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**Strategic Use of Competitiveness towards Consolidating the
Economic Sustainability of the
European Seafood sector**

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EXECUTIVE SUMMARY

Fisheries and aquaculture are a source not just of health but also of wealth. Employment in the sector has grown faster than the world's population (Food and Agriculture Organization of the United Nations, 2014). Fisheries and aquaculture offer jobs and assure the livelihoods of 10 to 12 percent of the world's population (World Bank, 2017). Fish continues to be one of the most-traded food commodities worldwide.

Evaluating the importance of the non-monetary benefits, or non-market value, produced by fisheries is one of the goals of the SUCCESS project. Indeed, it aims to evaluate the importance of non-market value and particularly the synergy that potentially exists between fisheries and tourism.

In this report, we follow the methodology of the GIFS study (Geography of Inshore Fishing and Sustainability). The method identifies the link between the presence of a fishing activity in a city and the tourist attendance extend and demonstrate the existence of a positive external effect, as well as quantify the economic impact of this external effect for the local

Three case studies were used in this report: Le Guilvinec (France), Aischgrund (Germany) and Barycz Valley (Poland). The effects of expenses made by of tourists are estimated on these places. Tourists came to visit the harbour of Le Guilvinec, watch and eat carps in Aischgrund and Barycz Valley.

Results highlight that Le Guilvinec, Aischgrund and Barycz Valley are visited by tourists whom age is more than 50. They represent 56% of the sample. In addition, Le Guilvinec is a family destination, Aischgrund and Barycz Valley are rather a couple destination. Furthermore, fishing and aquaculture activities are important to the local economy, to maintain employment and to attract tourists to the region. The local carp production in ponds is essential for fishing, landscape and biodiversity. Tourists who came to Le Guilvinec, Aischgrund and Barycz Valley stay in average 2 days. They spent per day about 18 euros in Le Guilvinec, 29 euros in Aischgrund and 3 euros in Barycz Valley.

Results also indicate that 34% of the tourists who came to Le Guilvinec, 10.25% of tourists who came to Aischgrund region and 6% who came to Barycz Valley are specific to the presence of a fishing and aquaculture activity in the region. Indeed, without the existence of these activities, this proportion of visitors would not come and would not make expenditure. The fishing and aquaculture activity is also a vector of attractiveness and generates a positive externality on the local territory. These results indicate the importance of maintaining the fishing activities.

KEY HIGHLIGHTS:

- **Le Guilvinec, Aischgrund and Barycz Valley are visited by tourists whom age is more 50 years old.**
- **The presence of tourists who came to Le Guilvinec, Aischgrund and Barycz Valley is related to fishing and aquaculture activities.**
- **Fishing and aquaculture activities are important to the local economy, to maintain employment and to attract tourists to the region.**
- **The local carp production in ponds is essential for fishing, landscape, birds and biodiversity.**
- **The average length of stay of tourists in these places is two days.**
- **Important expenditures are made by tourists like eating in restaurants, booking hotels and visiting museums.**
- **Without the fishing activity of the city tourist's expenditure y wouldn't be injected in the local economy.**

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1. INTRODUCTION

Beyond its first function of fish production, fisheries are also recognized to have a structural role for coastal territories by several decision makers (the European Commission or the FAO for example). Hence it could be a source of indirect benefits for the territory that can be monetary (analysis of spillover effects upstream and downstream of the sector) or non-monetary (participation of the fishing activity in the tourist attractiveness of the territory, support for educational and cultural activities ...).

The SUCCESS (Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the European Seafood sector), programmed for the period 2015-2018, is an Horizon 2020¹-funded project. The SUCCESS project conducts research work in order to consolidate the economic sustainability and competitiveness of European fisheries and aquaculture sectors to reap the potential of seafood markets. The SUCCESS' work concerning synergies between fisheries and tourism is in continuity of the work realized by the European INTERREG project GIFS (the Geography of inshore fishing and sustainability) (2012 – 2014), which aims to study the socio-economic and cultural importance of the coastal fisheries. In a work named “Estimate the external positive effect generated by the fishing industry on the tourism sector”² (Nourry & Le Gallic, 2015), the GIFS study developed a methodology to identify the link between the presence of a fishing activity in a city and the tourist attendance extend and demonstrate the existence of a positive external effect, as well as quantify the economic impact of this external effect for the local economy. The GIFS study conducted this work for four European harbours: the Conquet (France), Port-en-Bessin (France), Hastings (England) and Ostende (Belgium). In continuity, the SUCCESS project applies the same methodology in 3 countries (France: Le Guilvinec harbour, Germany: Aischgrund and Poland: Barycz Valley) and with two different production systems (fishing and inland aquaculture)³.

Indeed, this study aims to answer to two major questions:

- Do some tourists come to city because of the presence of a fishing fleet or aquaculture activities?
- If so, what is the local economic impact of these visitors attracted by the fishing identity of a city?

First, the methodology used to quantify the tourists number came for the presence of the fishing fleet and the resulting economic impact for the tourism sector is described. Then results on representativeness of the data used and estimation of the positive externality are

¹ Horizon 2020 is the EU Research and Innovation programme. Nearly €80 billion of funding available over 7 years (2014 to 2020) (European Commission, s. d.)

² Original French title : “Estimation de l'effet externe positif généré par l'industrie de la pêche sur le secteur du tourisme”

³ In addition, a qualitative approach was tested for the city of Conquet (France) (see summary in Annex 2).

provided. Finally, conclusion concerning the two major and some critics on the methodology are provided.

2. MATERIAL AND METHOD

2.1. Adaptation of the “DGCIS methodology”

The methodology used is the once used in the GIFS study, which constitute an adaptation of the “DGCIS methodology” presented in the report “Measuring the economic impact of a tourism event” written by the Directorate-General for Competitiveness, Industry and Services (DGCIS) of the French Ministry of Economy, Finance and Industry (Maurence, 2010).

Here is presented the essential point of the methodology, full details are available in the part “Methodologie et cas d’étude” of the GIFS report (in French) (Nourry & Le Gallic, 2015).

The objective of this methodology is to measure a differential between two situations (with and without the event⁴) by identifying and quantifying the surplus of activity generated immediately by the event in the economic fabric of the surrounding territory. This methodology relies on two principles:

- Only the exchanges with actors outside the territory must be taken into account in measuring economic impacts
- Only economic phenomena attributable to the presence of the event must be taken into account in the measurement of economic impacts.

According to DGCIS methodology and the choices made in the GIFS report, the expenditure made by visitors of the Le Guilvinec’ city is the economic act used to quantify the surplus of the local economic activity. The geographical scale chosen to evaluate the economic benefit is the territory of the municipality of the Le Guilvinec according to the administrative division. Finally, the term “actors outside the territory” refers to visitors that come in the city for tourism and not for work or visit their relatives. Only the “specific visitors”, that means those who came specifically for the fishing identity of the municipality, should be taken in account⁵.

Indeed, to identify and quantify the surplus of activity generated by the presence of the fishing activity in the Le Guilvinec, the expenditures made in the Le Guilvinec’s territory by the visitors who came for the “fisheries identity” of the city are studied in this report.

2.2. Short presentation of the studied area:

2.2.1 The city of Le Guilvinec: France

⁴ The term "event" refers to any tourist event likely to attract a significant number of visitors to the day or stay. In our study the event is the presence of the professional fishing activity.

⁵ The identification of the "specific visitors" is made in the "visitor classification" section

The Le Guilvinec is a city located in the west of France in a territory call “Bigouden country”, department of Finistère, Region Bretagne, France (figure 1). This city of 2853 inhabitants (INSEE, 2016) own the one of the most important French fishing harbour : the Le Guilvinec is the first harbour in value (70 743 thousands €) and the third in volume (17 516 tons). In 2014, 222 fishing vessels are registered in the maritime district of the Le Guilvinec which employ more than 660 fishermen (Système d’information halieutique SIH, 2016). Beyond the employment of fishermen, the fishing activities provides work for several local enterprises working for the downstream of the sector: auction, wholesaling, maintenance of the mechanical, harbour services ... Indeed, fisheries is the “motor of the economic activity” of the Bigouden country (Communauté de Communes du Pays Bigouden Sud, s. d.) and a key element of the life of the Le Guilvinec city : “Here we live at the rhythm of the fishery” declared the Le Guilvinec’ mayor town hall (Pocheau, 2017).

The Le Guilvinec is included in the touristic destination⁶ “Quimper Cornouaille”, for which a major axis of promotion is the fisheries atmosphere, count 5 800 jobs related to the tourism, representing 10% of the local employment (Pôle observatoire et prospective du comité régional du tourisme de Bretagne, 2017). In this logic of the fisheries atmosphere’s promotion, the city of Le Guilvinec is characterised by the presence of the museum Haliotika that is dedicated to the fishing activity and that was visited by about 50 000 visitors per year this last years (Pocheau, 2017).

Figure 1: Localisation of the Le Guilvinec city (represented by the red mark on the map) (map data: Google map, 2017)



2.2.2 Aischgrund region: Germany

Germany’s Karpfenland Aischgrund Region has a rich tradition of carp fish farming. About a thousand pond farmers grow the well-known Aischgrund carp using traditional methods in more than 7 000 ponds spread throughout the region. In January 2013, a local mayor and

⁶ A “touristic destination” is defined as a territory where a set of services are organised around attractive elements, in order that the whole respond to the needs of a tourists segment (Botti, Peypoch, & Solonandrasana, 2013). The Brittany Region (region Bretagne in French) identified 11 touristic destinations on its territory (Comité régional du tourisme de Bretagne, s. d.).

chairman of the regional association “Karpfenland Aischgrund E.V.” developed the idea to establish a tourist office to promote carp tourism. “Karpfenland Travel” was set up and local carp farmers were specially trained to accompany tourists on guided walks through the long belts of ponds, on bus excursions and on visits to the local carp museum.

These activities are offered alongside broader tourism activities such as bicycle tours and city sightseeing tours. Promotional material was also produced, including brochures, a multi-lingual website, a Facebook page and a Youtube channel, helping carp tourism to become one of the key tourism elements in the region. Many carp farmers have now diversified and increased their income as carp guides.

Figure 2: Aischgrund region



2.2.3 Barycz Valley valley: Poland

Barycz Valley valley Landscape Park (Park Krajobrazowy Dolina Barycz Valley) is a protected area (Landscape Park) in south-western Poland. Established in 1996, it covers an area of 870.4 square kilometres (336.1 sq mi). The Park is shared between two voivodeships: Lower Silesian Voivodeship and Greater Poland Voivodeship. Within Lower Silesian Voivodeship it lies in Milicz County (Gmina Milicz, Gmina Cieszków, Gmina Krośnice), Oleśnica County (Gmina Twardogóra) and Trzebnica County (Gmina Trzebnica, Gmina Prusice, Gmina Żmigród). Within Greater Poland Voivodeship it lies in Ostrów Wielkopolski County (Gmina Odolanów, Gmina Przygodzice, Gmina Sośnie). The Park includes the Milicz Ponds (Stawy Milickie) nature reserve, which is a protected Ramsar wetland site.

The Milicz Ponds (Polish: Stawy Milickie) are a group of about 285 fish ponds in Lower Silesian Voivodeship, south-western Poland, in the valley of the river Barycz Valley, close to

the towns of Milicz and Żmigród. The ponds cover a total area of about 77 square kilometres (30 sq mi). Due to their importance as a habitat and breeding ground for water birds, the ponds are a nature reserve (established 1963, area 53 km²), which is protected under the Ramsar convention (one of 13 such sites in Poland). Since 1996 it has also formed part of the larger protected area known as the Barycz Valley Valley Landscape Park.

Figure 3: Barycz Valley valley



2.3. The visitor classification

Table 1: Classification of visitors generating impacts in the GIFS report (Nourry & Le Gallic, 2015)

Extra-territorial visitors came for the activity	Extra-territorial visitors that didn't came for the activity	Visitors living in the studied area
SPECIFIC	OCCASIONAL	LOCAL
Visitor generating expenditures	Visitor that not generate expenditures	

To identify the “specific visitors” a classification of the visitors is developed in the GIFS report (Table 1). “Specific visitors” correspond to visitors who came specifically for the fishing identity of the municipality.

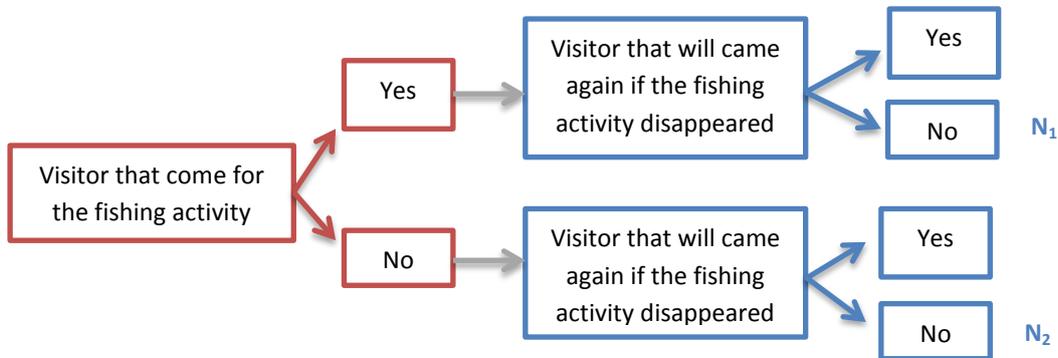
The methodology used in the GIFS report uses two scenarios to identify specific visitors:

- The “restricted scenario”: specific visitors are those that came specifically to see the fishing activity and so that would not come again if there is no more fishing

activity. This referred to the population N_1 in the figure 2. This fits to the definitions given in the DGCIS methodology.

- The “released scenario”: It is possible that some visitors don’t specifically come to see the fishing activity but more for the atmosphere created by the activity. These visitors will not come again if the fishing activity disappears. We can also consider that these visitors contribute to the surplus of activity and their expenditure should be taken in account. The population of specific visitors in this scenario would also be N_1+N_2 .

Table 2: Classification of the visitors according to their attitude toward fisheries and scenarios construction in the GIFS report (Nourry & Le Gallic, 2015)



More details concerning the scenarios are available in the GIFS report (Nourry & Le Gallic, 2015).

2.4. Quantification of the global expenditure related of the presence of the fishing activity

2.4.1. Quantify the total expenditure

The total expenditures made in the Le Guilvinec by the visitors came for the “fishing identity” of the place is estimated from the following formula:

Total expenditures =

	Annual number of tourists in the Le Guilvinec	Var.1	
x	% of specific visitors	Var.2	Eq. [1]
x	average length of stay of these tourists (in number of day)	Var.3	
x	average expenditure of these tourists (in €/day/person)	Var.4	

Moreover the total expenditure, an **indicator relative to the size of the local population** is calculated. The equation used to estimate the indicator is the division of the total expenditure per the number of inhabitants of the city. This indicator measures the amount of money that each inhabitant of the city would receive due to the venue of these

specific visitors if the total amount of money were distributed to the population. It allows drawing comparison between cities that have not the same size.

The data needed to quantify the different variables were collected by survey (see the following 2.5. section).

Variable 1 can be either provided by local authorities or need to be estimated using different methodologies as indicated in section 2.4.2

2.4.2. Quantify the total number of visitors in the case of the city of Le Guilvinec

Evaluate the total number of a city is a difficult exercise as it is difficult to directly count them on the street. Indeed, a tourist in an urban territory can adopt very different behaviours depending on his reasons for coming, which makes it more or less difficult to capture by the existing counting points (Agence d'Urbanisme de la Région Nantaise, s. d.). An exchange with the tourism office of the Le Guilvinec allows knowing that the total number of Le Guilvinec's visitors is not evaluated and so not available. A way to estimate it is to make estimation on the basis of systematic count realized by touristic site, like museum or the tourist office. That is the choice made in this study. Two methodologies were used:

- Methodology 1: This hypothesis is based on the systematic count made by the tourism office. As a minimum basis, we take the **hypothesis that all the visitors of the Le Guilvinec city went in the tourism office and so the tourist number counted by the tourism office represent the size of the whole visitors of the city**. This hypothesis is used in the GIFS report. However, this hypothesis is highly questionable as the tourism office employees affirm that only few percentages of tourists visit tourism offices. Nevertheless, in the hypothesis that the proportion of visitors that visit the tourism office is the similar for the Le Guilvinec and the harbours of the GIFS study, this value will allow to compare the results between harbours.
- Methodology 2: This hypothesis is based on the systematic count made by the museum of fisheries, Haliotika. Indeed, if we know the proportion of visitor of the Le Guilvinec that visit Haliotika, the total number of visitors of the Le Guilvinec can be estimated by this way :

$$\begin{aligned} & \text{Annual number of visitor of the Le Guilvinec} \\ & = \text{annual number of visitor of Haliotika} \\ & \times \text{Proportion of visitor that visit Haliotika when coming in the Le Guilvinec} \end{aligned}$$

If we made the **hypothesis that the sample of interviewee is representative of the Le Guilvinec's visitor's**, it is possible to estimate the proportion of visitors that visit Haliotika by asking if they had visited or will visit Haliotika during their

visit during the survey (see 2.2.2. section). Indeed, we can estimate the proportion with the following formula:

$$\text{Proportion of Guilvinec's visitor that visit Haliotika} = \frac{\sum(\text{size of the group}) \text{ for interviewees that visit Haliotika during their visit}}{\sum(\text{size of the group}) \text{ for the all the interviewees}}$$

Eq. [2]

Indeed, the questions asked during the study should allow evaluating the size of the group to which belong the interviewee and if the visitor visited Haliotika during its journey (see section 2.2.).

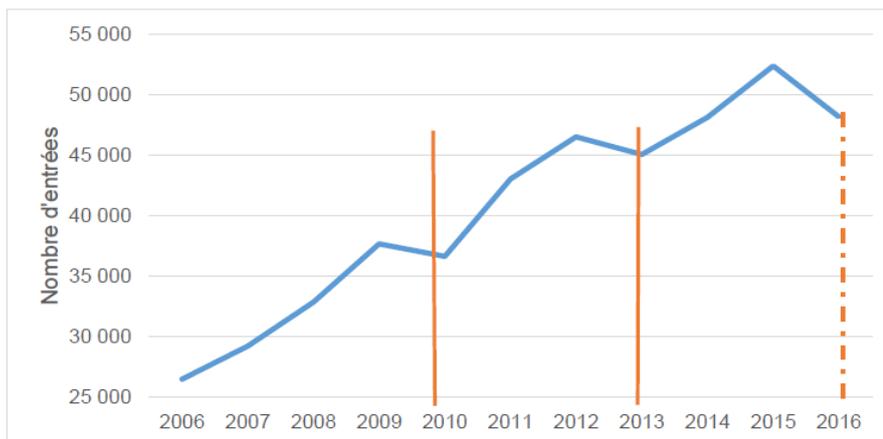
2.5. Data used

2.5.1. Variable 1:

For Aichgrund and Barycz Valley the number of visitors is given by local authorities (tourist office). However for the Le Guilvinec city it is estimated by the methodologies described in section 2.4.2:

- The data of visitors of the tourism office are available thanks to the systematic count realised by the office (methodology 1).
- The data of visitors' number in Haliotika are also available thanks to a systematic count realised by the museum and are available in the Master Thesis of Chloé Pocheau (University of Brest) (Pocheau, 2017) (methodology 1):

Figure 4: Evolution of visitors (in number of tickets) in Haliotika between 2006 and 2016
(Source: Haliotika; available in Pocheau, 2017)



2.5.2. Variables 2, 3 and 4:

The necessary data to quantify the specific visitors' proportion, their expenditure and the proportion of the Le Guilvinec's visitors that visit Haliotika are collected in a survey, which consisted in **directive or structured interviews of tourists visiting the studied cities**.

The questionnaire used to conduct the interviews in the Le Guilvinec (presented in annex) is an adaptation of the questionnaire used in the GIFS survey. The objective of the questionnaire is to obtain information about:

- the **interviewee's profile** (questions 15, 16, 17), that allow to check the representativeness of the population interviewed,
- the **reason of its visit** (questions 1 and 2), **the profile of its visit** (questions 5 to 12), **its interest for the fishing activity** (questions 13 to 14) and **its expenditures** (questions 6.2 and 11), that allows to identify the specific visitors for the two scenarios and to estimate the variables 2,3 and 4,
- additional questions were asked to understand its **representation of the studied area and the fishing activities** (questions 3 and 4),
- Quantify the proportion of Le Guilvinec's visitors that visit Haliotika needs to combine the results of profile visit (information of the size of the group is given by the question 5 and 10, that gives the data needed for the equation 2.

In the Le Guilvinec case study, one surveyor was implicated during 6 days. 201 visitors were interviewed⁷. In comparison, 385 visitors were interviewed in the Conquet case study, 392 in the Port-en-Bessin case study, 480 in the Hastings case study and 540 in the Ostende case study.

The interviewees were chosen randomly without using the quota methodology described in the GIFS report.

In the Aischgrund case study, one surveyor was involved during 4 days. 273 visitors were interviewed between 29th of September 2017 and 4th of October 2017. This period corresponds to the carp season.

In the Barycz Valley case study, one surveyor was implicated around the same period of time. 50 visitors were interviewed.

German and Polish questionnaires were constructed with the help of the SUCCESS Carp Case Study members, and were fueled by fieldtrips in both carp regions (Aischgrund and Barycz Valley Valley), respectively on June 2016 and September 2016. The aims of these fieldtrips was to meet carp farmers and regional experts to study the challenges of carp farming and region-marketing. 18 experts over these areas were interviewed, either face-to-face or as participants of a focus group. These meetings enable us to explore the diversity of different perspectives inside a special community towards a particular situation and to explain

⁷ July 20th and 25th 2017 and August 1st, 10th, 11th and 22th 2017

their sense rather than measuring variables (Lasner & Hamm 2014, Bryman 2012, Anderson & Taylor 2006). As our experts have different professions and take diverse roles in the communities – carp farmers, volunteers in carp museum, tourism managers, restaurant managers, mayor... -, these qualitative approaches help us understand the complexity of interactions linked to carp farming and its marketing.

In this context, the questionnaires were realized in order to answer our research issue about the positive externality of carp farming to regional tourism, but also to gather substantial information about tourism in both regions. Therefore, both surveys were improved thanks to the cooperation with tourism management agencies in Aischgrund (Karpfenland Travel) and in Barycz Valley Valley (Partnerstwo dla Doliny Barycz Valleyy). The Neustadt carp museum has also been involved in the construction and implementation of the survey. The final version of the questionnaire is based on an exchange between the SUCCESS research members and the regional tourist leaders which ensure a practical and scientific territorial anchorage.

3. RESULTS

3.1. Profile of the interviewees and representativeness

3.1.1 Le Guilvinec study

Figure 5: Age group of the interviewees (number) interviewees (%)

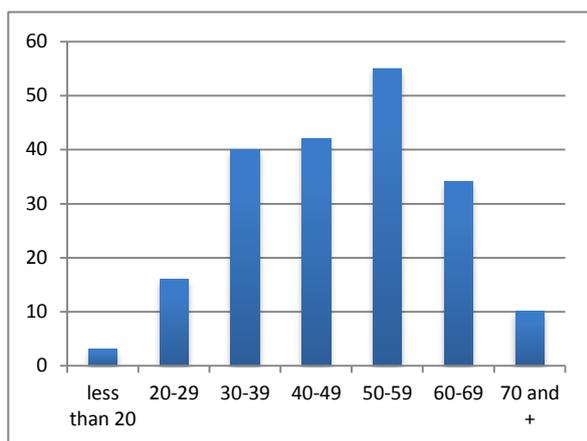
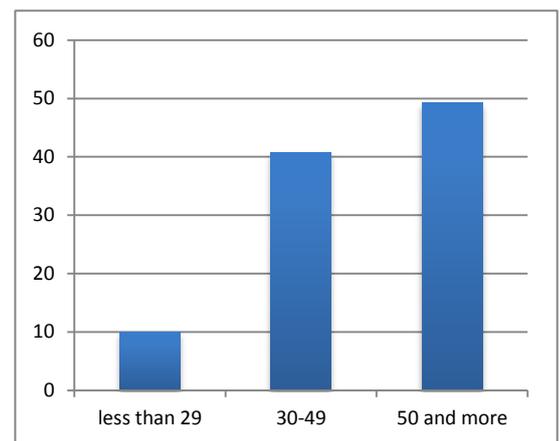


Figure 6: Age group of the interviewees (%)



Author's calculation

According to the figure 5, the majority of the interviewees were more than 50 years old.

