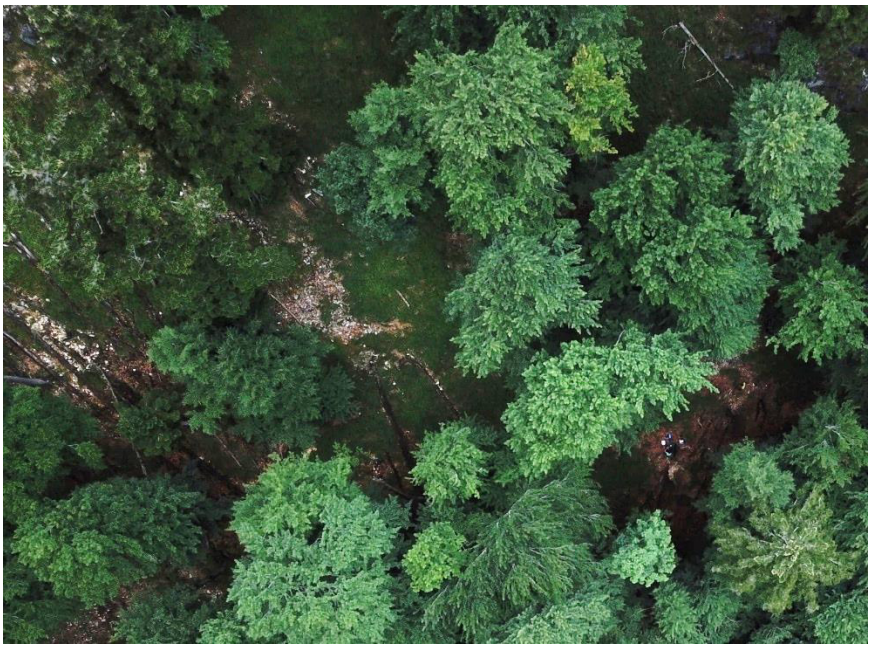
Action A.2.04
Assessing the influence of forest management on recreation and tourism

Methodology Report



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Introduction

Ecosystems are not only the basis of the physical existence of humans, they also enable the deployment and satisfaction of cultural needs (cultural ecosystem services). They offer space for recreation, relaxation and stress relief, leisure activities and nature experiences and convey cultural identity. For these reasons, natural spaces generally have a high value for individual well-being and health (TEEB, 2012). Within the scope of this study, recreational services in the sense of local recreation are considered as well as the importance of the degree of naturalness of forest ecosystems for tourism are included.

Diverse and natural landscapes are supporting all kinds of cultural ecosystem services (CES) (cf. Arriaza et al., 2004; Lee & Han, 2002; Schirpke et al., 2016) and thus are paramount for ecotourism and landscape-based tourism (Hernández-Morcillo et al., 2013; Schägner et al., 2016; Smith & Ram, 2017). De Groot et al. (2002) are rating recreation as the most valuable ecosystem service of forest.

A representative study on forested landscapes in the Alps by Getzner, 2020 is indicating different visitor preferences for various landscape management approaches. The study underlines that the level of naturalness of a landscape is an important factor for the decision making of tourists in the selection of their destination. As laymen usually are not experts in the assessment of naturalness, they often rely on (international) labelling systems of conservation regimes (e.g. National Park).

Beside the effect of protected area categories on the decision making, the naturalness of the landscape is determining the attractivity for tourists as well as day visitors seeking adequate places for recreation.

For recreational use, the accessibility and the distance of a forest to settlements are co-variables of high importance and need to be taken into consideration for the assessment of its ecosystem service.

In several test sites (see Figure 1 & Table 1) the ecosystem service of primary and old growth forests for recreation and tourism are assessed. For this purpose, touristic base data on available infrastructure (hotels beds) in the region and the number of visitors as well as the infrastructure for recreational use (trails, picnic areas, …) are assessed for each test site. Interviews and queries with visitors will help to assess and rate the motivation of visiting (old growth) forests and will deliver the input data for the calculation of the monetary value based on a willingness to pay or travel-distance approach. The data collection will be done by the local site managements (partners in the LIFE project) in Activity 2.05, the monetary calcuation in Activity 2.06.

Table 1: Test sites to assess the base data to calculate the ecosystem service recreation and tourism.

Test sites		
Name	Biogeographic region	Country
Sonian Forest Foundation (SOFO)	Atlantic	Belgium
National Park Kalkalpen (NPKA)	Alpine	Austria
Chornohora in Carpathian Biosphere Reserve (CBR)	Alpine	Ukraine
Abruzzo, Lazio and Molise National Park (NPAB)	Mediterranean	Italy

Recreation and tourism are important ecosystem services to demonstrate the value of forests for wellbeing and green jobs. The significant increase of protected areas in Europe proposed in the European Biodiversity Strategy (30% of the land surface) will lead to conflicts with traditional land uses (forestry, agriculture, mushroom picking, hunting) and they will claim loss of economic performance and jobs. This action allows to better valuate (also in monetary terms) the benefits of protected old growth areas in relation to recreation and tourism and may help to enlarge the acceptance for land use change towards protected areas.

The four test sites (Sonian Forest, Kalkalpen National Park, Chornohora in Carpathian Biosphere Reserve, Abruzzo Lazio and Molise National Park) were selected to represent different biogeographic regions (atlantic – alpine –

mediteranian). Also the visitor numbers of the test sites and the distance to larger settlements or cities differs significantly.

