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# Monitoring Recreation Across European Nature Areas: A Geo-database of Visitor Counts, a Review of Literature and a Call for a Visitor Counting Reporting Standard

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**Key words:**
Visitor monitoring
Recreation
Literature review
Reporting standards
Meta-analysis
Database

**Abstract:**
Nature recreation and tourism is a substantial ecosystem service of Europe's countryside that has a substantial economic value and contributes considerably to income and employment of local communities. Highlighting the recreational value and economic contribution of nature areas can be used as a strong argument for the funding of protected and recreational areas. The total number of recreational visits of a nature area has been recognised as a major determinant of its economic recreational value and its contribution to local economies. This paper presents an international geo-database on recreational visitor numbers to non-urban ecosystems, containing 1,267 observations at 518 separate case study areas throughout Europe. The monitored sites are described by their centroid coordinates and shape files displaying the exact extension of the sites. Therefore, the database illustrates the spatial distribution of visitor counting throughout Europe and can be used for secondary research, such as for validation of spatially explicit recreational ecosystem service models and for identifying relevant drivers of recreational ecosystem services. To develop the database, we review visitor monitoring literature throughout Europe and give an overview of such activities with special attention to visitor counting. We identify one major shortcoming in available literature, which relates to the presentation, study area definition and methodological reporting of conducted visitor counting studies. Insufficient reporting hampers the identification of the study area, the comparability of different studies and the evaluation of the studies' quality. Based on our findings, we propose a standardised reporting template for visitor counting studies and advanced data sharing for recreational visitor data. Researchers and institutions are invited to report on their visitor counting studies via our web interface at rris.biopama.org/visitor-reporting to contribute to a global visitor database that will be shared via the ESP Visualisation tool (http://esp-mapping.net).

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# 1. Introduction

Recreation is a major ecosystem service provided by non-urban ecosystems that is of substantial economic importance. All across Europe, national parks are estimated to receive more than 2 billion recreational visits per year, which accounts for an economic recreational value of about € 14.5 billion (Schägner *et al.* 2016a). Globally, protected areas are considered to provide an economic recreational value of $US 250 billion annually through receiving 8 billion recreational visitors, who spend $US 600 billion within the destination country (Balmford *et al.* 2015a). The economic value of nature recreation and its contribution to local economies can be used as a major argument for funding nature conservation and recreational facilities (Eagles 2014).

The number of visits is the most important indicator of the economic value of recreational ecosystem services (Bateman *et al.* 2006b; Jones *et al.* 2003). Therefore, generating accurate and fine-resolution estimates of total annual recreational visits is of major importance in order to highlight the relevance and economic value of different ecosystems and landscape features for recreation as well as for the improvement of an efficient management of environmental capital. However, no aggregated data on visitor numbers to various nature areas exist on the international level. Eagles (2014) names visitor use and economic impact monitoring as two of the ten most important research priorities for recreational nature areas. By supplying site-specific visitor estimates, the importance and value of different ecosystems at different locations can be identified. As a result, resources can be allocated more efficiently and recreation sites can be defended against competing use. Site specific visitor estimates also have crucial relevance for designing the supply of recreational facilities, the protection of nature against overuse, avoiding visitor crowding and for the evaluation of site management strategies (Hadwen *et al.* 2007). Highlighting the importance of protected areas and ecosystems for recreational services has multiple effects on local and national policies in many different countries (Sievänen *et al.* 2008) and it is also required by the EU Biodiversity Strategy 2020 (Maes *et al.* 2013) and the Convention on Biological Diversity's (CBD) Strategic Plan (CBD 2010).

Nevertheless, within outdoor recreation research, studies focusing on the economic valuation of recreation are far more common than studies on estimating accurate visitor numbers, even though the number of visits is the most important indicator for the economic value of recreational ecosystem services. Furthermore, visitor numbers vary far more across recreational sites than the value per visit (Jones *et al.* 2003; Bateman *et al.* 2006). Several studies on the recreational value of nature undertake extensive valuation exercises, but are based on relatively poor visitor estimates. Several papers review studies on the economic valuation of recreation by conducting meta-analysis in order to identify the determinants of the studies' results (Bateman and Jones 2007; Rosenberger and Loomis 2000; Shresta *et al.* 2007; Zandersen and Tol 2009) or they present databases on the vast amount of studies, their results and methodologies used (McComb *et al.* 2006). For studies estimating the total recreational visitor numbers of certain sites, such information is relatively rare and less professionally organised. Bateman *et al.* (2006b) describe this disparity with "*The Tale of Horse and Rabbit Stew*", in which the cook spends most of his time preparing the rabbit for his king, even though it is the horse that makes the stew delicious. Schägner *et al.* (2016a) find that the spatial standard deviations of recreational visitor numbers are about 360 times larger than those of the economic value per visit. Cole (2006) states that visitor monitoring is "*lost in the gulf between science and management*". In recent years, the importance of accurate visitor estimates has become more and more recognised within the scientific community. The Tourism and Protected Areas Specialist (TAPAS) Group[1], *a joint initiative* by

[1] For more information, *see* http://www.iucn.org/protected-areas/world-commission-protected-areas/wcpa/what-we-do/tourism-tapas.

the International Union for Conservation of Nature (IUCN) and its World Commission on Protected Areas (WCPA), is currently acquiring funding for developing a global database on visitor numbers to IUCN Category II Protected Areas (national parks) (Spenceley 2016). A single conference session is dedicated to *"Visitors count! - Count visitation! Tourism in protected areas …"* at IUCN World Conservation Congress 2016 (Engels 2016).

The importance of nature-based recreation is recognised by the EU Biodiversity Strategy to 2020. The physical and monetary mapping and assessment of ecosystem services including cultural services such as nature-based recreation is an essential part of this strategy under Action 5. Maes *et al.* (2016) describe an indicator framework that can be used to ensure that coherent assessment approaches are used throughout the European Union. The number of visitors is retained as the most important indicator to quantify nature-based recreation but they observe that no harmonised, spatially-explicit data for this indicator are available at EU level.

Data on long-term trends in recreational use for various sites is critical for the economic valuation of different recreational sites, in order to identify determinants of recreational use and to evaluate the effects of various management strategies. It is crucial to make the acquired data available to the international research community, such as by other data sharing tools in other disciplines (DEIMS 2015; