider themselves part of nature and part of the ecosystem they inhabit? The problem of not envisaging human and culture as part of the environment is already existing in the definition of this word 'environment' since it refers to things that surround us and from which we exclude ourselves (Subérichot, 2012). The human definition of 'environment' is far removed from its etymology, *oikos* meaning 'home' – our home as well.

If some refuse to share space with nature and animals, it is because they consider that human beings have the right to draw the boundaries of the wild, bridging the gap between anthropocentric and ecocentric ethical theories. It is often argued that wild animals are dangerous and, as already mentioned, part of wilderness whereas humans belong to another place associated to civilisation. However, wild animals are not dangerous *per se*, and are often shy, wanting only to live according to their needs. Sometimes, our own systems make them dangerous and close to our homes – as in the case of landfill sites attracting wolves and bears (WWF, 2017) – so perhaps it is time to question the origins of aggression rather than demonizing certain animals. These negative stories and reputations only serve to aggravate the social perception of these animals, increasing fear and, consequently, the reluctance to have them living close to home (Jürgens, 2022). This opens up the fascinating theme of narrative, storytelling and environmental perception – a subject for which there is unfortunately not enough space in this master thesis. We can however remember the link we saw between languages, cultures and environmental values to connect the many aspects that have been identified so far in this thesis.

The problem that happened in Germany reminds us of this paradox existing between scientific certainty and human impossibility to control nature. This will of predicting everything, which is at the basis of human pride of intelligence, can sometimes avoid the acceptance of letting nature regulate itself. If we consider such reintroductions as giving space back to other species, we should not forget that there is a

possibility of evolution that is not in our hands. In nature, there is ultimately always a sovereign force, below which we are on an equal footing with other species and against which our measurements and calculations are not always correct. This nature force of *Rebellion* (Jürgens, 2022) can sound for some people frightening, since we are used to control planet's resources in a in a centuries-old Promethean culture (Pierre-Hadot, 2004).

The question we can ask ourselves now is the origin of this false prediction in Germany and the possibility of observing the same shift here in Switzerland. A possibility could be to compare these two countries' landscapes and existing ecological niches suitable for bison. We could attempt to understand why the fundamental niches prediction differed so much from the realized niches and to apply the conclusion to the Swiss Jura, and then refine our predictions. Another point could be to look at socio-cultural aspects in Germany that could have influenced the migration of the bison herd and to compare these with Swiss public behaviours. The association "Rewilding Europe" is aware of the capacity of the European bison to cause agricultural and forestry-related damage. The rewilding association underlines the importance to create aligned policies both at national and European level to avoid misunderstandings and conflicts with involved sectors. Indeed, the case of the German failure lied in insufficient compensation for tree and land damages, which results in long and arduous court proceedings (European Wilderness Society, 2019). In Switzerland and especially in Welschenrohr, almost the whole forest and territory correspond to economical-linked areas (agriculture and forestry). There is a risk that things in Switzerland could turn out similarly to Germany, given the land available in Welschenrohr. The project committee must ensure that its safety measures for the forestry and farming sectors are sufficient, and that the planned solution against damages is adequate and discussed. "Rewilding Europe" insists on three main points to reduce any human-bison conflicts (Rewilding Europe, 2014): firstly, the mix of forest and open habitats planned for reintroduction should avoid neighbourhood with agricultural areas. Secondly, mitigation measures must be planned in case of human-bison conflicts, as well as compensation measures. Finally, the association prefer a robust insurance scheme from a compensation system. Looking at these principles from Rewilding Europe and at case in Germany, it seems that this latter failed to meet the necessary criteria, both in terms of spatial planning and admission. Before exploring the Welschenrohr population and the specific predispositions of different interest groups to accept bison, these initial criteria form decisive preliminary measures. Unfortunately, the Swiss case is rather similar to the German one, at least from a territorial point of view. *Verein Wisent im Thal* was quickly attacked by the comparison with the German case: it defended itself by explaining that the project first wanted to test through an experimental phase whether a total release was possible, and that the latter would follow Swiss democratic principles and thus take all opinions into account (Solothurner Zeitung, 2022).

Some lands show great examples of cohabitation, like in Canada where people learn to live besides bears (Radio Canada article, 2023). The key seems to understand that cohabitation is not always conflict-free, but, in the contrary, is embedded in the acceptance that conflicts can emerge (Pooley et al., 2020) and

this without having to assign the nice and silly roles: both species have a right to live here. Respect of each other's space is very important, considering animals as neighbours; it is certain that a complete cohabitation area turns out impossible, since human civilisation does not correspond to natural niches for wild animals, but we could rethink the way we share "our" territories, or rather the territories offered to us by nature. The French writer Olivier Remaud brings an interesting perception about rewilding and coexistence, which disrupts our established living/non-living categories: in his book *Penser comme un iceberg* (2020), he shares an analysis of the arctic abiotic landscape which proposes a mix of narrative, scientific information, cultural contexts and ethical reflections to find solutions to the way we inhabit planet earth and share it with our non-human neighbours. For him, *rewilding* is ultimately an act of anthropic withdrawal, of listening attentively to what seems empty to us, but is in fact full of life – in this case, icebergs and ice continents – and of discovering a language common to all living things. This could increase our sensivity and empathy for nature.

As already mentioned in the introduction of this thesis, the history of one region regarding wildlife and reintroduction cannot be set aside when investigating public acceptance of a new environmental project (Behr et al. 2017). The case of *Projekt Wisent Thal* corresponds to a new coexistence with animal that was not living in the region in the last few generations, what drastically minimizes the chance for acceptance. I think that the interviews lead in this thesis could emphasize the influence of similar past experience on public attitude: it was pointed out by one participant that the acceptance of the deer in the region had already been a conflictual stage, and that it was therefore complicated to make room again in the landscape for the bison. Deer and bison could be seen as similar types of animal regarding conflicts engendered (crops damages, roads security), but bison is undeniably a most impressive, intimidating and dangerous animal for humans, what brings a completely new acceptance process for Switzerland. Neighbouring projects, whose failure and damage in Germany, nourish narratives and public perceptions. We need to take this into account when influencing attitudes to a project. It's interesting to note Glikman et al. definition of human-wildlife coexistence (2021): it is the sum of acceptance on the one hand – valuation of a species but often accompanied by a NIMBY effect, as it seems to be in our case – and tolerance on the other – i.e. accepting a certain animal close to oneself without any kind of valuation. According to this definition, the *Projekt Wisent Thal* seems to miss the tolerance aspect in order to ensure a peaceful coexistence in the future.

By reintroductions of big species, maintaining a harmonious level of coexistence can often be a challenge. The nine minutes film *Zimbrul*, shot by the French Emmanuel Rondeau, reflects the encountered difficulties and conflicts in Romania since the reintroduction of bison in 2014. This touching film shows the reality of human-bison conflicts without any filter and the established model of coexistence. As mentioned above, cohabitation cannot leave the regional audience unscathed (Pooley et al. 2020), as they have to make room and accept their new neighbours. However, the film ends on a very positive, meditative note, showing that the reintroduction of the bison has also positively transformed everyone's relationship with nature. To quote Rewilding Europe; "in the end, what really shines through

in *Zimbrul* is the way in which the reintroduced bison have touched so many people's lives". The film director explains how this theme recalls the strong ties people have with their regional landscape and the apparent and painful contradictions that emerge: "For me, the best moments during shooting were meeting people in the rewilding area and feeling their strong connection with the environment. […] *Zimbrul* shows that in life, not everything is black or white. […] some people will always be passionate about nature. But I think the most interesting thing is that the return of the bison triggered something in people who had never cared about nature before. In many communities, the comeback of these animals has placed nature back in the centre of the discussion.".

On this beautiful reminder of a rethinking of our relationship and spirituality towards nature, I would conclude this master thesis recalling Kellert's (1985) theory of different attitudes to nature: the current situation of ecological crisis and the natural extremes that flow from it remind humanity of the certain humility it owes to nature. An ecological-scientific attitude is necessary to understand the world around us, but we must not forget that we are part of our environment. We have to let some place for nature again and accept to share territories with our non-human neighbours. It might now be a question of changing our relationship with nature into what Kellert would define as humanistic, naturalistic or moralistic, and leaving behind any Promethean utilitarian or domineering attitude.

10. Literature

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11. Appendix

The following documents are attached in respective order:

11.1. Official report for the *Verein Wisent im Thal*
11.2. Descriptive analysis of the quantitative survey
11.3. Cover letter
11.4. Information flyer
11.5. Survey questionnaire
11.6. Interview questionnaires (German, French)

The interviews transcriptions, the table with citations and comparison of French-/German-speakers interviews and the informed consents of all participants can be found in the supplementary materials, submitted jointly with this master's thesis.

The Excel data table, R scripts and the Survey123 Excel table were sent as informatic files to all examiners of this thesis on the 27.03.2024.

Bericht zur Umfrage «Akzeptanz der Wiederansiedlung des Wisents im Solothurner Jura»

Seit September 2022 können wir in Welschenrohr Wisente in einem frei zugänglichen Gehege beobachten. Diese Möglichkeit besteht, weil vom *Verein Wisent im Thal* ein Projekt durchgeführt wird, mit dem Ziel, die Machbarkeit einer Wiederansiedlung dieser früher im Schweizer Jura heimischen Tierart zu untersuchen. Da das Projekt bei der Bevölkerung unterschiedliche Reaktionen hervorrief, wird vom Forschungsinstitut *WSL* eine Untersuchung durchgeführt, um die Akzeptanz der Bevölkerung zu erheben und die wichtigsten Faktoren für ein dauerhaftes Zusammenleben zwischen der Bevölkerung und solchen Tieren zu ermitteln.

Umfrage und Auswertung

Im Mai 2023 wurde ein Fragebogen an alle Haushalte der vier betroffenen Gemeinden Welschenrohr-Gänsbrunnen, Herbetswil, Günsberg und Balm bei Günsberg verschickt, um die Akzeptanz der Bevölkerung für das Projekt zu messen und die Faktoren zu erheben, die diese Akzeptanz beeinflussen. Die Untersuchung umfasst verschiedene statistische sowie qualitative Analysen. Die Akzeptanz der Befragten wurde mittels einer Umfrage zu verschiedenen Themen gemessen (Abbildung 1), bzgl. a) der Anwesenheit von Wisenten in einem kleinen geschlossenen Gehege, b) einer konkreten Freilassung von Wisenten in Solothurn («Projekt Wisent Thal»), c) einer hypothetischen Freilassung von Wisenten in der Schweiz, d) der Anwesenheit von Wisenten in einem grossen zugänglichen Gehege (wie jetzt) und e) des Wisents als Tier an und für sich. 375 Antworten gingen zwischen dem 25. Mai und dem 18. Juni ein, was 24,7 % der gesamten Haushalte (1519) ausmacht. Die Befragten sind zu 59,8 % Männer, zu 38,9 % Frauen und zu 1,3 % divers. 45% der Befragten wohnen in Welschenrohr-Gänsbrunnen (PLZ 4716), 27,5% in Günsberg (PLZ 4524), 15,2% in Herbetswil (PLZ 4715) und 9,1% in Balm bei Günsberg (PLZ 4525). Der Fragebogen wurde statistisch ausgewertet. Die Themen, die sich bei der Auswertung des Fragebogens als für das Verständnis der Akzeptanz des «Projekts Wisent Thal» relevant erwiesen, wurden in qualitativen Interviews weiter vertieft (siehe unten).

Resultate

Die Bevölkerung akzeptiert den Wisent als friedliches Tier ziemlich gut. Jedoch ist diese Akzeptanz für das Tier höher als für die Idee einer Wiederansiedlung. Die Befragten akzeptieren eher die derzeitige Situation eines großen Freigeheges als eine hypothetische vollständige Auswilderung in der Schweiz, die aus wildtierbiologischer Sicht die bevorzugte Form der Wiederansiedlung wäre. Allerdings wird diese hypothetische Freisetzung in der Schweiz von der Bevölkerung im Thal eher akzeptiert als eine totale Freisetzung im Kanton Solothurn. Die geringste Akzeptanz erfährt schliesslich die Idee eines kleinen und geschlossenen Geheges für Wisente.

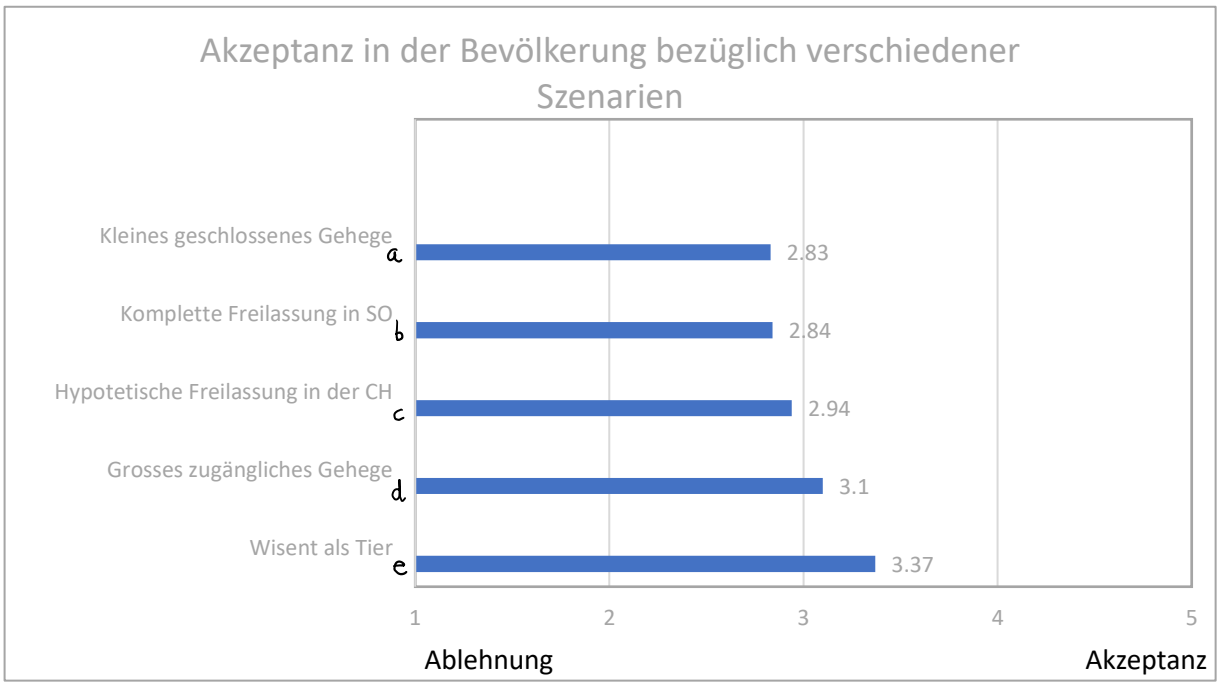


Abbildung 1: Akzeptanz der Bevölkerung bezüglich verschiedener Szenarien. Die Skala der Fragen geht von 1 (Reaktanz) bis 5 (Akzeptanz) und entspricht der *Likert Scale Items* Methode.

In Bezug auf die konkrete Akzeptanz des «Projekts Wisent Thal» zeigen sich folgende Ergebnisse (Abbildung 2, blau; *genaue Formulierung im Fragebogen: «Wenn Sie am kommenden Sonntag über die Fortführung des «Projekts Wisent Thal» abstimmen könnten, wie würden Sie abstimmen?»*):

In Bezug auf die Akzeptanz der Freilassung der Wisentherde beobachten wir folgende Werte (Abbildung 2, orange; *genaue Formulierung im Fragebogen: «Ich unterstütze die komplette Freilassung der Wisente in Welschenrohr.»*):

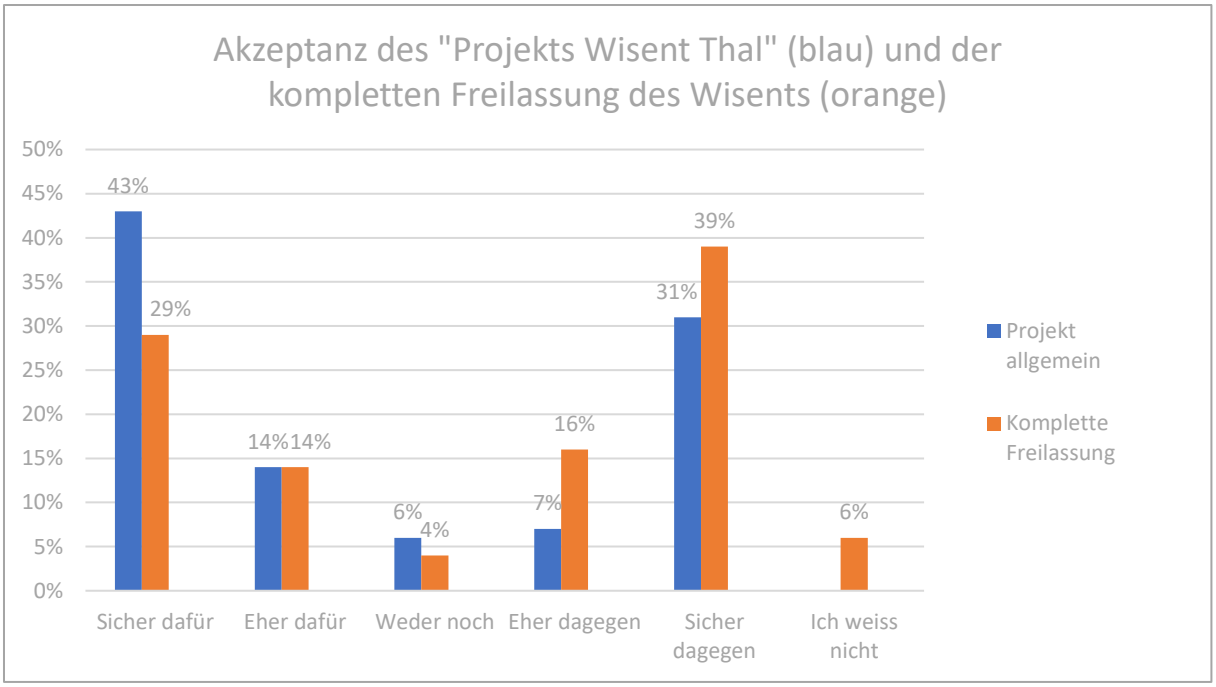


Abbildung 2: Verteilung der Bevölkerung auf Fragen zum Projekt im Allgemeinen (blau) und zur vollständigen Freilassung der Wisente (orange).

Die folgenden Faktoren hatten statistisch signifikanten Einfluss auf die Akzeptanz des «Projekts Wisent Thal» in Welschenrohr:

- **Alter und Wohndauer** im jeweiligen Dorf: jüngere Einwohnerinnen und Einwohner und Neuankömmlinge sind gegenüber dem Projekt positiver eingestellt.
- **Wohnort**: die Befragten aus Welschenrohr und Herbetswil zeigen weniger Akzeptanz als die Befragten aus Balmberg und Balm bei Günsberg.
- Familien mit **Kindern** zeigen sich weniger positiv.
- Personen, die einem **Umweltverband** angehören, sind eher für das Projekt. Personen, die einem **Landwirtschaftsverband** angehören, sind eher gegen das Projekt.
- Personen, die **regelmäßiger in den Wald** gehen, befürworten das Projekt weniger.
- Eine positive Beurteilung der **Sicherheitsregeln des Geheges** korreliert mit der Akzeptanz des Projekts.
- Die Personen, die die Existenz des **Naturparks Thal unterstützen**, unterstützen tendenziell auch das «Projekt Wisent Thal» stärker.
- Die **zusätzlichen Informationen**, die in der Fragebogenaktion zum Projekt abgegeben wurden, erhöhten die Zustimmung zum Projekt.
- Die Beurteilung des **Projektablaufs, der Kommunikation und des Managements** ist eng mit der allgemeinen Akzeptanz des Projekts verbunden.
- Eine **positive Einschätzung des Tieres** an sich sowie eine **positive Erfahrung im Gehege** führen zu einer höheren Akzeptanz des Projekts.

Vertiefende Interviews

Um bestimmte Einstellungen gegenüber dem Wisent und die allgemeine Akzeptanz des Projekts vertiefend zu untersuchen, wurden qualitative Interviews durchgeführt. Ziel war es, die Auswirkungen der folgenden Aspekte auf die Akzeptanz des «Projekts Wisent Thal» zu untersuchen: Arbeit in der Forst- oder Landwirtschaft, Anwesenheit von Kindern in der Familie, Nähe vom Dorf zum Gehege und Wohndauer. Vier Personen mit einem spezifischen Profil

erklärten sich zur Teilnahme bereit. Diese Interviews wurden transkribiert und einer Inhaltsanalyse unterzogen.

Wichtigste Ergebnisse, die aus den Interviews gewonnen werden konnten, sind: Die Anwesenheit von Kindern ist nicht direkt ein Faktor, der sich negativ auf die Akzeptanz gegenüber dem Projekt auswirkt, aber die Familien ziehen die Gehegelösung der kompletten Freilassung vor. Mit zunehmender Wohndauer und Nähe des Wohnorts zu den Wisenten machen sich die Befragten mehr Gedanken über mögliche Schäden oder Nachteile, die sich aus dem Projekt ergeben könnten.

Ausserdem unterstreichen die Interviews die Bedeutung von vier Faktoren, die eine wichtige Rolle bei der Akzeptanz zu spielen scheinen:

- Beruflicher Bereich: Während Waldarbeiterinnen und Waldarbeiter Baumschäden vermeiden wollen und eine Freisetzung der Wisente eher akzeptieren, befürchten in der Landwirtschaft Beschäftigte Feldschäden bei einer Freisetzung.
- Die Wahrnehmung des Lebensraums des Wisents: Einige glauben, dass der Wisent in der Jura-Landschaft nicht überleben kann, und führen diesen Punkt als Hauptargument gegen das Projekt an.
- Die allgemeine Einstellung zur Natur: Umweltwerte scheinen sich darin zu spiegeln, ob man dem Wisent das "Recht" zuspricht, auch hier zu leben.
- Das Vertrauen in das Projektkomitee (*Verein Wisent im Thal*) ist ein entscheidender Faktor.

Kontakt

Diese Umfrage wurde von der Forschungsanstalt *WSL* durchgeführt. Für Fragen, wenden Sie sich bitte an die Projektbearbeiterin der WSL, Zélie Stauffer (zeliestauffer@wsl.ch), oder an den zuständigen Projektleiter, Marcel Hunziker (marcel.hunziker@wsl.ch).

Wald-, Schnee- und Landschaft Forschungsanstalt

Zürcherstrasse 111, 8903 Birmensdorf

DESCRIPTIVE ANALYSIS OF THE QUANTITATIVE SURVEY

A) Sample size

375 answers were collected (between the 25th of May and the 18th of June), what represents 24.69% of the total households (1519). Here is the descriptive observation of the different sociodemographic factors.

B) Age

Table 1 is representing the percentage of respondents in the different age groups. If we compare these numbers to the official statistics1, we observe that the population under 18 years old is underrepresented (16.2%), the population older than 65 years old is slightly underrepresented as well (23.1 %), whereas the population between 19 and 65 years old is overrepresented (76.7% in the sample against 59.2% in the official statistics). This is mostly due to the category 50-64, which represents 36.5% of the sample against 21.5% in the official statistics.

Table 1: percentage of respondents in each age groups. Green colours indicate an overrepresentation of the respective age group in the sample, while red colour stands for underrepresentation.

Age group	Number of respondents	% of the sample	% in the official statistics
<18	13	**3.5**	16.2
18-29	25	**6.7**	10.1
30-39	53	**14.1**	12.0
40-49	70	**18.7**	17.1
50-64	137	**36.5**	21.5
>65	70	**18.7**	23.1
NA	7	1.8	
Total		100	100

C) Gender

The respondents identify themselves as 59.8% men, 38.9% women and 1.3% diverse (graphic 1).

The official data indicates 51.6% men and 48.4% women[2]. The official statistic does not give information about diverse genders. Men are then in our survey overrepresented.

[1] https://ugeo.urbistat.com/AdminStat/de/ch/demografia/dati-sintesi/herbetswil/20141449/4
https://ugeo.urbistat.com/AdminStat/de/ch/demografia/eta/herbetswil/20141449/4
[2] https://ugeo.urbistat.com/AdminStat/de/ch/demografia/dati-sintesi/herbetswil/20141449/4

D) Village

Welschenrohr-Gänsbrunnen[3] (postal code 4716): 45% of the sample, which represents 14.% of the total population of this village (1173 on the 01.01.22) and 28.7% of the households (588). The households of this village form 38,7% of the total number of households of the 4 villages. Welschenrohr-Gänsbrunnen is then overrepresented.

Günsberg, Balmberg[4] (postal code 4524): 27.5% of the sample, which represents 8.8% of the total population of this village (1172, 31.12.21) and 17.3 % of the households (595). The households of this village form 39.1% of the total number of households of the 4 villages. Günsberg is then underrepresented.

Herbetswil[5] (postal code 4715): 15.2% of the sample, which represents 9.8% of the total population of this village (579 on the 31.12.21) and 22.6% of the households (252). The households of this village form 16.6% of the total number of households of the 4 villages. Herbetswil is then slightly overrepresented.

Balm beim Günsberg[6] (postal code 4525): 9.1% of the sample, which represents 16.3% of the total population of this village (209 on the 01.01.23) and 43% of the households (79). The households of this village form 2.2% of the total number of households of the 4 villages. Balm bei Günsberg is then overrepresented.

E) Children

24.8% of the sample have children under 16 years old. The data of the BFS[7] shows that the age group 0-19 years old represents about 30% of the age group 20-61 years old. This comparison is not exact, as there is no data corresponding exactly to the nature of the question asked in the questionnaire. However, it does ensure that the presence of children does not appear to be massively biased.

This factor can either enhance the fear of the bison – seen as a dangerous animal for the children – or encourage parents to visit the fences as an interesting and educating family attraction. We will examine the direction of this correlation of having children or not in statistical analysis.

[3] https://www.welschenrohr.ch/startseite/

[4] https://www.guensberg.ch/portrait/zahlen-fakten.html/60

[5] https://www.herbetswil.ch/gemeindeinzahlen

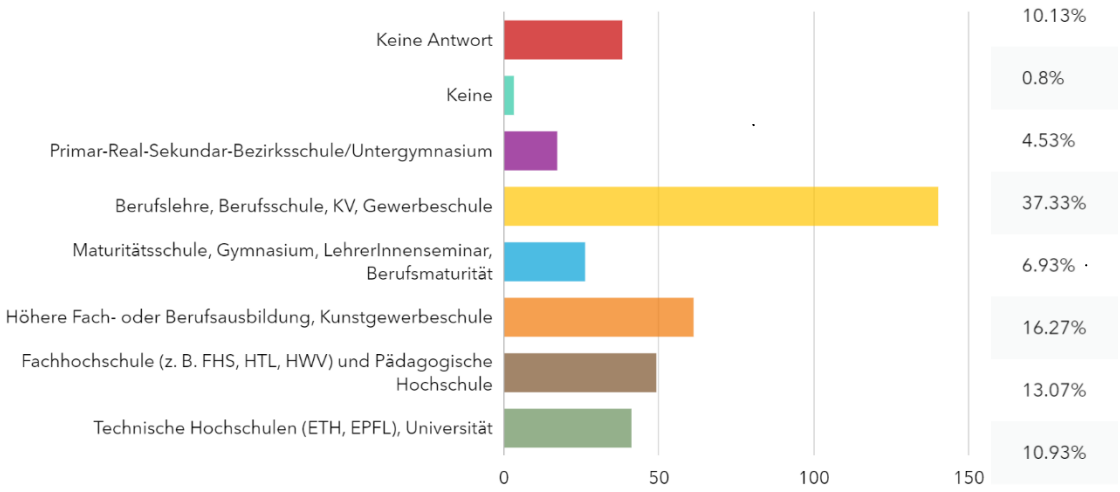
[6] https://www.balm-balmberg.ch/zahlen-fakten

[7] BFS, 2019: https://www.bfs.admin.ch/bfs/fr/home/statistiques/statistique-regions/portraits-regionaux-chiffres-cles/cantons/soleure.html

F) Education

We can see that a major part of the population achieved an apprenticeship (37.3%). 40.3% of the respondents studied at the tertiary level (Tertiätstufe) (graphic 1), which corresponds to an underrepresentation in comparison with the federal data (40.2%) of Kanton Solothurn[8] (2019). Inhabitants without any post obligatory formation are underrepresented (18,5% according to BFS statistics against 4.5 in the sample).

Graphic 1: distribution of the factor "education" among the respondents.



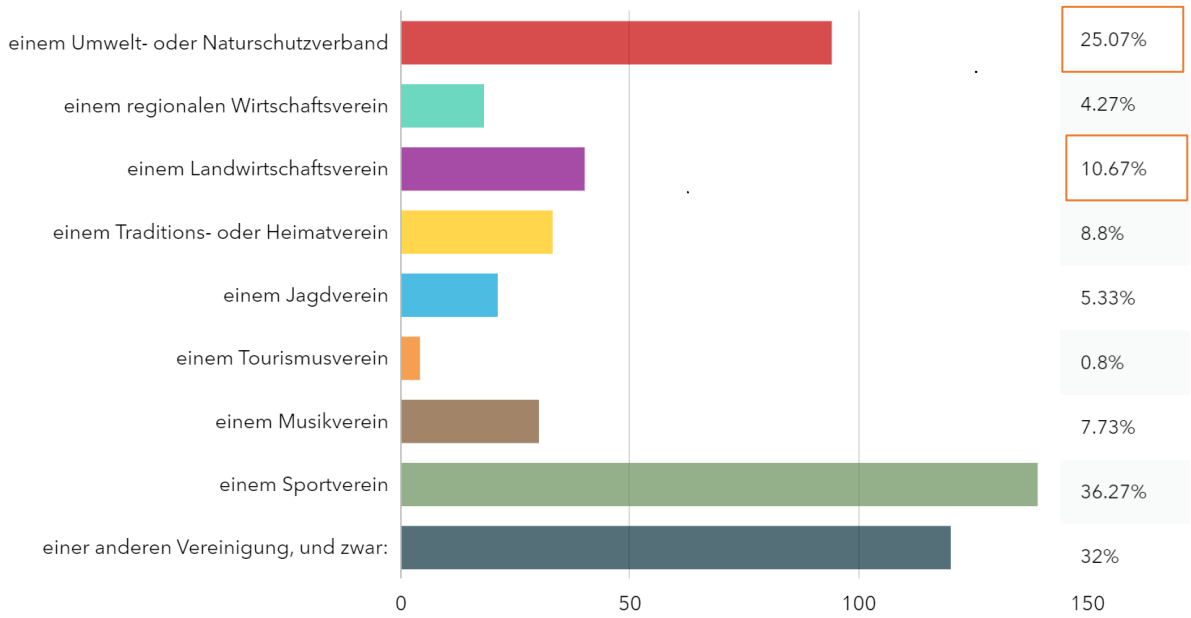
[8] BFS, 2019 : https://www.bfs.admin.ch/bfs/de/home/statistiken/regionalstatistik/regionale-portraets-kennzahlen/kantone/solothurn.html

G) Association affiliation

For this part, I chose to consider above all the affiliation to an environmental-friendly association, which represents 25.1% in the sample and an agriculture association (10.7%) (graphic 2) – because they are directly concerned about their fields and their property land –, which are more related to our problematic. I initially also wanted to focus on the affiliation to an economic association because it was proved (Article of SwissInfo.ch, 2019 & Papp, 2022) to be negatively associated with politic decision favourable to the environment. However, it involves a rate of the population which is too low to make general assumptions. (4.3%)

If we count the environment-related association that people wrote in "other" – for example, 2 people mentioned that they were active in a "Pilzverein" –, we count 100 people affiliated to an environmental association, that means 26.7% of the 375 respondents. This is an important fraction. If we use the values of the Swiss national LABES survey (landscape perception research, WSL) as a proxy, which were 19.4% in 2020 and 17.6% in 2017, we report an overrepresentation of this group of interest in our sample. However, comparing our data to the WaMos3 data (forest perception research, WSL) collected 2020, canton Solothurn shows an environmental association affiliation of 27.8%. It is interesting that this canton has a higher value as the Swiss average. It could have been that the environment-friendly people, which are probably "pro-bison", answered more likely our survey than people having a neutral or a negative valuation of the environment, but our value of 25% fits with the reliable WaMos3 survey.

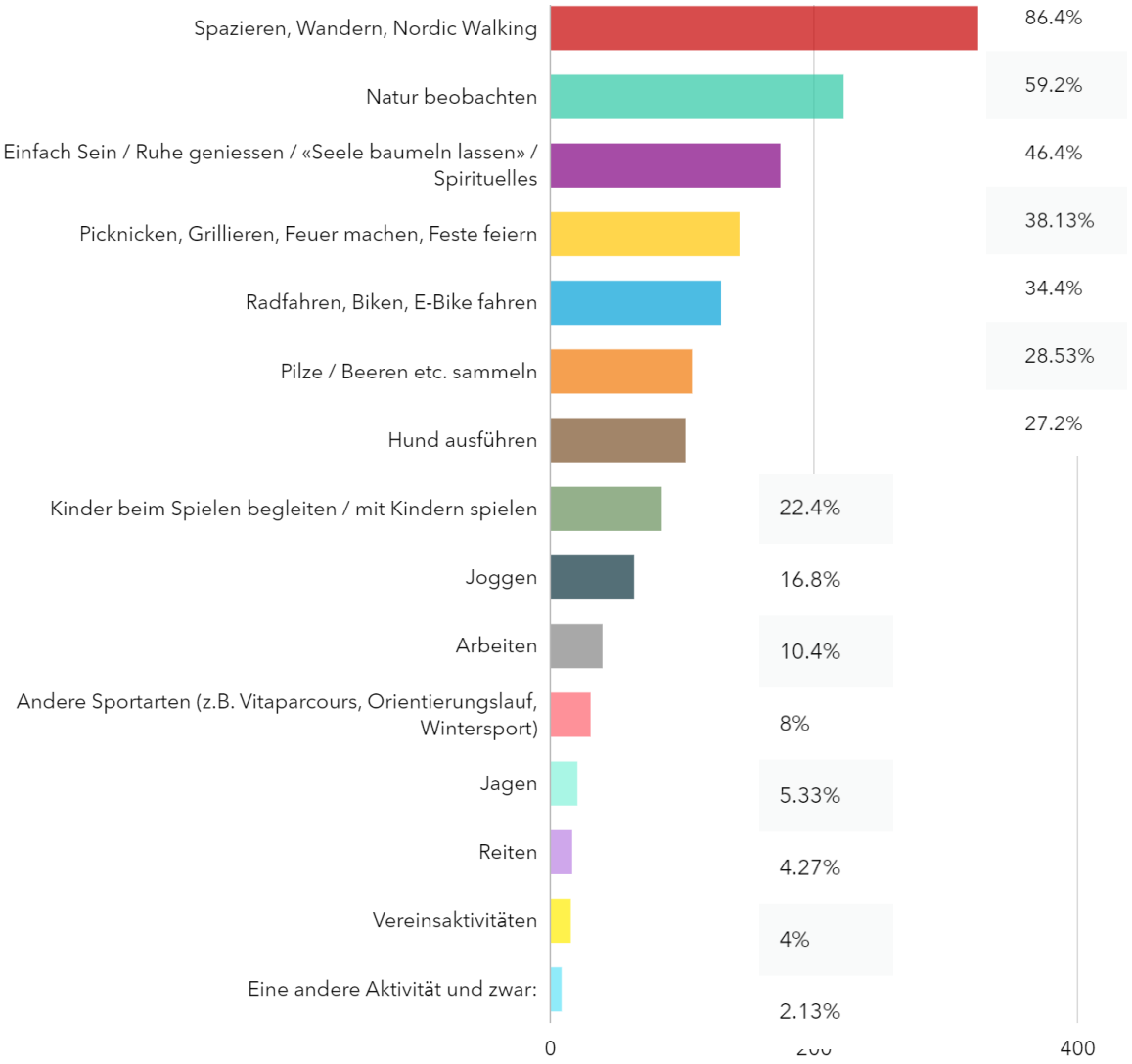
Graphic 2: distribution of the factor "association affiliation" among the respondents.



H) Descriptive analysis of the trends of the survey

Question block 1: space-use

Graphic 3: distribution of the factor "activities in the forest" among the respondents.

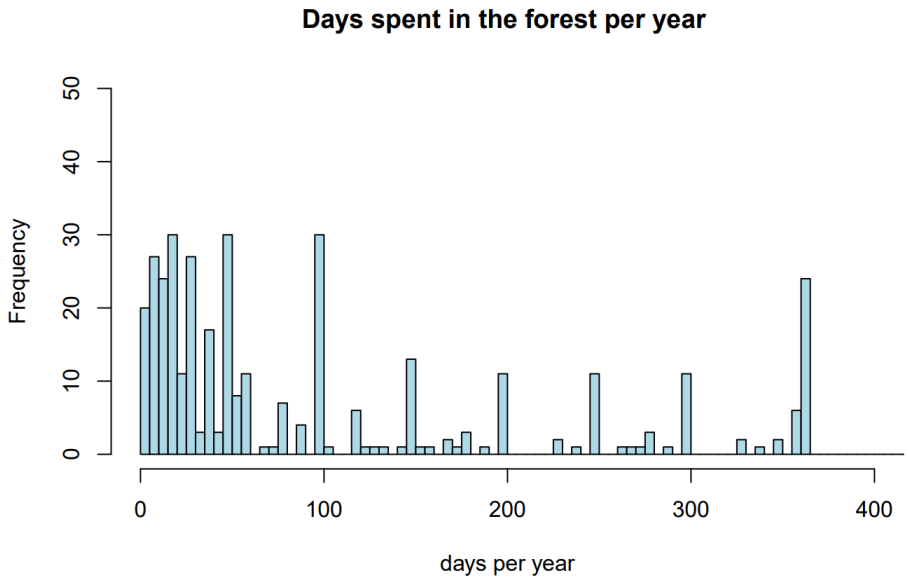


Based on the data displayed on the graphic 3, we observe that the major part of the population goes to the forest to walk or to observe nature (>50%). Nature is seen as a calm place to recover for 46.4 % of the respondents or a place to enjoy a pick nick or a fest (38%). The most practiced sport in the forest is biking with 34%. About one fourth of the respondents (22.4%) goes in the forest with their children, which could become a security problem with the fences, as well as for the 27% of the people going walking their dog.

The respondents go on average 106 days per year in the forest, which means a visit about every three days. The distribution (graphic 4) is however rather concentrated in few days per year (10-60 days) and the mean is pushed up with more than 20 people going every day into the forest. If we compare this average value of days per year in the forest with the study "Das Verhältnis der Schweizer Bevölkerung

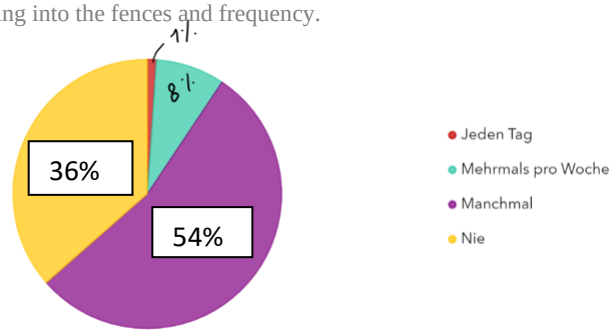
zum Wald" (WaMos 3, Hegetschweiler, Salak, Wunderlich, Bauer and Hunziker, 2022), we observe that the respondents of the "Wisent Thal projekt" region are more going into the forest than the Swiss mean trend. The percentage for the Swiss individuals going into the forest almost every day is 9.9% (WaMos3), for the people going 1-2 times per month 33.5 %, and for the people going 1-2 times per month 28.8%. In our sample, these percentages are respectively 18.1%, 31.5% and 19.5%. Double the number of respondents go almost every day into the forest within our sample.

Graphic 4: count of respondents' days per year spent in the forest. The frequency indicates the number of respondents corresponding to the respective answer.



Concerning the fences space, most of the respondents affirm going "sometimes" into the enclosure of the bison in their free time or for working reasons (53.9%). 36.3% mention never going in this space. The people going every day or several times per week represents a tiny fraction of the respondents (9.3%) (graphic 5).

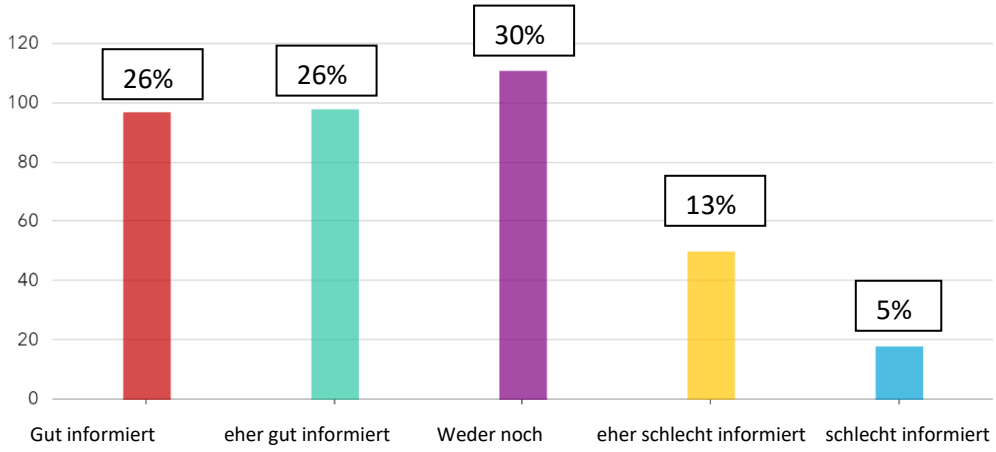
Graphic 5: percentage of respondents going into the fences and frequency.



Question block 2: acceptance of the reintroduction of Bison in Jura

Firstly, it is interesting to mention that 14.7% did not know this animal before the survey (graphic 8). That means that they also did not hear about the project in some way. Then, most of the respondents estimate the given information between "good informed", "rather good informed" and "medium informed".

Graphic 8: respondents' answer to the item "How good do you feel informed about bison?" Six possible answers with «gut informiert», «eher gut informiert», «mittelmässig informiert», «eher schlecht informiert» and «schlecht informiert».

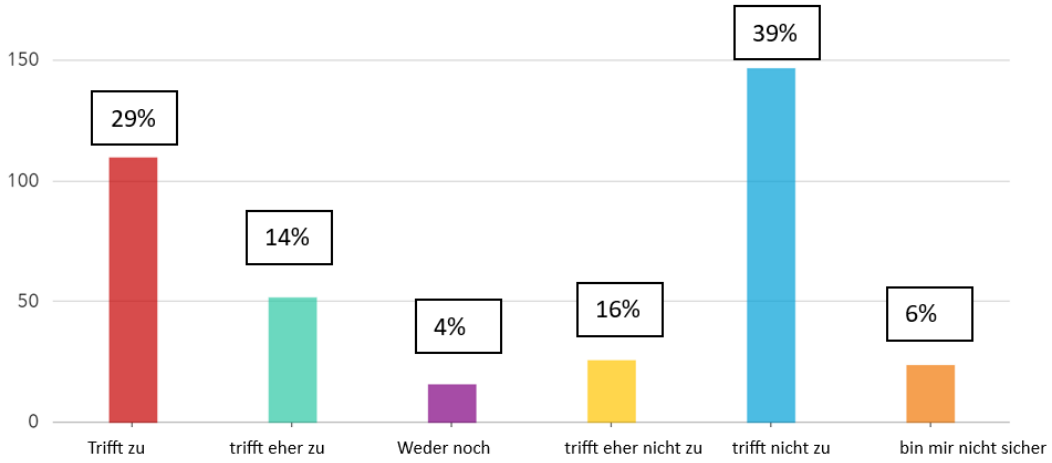


Regarding the perception of the animal, the respondents are showing a strong opinion. Many questions show a lot of "strongly agree" or "strongly disagree", whereas the middle answers do not appear a lot. It seems that the biggest fear of the contra part is that bison are going to destroy farmers' field. Not much concern is given for children, domestic animals, or a free move/activity into the forest.

The three concrete questions about the opinion about the reintroduction of the bison show the following trends:

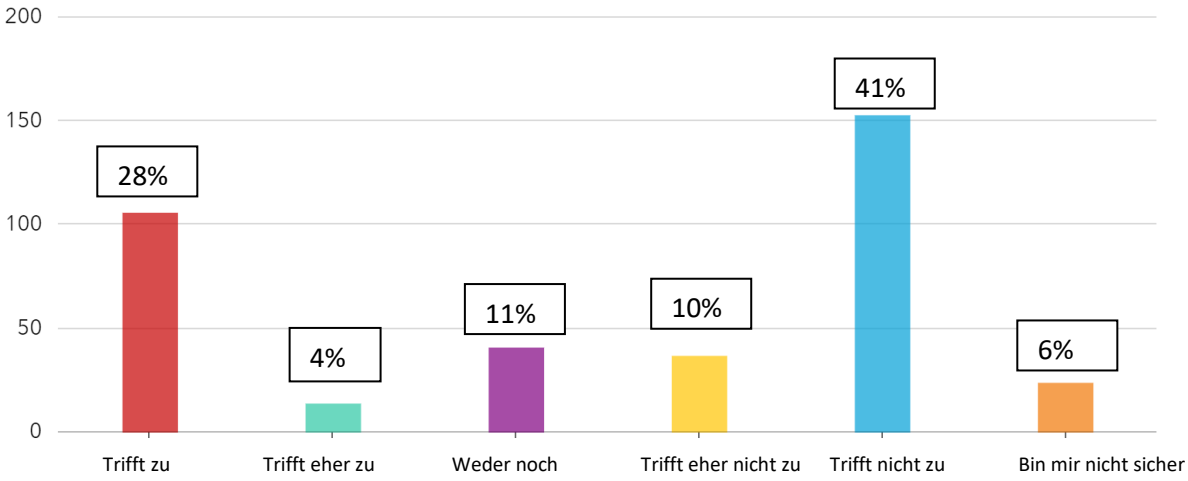
1. "I support that bison should live free in the Jura landscape": we see a pattern of polarisation in the population: 29% of the respondents agree, whereas 39% disagree (graphic 9). It seems that the respondents are rather against the finality of the "Wisent Thal project".

Graphic 9: respondents' answer to the item "I support that bison should live free in the Jura landscape." Six possible answers with «trifft zu» , «trifft eher zu», «weder noch», «trifft eher nicht zu», «trifft nicht zu», «bin mir (noch) nicht sicher».



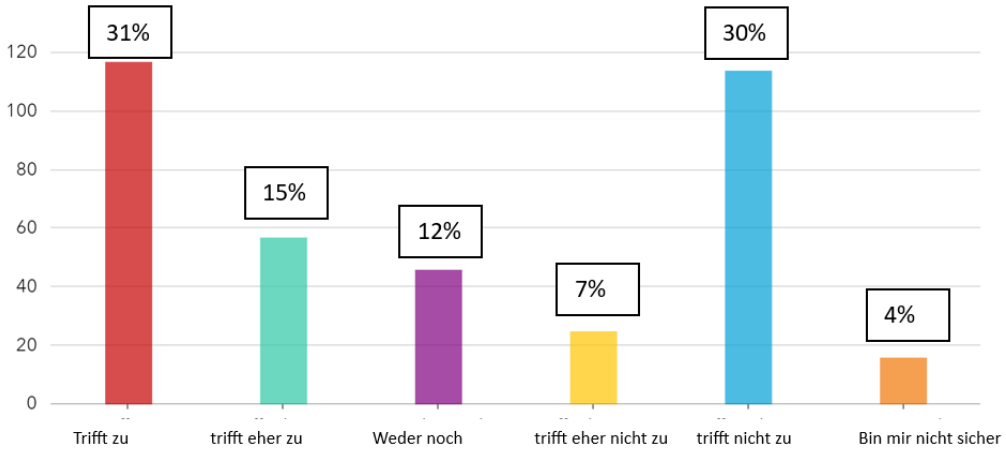
2. "There are already bison at other places, it does not need any in the Jura": this question includes an ecological perception about the critical situation of this species. 40.8% of the respondents are aware that the presence of the bison in other countries does not serve as a counter argument to the reintroduction in Switzerland (graphic 10).

Graphic 10: respondents' answer to the item "There are already bison at other places, it does not need any in the Jura". Six possible answers with «trifft zu» , «trifft eher zu», «weder noch», «trifft eher nicht zu», «trifft nicht zu», «bin mir (noch) nicht sicher».



3. "The bison species has a right to live (again) in Switzerland": here, a moral part is included since we consider the right of the animal. We see again this pattern of strong opposition: this time, an opinion slightly in favour to the project appears with 31.2% of agreement and 30.4% of disagreement (graphic 11).

Graphic 11: respondents' answer to the item "The bison species has a right to live (again) in Switzerland" Six possible answers with «trifft zu» , «trifft eher zu», «weder noch», «trifft eher nicht zu», «trifft nicht zu», «bin mir (noch) nicht sicher».



The population's degree of acceptance of the various factors is calculated in the main part of this work (3.3.1.). The same applies to the interpretation of the surprising or important trends observed in this descriptive analysis.

Question block 3: role of information in the attitude towards bison

The respondents show interest for bison and its reintroduction: 53.9% of the respondents answer that they would like to know more about the bison itself. 62.4% of them wish to know more about the concrete reintroduction project in Jura.

Only 7.73 % of the respondents admit not having read the information on the flyer. For these people, the survey asks them to read again the information about bison and the "Wisent Thal project". Afterwards, they are questioned about items already asked before. We see here a visual difference in the responses before and after the reading of the information. We will perform Paired-wise t-test in the Data-analysis part of this research to assess if the mean differences between the values "before reading information" and "after reading information" are significant. Here is a first insight of the position of the respondents before and after having read the information. 4 questions are involved:

- How good informed do you feel about bison? (A)
- I support that bison should live free in the Jura landscape. (B)
- There are already bison at other places, it does not need any in the Jura. (C)

- Bison species has a right to live (again) in Switzerland. (D)

A) How good informed do you feel about bison?

We see here a real difference. The percentage of respondents estimating they are well informed rises from 10.3 % to 27.6%, while the percentage of people feeling bad informed declines from 20% to 12%.

B) I support that bison should live free in the Jura landscape.

The percentage of respondents agreeing stays exactly the same (28%), whereas the percentage of disagreement ("do rather not agree" and "do not agree" together) slightly decreases, from 58.6% to 51.7%.

C) There are already bison at other places, it does not need any in the Jura.

The percentage of respondents agreeing slightly rises from 24.1% to 27.6%. We observe a part of the respondents moving to the neutral position (10.3% to 20.7%) while the number of people against this idea is decreasing (45% to 35%).

This question contains two aspects that prevent us from considering it further in the analysis. Firstly, the question contains a double negation, which may mislead the reader when choosing an answer. Secondly, this item contains two elements (*there are already bison at other places*; *it does not need any in Switzerland*). It is therefore also possible that the respondent answered only the first part of the question, considering the second part as an unchangeable causality of the heading. In the repeated questionnaire scenario, this question would be split or addressed differently.

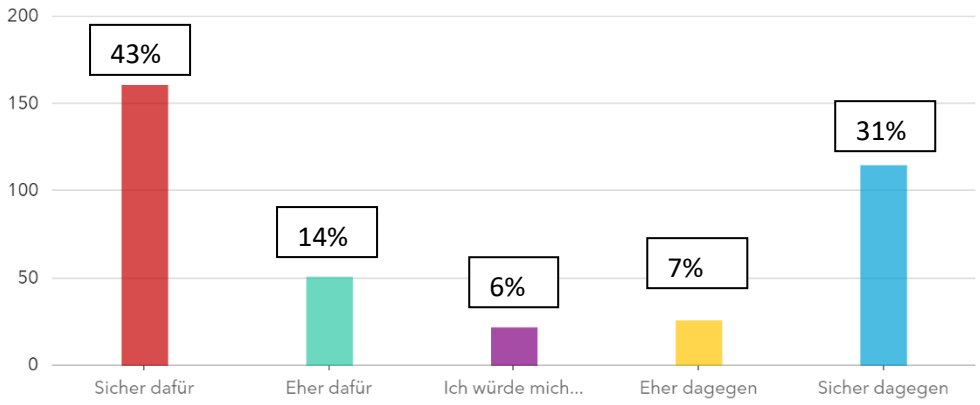
D) Bison species has a right to live (again) in Switzerland.

The data before and after the giving of supplementary information are about identical with 24% of agreement for both, a slight decline of disagreement (28 to 31%). The respondents answering "rather agree" rises from 10% to 17%.

Question block 4: acceptance of the bison itself

The trends are showing that people find bison a fascinating animal and are not afraid of the animal itself (graphic 12). The majority respondents judged it as a "peaceful animal" (26% of agree and 35% of rather agree"). For the items "I find good that there are bison here", "I am proud to have bison in Jura" and "It is important to encourage the presence of former present animals like bison", we have a strong opposition with 30-40 % for "agree" and "not agree". A biggest fraction of the respondents (36%) disagree at the item "Bison belong to Jura habitat". Finally, 42.93% of the respondents would vote in favour of this project if they would have to, against 30.67% of negative responses.

Graphic 12: respondents' answer to the item "If you could vote on the next Sunday, about the willing of this "Wisent Thal Project" to occur, what would you vote?" Five possible answers with «Sicher dafür», «Eher dafür», «Ich würde mich enthalten», «Eher dagegen» and «Sicher dagegen».



Concerning the attitude about the living-condition of the bison in the Jura (confined or free),3 Items were asked about the support of 1) the bison living free in Switzerland, 2) the bison living in Solothurn in a small enclosure and 3) the bison living in Solothurn in a bigger enclosure. A majority oppose confining the bison in a small enclosure (27% agree, 33% disagree). The proposal for a large open-access enclosure received a balanced response (29% agree, 29% disagree). If we count the "rather agree" as a positive attitude, this specific item shows the highest acceptance with more than 50% of the respondents being positive. Finally, the idea of a release of the bison in the Jura landscape was rejected by 40%, compared with 30% of positive respondents. More people wish that bison stays in a big open-access enclosure and thus seem to concern about an enclosure broad enough for the animal's well-being.

Question block 5: acceptance of the project and its management

The questions of this part show a positive perception of the project and confidence in the responsible persons of it and their decisions. Indeed, most questions are answered with a majority of “agree” or “rather agree”, the sum of these two responses always representing between 45% and 55% of the total respondents’ answer. The only item diverging is “I am informed of what is done or not in the “Wisent Thal project”: the biggest fraction being here the neutral one.

12.3% of the respondents mention not having heard about this project before the survey. However, the majority of the respondents judge the communication of the project as good and the information as easy findable. The respondents estimate the project’s staff not taking their opinion into account in the decision-making, since only about 18% agree to the item “The responsible persons of the project "Wisent Thal" respond to my feedback”.

Question block 6a: visit of the fences

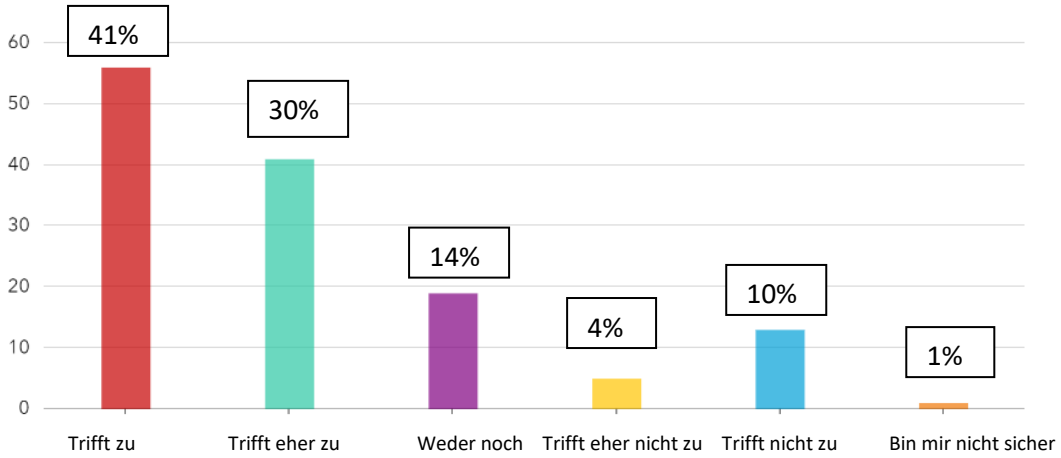
10.93% of the respondents affirm not having heard of the presence of the enclosure. Only 6% of the respondents took part in a guided visit of the bison enclosure. 46% of the asked people already went into the fences with or without purpose. Most of the respondents mention having visited the enclosure to see it for themselves and to see the bison. For 20%, the fences are located on their jogging/Bike route and they ended having to go through it.

The behaviour rules given at the fences are judged as comprehensible and sufficient.

Question block 6b: encounter with the bison

Among the people having visited the fences, we asked who has seen a bison. 78% of the people having visited the fences have seen one or more, what represents 36% of the total respondents. For the item “The encounter with bison was a frightening experience”, 60% of these people responded “do not agree”. 54% agreed that this experience was associated with joy and fascination. The opinions are more split by the item “I felt comfortable with the bison” (graphic 13), but the trend still shows a positive experience with the bison:

Graphic 13: respondents' answer to the item "I felt comfortable with the bison." Six possible answers with «trifft zu», «trifft eher zu», «weder noch», «trifft eher nicht zu», «trifft nicht zu», «bin mir (noch) nicht sicher».

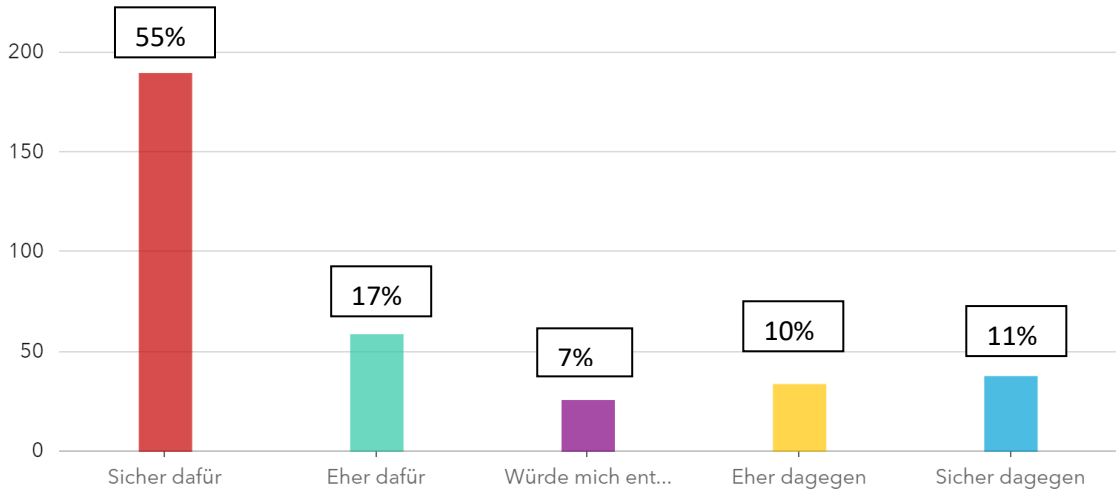


The place of the encounter will be analysed with Arc-GIS in a further time.

Question block 7: attitude towards the Naturpark Thal

93% of the respondents knew the Naturpark Thal before this survey. Among these people, the opinion towards the parc is positive, as the majority sees it as an enrichment for the region (57%) and does not perceive the parc as a limitation to their outdoor activities (52%). To the item "If you could vote on the next Sunday, if your village will still be affiliated to the Naturpark Thal, what would you vote?", we see 55% of the respondents willing it deliberately, and 11% surely against a prolonged participation (graphic 14).

Graphic 14: respondents' answer to the item "If you could vote on the next Sunday, if your village will still be affiliated to the Naturpark Thal, what would you vote, what would you vote?" Five possible answers with «Sicher dafür», «Eher dafür», «Ich würde mich enthalten», «Eher dagegen» and «Sicher dagegen».



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Ein Institut des ETH-Bereichs

An die Einwohnerinnen und Einwohner
der Gemeinden
- Welschenrohr-Gänsbrunnen
- Herbetswil
- Balm bei Günsberg
- Günsberg

Birmensdorf, Mai 2023

Umfrage zum Wisent

Sehr geehrte Einwohnerinnen und Einwohner
von Welschenrohr-Gänsbrunnen, Herbetswil, Balm bei Günsberg und Günsberg

In Welschenrohr wird das Projekt "Wisent Thal" durchgeführt. Mit diesem Projekt wird abgeklärt, ob Wisente im Jura wieder eingeführt werden können. Damit würde nicht nur die Erhaltung dieser Art unterstützt, sondern auch die Biodiversität im Jura gefördert. Zurzeit befinden sich die Wisente in einem Gehege und die Auswirkungen ihrer Anwesenheit in ihrem neuen Lebensraum werden sorgfältig untersucht. Ziel ist es abzuklären, ob die Wisente später gänzlich in Freiheit leben können. Weitere Informationen über das Projekt finden Sie auf dem beiliegenden Informationsblatt.

Damit die Ansichten der betroffenen Bevölkerung zum Zusammenleben mit diesen Tieren bestmöglich berücksichtigt werden können, führen wir eine Umfrage durch. Wir möchten Sie deshalb dazu einladen, bei dieser Umfrage mitzumachen! Je mehr Personen sich daran beteiligen, desto aussagekräftiger werden die Resultate ausfallen.

Die Umfrage wird von der Eidg. Forschungsanstalt für Wald, Schnee und Landschaft (WSL) im Auftrag des Projekts "Wisent Thal" durchgeführt. Ihre Antworten werden **absolut anonym** behandelt, so dass keine Rückschlüsse auf Ihre Person möglich sind.

Die **Umfrage** findet **online** statt. Um sie zu starten, geben Sie bitte den nachfolgenden Link **https://arcg.is/r0amG0** in die Adress-Leiste Ihres Internetprogramms ein oder scannen Sie den **QR-Code** unten über Ihr mobiles Endgerät ein.

Wenn in Ihrem Haushalt mehrere Personen leben, bitten wir die Person, die als nächstes Geburtstag hat, den Fragebogen auszufüllen (nur einer pro Haushalt).

Bitte füllen Sie den Fragebogen innerhalb der nächsten **zehn Tage** aus. Sie werden dafür ca. **15 Minuten** benötigen.

Für Rückfragen stehen wir Ihnen zur Verfügung. Schreiben Sie dafür bitte eine Email an zelie.stauffer@wsl.ch

Wir bedanken uns bereits jetzt herzlich für Ihre wertvolle Mitarbeit!

Mit freundlichen Grüßen

Dr. Marcel Hunziker
Projektleitung

Zélie Stauffer
Projektbearbeitung

Eidgenössische Forschungsanstalt WSL, Zürcherstrasse 111, CH-8903 Birmensdorf, Schweiz
Telefon +41-1-739 21 11, Fax +41-1-739 22 15, http://www.wsl.ch

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Ein Institut des ETH-Bereichs

Umfrage zum Wisent

An die Einwohnerinnen und Einwohner der Gemeinden
- Welschenrohr-Gänsbrunnen
- Herbetswil
- Balm bei Günsberg
- Günsberg

Birmensdorf, Juni 2023

Umfrage zum Wisent: Erinnerung und Dank

Sehr geehrte Einwohnerinnen und Einwohner
von Welschenrohr-Gänsbrunnen, Herbetswil, Balm bei Günsberg und Günsberg

Vor ca. zwei Wochen haben Sie von uns einen Brief erhalten mit der Bitte, an der Umfrage zum Projekt "Wisent Thal" mitzumachen (Kurz-Info zum Projekt auf Rückseite).

Ganz herzlichen Dank, wenn Sie den Fragebogen schon ausgefüllt haben!

Falls Sie dies noch nicht getan haben sollten, würden wir uns sehr freuen, wenn Sie das in den nächsten Tagen nachholen könnten.

Denn je mehr Personen sich an der Umfrage beteiligen, desto aussagekräftiger werden die Resultate ausfallen. Es dauert nur ca. 15 Minuten!

Nochmals zur Information: Die Umfrage wird von der Eidg. Forschungsanstalt für Wald, Schnee und Landschaft (WSL) im Auftrag des Projekts "Wisent Thal" durchgeführt. Ihre Antworten werden **absolut anonym** behandelt, so dass keine Rückschlüsse auf Ihre Person möglich sind.

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Kurz-Information zum Projekt "Wisent Thal"

Im Rahmen eines Projektes des Vereins «Wisent im Thal» soll abgeklärt werden, ob der Wisent im Kanton Solothurn wieder angesiedelt werden kann. Der Fragebogen richtet sich an die Bevölkerung der Region und soll deren Wahrnehmung des Wisents und seiner Wiederansiedlung im Thal erfassen.

Information über den Wisent

Der Wisent ist das größte Landsäugetier Europas. Er war in der Frühgeschichte weit verbreitet, wurde aber durch die Jagd und die Zerstörung seines natürlichen Lebensraums fast ausgerottet. Seit den 1950er Jahren wird er vor allem in Osteuropa wieder ausgewildert. Der Bulle wird bis zu 900 kg schwer, die Kuh bis zu 600 kg. Als Wiederkäuer ernähren sich Wisente von Gräsern, Kräutern, Laub, jungen Trieben und Baumrinde.

Projektverlauf

In der ersten Phase bis Okt. 2024 leben die Wisente in einem 51 ha großen Gehege (Abb. 1). In der zweiten Phase (Abb. 2) wird das Gehege auf 106 ha erweitert. Diese Phase dauert weitere 3 Jahre. Über die Erkenntnisse aus diesen beiden Phasen wird ein Bericht verfasst. Dieser Bericht dient den Behörden als Grundlage für den Entscheid, ob sich die Wisentherde im Gebiet für weitere 5 Jahre ohne Gehege, aber unter Betreuung durch den Verein Wisent im Thal, bewegen darf. Erst nach insgesamt 10 Jahren kann ein Gesuch zur Auswilderung der Wisentherde gestellt werden.

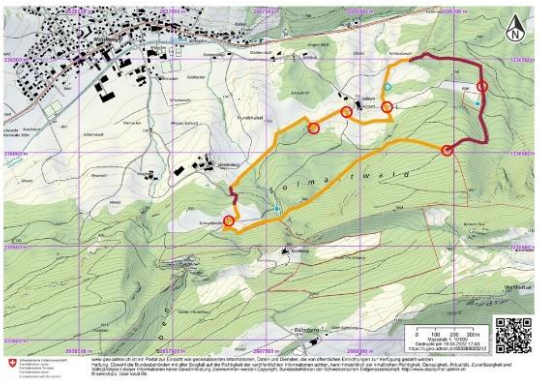

Abbildung 2: Erste Phase des Projekts

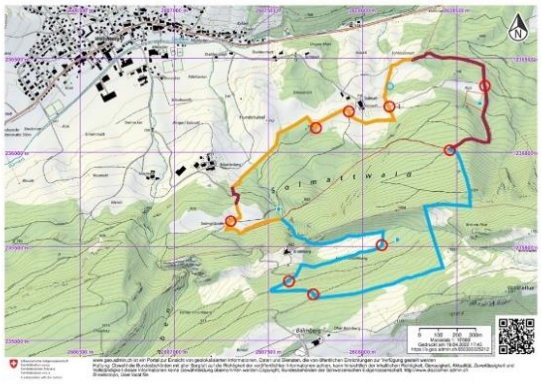

Abbildung 1: Zweite Phase des Projekts

Umfrage zum Wisent

Machen Sie mit!

Wir möchten gerne wissen, was Sie vom Wisent und seiner Wiederansiedlung halten. Diese Umfrage ist wichtig, damit die Meinung der Bevölkerung in das Projekt «Wisent Thal» einfließen kann.

Weitere Informationen zu dieser Umfrage finden Sie auf der Rückseite.

Zum Ausfüllen des Fragebogens scannen Sie bitte den QR-Code.

Vielen Dank für Ihre Unterstützung!

Zélie Stauffer, Projektbearbeitung
Kontakt: zelie.stauffer@wsl.ch

Dr. Marcel Hunziker, Projektleitung

Eidg. Forschungsanstalt für Wald, Schnee und Landschaft WSL

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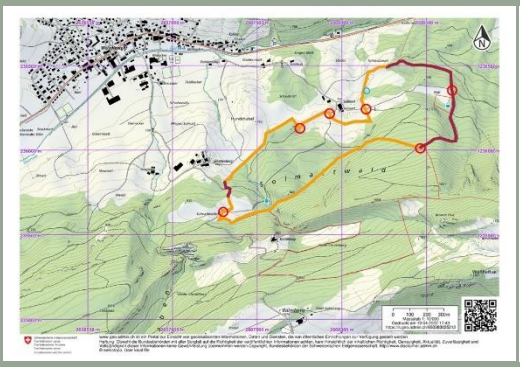

Abbildung 1: Erste Phase des Projekts

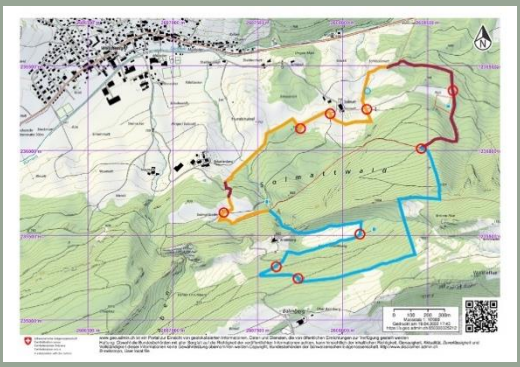

Abbildung 2: Zweite Phase des Projekts

Umfrage zum Wisent

*Diese Umfrage richtet sich an die Bewohner*Innen der umliegenden Gemeinden und soll ihre Einstellung zur Wiederansiedlung von Wisenten in ihrer Umgebung erheben. Fragen ohne rote Sterne sind optional, während die anderen Fragen beantwortet werden müssen.*

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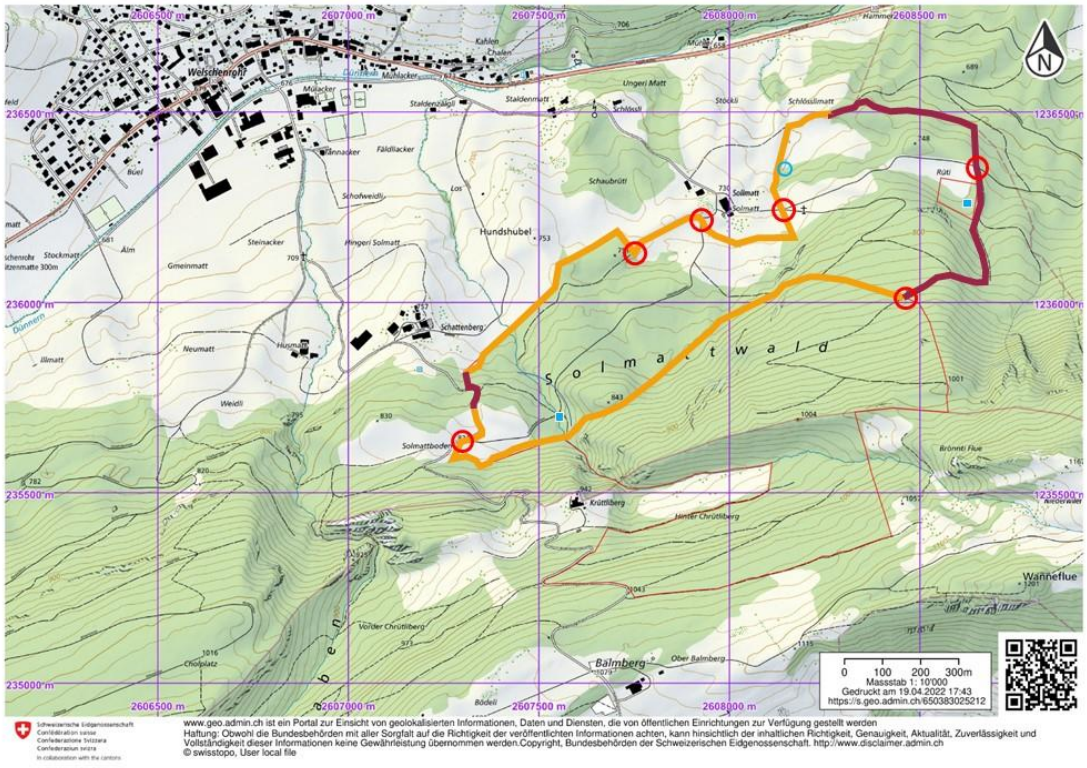
Bevor wir in das Thema Wisent eintauchen, starten wir mit Fragen zu Ihren Aktivitäten im Freien. Dabei interessieren uns v.a. diejenigen im Wald, da sich diese allenfalls mit dem Gebiet des Wisent-Geheges überschneiden.

Was machen Sie hauptsächlich, wenn Sie im Wald sind? (Mehrfachantworten möglich)

	(Mehrfachantworten möglich)
Spazieren, wandern, Nordic Walking	
Hund ausführen	
Joggen	
Radfahren, Biken, E-Bike fahren	
Reiten	
Andere Sportarten (z.B. Vitaparcours, Orientierungslauf, Wintersport)	
Einfach Sein / Ruhe geniessen / «Seele baumeln lassen» / Spirituelles	
Natur beobachten	
Pilze / Beeren etc. sammeln	
Picknicken, Grillieren, Feuer machen, Feste feiern	
Kinder beim Spielen begleiten / mit Kindern spielen	
Arbeiten	
Jagen	
Vereinsaktivitäten	
Anderes, und zwar:	

An wie vielen Tagen haben Sie in den letzten 12 Monaten den Wald besucht?	*Antwort:*

(Bitte die passende Antwort ankreuzen)	Jeden Tag	Mehrmals pro Woche	Manchmal	Nie
Wie oft gehen Sie in dem Gebiet des Geheges in Ihrer Freizeit oder für berufliche Gründe? Sie können das Gebiet des Geheges (Phase 1 des Projektes) auf der Karte auf der nächsten Seite erkennen.				



Nun möchten wir Ihnen gerne ein paar Fragen zum Tier Wisent stellen.

(Bitte die passende Antwort ankreuzen)	Ja	Nein	Ich weiss nicht
War Ihnen der Wisent vor dieser Umfrage bekannt?			

(Bitte die passende Antwort ankreuzen)	Gut informiert	Eher gut informiert	Mittelmässig informiert	Eher schlecht informiert	Schlecht informiert
Wie gut fühlen sie sich über den Wisent informiert?					

Inwieweit treffen folgende Aussagen in Bezug auf Ihr Wissen zum Wisent aus Ihrer Sicht zu?

(Bitte die passende Antwort ankreuzen)	Ja	Eher ja	Weder noch	Eher nein	nein	Bin mir (noch) nicht sicher
Würden Sie gerne mehr über den Wisent wissen?						
Würden Sie gerne mehr über die Freisetzung der Wisente erfahren?						

Nun folgen Aussagen zur Wiedereinbürgerung des Wisents im Jura. Inwieweit treffen diese aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Ich finde die Wisente spannende Tiere.						
Die Wisente werden den Bauern die Felder zertrampeln.						
Ich kann mich wegen der Wisente nicht mehr frei im Wald bewegen.						
Ich befürchte, dass Wisente Menschen angreifen.						
Ich werde wegen der Wisente besser auf meine Haustiere aufpassen müssen.						
Die Wisente sind eine Bereicherung für den Naturpark Thal.						
Die Wisente werden zu einer Touristenattraktion werden.						
Die Wisente werden den Strassenverkehr in der Region gefährden.						

Die Wisente könnten in Zukunft im Jura frei leben. Inwieweit treffen folgende Aussagen dazu aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	trifft nicht zu	Kann ich (noch) nicht sagen
Ich bin dafür, dass Wisente frei im Jura leben.						
An anderen Orten gibt es bereits genug Wisente, es braucht keine im Jura.						
Wisente haben ein Recht darauf (wieder) in der Schweiz zu leben.						

(Bitte die passende Antwort ankreuzen)	Ja	Nein
Haben Sie die Informationen über den Wisent und den Verlauf des Projekts auf der Rückseite des Flyers gelesen?		

Wenn Sie an der letzten Frage «nein» angekreuzt haben, bitten wir Ihnen, die folgende Informationen über den Verlauf des Projekts "Wisent Thal" und seine Ziele zu lesen, und die Frage auf der Seite 6 zu beantworten. Wenn sie «ja» angekreuzt haben, können Sie direkt zu der Seite 7 gehen.

Im Rahmen eines Projektes des Vereins «Wisent im Thal» soll abgeklärt werden, ob der Wisent im Kanton Solothurn wieder angesiedelt werden kann. Der Fragebogen richtet sich an die Bevölkerung der Region und dient der Erfassung deren Wahrnehmung des Wisents und seiner Wiederansiedlung im Thal. Der Wisent ist das größte Landsäugetier Europas. Er war in der Frühgeschichte weit verbreitet, wurde aber durch die Jagd und die Zerstörung seines natürlichen Lebensraums fast ausgerottet. Seit den 1950er Jahren wird er vor allem in Osteuropa wieder ausgewildert. Der Bulle wird bis zu 900 kg schwer, die Kuh bis zu 600 kg. Als Wiederkäuer ernähren sich Wisente von Gräsern, Kräutern, Laub, jungen Trieben und Baumrinde. In der ersten Phase bis Okt. 2024 leben die Wisente in einem 51 ha großen Gehege (Abb. 1). In der zweiten Phase (Abb. 2) wird das Gehege auf 106 ha erweitert. Diese Phase dauert weitere 3 Jahre. Aus den Erkenntnissen von diesen beiden Phasen wird ein Bericht verfasst. Dieser Bericht dient den Behörden als Grundlage für den Entscheid, ob sich die Wisentherde im Gebiet für weitere 5 Jahre ohne Gehege, aber unter Betreuung durch den Verein Wisent im Thal, bewegen darf. Erst nach insgesamt 10 Jahren kann ein Gesuch zur Auswilderung der Wisentherde gestellt werden.