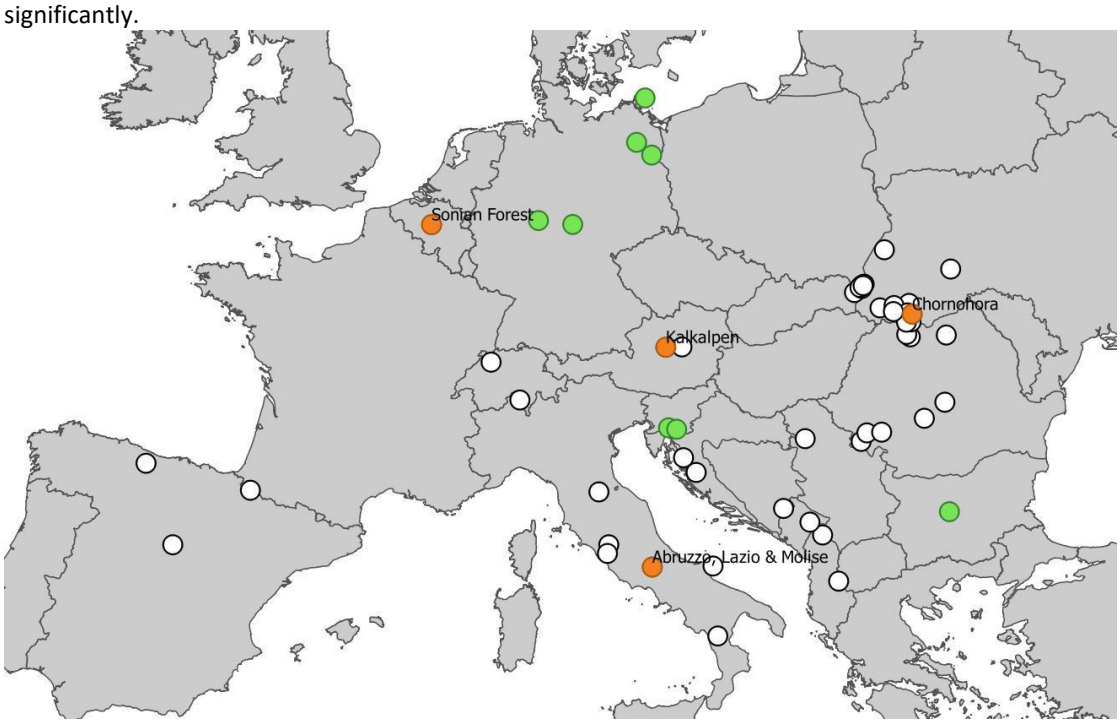


Figure 1: Orange points are selected as test sites for the ecosystem service recreation and tourism.

General methodological approach

The methodology to assess the base data on the influence of forest management on recreation and tourism is divided into two approaches (Figure 1). The mapping and data harvesting guideline to collect the **base data** for recreation and tourism focuses on spatial data (distance to settlements), infrastructure, touristic and visitor statistics. In addition, a **questionnaire** will be used to collect information about visitor behaviour and motivation to visit forest ecosystems and the willingness to pay for an increase of natural forest ecosystems.

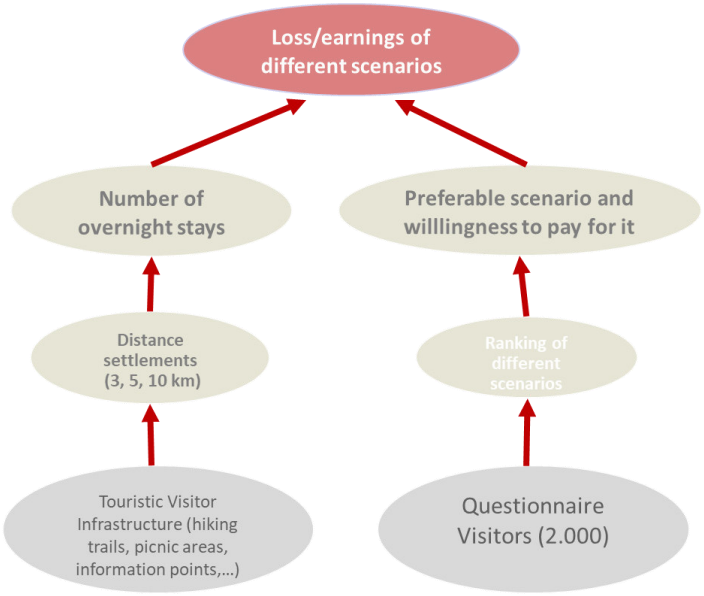


Figure 2: Ontology of the ecosystem service recreation and tourism

Time Frame

The methodology was developed from January 2021 to May 2022. Therefore, several meetings with partners and subcontractors took place to understand the current situation in the single test sites and to discuss possible numbers of collected questionnaires, technical details and the conduction of the interviews in the test sites.
The data collection started in June/July 2022 in four test sites. Due to the war in Ukraine, no data collection was possible there. If possible and doable for the Ukrainian partners, an online version of the questionnaire will be developed and sent to the network of the Carpathian Biosphere Reserve. As the collected answers will not be comparable to the data collected in the other test sites (due to biased answers and the different approach online), the results will still be analysed but separately from the ones from the other four test sites.

Area of Interest

For the calculation of the ESS, a distinction was made between test area and catchment area. The **test area** contains areas with old-growth forest and managed forest. For most test areas this could be covered within the protected area. For the managed forest habitat type it was important that human influence is visible (e.g. forest road, tree stumps), the current management type was not relevant. In order to evaluate the baseline data, the mapping area of the test area needed to be extended in terms of tourist regions and the maximum distance a day visitor is willing to travel to visit the forest to determine the **catchment area**.