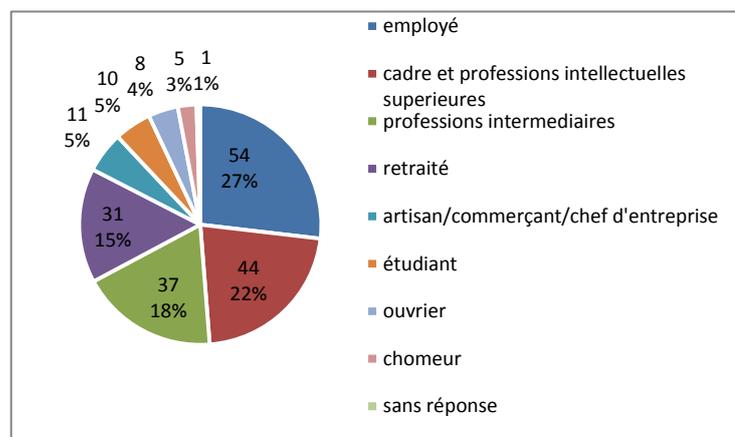
The figure 6 represents the proportion of three age groups corresponding to the age groups “classe 1”, “classe 2” and classe 3” for the French city in the GIFS study (GIFS study, p15). Indeed the “50 and more” group, corresponding to the “classe 3” group in the GIFS study, is overrepresented (49% in for the Le Guilvinec against between 18 and 25% for the

GIFS study harbour and 24% for the reference population) and the “30-49”, corresponding to the “classe 2” group in the GIFS study, is slightly underrepresented (around 40% in the Le Guilvinec against more than 50% for the GIFS study harbour and 55% in the reference population).

Concerning the sex-ratio, our sample is composed of 48,3% of women and 51,7% of men. This is similar to the sex-ratios obtain in the GIFS study and to the reference population.

Figure 7 : Socio-economic categories of the interviewees (number and %)

Concerning the socio-economic categories (figure 7), the most represented groups are the employees, the high qualified workers, the intermediate occupation and the retired, which 83% of the interviewees. In the GIFS study, these four socio-economic categories are equally the most important for the two French harbour studied (Le Conquet and Port-en-Bessin). However, the



order of importance is not the same. Compared to the **reference population**, the “executive and intellectual profession” proportion is very high (13% in the reference population and 22% in the Le Guilvinec case study), the retired proportion is smaller (26% for the reference population) and the population of employees is overestimate (17% in the reference population).

An explanation of the smaller proportion of retired compared could be explained by the fact that the survey was conducted during school holidays, which could overestimate the proportion of workers with children in comparison to non-holidays period, where the proportion of retired compare to the workers could be higher. Moreover, due to difficulty of the interviewer to classify the “workers” interviewees in the socio-economic categories, mistakes in classification may have occurred and biased the result.

3.1.2. Aischgrund study

Figure 8: Age group of the interviewees (number)

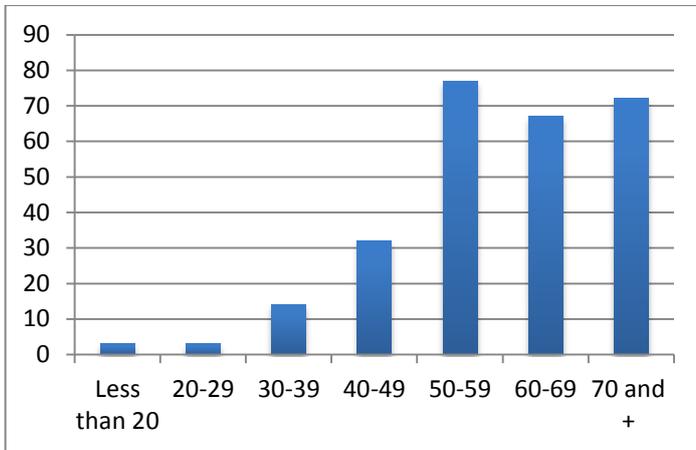
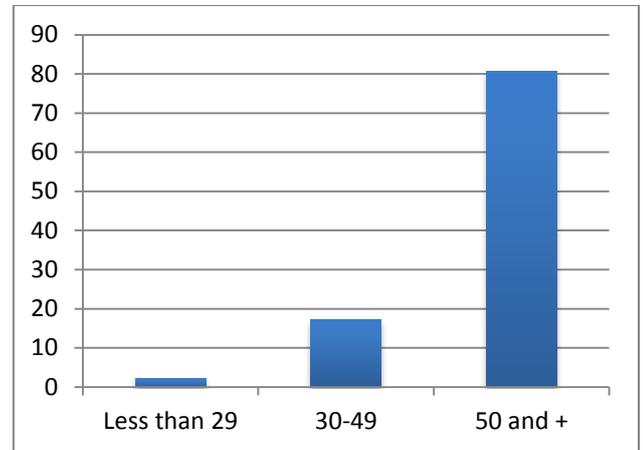


Figure 9: Age group of the interviewees (%)



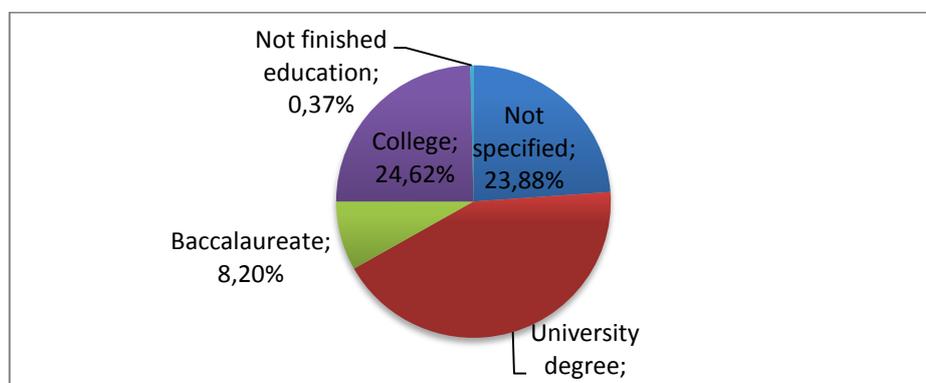
Author's calculation

Figure 8 indicates the age group of the interviewees in number. The interviewees whom age is between 50 and 59 represent the highest number of tourist to Aischgrund. There are 77 and are followed by those who are 70 years old with 72 tourists than those who are between 60 and 69 with 67 tourists. Tourists who have between 40 and 49 and 30 and 39 came less to Aischgrund with a respectively number of 32 and 14.

In this context, Figure 9 reveals that 80% of the interviewees of the sample have more that 50 years old. This means that Aischgrund attracts seniors tourists. Youngest tourists between 30 and 49 represent only 17% of the sample and those whom age is less than 29 represent only 3% of the sample.

Regarding the sex ratio, Aischgrund is visited more by men. They represent 58,84% of the sample against 41, 16% for women.

Figure 10 : Level of education of the interviewees



Author's calculation

Figure 10 indicates that 42,91% of the visitors have a University degree. This group is followed by tourists who have a college degree with 24.62%. Tourists who have not finished education represent a minority of those who came to Aischgrund. It is an expected profile of Germany's tourists for this type of activity.

3.1.3 Barycz Valley study

Figure 11: Age group of the interviewees (number)

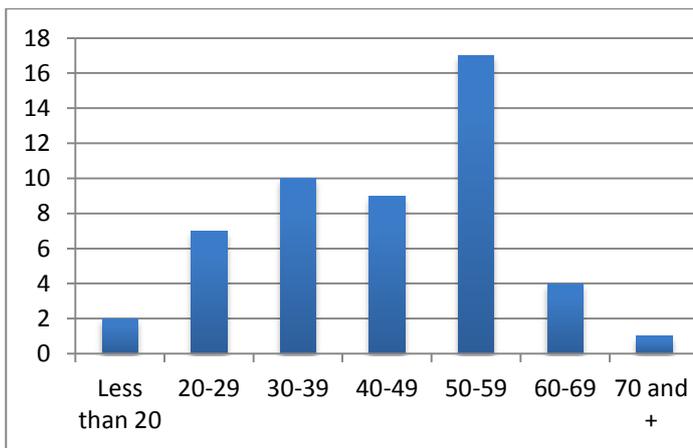
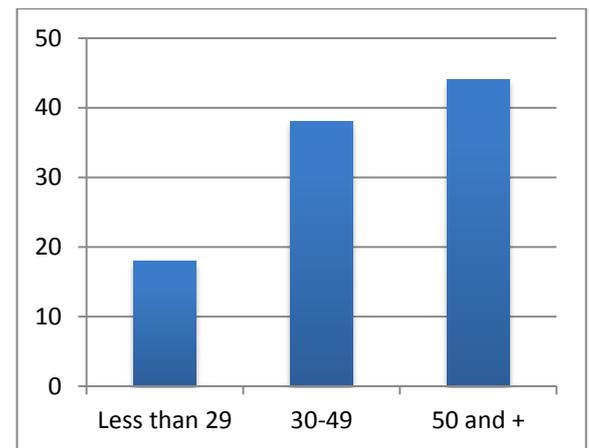


Figure 12: Age group of the interviewees (%)



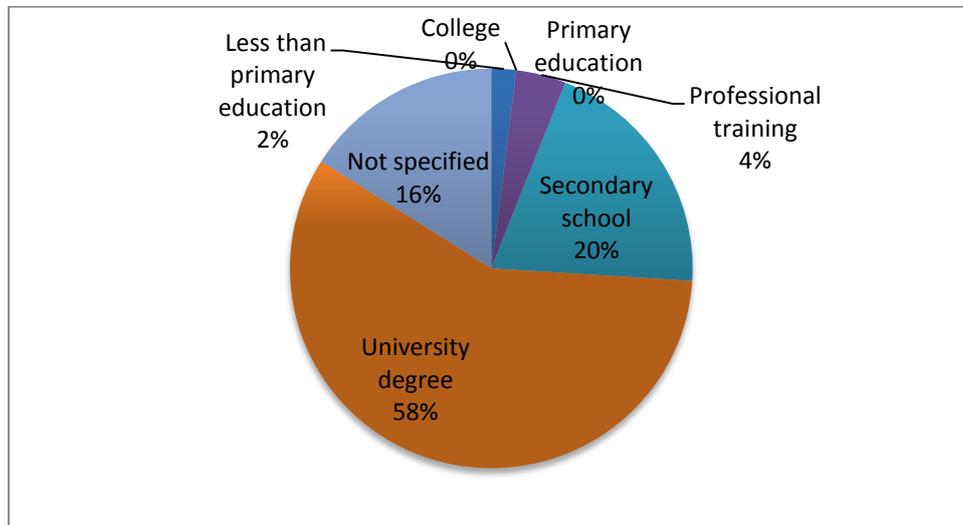
Author's calculation

Figure 11 indicates the age group of the interviewees in number. The interviewees whose age is between 50 and 59 represent the highest number of tourists in ycz. There are 17 and are followed by those who are between 30-39 years old with 10 tourists than those who are between 40 and 49 with 9 tourists. Tourists who have between 60 and 69 and 30 and 70 came less to Barycz Valley with a respectively number of 4 and 1.

In this context, Figure 12 reveals that 44% of the interviewees of the sample have more than 50 years old. Youngest tourists between 30 and 49 represent 38% of the sample and those whose age is less than 29 represent only 18% of the sample.

Regarding the sex ratio, Barycz Valley is visited more by women. They represent 59,18% of the sample against 40,81% for men.