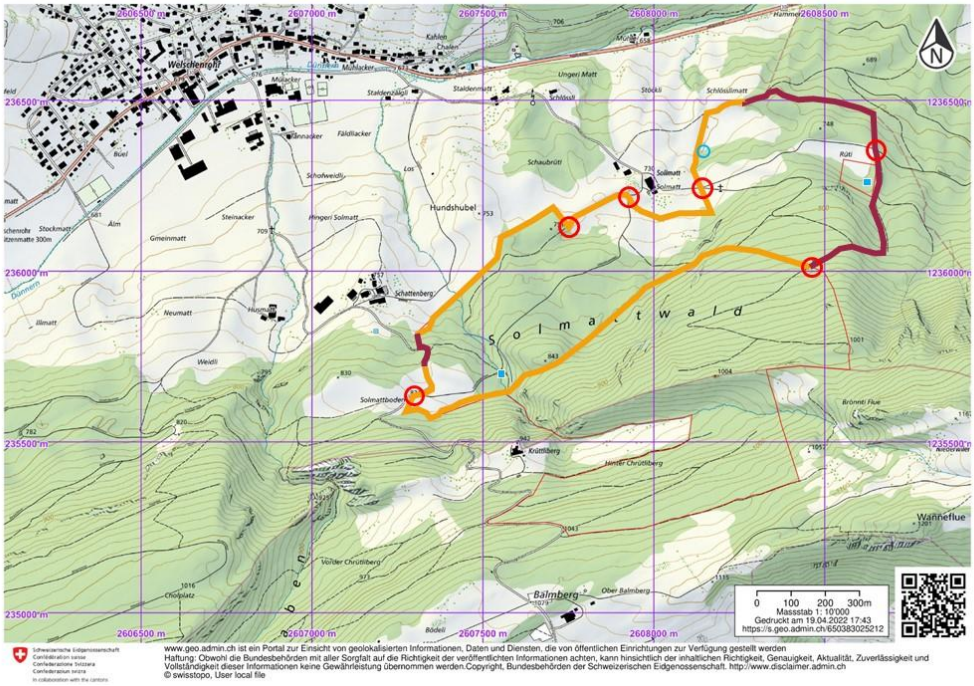


Abbildung 1: Phase 1 des Projekts

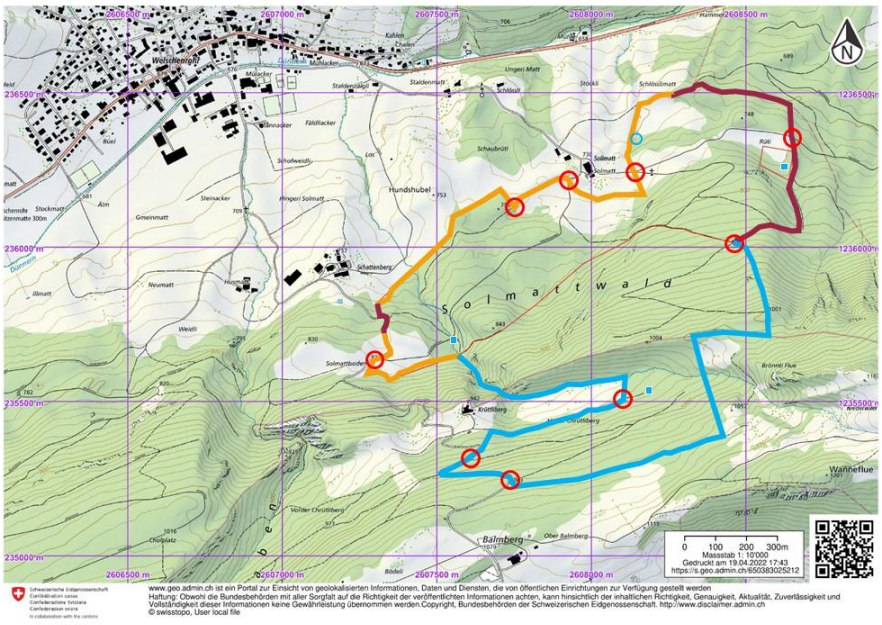


Abbildung 2: Phase 2 des Projekts

Es kann sein, dass sich Ihre Meinung nach den zusätzlichen Informationen geändert hat, oder auch nicht. Beides ist vollkommen in Ordnung. Aber natürlich interessiert uns, ob Sie die Meinung geändert haben oder nicht. Wir bitten Sie daher, die folgende Frage nochmals zu beantworten.

(Bitte die passende Antwort ankreuzen)	Sehr gut informiert	Eher gut informiert	Mittelmässig informiert	Eher schlecht informiert	Schlecht informiert
Wie gut fühlen sie sich jetzt über den Wisent informiert?					

Denken Sie an die Wisente. Inwieweit treffen folgende Aussagen aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Wisente gefallen mir.						
Für mich sind die Wisente beängstigende Tiere.						
Ich denke, dass Wisente friedliche Tiere sind.						
Ich finde Wisente spannende Tiere.						

Denken Sie nun an das Wisent-Gehege in Welschenrohr.

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Ich finde es gut, dass die Wisente hier sind.						
Ich bin stolz darauf, den Wisent hier zu haben.						
Der Wisent gehört hierher.						
Es ist wichtig, die Präsenz ehemals ansässiger Tiere wie den Wisent zu fördern.						

(Bitte die passende Antwort ankreuzen)	Sicher dafür	Eher dafür	eher dagegen	Sicher dagegen	Ich würde mich enthalten
Wenn am nächsten Sonntag über den Erhalt des Wisent-Geheges in Welschenrohr abgestimmt würde, wie würden sie stimmen?					

Die Wisente könnten in Zukunft im Jura frei leben. Inwieweit treffen folgende Aussagen dazu aus Ihrer persönlichen Sicht zu?

Es kann sein, dass sich Ihre Meinung nach den zusätzlichen Informationen geändert hat, oder auch nicht. Beides ist völlig in Ordnung. Aber natürlich interessiert uns, ob sie die Meinung geändert haben oder nicht. Wir bitten Sie daher, die folgende Frage nochmals zu beantworten.

(Bitte die passende Antwort ankreuzen)	trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	trifft nicht zu	Kann ich (noch) nicht sagen
Ich bin dafür, dass Wisente frei im Jura leben.						
An anderen Orten gibt es bereits genug Wisente, es braucht keine im Jura.						
Wisente haben ein Recht darauf (wieder) in der Schweiz zu leben.						

Wie ist ihre Meinung zu den folgenden Formen der Ansiedlung des Wisents im Jura?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Ich unterstütze die Anwesenheit von Wisenten in einem kleinen abgeschlossenen Tierpark.						
Ich unterstütze die Anwesenheit von Wisenten in einem grösseren zugänglichen Gehege.						
Ich unterstütze die komplette Freisetzung der Wisente in den Wäldern.						

Im Folgenden finden Sie Aussagen zur Arbeit des Projekts Wisent Thal.

Inwieweit treffen diese aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Im Allgemeinen gefällt mir die Idee des Projekts Wisent Thal.						
Ich nehme die Verantwortlichen des Projekts Wisent Thal als fachlich kompetent wahr.						
Die Personen des Projekts Wisent Thal treffen gut begründete Entscheidungen.						
Die Interessen der Bevölkerung werden im Projekt Wisent Thal berücksichtigt.						
Ich weiß nicht, warum im Projekt Wisent Thal etwas gemacht oder nicht gemacht wird.						
Das Projekt Wisent Thal ist vertrauenswürdig.						

Jetzt werden Ihnen Frage über die Kommunikation vom Projekt Wisent Thal gestellt.

	Ja	Nein	bin mir nicht sicher
Haben Sie vor dieser Umfrage bereits vom Projekt zur Wiederansiedlung des Wisents in der Region Welschenrohr gehört?			

Wenn Sie an der letzten Frage «ja» angekreuzt haben, beantworten Sie bitte die folgende Frage auf der Seite 10. Wenn Sie «nein» angekreuzt haben, können Sie direkt zu der Seite 11 gehen.

Inwieweit treffen folgende Aussagen aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Informationen zur Wiederansiedlung des Wisents bzw. zum Projekt Wisent Thal sind leicht zu finden.						
Informationen zur Wiederansiedlung des Wisents bzw. zum Projekt Wisent Thal sind gut verständlich.						
Ich erlebe die Kommunikation mit den Verantwortlichen des Projekts Wisent Thal als offen und transparent.						
Die Verantwortlichen des Verein Projekts Wisent Thal geht auf meine Rückmeldung ein.						

Die folgenden Fragen beziehen sich auch das Wisent-Gehege (die Fläche, die eingezäunt ist) in Welschenrohr.

Frage 1 (Kenntnis Gehege)

(Bitte die passende Antwort ankreuzen)	Ja	Nein	Keine Antwort
Haben Sie vor dieser Umfrage bereits vom Wisent-Gehege in Welschenrohr gehört?			

Wenn Sie an der letzten Frage «ja» angekreuzt haben, beantworten Sie bitte die folgenden Fragen auf dieser Seite. Wenn Sie «nein» angekreuzt haben, können Sie direkt zu der Seite 12 gehen.

Im Wisent-Gehege in Welschenrohr werden auch Führungen angeboten.

(Bitte die passende Antwort ankreuzen)	Ja	Nein	Keine Antwort
Haben Sie an einer Führung im Wisent-Gehege in Welschenrohr teilgenommen?			

(Bitte die passende Antwort ankreuzen)	Ja	Nein	Keine Antwort
Haben Sie das Wisent-Gehege in Welschenrohr bereits besucht?			

Wenn Sie an der letzten Frage «ja» angekreuzt haben, beantworten Sie bitte die folgenden Fragen auf dieser Seite. Wenn Sie «nein» angekreuzt haben, können Sie direkt zu der Seite 14 gehen.

Es gibt verschiedene mögliche Gründe für einen Besuch des Wisent-Geheges. Inwieweit treffen folgende Aussagen für Ihren Besuch des Wisent-Geheges zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Ich wollte mir selbst ein Bild vom Gehege in Welschenrohr machen.						
Ich wollte die Wisente sehen.						
Das Wisent-Gehege ist ein tolles Ausflugsziel für mich und meine Familie.						
Ich wollte mehr über die Wisente lernen.						
Ich habe das Gehege im Rahmen einer Vereinsaktivität besucht.						
Das Wisent-Gehe liegt auf meiner Spazier-/Jogging-/Biker-Route.						
Ich bin zufällig am Wisent-Gehege vorbeigekommen.						

An den Eingangstoren sind Informationen zum richtigen Verhalten gegenüber den Wisenten angebracht. Inwieweit treffen folgende Aussagen zu diesen Informationen aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Die Verhaltensregeln sind am Gehege gut sichtbar angebracht.						
Verhaltensregeln beim Gehege waren für mich leicht verständlich.						
Ich habe mich am Gehege gut über die Verhaltensregeln informieren können.						
Meiner Meinung nach waren genügend Informationen über die Verhaltensregeln vorhanden.						

Im folgenden beziehen sich die Fragen auf die Begegnung mit den Wisenten.

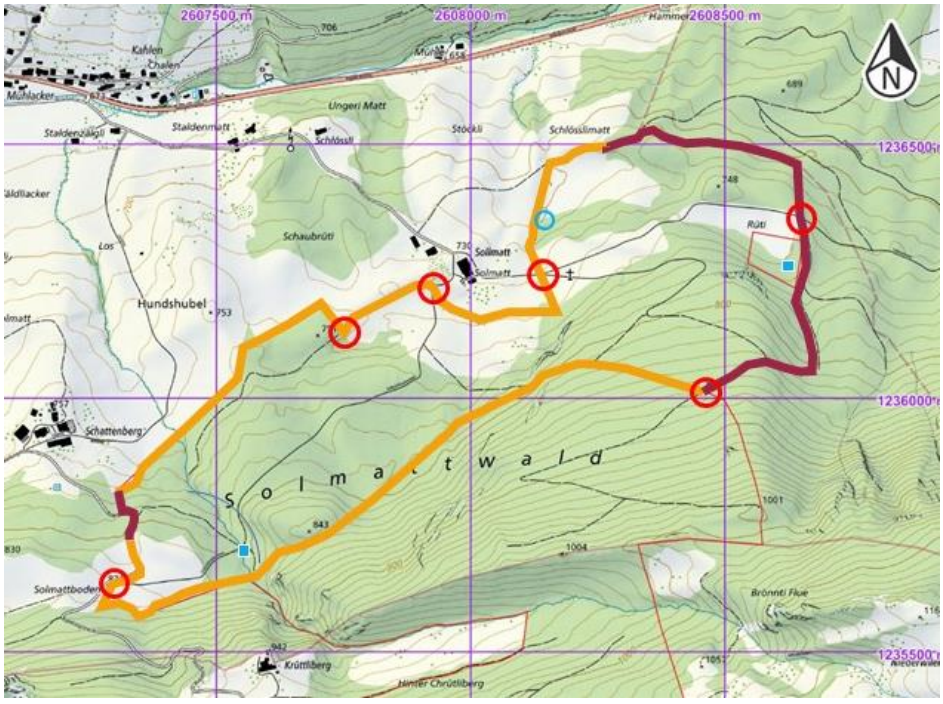
(Bitte die passende Antwort ankreuzen)	Ja	Nein	Bin mir nicht sicher
Haben Sie beim Besuch des Wisent-Gehege in Welschenrohr einen oder mehrere Wisente gesehen?			