Mapping and Data Harvesting – Base Data

The base data will be used to assess the current state of indicators for the calculation of the ESS recreation and tourism. Furthermore, this data will be used to compare the results of the different test sites with each other. The collection of the bas data described below is still ongoing and will be finished at the end of 2023.

Touristic Base Data

The basic tourism data indicator consists of two approaches. First, the number of hotel beds will be used to describe the maximum number of tourists in the catchment area. Second, the number of overnight stays for each location will be used to describe the actual number of tourists. Therefore, for the years 2021-2022, the data was collected monthly or at least for each quarter to determine the distribution of tourists among the different seasons. Another interesting factor is the number of overnight days. All these parameters together describe the tourist relevance of the area of interest. If the statistics deviate strongly from the average figures, the influencing factors will be argued descriptively (e.g. COVID-19 regulation).

The following data will be collected at the settlement level or at least at the tourism region level.

- Hotel beds (2022)
- Overnight stays
- Days of overnight stay

Regional Day Trip Data

On the basis of the number of inhabitants and the distance of each settlement to the test site the cost of using the test site as a recreation area can be estimated. The total visitor number is an important factor to describe the current use of the area as a recreation area for day trips or as vacation destination. Ideally, these values should be divided into day visitors and tourists.
If available, the visitor data will be collected monthly or at least for each quarter for the project years 2021-2022.

- Number of inhabitants per settlement (2022)
- Visitor numbers of test sites

Revenues from Tourism

To assess the monetary value of recreation and tourism, different revenues will be used. To calculate not only the current state during the project, also the mean prize for different revenues is needed to calculate the impact of different visitor numbers on the value of recreation and tourism.
If available, the revenue data will be collected for each quarter or at least yearly for the years 2021-2022. If the figures deviate strongly from the average figures, the influencing factors will be argued descriptively (e.g. COVID-19 regulation). The data will be collected as the total amount and mean single costs.

- tax for tourists
- entry fees to the park
- entry fees to visitor centres
- fees for guides
- parking fees
- other revenues

Assessment of alternative large recreation areas

In order to put visitor numbers and the number of inhabitants and tourists into a broader context, other existing alternative large recreation areas should be known. For each alternative recreation area, the distance or location (GPS point) to the test area will be determined. In addition, the type (e.g. shopping, sport, culture, sightseeing) of recreational activity and the entrance fee (if there is one) will be collected.

Infrastructure for recreational use

To survey the current state of infrastructure in the test sites, a distinction was made between linear and point infrastructure. For the linear infrastructure an assessment of kilometres of trails per old growth and managed forest will be done. This data will be collected as GIS dataset and joined with the forest type GIS dataset.

- Hiking trail
- Bike paths
- (Trail)running trails
- Horseback riding trails
- Handicapped accessible paths

For the following point infrastructure, the total number of infrastructures per old growth and managed forest will be collected ideally as GIS dataset.

- Inn/restaurant
- Camping/Bivak sites
- Rest areas/benches/picnic areas/barbecue areas/waste bins/fountains
- Children's playground
- Information boards
- Parking lots
- Via ferratas
- Educational trails
- Exhibition/museum
- Handicapped accessible facilities
- Viewpoints
- Places of historical and religious interest
- Natural bathing places
- Surrounded dog zones

Questions on public transportation concept

The description of the public transport concept helps to put the results obtained in the survey into context and makes it possible to compare the different behaviours of the visitors in the different test areas. The different possibilities should be specified for the following transport types and in addition information will be given on how far (km) the arrival point and the test site are from each other and how long it takes to get there.

- Regular bus
- Hiking bus
- Train
- Tramway
- Bicycle/e-bike rental

Questionnaire

To assess the visitor motivation and parameters of their stay, a questionnaire was developed together with experts from the Technical University of Vienna and the partners conducting the interviews in their test sites. The methodology and questions were based on a desk review of existing literature and previous projects dealing with the data collection for the monetary analysis of ecosystem services conducted by the lead partner of this action.
The interviews were carried out by interviewers during summer season 2022 in four test sites (see above).

The english version of the questionnaire (belgian version) can be found in the annex of this methodology report.

Overview of the questionnaire

The questionnaire is structured in five different sections: questions to be answered by the interviewers, visitor behaviour, preference towards forest type, willingness to pay and socio-economic data.
At the beginning of each sections, a short introuction is given. Detailed information about the separate sections and answers to questions which occurred during the interviews were given by the interviewers.

Questions to be answered by the interviewers

To gain information about the circumstances under which the interview took place, the interviewers answered four questions before stating the interviews: day and time of the interviews (date, working day, holiday), location of interview (e.g. parking lot, visitor centre), wether conditions and who filled in the questionnaire (single person, group, family).
This information will enable the monetary analysis to classify the resultus accordingly.

Visitor behaviour

The visitor behaviour section deals with basic preferences of the visitors as well as with their behaviour during the stay, the length of their stay and how/why they visited the protected area. This is to understand their motivations and collect basic data about their stay to be able to analyse the monetary values of the different visitor types (e.g. day visitor/tourists).
The answers to the question have been developed with all partners and ensure that all available infrastructure/public transport possibilities/places to stay in the different sites are covered.
Part of evaluating the visitor behaviour was to find out wheather or not old growth forests were part of their visit in the protected area during their stay. As visitors are usually no experts in forestry, it is hard to answer this question based on their knowledge of forests. Therefore, maps have been created (similar styles for all test sites), showing hiking trails and important infrastructure of each protected area, where the routes the visitors took were drawn. Additionally, ovrelays have been created showing the world heritage sites and their buffer zones and printed on transparten paper. With those, the interviewers could evaluate wheather or not, interviewees visited old growth forests or not. The outcomes were put into the provided database, where all answers of the questionnaires were collected.