Figure 13: Level of education of the interviewees



Author's calculation

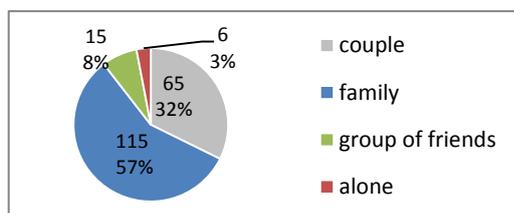
Figure 13 indicates that 58% of the visitors have a University degree. This group is followed by tourists who have average and pilice with 20%. Tourists who have not finished education represent a minority of those who came to Barycz Valley.

3.2. Profile of the visit

3.2.1 Le Guilvinec study

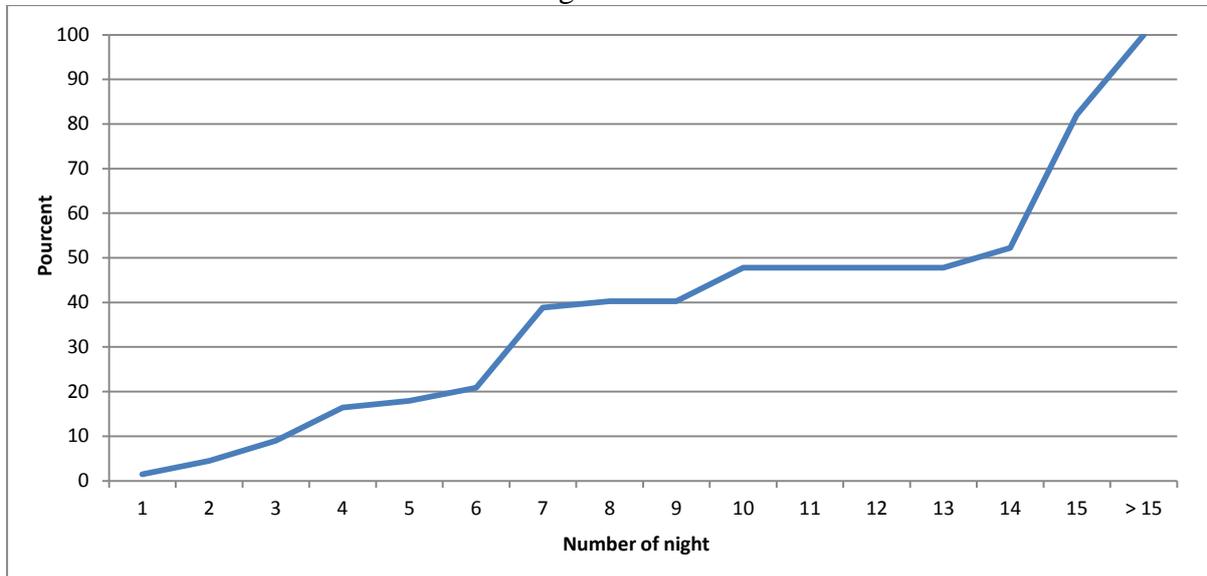
This section describes the characteristic of the interviewees visit.

Figure 14: Type of tourists' group (number and %)



The Le Guilvinec is mainly a family destination, as this category represents 57% of the visitors. Couples also have an important group type as it represents 32% of the visitors. The repartition is close to the once in the GIFS study

Figure 15: Cumulative percentage of the longer of the journey for the tourists that sleep ad minima one night in the Le Guilvinec



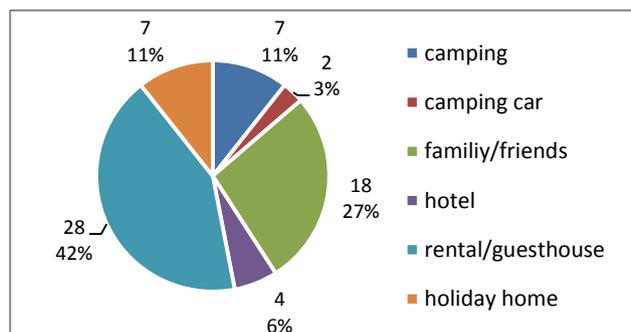
Author's calculation

61,7% of the interviewees went to the Le Guilvinec for the day only. This is similar to the French harbour studied in the GIFS study. 66 interviewees declare to sleep at least one night in the Le Guilvinec during their journey (almost 33% of the interviewees). The 6% difference of interviewees correspond to visitors that slept in a city closed to the Le Guilvinec and came several times in the Le Guilvinec during his journey.

Around 50% of the interviewees that sleep in the Le Guilvinec stay more than 14 night, which is more important than the GIFS results. This could be explained by the fact that the Le Guilvinec survey was conducted during the summer holidays although this is not the case of the GIFS surveys.

As noticed in the GIFS report, it is probable that the number of night is dependent of the season. Indeed, as the Le Guilvinec survey happened in summer, it is possible that the number of night evaluated is not representative of the number on night during the year.

Figure 16: Accommodation's type chosen by visitors sleeping at least one night in the Le Guilvinec (number and %)



Author's calculation

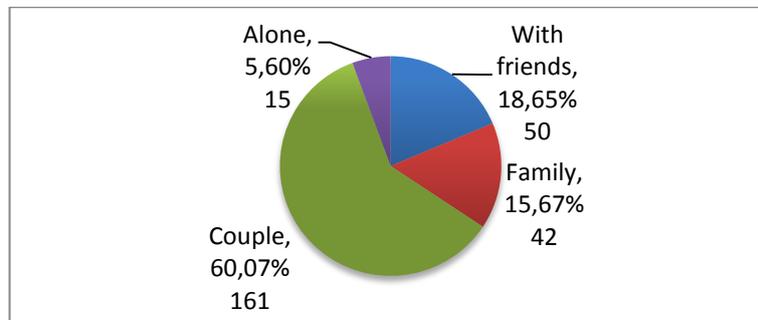
The accommodations types the most frequently chosen by the visitors sleeping in the Le Guilvinec are rental or guesthouses, which count for 28%, and family or friends' house (27%). We can suppose that the relatively high proportion of visitors sleeping in camping is due to the date of the interviews (during summer).

For 77 visitors, that correspond to 38,3%, it is not their first journey in the Le Guilvinec. That is relatively low compare to the harbour of the GIFS study.

3.2.2 Aischgrund study

In this section, we describe the characteristics of the interviewees.

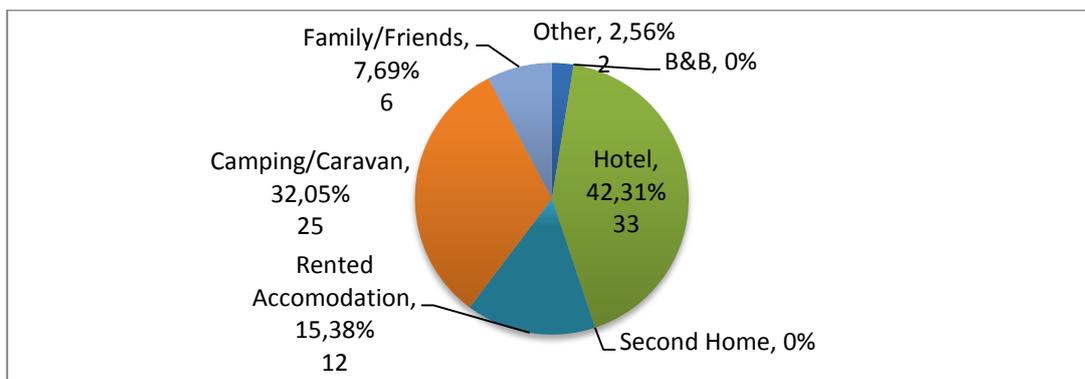
Figure 17: Type of tourist's group (number and percentage)



Author's calculation

Aischgrunf region is mainly a couple destinations, as this category represents 60,07% of the visitors. The group of Fiends represent 18,65% and the group of family denote 15,57% of the sample. Few people come alone to visit the Aischgrund region, they are about 5,60% of the sample. This repartition is different from the case of the Le Guilvinec. In the latter, it is the family group that represents the majority of visitors by 57%. It is followed by couples with 32%.

Figure 18: Accommodation's type chosen by visitors sleeping at least one night in Aischgrund (number and percentage)

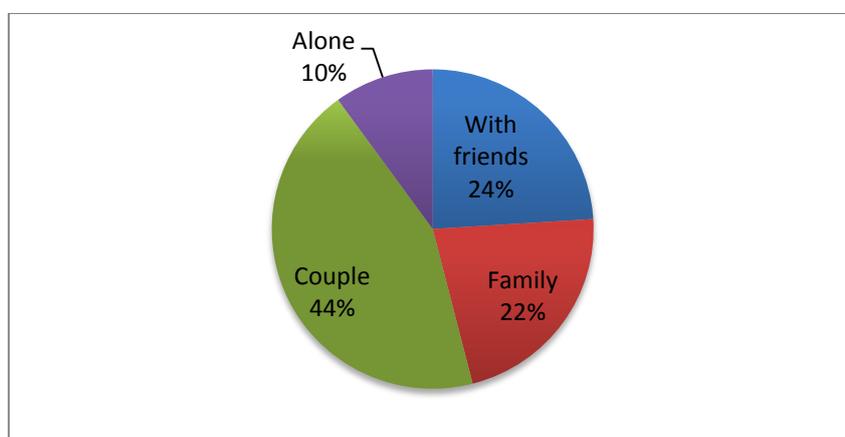


Author's calculation

The accommodations types the most frequently chosen by visitors are Hotel and Camping/Caraven. They represent respectively 42,31% and 32,05%. It is followed by rented accommodation with 15,38% and family or friends' house (7,69%). We can suppose that the relatively high proportion of visitors sleeping in hotels and camping is due to the date of the interviews (during summer).

3.2.3 Barycz Valley

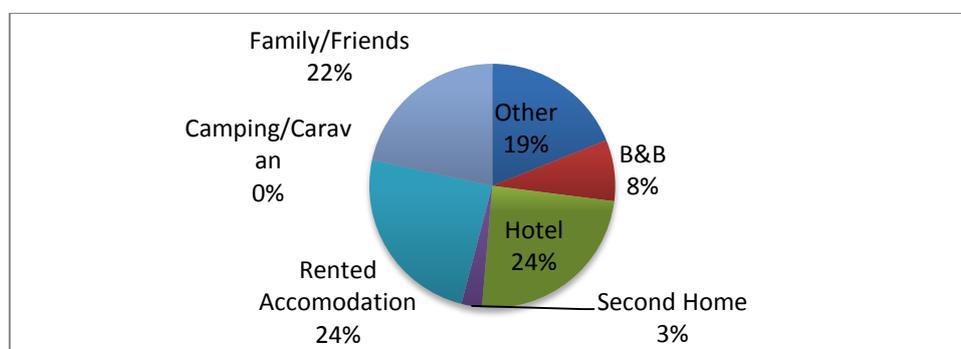
Figure 19: Type of tourists' group (number and %)



Author's calculation

Barycz Valley region is mainly a couple destinations, as this category represents 44% of the visitors. The group of Friends represent 24% and the group of family denote 22% of the sample. Few people come alone to visit the Barycz Valley region, they are about 10% of the sample. These results are coherent with the previous figures.

Figure 20: Accommodation's type chosen by visitors sleeping at least one night in Barycz Valley (number and %)



Author's calculation

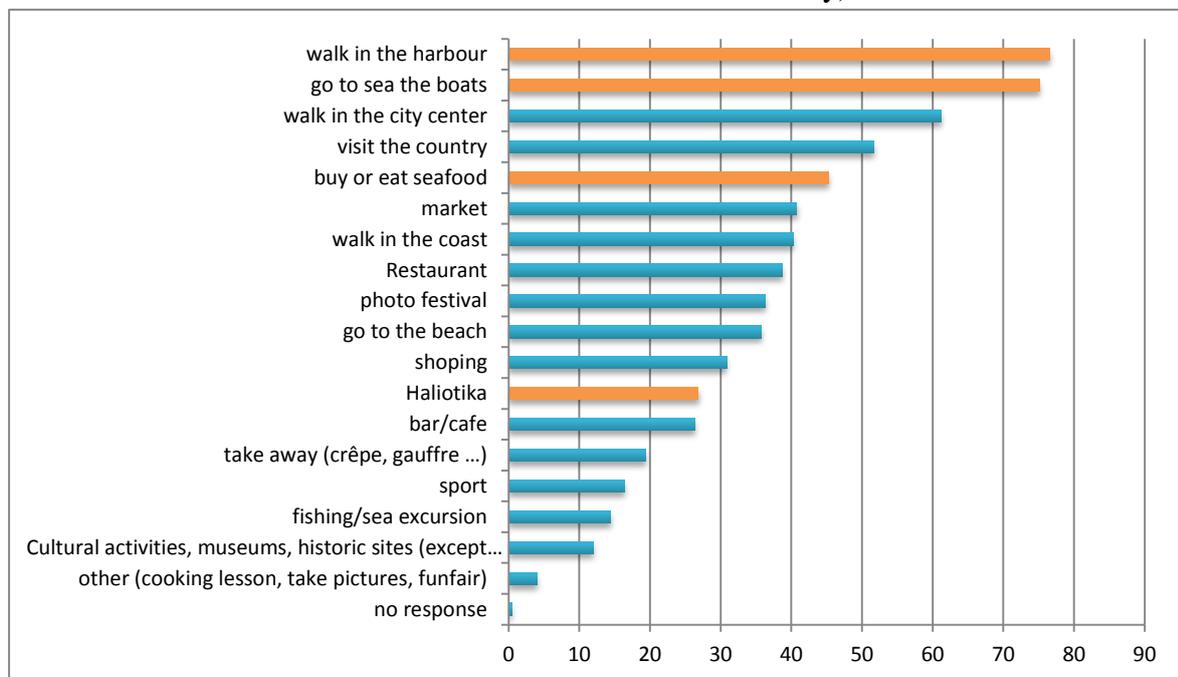
The accommodations types the most frequently chosen by visitors are Hotel and rented accommodation. They represent respectively 24%. It is followed by family or friends' house with 22% and other with 19%. We can suppose that the relatively high proportion of visitors sleeping in hotels and camping is due to the date of the interviews (during summer).

3.3. Visitors and the fishing activity

3.3.1. Le Guilvinec

This part of the study allows to better understanding the interest of the fishing activity for the visitors and its importance in the interviewees visits.

Figure 21: Type of activity made by the visitors during their journey in the Le Guilvinec (% of interviewees that did the activity)



Nb: The activities represented by orange sticks correspond to activities directly linked to the fishing activity of the city

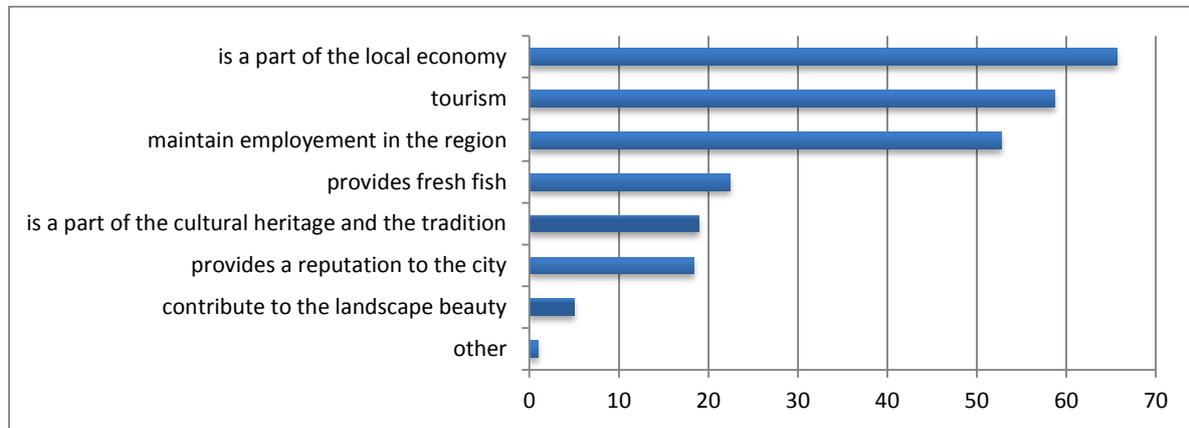
Author's calculation

The analysis of the visitors' activities shows that 3 of the "top five" activities are linked to the fishing activity of the city (in orange in the figure). Indeed $\frac{3}{4}$ of the visitors are going to walk in the harbour and/or want to see the boats⁸. Moreover, 94,5% of the interviewees declare to have done at least one activity linked to the fishing activity. Around 45% of the visitors are also going to buy or eat seafood, which is the first evocated activity that implicates a financial expenditure for the visitors.

⁸ Unless the world « fishing » doesn't appear in the response « walk in the harbour » and « see the boats », can be considered as linked to the fishing activity as the Le Guilvinec's harbour is a fishing harbour and the boats present in it are fishing boats

It is possible that the percentages for “photo festival”⁹ and for “market”¹⁰ are misestimate.

Figure 22: Perception concerning the output provided by the fishing activity to the local region (% of interviewees that mention the output)



Author’s calculation

The figure 22 presents the answers to the question 13.1 “In your view, what provides the fishing activity to the local region?” The question was asked as an open question and the answers were categorized regarding the list of output presented in the figure 10.

The three main contributions of the fishing activities to the region perceived by the visitors is the importance in the local economy (for 65,7% of the visitors), the tourist attractiveness that it created (for 58,7% of the visitors) and the importance of the sector in the local employment (for 52,7% of the visitors).

It is very likely that the answers’ proportion for “provides a reputation to the city” is underestimated: indeed during the whole exchanges between the interviewee and the surveyor, numerous interviewees, and particularly those who already went in the Le Guilvinec, declared, outside the frame of the question 13.1, that the Le Guilvinec is known for its fishing activity and that this activity is essential for the city dynamic.

3.3.2 Aischgrund

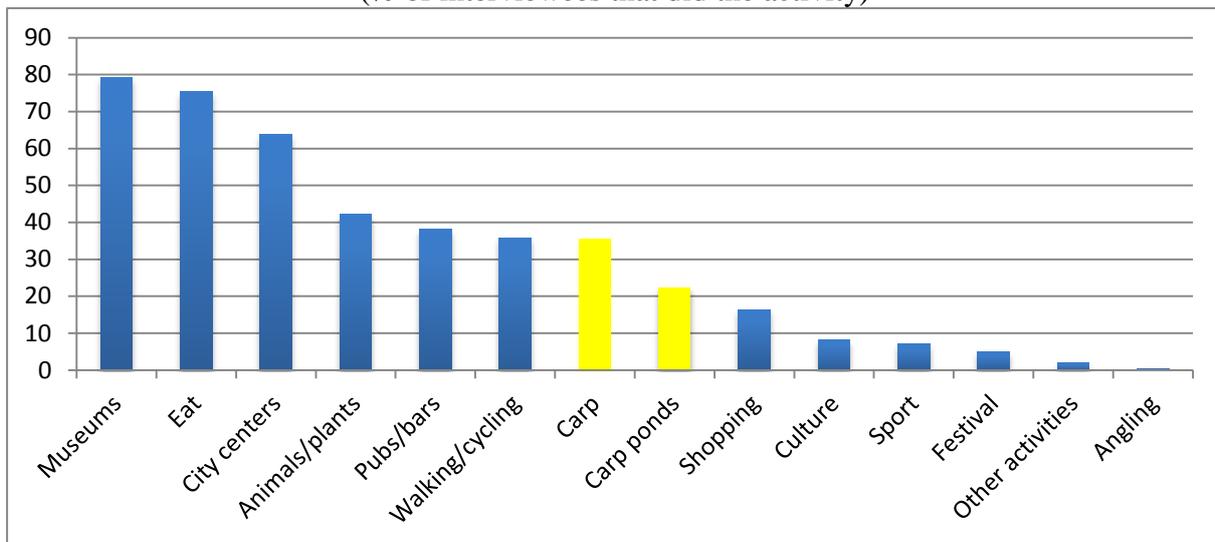
This part helps to better understand the interest of carps for the visitors and its importance in the interviewee’s visits.

⁹ It is possible that the percentage of response “photo festival” is underestimated. Indeed, some interviewees seem to not identify that the photographs in the city are set in a frame of a photo festival, which could explain that some people that were looking at the photographs before being interviewed forgot to respond “photo festival” at the question.

¹⁰ The relatively high rate of people responding “market” is probably non representative of the global population of visitors that came in the Le Guilvinec during the year or even during the season. Indeed this must be biased by the fact that three of the six days of the survey was a market day.

The analysis of the visitors' activities (figure 23) shows that visiting museums, eating in restaurants and going to city centres are the most three popular activities. 79% of the interviewees have visited the museum, 75% went to eat in restaurants and 63% went to city centres. Visiting carps and carp ponds come on the 7th and 8th position among the activities of the tourists. We conclude that the top three activities are linked to the carp activity of Aischgrund. In the period of study it is likely that most of the restaurants might serve carp meals (september to october).

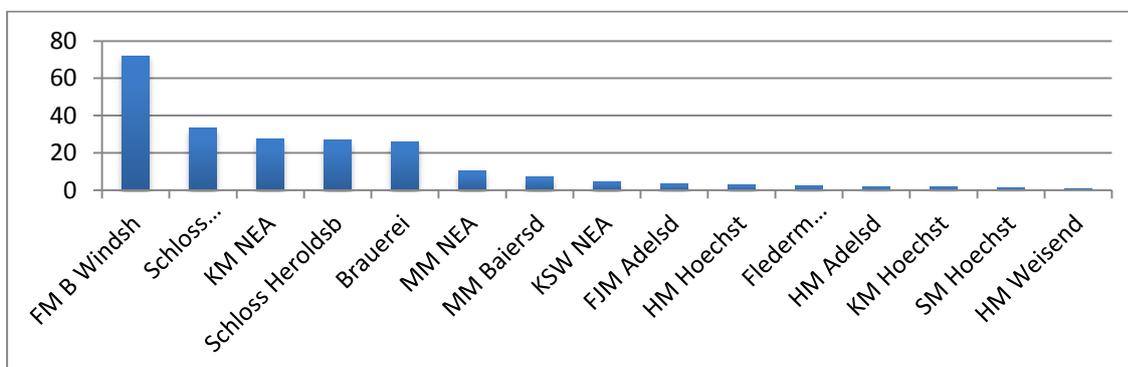
Figure 23: Type of activity made by the visitors during their journey in the Aischgrund region (% of interviewees that did the activity)



Author's calculation

Figure 24 indicates that the most attractive attraction visited by interviewees is the museum of Freilandmuseum in Bad Windsheim (72%) followed by the castle Schloss in Pommersfelden with 33% and children attraction in Neustadt KM NEA with 27%.

Figure 24: Type of attraction made by the visitors during their journey in the Aischgrund region (% of interviewees)

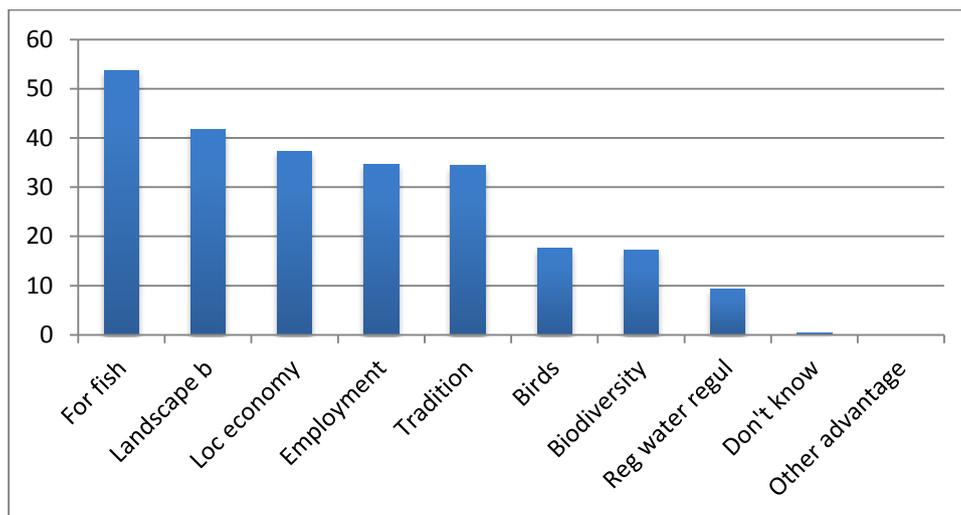


Author's calculation

Figure 25 presents the answers to the question 15.1 “According to you what does the local carp production in ponds bring to the region?” The question was asked as an open question and the answers were categorized regarding the list of output presented in the figure 7.

According to 53% of the interviewees, the local carp production in ponds is important for fishing, for 41% of tourists it is important for the landscape, for 37% it is for local economy and for 34% it contributes to employment and traditions.

Figure 25: Importance of carps to Aischgrund region

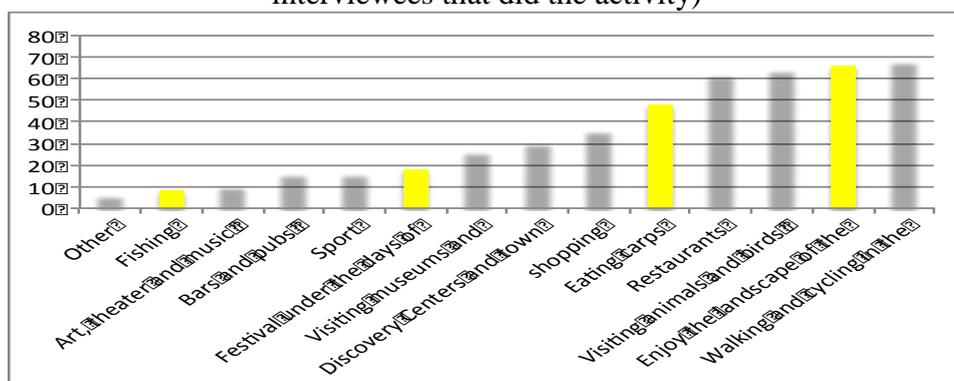


Author’s calculation

3.3.3 Barycz Valley

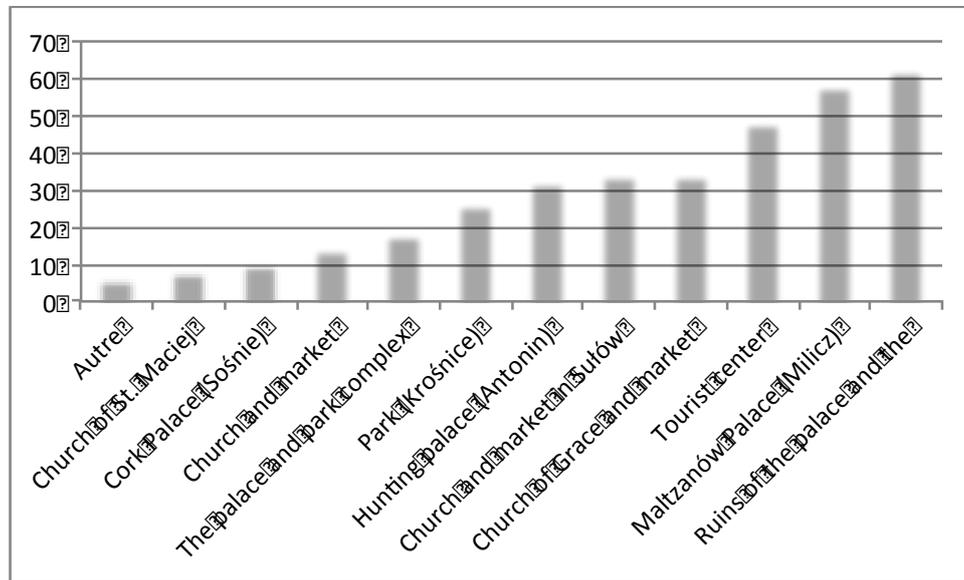
The analysis of the visitors’ activities (figure 26) shows that walking and cycling and enjoying the landscape are the most three popular activities. 68% of the interviewees have enjoyed the walking, 66% enjoy the landscape of ponds and 64% visted animals and birds. Eating carps comes on the 5th position among the activities of the tourists. We conclude that the top five activities are linked to the carp activity of Barycz Valley.

Figure 26: Type of activity made by the visitors during their journey in Barycz Valley (% of interviewees that did the activity)



Author’s calculation

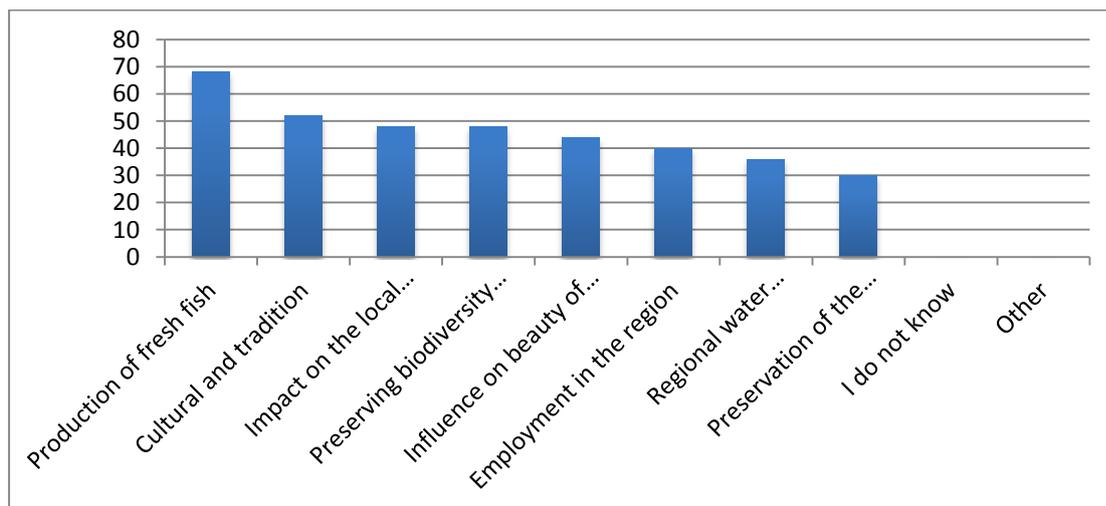
Figure 27: Type of attraction made by the visitors during their journey in the Aischgrund region (% of interviewees)



Author's calculation

The most attractive attractions are visiting palaces like ruins of the palace with 62%, Maltzanow palace with 57%. Visiting the church of grace and church in Sultow come at the third rank with 32% of tourists.

Figure 28: Importance of carps in Barycz Valley



Author's calculation

According to Figure 29, 68% of the interviewees, the local carp production in ponds is important for production of fresh fish, for 52% of tourists it is important for culture, for 48%

it is for local economy and Preserving biodiversity. For 44% it contributes to the impact of beauty and nature and 40% for employment.

3.4. Estimate of the economic benefits

3.4.1. Evaluation of the proportion of specific visitors for Le Guilvinec

The first step to evaluate the variable 2 “percentage of specific visitors” is to identify the tourists that specifically came for the “fishing identity” of the city. Indeed, only their expenditure must be taken in account in this part.

As presented in the “Material and method” section, the identification was based on two key questions¹¹ and the definition of “specific visitors” differs between two scenarios. The following table presents the number of visitors according to their responses and the next figure presents the proportion of specific and occasional visitors calculated on the basis of the table for the two scenarios. As a reminder, specific visitors correspond to N_1 in the “restricted” scenario and correspond to N_1+N_2 in the “released” scenario. Only visitors that knew the presence of a fishing activity in the city before coming are taken in account.

: Number of visitors in function of their responses to the questions 13.3 “Did you come in the Le Guilvinec to see the fishing activity?” and 14 “If the fishing activity stops, would you come again in the Le Guilvinec?”

Table 3 :Number of visitors in function of their responses to the questions 13.3 “Did you come in the Le Guilvinec to see the fishing activity ?” and 14 “If the fishing activity stops,would you come again in the Le Guilvinec?”

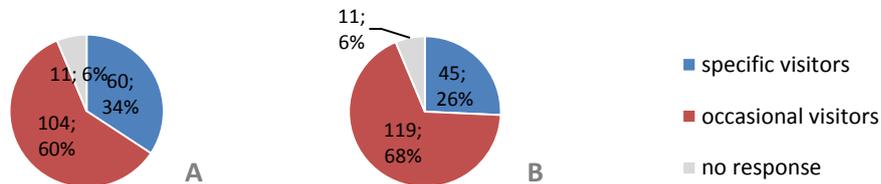
Visitors' answers	Number of visitors	
Came to see the fishing activity? YES Would you come again if the fishing activity stops? YES	50	N_1
Came to see the fishing activity? YES Would you come again if the fishing activity stops? NO	45	
Came to see the fishing activity? YES Would you come again if the fishing activity stops? DON'T KNOW	10	
Came to see the fishing activity? NO Would you come again if the fishing activity stops? YES	54	

¹¹ The questions 13.3 “Did you come in the Le Guilvinec to see the fishing activity?” and 14 “If the fishing activity stops, would you come again in the Le Guilvinec?” are the two questions that allows to identify the specific visitors for the two scenarios.

Came to see the fishing activity? NO Would came again if the fishing activity stops? NO	15	N ₂
Came to see the fishing activity? NO Would you came again if the fishing activity stops? DON'T KNOW	1	
Visitors that didn't know the presence of a fishing activity in the city	25	

Author's calculation

Figure 29: Proportion of specific visitors in the "released" scenario (A) and the "restricted" scenario (B) (number and percent)



Author's calculation

Only 25 visitors (6%) didn't know there is a fishing activity in the Le Guilvinec before coming (representing 12,4%). Indeed, this is relatively high compared to the harbour of the GIFS study (with a maximum of 2,5% in Port-en-Bessin for the four harbour studied on the GIFS study).

34% of the visitors are specific visitors in the released scenario and 26% in the restricted scenario. Even in the case of the "restricted" scenario, the proportion of specific visitors is particularly high and is the most important compared to the other harbour of the GIFS study. Indeed, one quarter of the visitors in the case of the restricted scenario and one third of the visitors in the case of the released scenario wouldn't be here if without the fishing activity.

3.4.2 Evaluation of the proportion of specific visitors for Aischgrund

Following the same method as in Le Guilvinec, we found that 22 visitors (restricted scenario) didn't know that there are carps in Aischgrund and they will not return back if they disappear. They represent 8,05% of the sample. For the released scenario, 28 visitors did know about the existence of carps in Aischgrund but they will not return if they will not exist. They represent 10,25% of the sample.

3.4.3 Evaluation of the proportion of specific visitors in Barycz Valley

In Barycz Valley, in the restricted scenario, we found 3 tourists that did not know about carps and they will not return if carps will not exist. They represent 6% of the sample. For the

released scenario, 9 tourists came to visit the carps and they will not return if they cease to exist. They are 18% of the sample.

3.5 Evaluation of the average expenditure per day per specific visitor

The evaluation of the variable 4 is calculated with the following equation:

$$\text{Average expenditure per day and per visitor} = \frac{\frac{\text{Total expenditure}}{\text{length of the visit}}}{\text{Size of the group}}$$

With:

- The total expenditure corresponds to the whole expenditure realised by the group during the whole visit (in €)
- The length of the visit is in day
- The size of the group correspond to the number of visitor in the group, including both the adults and the children

The average expenditure per day and per visitor is evaluated at **18,18€ in the restrictive scenario and at 18,00€ in the released scenario**. The difference between the released and restricted scenario is very small. However, a significant part of the visitors didn't give an estimate of their expenditure: hence this data is available for 25 visitors on 45 in the restrictive scenario and 31 visitors on 61 in the released scenario. Moreover, it is possible that the estimation represents mostly a minimal expenditure: when the visitors interviewed gave an estimation of the expenditure he was quite sure to make during the day, the unexpected expenditure that could be done after the interview are not included in the estimation. Indeed, the result of this evaluation should be taken carefully.

3.5.1. Evaluation of the average length of stay of tourists of Le Guilvinec

On the basis of the subsample constituted of the specific visitors, identified in the 3.3.1. section, the variables 3 "average length of stay of these tourists" and 4 "average expenditure of these tourists" can be estimated (table 4).

Table 4: Average length of the specific visitors' visit in the restrictive and released scenarios

	“Restrictive” scenario	“Released” scenario
Average longer of the visit – arithmetic average	2,12	3,92
Average longer of the visit	1,38	1,75

– geometric average		
Average longer of the visit – median	1	1

Author's calculation

First, like for the other harbour of the GIFS study, there is little difference between the restrictive and the released scenario. In the GIFS study, the geometric average was chosen to estimate the variable 3 as it minimizes the influence of the long visits.

3.5.2. Evaluation of the average length of stay of tourists of Aischgrund

The average length of stay of tourists who came to Aischgrun is 2.66 days for the restricted scenario and 3 days for the released scenario.

3.5.3. Evaluation of the average length of stay of tourists of Barycz Valley

The average length of stay of tourists who came to Baycz is 2.6 days for the restricted scenario and 3,75 days for the released scenario.

3.6 Evaluation of total number of tourist that visit Le Guilvinec

Methodology 1: using the data of the tourism office

By using the methodology 1 presented in the “Data collection for variable 1: estimation on the basis of the monitoring report of tourism office and the number of entries in Haliotika”, a minimal estimation is made on the basis of the number of visitors of the tourism office. In 2016, the 44 334 persons visited the tourism office of the Le Guilvinec (Office du tourisme du Le Guilvinec, 2017).

Methodology 2: using the data of Haliotika

The following table presents the estimation of the data needed to evaluate the proportion of Le Guilvinec visitors that visit Haliotika (equation 2) :

Table 5: Evaluation of the proportion of Le Guilvinec's visitors that went in Haliotika

Number of interviewees that went in Haliotika during their visit	56
Sum of the size of the group for all interviewees that went in Haliotika during their visit	197
Sum of the size of the group for all interviewees during the survey	698
Proportion of Le Guilvinec's visitors that went in Haliotika	28,22%

Author's calculation

Indeed, in the study's sample, 28,7% of the visitors that cover the study went in Haliotika. According to the data presented in the 2.2. section “data used”, the annual mean of visitors for the period 2012-2016 is 48 000 visitors. The combination of these two values allows to

evaluating the total number of visitors of the Le Guilvinec at around 170 000 visitors (method to calculate $170\,000 \cdot 48\,000/0.28 = 171\,429$ in 2017).

3.7. Evaluation of the touristic positive externality of the fishing activity for the local economy

3.7.1. Economic benefit in Le Guilvinec city

Methodology 1: using the data of the tourism office

The following table summarize the value of the different variables needed to evaluate the total expenditure made by specific tourists:

Table 6: Value estimate for the variable of the equation 1 and estimation of the total expenditure (methodology 1)

N° variable	Name variable	Restricted scenario	Released scenario
1	Annual number of tourists in the Le Guilvinec	44 334	44 334
2	% of tourists who came for the presence of a fishing activity	26%	34,82%
3	average length of stay of these tourists (in number of day)	1,38	1,75
4	average expenditure of these tourists (in €/day/person)	18,18 €	18,00 €
	Total expenditure (in €)	289 198, 97 €	474 817, 17 €

Author's calculation

Indeed, around 289 000 € in the case of the restricted scenario and around 475 000 € in the case of the released scenario are provided by the specific visitors for the local economy, with taking the hypothesis that the number of visitors of the tourism office represent the total number of visitors of the Le Guilvinec city. This is higher than the estimates for the Conquet and Port-en-Bessin in the GIFS study.

Hence, if this total income provides by specific visitors were distributed to the 2853 inhabitants of the Le Guilvinec, the positive externality generated by the presence of the fishing activity would represent around 101 € per inhabitant in the restricted scenario and around 166€ per inhabitant in the released scenario. This is correspond to the highest score compare to the harbour of the GIFS study. This is similar to the harbour of Port-en-Bessin (103€ in the restricted scenario and 164€ in the released scenario), slightly superior of the result obtain for Hastings (91.50€ in the restricted scenario and 139€ in the released scenario) and superior at the Conquet (78€ in the restricted scenario and 100€ in the released scenario) and Oostende (58€ in the restricted scenario and 134€ in the released scenario).

Methodology 2: using the data of Haliotika

The following table summarize the value of the different variables needed to evaluate the total expenditure made by specific tourists:

Table 7: Value estimate for the variable of the equation 1 and estimation of the total expenditure (methodology 2)

N° variable	Name variable	Restricted scenario	Released scenario
1	Annual number of tourists in the Le Guilvinec	170 000	170 000
2	% of tourists who came for the presence of a fishing activity	26%	34%
3	average length of stay of these tourists (in number of day)	1,38	1,75
4	average expenditure of these tourists (in €/day/person)	18,18 €	18,00 €
	Total expenditure (in €)	1 092 836 €	1 820 700 €

Author's calculation

Indeed, around 1 093 000 € in the case of the restricted scenario and around 1 821 000 € in the case of the released scenario are provided by the specific visitors for the local economy, with taking the hypothesis that the sample of interviewees is representative of the global visitors' population. As the methodology to estimate the total tourist number in the Le Guilvinec is different than those used in the GIFS study, no comparison is allowed between harbours.

Hence, if this total income provides by specific visitors were distributed to the 2853 inhabitants of the Le Guilvinec, the positive externality generated by the presence of the fishing activity would represent around 383€ per inhabitant in the restricted scenario and around 638€ per inhabitant in the released scenario. This is correspond to the highest score compare to the harbour of the GIFS study.

3.7.2. Economic benefit in Aischgrund

Table 8: Value estimate for the variable of the equation 1 and estimation of the total expenditure (methodology 1)

N° variable	Name variable	Restricted scenario	Released scenario
1	Number of tourists	22	22+6=28
2	Sample	273	273

3	% Tourists	8,05%	10,25%
4	Average length of stay of these tourists (in number of day)	2,66	3
5	Expenditure (in €/day/person)	29,07 €	38,91 €
6	Annual number of tourists in Aischgrund	150 197	150 197
7	Total expenditure (in €)	934 940,142 €	1 797 080,821 €

Author's calculation

The economic benefit estimated by the total expenditure done by tourists are estimated to 934 940,142 € in the restricted scenario and to 1 797 080,821 € in the released scenario. The expenses are provided by tourists to the local economy of Aischgrund.

3.7.3. Economic benefit in Barycz Valley

Table 9: Value estimate for the variable of the equation 1 and estimation of the total expenditure (methodology 1)

N° variable	Name variable	Restricted scenario	Released scenario
1	Number of tourists	3	3+6=9
2	Sample	50	50
3	% Tourists	6%	18%
4	Average length of stay of these tourists (in number of day)	2,66	3,75
5	Expenditure (in €/day/person)	9,16 €	8,84 €
6	Annual number of tourists in Barycz Valley	17397	17397
7	Total expenditure (in €)	25 433,3 €	103 807,899 €

Author's calculation

The economic benefit estimated by the total expenditure done by tourists are estimated to 25 433,3 € in the restricted scenario and to 103 807,899 € in the released scenario. We highlight here a positive impact but less important than in the case of Aischgrund and Le Guilvinec.

4. CONCLUSION AND DISCUSSION

This study allowed identifying and quantifying non-market values provided by the fisheries sector.

Results indicate that 34% of the tourists who came to Le Guilvinec, 10.25% of tourists who came to Aischgrund region and 6% who came to Barycz Valley are specific to the presence of a fishing and aquaculture activity in the region. Indeed, without the presence of these activities, this proportion of visitors would not come and would not make expenditure. The fishing and aquaculture activity is also a vector of attractiveness and generates a positive externality on the local territory.

Moreover, this study gives an idea concerning the quantification of the amount of money generated by the positive externality. Indeed, each specific visitor provide between 18,00 € and 18,18 € per day of its visit to the local economy in the Le Guilvinec city. If we consider as a very minimal evaluation of visitors' population size that the total number of visitors of the Le Guilvinec city is the same as the total number of visitor of the tourism office of the city, between around 289 000 and around 475 000 € are provided by the specific visitors to the local economy. If we consider that the visitors' sample studied is representative of the Le Guilvinec's population and by using the data of Haliotika, between around €1 million and around €1.8 million are provided by the specific visitors to the local economy.

As these expenditures are made by specific visitors, without the fishing activity of the city this amount of money wouldn't be injected in the local economy.

We point a first type externality; a part of tourists would not come anymore if there were not more carps. We found a positive externality, which benefits to the whole activity. In the case of the fish farming, there is a second form of positive externality, concerning the population of protected birds who will not exist without the human activity of carps. These birds are protected by the directive housing environment and frame. The producers of carps generate a second positive effect through maintaining the wild population of birds.

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ANNEX 1: The questionnaire used in the Le Guilvinec survey

Funded by the European Union

Lieu : Le Le Guilvinec
N° _____

Nom de l'enquêteur : _____

Date :

Heure :

PORT DE PECHE et ATTRACTIVITE TOURISTIQUE**Juillet 2017 – Université de Bretagne Occidentale (Brest) – UMR_AMURE**

Cette enquête porte sur l'analyse des retombées économiques induites par le secteur de la pêche dans l'économie locale grâce à l'attractivité touristique. Elle s'inscrit dans le projet Horizon 2020 SUCCESS (Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the european Seafood sector).

Venue au Le Guilvinec

1. Habitez-vous au Le Guilvinec ? NON OUI (Si oui, ne pas continuer le questionnaire)

2. Quelle est la raison pour laquelle vous êtes venu au Le Guilvinec aujourd'hui ?

- Pour des raisons professionnelles
- Pour voir des amis/de la famille *
- Pour se balader, faire du tourisme - on poursuit le questionnaire
- Autre raison : (à préciser)*

* si oui, ne pas continuer le questionnaire

Perceptions

3. Quels sont les 3 premiers mots (ou expressions) qui vous viennent à l'esprit lorsque vous pensez au Le Guilvinec,

- 1.....
- 2.....
- 3.....

8. Etiez-vous déjà venu au Le Guilvinec ? NON OUI*

9. Si oui, de quand date votre dernière visite au Le Guilvinec ?

- de 6 mois,
- de 6 mois à un an,
- plus d'un an

10. Quelles sont vos activités durant ce séjour au Le Guilvinec ?

- Aller au restaurant
- Bar
- Shopping
- Balade en ville
- Promenade le long du port
- Sport – plage (?)
- Cinéma, théâtre...
- Activités culturelles, musées et site historiques (à vérifier la présence dans la ville)
- Manger ou acheter des produits de la mer
- Festival (à vérifier)
- Autre :

11. Pendant votre séjour, combien pensez-vous dépenser par jour et par personne au Le Guilvinec, en excluant l'hébergement ? En euros

12. Haliotika :

12.1 Avez-vous déjà entendu parlé de la cité de la pêche Haliotika du Guilvinec ?

- Oui non

12.2 Si oui, l'avez-vous déjà visité ou allez-vous le visiter ?

- A visité
 N'a pas visité mais va y aller
 N'a pas visité et n'ira pas

La pêche et le Le Guilvinec

13. Avant de venir au Le Guilvinec, saviez-vous qu'une activité de pêche était présente dans cette ville ?

- Oui
 Non

Si oui,

13.1 selon vous, qu'apporte cette activité de pêche à la ville du Le Guilvinec et au territoire environnant ?

- Obtenir du poisson frais
 Maintenir l'emploi dans la région
 Participe à l'activité économique locale
 Contribue à la beauté du paysage
 Participe à l'héritage culturel, au patrimoine et à la tradition
 Est un élément de l'atmosphère de la ville et du territoire

Autre :

Je ne sais pas

13.2 Pour vous, le port du Le Guilvinec avec la présence des bateaux de pêche sont ...

- une attraction touristique importante choisir le Le Guilvinec comme destination de voyage
- une attraction touristique comme une autre
- sans intérêt du point de vue touristique
- Je ne sais pas

13.3 Etes-vous au Le Guilvinec pour voir les bateaux de pêche et l'activité du port?

- OUI NON

14. Si l'activité de pêche n'était plus présente au Le Guilvinec et qu'il n'y avait plus de navires de pêche dans le port, auriez-vous envie de revenir au Le Guilvinec ?