Wenn Sie an der letzten Frage «ja» angekreuzt haben, beantworten Sie bitte die folgenden Fragen auf dieser Seite. Wenn Sie «nein» angekreuzt haben, können Sie direkt zu der Seite 14 gehen.

Denken Sie an Ihre Begegnung mit den Wisenten im Gehege in Welschenrohr. Inwieweit treffen folgende Aussagen aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Weder noch	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Ich habe eine Begegnung mit den Wisenten erwartet.						
Die Wisente zu sehen war eine beängstigende Erfahrung.						
Die Begegnung mit dem Wisent hat mir Freude bereitet.						
Ich fand die Begegnung mit dem Wisent nichts Besonderes.						
Ich habe mich während der Begegnung mit dem Wisent wohl gefühlt.						
Der Besuch des Wisent-Geheges fand ich faszinierend.						

Wo sind Sie dem Wisent begegnet? *Bitte tragen Sie den Ort der Begegnung in der Karte ein (ankreuzen).*



In der Region, in der Sie wohnen und in der das Wisent-Gehege steht, befindet sich auch der Naturpark Thal. Die folgenden Fragen betreffen diesen Park.

(Bitte die passende Antwort ankreuzen)	Ja	Nein	Keine Antwort
Ist Ihnen dieser Naturpark bekannt?			

Wenn Sie an der letzten Frage «ja» angekreuzt haben, beantworten Sie bitte die folgenden Fragen auf dieser Seite. Wenn Sie «nein» angekreuzt haben, können Sie direkt zu der Seite 15 gehen.

Inwieweit treffen folgende Aussagen dazu aus Ihrer persönlichen Sicht zu?

(Bitte die passende Antwort ankreuzen)	Trifft zu	Trifft eher zu	Teils teils	Trifft eher nicht zu	Trifft nicht zu	Kann ich (noch) nicht sagen
Der Naturpark Thal ist eine Bereicherung für die Region.						
Der Naturpark Tahl leistet einen wertvollen Beitrag zum Naturschutz.						
Wegen des Naturparks wird die Region zu einem «Museum».						
Die Präsenz des Naturparks Thal hat dazu geführt, dass viele Aktivitäten, die ich vorher ausüben konnte, nicht mehr möglich sind.						
Der Naturpark Thal stärkt die Region wirtschaftlich und touristisch.						
Es ist wichtig, dass es den Naturpark Thal gibt.						

(Bitte die passende Antwort ankreuzen)	Sicher dafür	Eher dafür	Eher dagegen	Sicher dagegen	Ich würde mich enthalten
Wenn am nächsten Sonntag darüber abgestimmt würde, ob ihre Gemeinde weiterhin am Naturpark Thal teilnimmt, wie würden sie stimmen?					

Zum Schluss möchten wir Ihnen noch einige Fragen zu Ihrer Person stellen.

Wie alt sind Sie?	_____ Jahre alt

(Bitte die passende Antwort ankreuzen)	Männlich	Weiblich	Divers	Keine Angabe
Welchem Geschlecht fühlen Sie sich zugehörig?				

Wie lautet die Postleitzahl ihres Wohnortes?	*Antwort:*

Wie viele Jahre wohnen Sie bereits an Ihrem jetzigen Wohnort?	*Antwort:*

(Bitte die passende Antwort ankreuzen)	Ja, unter 16	Ja, über 16	Nein	Keine Angabe
Haben Sie Kinder? (Mehrfachnennung möglich)				

Was ist Ihr höchster Schulabschluss resp. was für eine Berufsausbildung haben Sie?	*(Bitte die passende Antwort ankreuzen)*
Keine	
Primar-Real-Sekundar-Bezirksschule/Untergymnasium	
Berufslehre, Berufsschule, KV, Gewerbeschule	
Maturitätsschule, Gymnasium, LehrerInnenseminar, Berufsmaturität	
Höhere Fach- oder Berufsausbildung, Kunstgewerbeschule	
Fachhochschule (z. B. FHS, HTL, HWV) und Pädagogische Hochschule	
Technische Hochschulen (ETH, EPFL), Universität	

Sind Sie Mitglied in...? (Mehrfachnennungen möglich)	*(Bitte die passende Antwort ankreuzen)*
einem Umwelt- oder Naturschutzverband	
einem regionalen Wirtschaftsverein	
einem Landwirtschaftsverein	
einem Traditions- oder Heimatverein	
einem Gemeinderat oder Ortschaftsrat	
einem Tourismusverein	
einem Musikverein	
einem Sportverein	
einem Jugendverband (bspw. Pfadi, Jubla, Cevi)	
einer anderen Vereinigung, und zwar:	

Vielen Dank für Ihre Teilnahme!

WSL – Wald, Schnee, Landschaft Forschungsinstitut

INTERVIEW «Wisent Thal Projekt»

Vielen Dank, dass Sie sich für dieses Interview für unsere Forschung zu der Akzeptanz des Wisents zur Verfügung stellen.

Bei diesen Interviews interessieren uns insbesondere die Einstellung der Menschen und deren unterschiedliche Vorstellungen, Hoffnungen und Befürchtungen bzgl. der Wiederansiedlung der Wisente in der Region Jura. Nach der Umfrage, welche wir im Mai/Juni durchgeführt haben, wählen wir nun Personen mit sehr unterschiedlichen Meinungen für vertiefende Interviews aus. So können wir die Prozesse der Akzeptanz oder Nicht-Akzeptanz der Wisente genauer untersuchen. Für die Interviews haben wir einen Leitfaden vorbereitet, dieser dient dazu, dass wir im Gespräch mit allen zu interviewenden Personen dieselben Themen besprechen. Das Interview ist jedoch sehr offen gestaltet, so wird sich die Reihenfolge je nach Gespräch anpassen. Damit wird ermöglicht, dass Sie die aus ihrer Sicht wichtigen Themen aktiv einbringen können. Es ist also explizit erwünscht, dass Sie die Dinge erwähnen, die Sie als besonders wichtig erachten. So können wir von Ihnen lernen und herausfinden, was die Menschen denken.

Es ist auch wichtig zu betonen: Es gibt keine richtigen oder falschen Antworten auf unsere Fragen. Es geht einzig um Ihre persönlichen Perspektiven und Erfahrungen.

Wenn Sie Fragen haben oder etwas unklar ist, dürfen Sie das jederzeit sagen.

Damit wir die Interviews auswerten können, möchten wir das Gespräch gerne aufnehmen. Ist das für Sie in Ordnung?

Die Daten werden anonymisiert ausgewertet und nur wissenschaftlich für die Entwicklung des Projekts verwendet, und sicher aufbewahrt.

1. Knowledge of wildlife

- Gehen Sie oft im Freien spazieren?
  - In das Gehege der Wisente?
- Wenn Sie die Landschaft des Solothurner Juras jemandem beschreiben müssten, der noch nie dort war, wie würden Sie sie beschreiben?
- Welche Tierwelt ist Ihrer Meinung nach typisch für die Landschaft des Solothurner Juras?
  - Betrachten Sie den Wisent als typisch für die Landschaft Ihrer Region? (Parallel zu anderen *grossen Herbivoren / erklären dass Wisente damals in der Schweiz lebten)*
- Wenn Sie Ihre Eindrücke vom Wisent – d.h. nur dem Tier selbst! – jemandem beschreiben müssten, der dieses Tier überhaupt nicht kennt, wie würden Sie es beschreiben?
- Halten Sie die Wiederansiedlung von Wisenten in der Schweiz für eine gute Idee? *Wenn ja, warum? Wenn nein, warum nicht?*
- Halten Sie die Wiederansiedlung von Wisenten in der Region für eine gute Idee? *Wenn ja, warum? Wenn nein, warum nicht?*
- Sind Sie an diesem Projekt und deren Entwicklung interessiert? *Wenn ja, warum? Wenn nicht, warum nicht?*

2. Perception of bison presence

- Was ist Ihre Meinung über die Anwesenheit von Wisenten im derzeitigen Gehege in Phase 1 des Projekts, das Sie auf dieser Karte sehen? (*Karte 1 zeigen)*

  Checkliste / Ideen von Themen:

  - *Bezüglich Ihrer Sicherheit bei der Nutzung des Geheges oder der Sicherheit Ihrer Familie?*
  - *Über das Wohlergehen der Wisente?*
  - *Bezüglich der anderen Pflanzen und Tieren?*
  - *Haben Sie Befürchtungen bezüglich der ersten Phase des Projektes? Wieso? Sind sie selber direkt betroffen oder kennen Sie jemand (näher) auf den dies zutrifft?*
  - *Sind Ihre üblichen Aktivitäten aufgrund des Geheges eingeschränkt?*

- Die Umfrage hat gezeigt, dass die Teilnehmer:innen ein größeres Gehege für die Wisente als das derzeitige unterstützen. Die 2. Phase des Projekts plant, das Gehege zu vergrössern. (*Karte 2 zeigen).* Was ist Ihre Perspektive dazu? Wieso?
  - *Was wird es konkret für Sie ändern?*
- Was ist Ihre Meinung dazu, dass die Wisente in Phase 3 des Projekts frei herumlaufen? Wobei Sie wissen, dass die Tiere weiterhin besendert sind und überwacht werden.

Checkliste / Ideen von Themen:

- *Bezüglich Ihrer Sicherheit bei der Nutzung der Wald oder der Sicherheit Ihrer Familie?*
- *Über das Wohlergehen der Wisente?*
- *In Bezug auf das Wohlergehen der anderen Pflanzen und Tieren?*
- *Haben Sie den Eindruck, dass diese 3. Phase des Projekt Ihre üblichen Aktivitäten im Freien stark einschränken würde?*

- Haben Sie Befürchtungen bezüglich der dritten Phase des Projektes? Wieso? Sind sie selber direkt betroffen oder kennen Sie jemand (näher) auf den dies zutrifft?
- Könnte der Wisent, nach Ihrer Meinung, teil der Kultur der Region werden ??

3. People-wildlife interactions (source of conflicts or damages)

- Könnten Ihrer Meinung nach eingezäunte Wisente Konflikte mit den Menschen in der Region auslösen? *Wenn ja, welche?*
- Glauben Sie, dass freilebende Wisente Konflikte mit den Menschen in der Region auslösen können? *Wenn ja, welche?*
- Glauben Sie, dass die Projektorganisation Konflikte vermeiden und bewältigen kann? Wenn ja, wieso? *Wenn nein, wieso ?*

4. Basic wildlife values

Nun zu einigen abschliessenden Fragen:

- Welche Rolle spielt Natur allgemein in ihrem Leben? *Welche Aspekte der Natur interessieren Sie am meisten?*
- Wie würden sie Ihre Beziehung mit der Natur beschreiben?
- Was denken Sie von der Biodiversität?
- Wie stehen Sie zu der Bestrebung, Arten erhalten zu wollen? (*wann ist es sinnvoll?)*
- Wie stehen Sie zu der Bestrebung Arten in der Schweiz wiederanzusiedeln, die ausgestorben sind, aber früher hier vorkamen? (*bsp Steinbock, Biber, Luchs… und Wolf und Bär)*

Zuletzt einige Angaben für die Statistik der Analysen

- Alter
- Haben Sie Kinder/Enkelkinder?
- Wo wohnen Sie? Seit wann?
- Bildung und Beruf
    - Welche Ausbildung(en) haben Sie?
    - Welchen Beruf üben Sie aktuell aus? *Bei Rentner*innen: Welchen Beruf übten Sie zuletzt aus?*

Schluss

- Gibt es noch Aspekte, die wir nicht angesprochen haben – die Sie aber ganz wichtig finden in Bezug auf die Wiederansiedlung vom Wisent?

- Vielen Dank, dass Sie mitgemacht haben!

Interview français

- Si vous deviez décrire le paysage jurassien à quelqu'un qui n'est jamais venu ici, comment le décririez-vous ?
- Quels sont, selon vous, les espèces animales typiques du Jura régional?
- Considérez-vous le bison d'Europe comme typique du paysage jurassien, par rapport à son histoire passée ou à présent ?
- Si vous deviez décrire vos impressions de l'animal qu'est le bison à quelqu'un qui n'en a jamais vu, que décririez-vous ?
- Dans quelles mesures, selon vous, la présence du bison va influencer la culture et la perception de la région jurassienne ?

Sociodemographique :

1) Age
2) Lieu de résidence
3) Association environnementale : oui/non
4) Enfants : oui/non
5) Formation
6) Métier