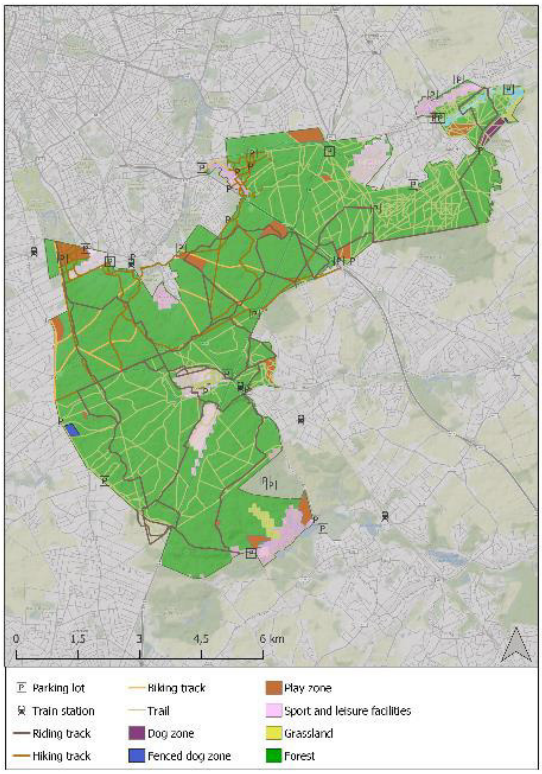


Figure 3: Map of Sonian Forest as shown in the questionnaire

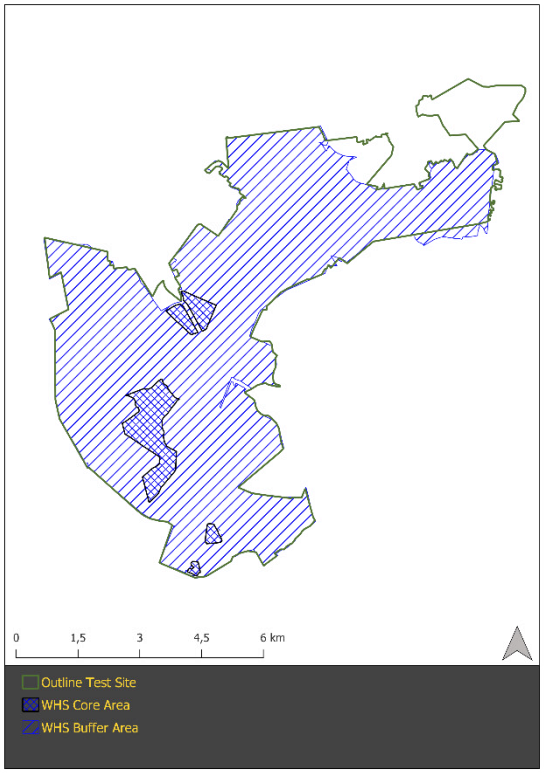


Figure 4: Overlay map showing the zonation of the World Heritage Site

Preference towards forest types

To evaluate the preferences of visitors towards different types of forests, four types representing the current status in the protected areas and countries, were developed and described in the questionnaire. All four types were represented by two pictures (discussed with all partners and chosen according to the appearance of these forest types in the different countries) and described with four parameters: species diversity, natural structures and microhabitat, timber production, and human impact. The values given for the characteristics of each forest type were used as input data (Table 2). The classification was determined on an integer five-part scale on an expert basis. Additional information about the appearance of each forest type (e.g. sparse forest road network) was given in the questionnaire.

Table 2: Overview of the characteristics for every forest type (1 = very low |5 = very high)

Forest type	Species Diversity	Natural structures and microhabitats	Timber production	Human impact
old-growth	5	5	1	1
seminatural managed forest	4	4	2	2
moderately managed forest	3	3	4	3
intensively managed forest	1	2	5	5

After explaining all four forest types, visitors were asked which of the forest types is closest to the one they saw during their visit and which type the would prefer for their next visit

Willingness to pay

Willingness to pay (WTP) is a very common approach when it comes to ecosystem services in conservation/biodiversity (Bhandari & Heshmati, 2009; Kamri, 2013).
For the questionnaire, several scenarios were developed to gain information about the preferences and WTP of the visitors. For the scenarios, the current distribution of each forest type in the countries of the participating partners were given.
The distribution of different forest types was then used to calculate an area-weighted average of the characteristics. For the development of two different scenarios a shift in the distribution of forest types was assumed. The changing amount of different forest types was used to calculate the impact on the area-weighted average of species diversity, natural structures and microhabitats, timber production and human impact (see Table 3 the example for Austria).

Table 3: Overview of the distribution of forest types in Austria and the characteristics for the current state & the two scenarios (1 = very low |5 = very high)

	Forest type	**Current state**	**Scenario A**	**Scenario B**
distribution of different forest types (%)	old-growth	3	5	10
	seminatural managed forest	22	28	40
	moderately managed forest	41	37	30
	intensively managed forest	34	29	20
area-weighted average of the characteristics	Species Diversity	2.6	2.8	3.2
	Natural structures and microhabitats	2.9	3.1	3.4
	Timber production	3.8	3.6	3.1
	Human impact	3.4	3.2	2.8

In order to determine the respondent's willingness to pay, a random number for financial support was proposed to them. This procedure makes it possible to calculate the respondent's average willingness to pay. The value ranges from 0.2, 0.5, 1, 2, 5, 10, 15 up to 20 €.
To accomplish this, a questionnaire for each value was prepared in the print template. The wording for the willingness to pay in the questionnaire was updated by the actual situation at each protected area. If an entrance fee was already charged, it was mentioned that the scenario will result in an increased entrance fee.