- OUI je serai quand même venu sans la présence de navires
- NON je ne serai pas venu

Profil de l'enquêté

15. Sexe : Homme Femme

16. Votre âge : _____ années

17. Quelle est votre catégorie socioprofessionnelle ?

- Agriculteur
- Cadre et professions intellectuelles supérieures
- Employé
- Retraité
- Chômeur
- Artisan/commerçant/chef d'entreprise
- Professions intermédiaires
- Ouvrier
- Etudiant
- Autre situation :

.....

ANNEX 2: Place of the fishing activity in a the touristic attractiveness of the Conquet city

Summary written by Aurelia Changeant presenting the work made by Anthony Farge during his master internship in the University of Brest (under the direction of Estelle Masson) in the frame of the SUCCESS project

Introduction

Like all around the world, the economic value of the fisheries is a subject of analysis and controversy in France. Unless it represent less than 1% of the French GDP, numerous of decision makers recognized that fisheries have a structuring role for several coastal territories. Indeed, the fishing activities can be a source of indirect economic impacts, which could be monetary (spillover effects upstream and downstream of the sector) or non-monetary (participation in the tourist attractiveness, support for educational and cultural activities ...).

Evaluate the importance of the non-monetary benefits produced by fisheries is one of the goals of the SUCCESS project¹². In the frame of this project, the following study explores the place of the local coastal fishery in the image of the city and its effect in the touristic attractiveness of the city. This study focus on a specific case study: the city of the Conquet in France. The study will allow responding to three main questions:

- What is the place of the local fishery in the identity of the city?
- What is the impact of the fishing activity's presence on the touristic attractiveness of the city?
- What would be the effect of the disappearance of the fishing activity on the touristic activity?

¹² The SUCCESS (Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the European Seafood sector) project is a European H2020-funded project.
More information at <http://success-h2020.eu/>

1. Methodology

1.A. Analyse the social representation to understand the place of the fishery in the identity and in the attractiveness of the city

The attractiveness of a city can be understood by studying the attitude of the tourist toward the city. The attitude is a characteristic or a group of characteristics that dominates the individual personality and constitutes a disposition to act¹³. Our attitude, combined with the value that we associated to the object, are driving our behaviour¹⁴. Indeed, that is the visitors' attitude toward the Conquet city, combined with the value associated to the Conquet city, that can drive the tourists to come visit the city.

Our attitude is influenced by our social representations. A social representation is an “organized and structured set of information, beliefs, opinions and attitudes”¹⁵ that refers to an object or a situation. The social representations are recognized by the majority of a population and are also considered as being universal. They can constitute the object identity perceived by the population. They have four functions:

- Knowledge of the reality
- Identity by the sense of belonging to a group that have the same vision of the reality
- Orienting the attitude of the individual to meet the group's requirement
- Justification of our choices and attitude

The social representations are composed of a “central score”, which constitutes a common basis of information shared by the whole population, and a “surrounding score”, at the interface between the central score and the concrete situations and which depends of the individuals and its experiences, the context and the situation.

Indeed, studying the social representation of the city and of the fishing activities will allow to understand if the local fishery have a place in the Conquet identity perceived by the visitors. The study of their attitude toward their visit in the Conquet will allow to understand the elements of the city attractiveness. Finally, studying the behaviour toward a situation of disappearance of the fishing activity will allow to understand the effect of the disappearance of this activity on the city attractiveness.

1.B. Data collection: the survey

A survey allowed to gather information about the social representations and behaviour of the visitors were conducted in the Conquet in May 2017 (questionnaire available in annex).

First, it is asked to the visitors to give a classified list of 5 words that they associate to the Conquet city and the fishing activity. The analysis of the word with the Iramuteq package of the statistical software R allows to model the structure of the social representations.

¹³ Caradec V. (1999) Thomas William I., Znaniecki Florian, Le paysan polonais en Europe et en Amérique. Récit de vie d'un migrant (Chicago, 1919)

¹⁴ Caradec V. (1999) Thomas William I., Znaniecki Florian, Le paysan polonais en Europe et en Amérique. Récit de vie d'un migrant (Chicago, 1919)

¹⁵ Abric J.C. (2013) Méthode d'études des représentations sociales. Eres Editions

By applying the “central core” theory, the prototypical structure model of the social representation of the Conquet city (in annex), shows that the previous elements are composing the central core. The surrounding core is referring also to the land-sea interface and elements around economy, tourism, leisure and fisheries appear.

The connotation of the terms used is situated between neutral and positive, with a more important positive perception for the word related to the sea.

2.A.b. The coastal fishery

The analysis of the word cloud (Tableau 35), the similitudes’ tree (in annex) and the thematic analysis (in annex) show that word the most often associate to the Conquet refers to the activity of fishing and seafood. The local fishery is seen as being an activity producing fresh, quality and local seafood, but which could be a subject of concern regarding the environmental impact. Indeed, fish, which is at the centre of the similitudes’ tree, has an image of fresh and quality product. Boat, also at the centre of the similitudes’ tree, is linked to the sea and the fishery but also to environmental concerns.

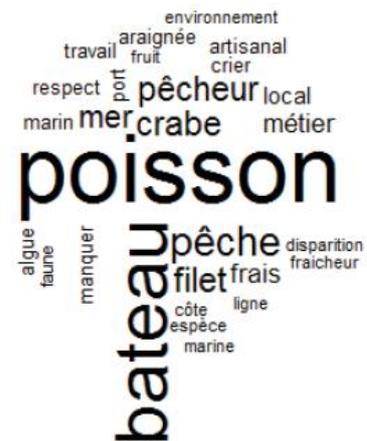


Tableau 2 - Word cloud illustrating the social representation of the coastal fishery

By applying the “central core” theory, the prototypical structure model of the social representation of the coastal fishery ((in annex) boats, fish and the sea are constituting the central score. The surrounding score concerns the consumptions of seafood product, the land-sea interface, the place of fish selling and the work of fishermen. Some elements relative to the value associated to the coastal fisheries, such as “handmade” and “local” appears.

The connotation of the terms used is situated between neutral and positive, with a more important positive perception for the word related to the value. The word related to the environment, are however, situated between a neutral and negative connotation.

Indeed, the presence of the coastal fisheries doesn’t directly appear in the social representation of the Conquet city and vice versa, however important similitudes exist between their elements of representation.

2.A.c. Effect of the visitors’ characteristic “first visit” and “link to the fishing activity” on the social representations

The social representation of the “first time” visitors

28 of the 84 interviewees visited the Conquet for the first time.

The prototypical structure model analysis (annex) of the social representation for the Conquet city shows there is no significant differences between the “first time in Conquet” visitors and the regular visitors. The central score of the two groups is focus on the sea and the geographical context of the city. The notable difference is that the word “beach”, related

to the tourism, has a more important effect for the “first time” visitors whereas the word related to the typicality for the regular visitors.

The prototypical structure model analysis (annex ??) of the social representation for the coastal fishery shows that seafood are a central element for both new and regular visitors, however the word “boat” is the other element of the central score for “first visit” visitors whereas it is “sea” for the regular visitors. Moreover, the regular visitors of the Conquet seem to have a more developed image of the coastal fishery as their surrounding score is richer.

The social representation of the visitors that have a link with the fishing activity

24 of the 84 interviewees have a link with the fishing activity (recreational fishing, work in relation to fisheries, have relatives that work in the fishing sector are practice recreational fishing).

The prototypical structure model analysis (annex ??) of the social representation for the Conquet city shows that the visitors that have a link with fisheries give more importance to the sea-land interface whereas the visitors with no link give more importance of the geographical localisation and fisheries. We can suppose that, as fishery is a common element for the visitors linked to fisheries, fishery is not seen as a specificity of the city unlike for the visitors with no link to fisheries.

The prototypical structure model analysis (annex ??) of the social representation for the coastal fishery shows that the central score is similar for both visitors linked to fisheries and those not linked to fisheries. However, the surrounding score is slightly different, showing a diversity of subject in the “not linked” visitors’ representation whereas the “linked” visitors are more focus on seafood.

2.C. The element of the Conquet identity and attractiveness

2.C.a. The Conquet identity’s and attractiveness’ perception of the whole population

This section analyse the interviewees’ responses concerning the importance of certain elements in the Conquet identity and their attitude regarding their attractiveness’ perception (questions 8 and 9).

The calm and relaxing atmosphere of the city is a key element of its attractiveness. The coastal landscape is also sought after by the tourist. However, the shopping facilities, certainly appreciated by the tourists, are not seen as element of the city identity. The cultural activities available in the city are not perceive as an important element of the attractiveness and the study highlight an unawareness, even a disinterest of some tourist, for these activities. The coastal fishery doesn’t really seem to be highlight as an element of the attractiveness.

2.C.b. Effect of the visitors' characteristic "first visit" and "link to the fishing activity" on the Conquet identity's and attractiveness' perception

Perceptions of the "first time" visitors

The analysis of the attitude shows that the "first time" visitors are less likely to come again in the Conquet than the regular visitors. This could be explain by the fact that a significant part of the "first time" visitors are visiting the whole region and are not planning to return in the region in the future. However, there is no effect of the of the "first time" character on the Conquet identity's and attractiveness' perception.

Perceptions of the visitors that have a link with the fishing activity

The analysis of the attitude shows that the visitors linked to the fishing activity are more likely to come again in the future than those who have no link the fisheries. The "linked" visitors are more likely to go in the shopping facilities and in the restaurants, which could be explained by the fact that several shops and restaurants are selling fishing-related products.

2.C.c. Effect of the fishing activity disappearance on the Conquet identity's and attractiveness' perception

The visitors' perception concerning the effect of the fishing activity disappearance is contrasted. The majority tends more to consider that the disappearance would not have a negative impact on their attitude and the attractiveness of the city.

The attitude toward the disappearance is not significantly different between the "first time" and the regular visitors, except for the auction. Indeed, on the contrary in the regular visitors' population, two groups can be identified: those for whom the disappearance wouldn't have an effect on their attitude and those who went to assist to the auction and also would look for another place to assist at an auction. Indeed, this last group is composed of visitors that came specifically for the fishing activity.

Moreover, visitors linked to the fisheries declare that they will probably less visit the shops and the restaurant of the city if the fishing activity disappears. This could be explaining by the fact that the shops and restaurants of the city are selling fishing-related products and it is possible that the attractiveness of these products would decrease if the local fishery disappears. However, except the frequentation of the shops and restaurants, the disappearance of the fishing activity doesn't seem to have a significant effect on the attitude of the visitors linked to the fishing activity.

Conclusions

Indeed, the coastal fishery is a key element of the social representation of the Conquet city. The Conquet is seen as a fishing village and the universe of evocation associate to the Conquet and the coastal fisheries present numerous of similarities. There is a general consensus on these representations, whether for first-time visitors or regular visitors and

whether they relate to fishing activity or not. It is interesting to notice that the visitors that came for the first time in the Conquet highlight more the fishing characteristic of the city in their social representation.

The city seems to anchor its attractiveness in the calm atmosphere and the typical coastal landscape. The coastal fishery seems to have been a part of the landscape and plays a role in the typicality of the place, constituting also an element of the Conquet's identity. Nevertheless, the study on the coastal fishery's effect on the attractiveness in the visitors' perception doesn't really highlight a primordial role of the fishing activity. However, it seems that it is not fully disconnected to the city's attractiveness. The elements that are important for the attractiveness according to the visitors' perception, including the sea and the harbour, are equally a part of the social representation of the coastal fishery. Moreover, it seems that the tourists that have a link with the fisheries' universe are the largest client and consumers of the local shops and restaurants.

It is difficult to evaluate the effect of the hypothetical disappearance of the local fishing activity on the attractiveness of the city. In general, the interviewees think that this disappearance wouldn't have an effect on the city's attractiveness. However, the variability of the response is high and the perception differs in function of the characteristics and the personal motivation of the visitors. It is nevertheless possible that the disappearance of the fishing activity affect the coming of tourists that come from far away and the activities done by visitors that have a link with the fisheries' universe.