Socio-economic data

The socio-economic questions area was the same for all test areas except for the question about monthly household income. To finalize the questionnaire the range of monthly household income (after deduction of taxes & social security) was adapted for every test site in local currency. In order to determine the willingness to pay, the composition of the forest types was also adapted for each country.

Ratio of questionnaires depending on visitors per test site

To obtain a statistically significant result for the survey, at least 1000 surveys for overnight stays and 1000 surveys for day visitors should be conducted. For every parameter (e.g. occupation, education level) a minimum threshold should be reached to be considered in the analysis. A base value of 300 questionnaires was assumed for the determination of the minimum number of questionnaires. In addition, the visitor numbers from the years listed were used to relate the number of questionnaires to the visitor numbers of each test site (see Table 4).

Table 4: Minimum number of questionnaires for each test site.

Test site	Year	Visitor Numbers	%	Interviews
Sonian Forest Foundation (SOFO)	2014	2,000,000	82%	957
Kalkalpen National Park (NPKA)	2014	263,000	11%	386
Chornohora in Carpathian Biosphere Reserve (CBR)	2007	50,000	2%	316
Abruzzo, Lazio and Molise National Park (NPAB)	2014	120,764	5%	340
Total Number		**2,433,764**		**2000**

Conduction of interviews

Selection of the mapping area

Test site

The test site was communicated clearly to all interviewers and interviewees. To ensure this, the questionnaire included a map of the test site on which the questions focused on. A touristic map, showing recreational infrastructure and touristic destinations such as trails, huts, summits provided good orientation for all interviewees. The questions focused on this test site which therefore was clear and understandable for everybody.
The test sites included managed and unmanaged forest as well as open areas and recreational infrastructure such as individual visitor offers and areas for recreational use. Ideally, the whole protected area served as test area as this made it easier to answer the questions. In case the protected area does not include all necessary types of landscape and touristic offers, the test site was defined on a broader scale, and also included areas outside of the protected area.

Catchment area

The catchment area is defined as the region where the base data (as mentioned above) was collected. It was defined by the touristic region where most visitors of the protected area stay and the distance day visitors are willing to travel to visit the forest.
It was also to ensured, that the base data for the region was available as described above. The catchment area was not communicated by the interviewers but will be influenced by the answers of the visitors (e.g. where visitors come from, where they stay during their visit) in case the origin of them has not been monitored previously.

Project information for interviewers

To enable the interviewers to answer the questions visitors may have, a handout about the project, the methodology and the purpose of the questionnaire and the project was created and made available. The handout was available in the local language (translation done by the partners) and had to be studied by the interviewers before the start of the interviews.

Time frame of interviews

The interviews will be conducted during the summer of 2022. For statistical reasons it is important to cover work days as well as weekends for the interviews. Also public holidays shall be covered.
Depending on the number of interviews to be carried out by the individual protected area and the number of visitors per day, the estimated number of interviews done by one person per day is estimated with 10 to 20.
The visitors will be interviewed after their visit in the forest/protected area. The interviewers will already inform the arriving visitors about the questionnaire and the estimated time necessary to answer them in the morning/before

lunch. After their visit, probably starting with lunchtime the interviewees will then answer the questionnaire individually, supported by the interviewers.

Collection of questionnaires

According to the information received beforehand, a digital approach to carry out the interviews is not possible for all protected areas. Either the necessary infrastructure (as smartphone, tablets) is not available or the remoteness of the areas does not provide an appropriate internet connection.
Therefore most of the interviews will be conducted on paper with the support of interviewers. One protected area will work with a digital questionnaire (Sonain Forest, Belgium). The interviewers (teams of 2 persons) will then input the collected information in a database made available by E.C.O. before the interviews will take place. The final database including all answered questionnaires will then be delivered to E.C.O.

Location of interviews

The questionnaires shall be collected at important visitor hotspots in the protected areas. Main entries, huts, visitor centres and parking areas can be adequate places to carry out the interviews. Ideally some infrastructure as benches are available for the interviewees.

Duration of interviews

The duration of the interview is expected to be 20 minutes. Additionally, the interviewer has to fill out the base data of the questionnaire which will take two minutes.

Additional Information collected by the interviewer

In order to draw reasonable conclusions from the results of the questionnaire, some additional basic data must be collected by the interviewer (date & time, weather condition, location of interview). For every day the starting time and the end time of the data assessment should be noted. If the interview takes place close to a parking area the licence plate information about the origin of the visitor should be noted. To get also the number of total visitors all visitors should be counted in the following groups: Male Adult, Female Adult, Child.

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Annex

Questionnaire Recreation & Tourism

Instructions for interviewers

The following 4 questions are to be answered by the interviewer, the questions for the interviewees start with Nr. 1.

Make sure that the interviewees have already visited the test site.

Day and Time of interview:

..... day .....time
○ Working day ○ Holiday (Sat/Sun)

Weather Condition

- ○ Sunny
- ○ Cloudy
- ○ Rainy

Location of Interview:

- ○ Parking lot
- ○ Entrance to protected area
- ○ Visitor centre
- ○ Inn/alpine hut/…

Who filled out the questionnaire:

- ○ Single person
- ○ Group
- ○ Family

Introduction

'Life Prognoses – Protection of Old-Growth forests in Europe' is a project financed by the LIFE+ fund of the European Union. It involves different organizations from 8 European countries. We study the impact of forest management on human well-being, and are conducting this survey to assess the impact of forest management on recreation and tourism. Please share your personal opinions with us. All data will be kept strictly confidential and anonymously and will be used for research purposes only. Filling out the questionnaire takes about 15 minutes.

Thank you!

1. How well do you generally feel informed about the following topics (1 = not at all | 5 = very well)?

	1	2	3	4	5
Recreation activities & possibilities	○	○	○	○	○
Nature and species conservation programmes	○	○	○	○	○
Forest ecosystems services	○	○	○	○	○

2. How often do you visit forests in your free time?

- ○ Daily
- ○ 2 – 3 per week
- ○ Once a week
- ○ 2 – 3 times per month
- ○ Once a month
- ○ Twice a year
- ○ Once a year
- ○ Less than once a year or never

3. Is today your first visit here?

- ○ Yes
- ○ If not, how often have you visited this protected area before?
  - ○ 1-5 x
  - ○ 5-10 x
  - ○ More than 10 x
  - ○ Regularly

4. Which country are you from? .....

5. If from Belgium, postal code: .....

6. How long was your journey from your home to this area?

..... km ..... hours

7. What main means of transport did you use to get here (max. 2 items)?

- ○ Bicycle or by foot
- ○ Public transport
- ○ Car
- ○ Motorbike
- ○ Camper/trailer

8. What was the last mode of transportation you used (please name only one)?

- ○ Bicycle or by foot
- ○ Public transport
- ○ Car
- ○ Motorbike
- ○ Camper/trailer

9. With whom are you here today?

- ○ Family
- ○ Friends
- ○ Partner
- ○ With a tour group
- ○ Alone

10. How many people are with you today (in your group/family)? .....

11. How many are younger than 14 years?.....

12. How long do you stay in this area (day visitor)? ..... hours

13. If you stay overnight, how many nights do you stay?.....nights

14. Where do you stay?

- ○ Inn/ bed & breakfast
- ○ Hotel
- ○ Family/ friends
- ○ Camping site
- ○ Rented accomodation/Airbnb

15. What was the main motivation for coming to this region?

- ○ I (we) came solely for the purpose to spend holiday/leisure time here
- ○ I (we) was (were) passing by and decided to visit this region
- ○ I (we) had other motives to visit this region (friends, family, event, professional reasons, sightseeing)

16. Which activities are most important for your visit this area (max 2)?

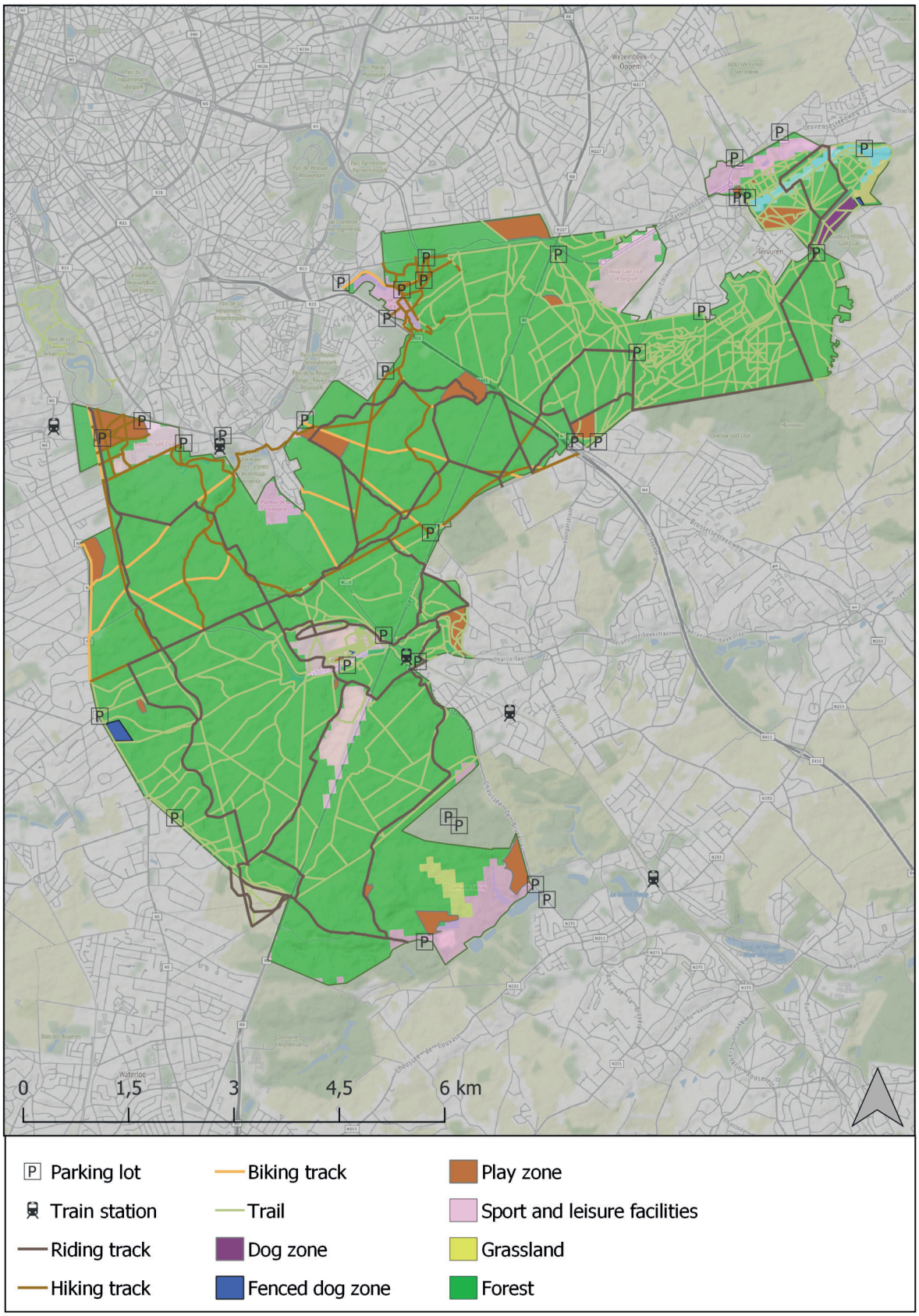
- ○ Walking or hiking
- ○ Observing nature, doing round trips, visiting viewpoints
- ○ Sports (running / nordic walking / cycling / climbing /...)
- ○ Camping/picnic/barbecue
- ○ Spending time in the visitor center / under taking cultural activities
- ○ Food and shopping
- ○ Just a trip out of town, spending a day in the open
- ○ Other .....

17. How important are the following facilities for your leisure activities in the area? Please name the <u>three</u> facilities that are <u>most important</u> to you!

- ○ Walking & hiking trails
- ○ Facilities and paths suitable for people with disabilities
- ○ Bike paths/mountain bike trails/ horse riding trails
- ○ Children's playground
- ○ Inn/restaurants
- ○ Rest areas/benches/picnic areas/barbecue areas/waste bins/fountains/viewing platform
- ○ Parking lots
- ○ Nature trails / themed trails (e.g. health) / information boards
- ○ Visitor Centre/exhibition
- ○ Places of historical and religious interest
- ○ Other .....



18. Please draw the approximate route or area of your visit today on the map



19. Which landscapes or landscape elements were most important for you for visiting this area (max. two)?

- ○ Forests
- ○ Grasslands
- ○ Small clearings within the forest
- ○ Summits
- ○ Viewpoints
- ○ Lakes or rivers
- ○ Wetlands
- ○ Villages, Towns

20. Do you know if this area is under protection?

- ○ Yes
- ○ No
- ○ Not sure

21. If yes, do you know which conservation category the area belongs to (multiple answers possible)?

- ○ UNESCO World Heritage
- ○ National park
- ○ Nature park
- ○ Biosphere reserve
- ○ Protected landscape area
- ○ Natura 2000 site
- ○ Other .....

22. Is a designation of the forest as a UNESCO World Heritage Site a reason for you to visit it?

- ○ Yes
- ○ No

23. Have you ever visited an old-growth forest that is UNESCO World Heritage site before?

- ○ Yes
- ○ No
- ○ Not sure

Forest types

Different types of forest management (including no management) influence the appearance of the forest and its characteristics. Forest management refers to human activities in the forest such as logging, planting or replanting, construction and maintenance of roads and trails, or fire prevention. No management therefore means no human intervention.

A forest ecosystem can be described by various characteristics such as tree species, tree age, tree height, habitat structures such as deadwood in different stages of decay, gaps in closed forests and microhabitats, which are small habitat structures such as tree trunk holes or woodpecker cavities. Other characteristics include biodiversity, which is the variety of different species, or human impact (e.g., forest or logging roads, paths, tree stumps created by logging). In the following, we describe four differently managed forest types (including no management).

Forest type 1 / old-growth forest





Characteristic of forest type	● = very low | ●●●●● = very high	Additional Information
Species diversity	●●●●●	High number of rare species and native uneven aged trees
Natural structures and microha-bitats	●●●●●	
Timber production	●	
Human impact	●	Only some hiking trails, no tree stumps created by logging

Forest type 2 / seminatural managed forest





Characteristic of forest type	● = very low | ●●●●● = very high	Additional Information
Species Diversity	●●●●	Moderate number of rare species and native uneven aged trees
Natural structures and microha-bitats	●●●●	
Timber production	●●	
Human impact	●●	Sparse forest road network, tree stumps created by logging

Forest type 3 / moderately managed forest





Characteristic of forest type	● = very low | ●●●●● = very high	Additional Information
Species Diversity	●●●	Mean number of rare species and mainly native even aged trees
Natural structures and microha-bitats	●●●	
Timber production	●●●●	
Human impact	●●●	Moderate forest road network, tree stumps created by logging

Forest type 4 / intensively managed forest





Characteristic of forest type	● = very low | ●●●●● = very high	Additional Information
Species Diversity	●	Low number of rare species and non-native even aged trees
Natural structures and microhabitats	●●	
Timber production	●●●●●	
Human impact	●●●●●	Dense forest road network, tree stumps created by logging

24. When you review your visit to the forest today, which of the following forest type comes closest to the forest you have seen (max. two)?

- ○ Forest type 1 / old growth forests
- ○ Forest type 2 / seminatural managed forest
- ○ Forest type 3 / moderately managed forest
- ○ Forest type 4/ intensively managed forest

25. Which forest type would you prefer for your next visit? (please tick only one)

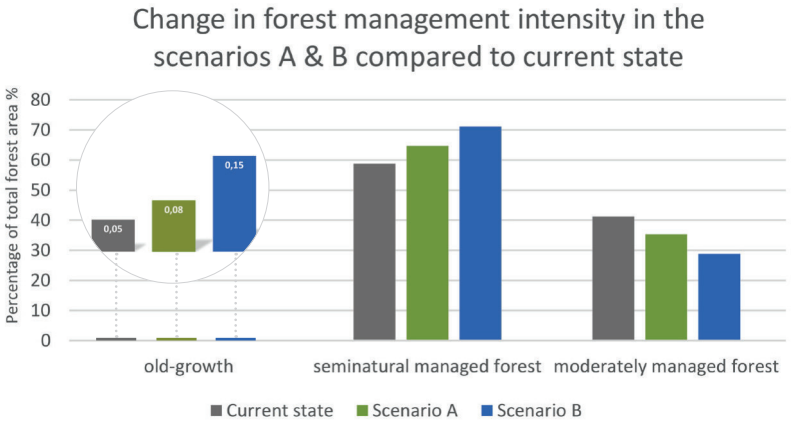
- ○ Forest type 1 / old growth forests
- ○ Forest type 2 / seminatural managed forest
- ○ Forest type 3 / moderately managed forest
- ○ Forest type 4/ intensively managed forest

Scenarios

Changing the harvesting volume will have an economic, biodiversity and recreational impact. We would like you to consider the following two scenarios of different forest management compared to the current state.

An increase in old growth forests and seminatural forests and a reduction in moderately and heavily modified forests in all scenarios would lead to more natural structures and an increase in diversity of species and recreational quality in the future. This would also mean a reduction in logging and, as a consequence, a decrease in tax revenues from forestry. Let us now assume that such shifts in forest types in the following scenarios could only be realized with your financial help. The additional revenues would be earmarked for nature conservation. The financial support for the realization of the following scenarios would be paid, for example, in the form of additional entrance fees, parking fees or tourist taxes. A discount would be offered for stays of several days.

Which of the following scenarios would you prefer in order to increase the proportion of old growth forests and seminatural forests in Belgium compared to the current state described?



26. A: In Scenario A, timber production and human impact are slightly reduced. This will lead to a slight decrease in economic revenues from timber production and processing, but will result in a slight increase in biodiversity, natural structures and microhabitats in the forest.

○ Yes, I/we would be willing to pay € 0.5 for the implementation of this scenario every time I/we visit this region to realize scenario A.
If yes, would you also be willing to pay € 1 for the implementation of this scenario every time you visit this region to realize scenarion A?
○ Yes ○ No

○ No, I am not willing to pay for scenario A.
If no, would you be willing to pay € 0,25 for the implementation of this scenario every time you visit this region to realize scenario A?
○ Yes ○ No

27. If you are not willing to pay an additional tax burden for scenario A, please tell us your opinion on the following statements (1 = reject completely | 5 = fully agree):

- Natural forests and high biodiversity are not my/our priority. I am (we are) not willing to pay for the changes described in this scenario.
- The holidays are already expensive, and I am (we are) not willing to pay more.
- It is a public task to conserve nature and should not be dependent on individual contributions.
- I/we would like to await others' contributions, and then decide.
- I/we would like to pay for other conservation programmes.
- I would be willing to pay but the amount is too high.

1	2	3	4	5
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○

28. B: In Scenario B, with significantly less human impact than currently, the proportion of forests in which little or no timber is harvested will increase significantly. This will reduce the economic return from timber production but increase biodiversity, natural structures and microhabitats significantly.

○ Yes, I/we would be willing to pay € 0.5 for the implementation of this scenario every time I/we visit this region to realize scenario B.
If yes, would you also be willing to pay € 1 for the implementation of this scenario every time you visit this region to realize scenarion B?
○ Yes ○ No

○ No, I am not willing to pay for scenario B.
If no, would you be willing to pay € 0,25 for the implementation of this scenario every time you visit this region to realize scenario B?
○ Yes ○ No

29. If you are not willing to pay an additional tax burden for scenario B, please tell us your opinion on the following statements (1 = reject completely | 5 = fully agree):

- Natural forests and high biodiversity are not my/our priority. I am (we are) not willing to pay for the changes described in this scenario.
- The holidays are already expensive, and I am (we are) not willing to pay more.
- It is a public task to conserve nature and should not be dependent on individual contributions.
- I/we would like to await others' contributions, and then decide.
- I/we would like to pay for other conservation programmes.
- I would be willing to pay but the amount is too high.

1	2	3	4	5
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○
○	○	○	○	○

Please provide us finally with some short statistical data. All data will be kept strictly confidential and anonymously and will be used for research purposes only.

30. Gender

- ○ Male
- ○ Female
- ○ Prefer not to tell
- ○ Other

31. Age .....

32. Which occupation group do you belong to?

- ○ Self-employed
- ○ Senior official (manager)
- ○ Blue-collar worker/crafts(wo)man
- ○ Housewife/-husband
- ○ Retiree
- ○ Employee/public official
- ○ Student/trainee/apprentice
- ○ Not employed

33. Are you a forester or do you work in the forest industry?

- ○ Yes
- ○ No

34. How many people live in your household in total?

..... people, of which: ..... children (below 14 y.)

35. What is your highest level of formal education?

- ○ Compulsory school
- ○ Professional education (trade, apprenticeship)
- ○ High school
- ○ Technical school
- ○ College/university

36. What is your monthly household income? (After deduction of taxes & social security)

- ○ Up to 750 Euro
- ○ 751 to 1,000 Euro
- ○ 1,001 to 1,250 Euro
- ○ 1,251 to 1,500 Euro
- ○ 1,501 to 1,750 Euro
- ○ 1,751 to 2,000 Euro
- ○ 2,001 to 2,250 Euro
- ○ 2,251 to 2,500 Euro
- ○ 2,501 to 2,750 Euro
- ○ 2,751 to 3,000 Euro
- ○ 3,001 to 3,250 Euro
- ○ 3,251 to 3,500 Euro
- ○ 3,501 to 3,750 Euro
- ○ 3,751 to 4,000 Euro
- ○ more than 4,000 Euro
- ○ no specification

Thank you for taking the time to participate in our survey.

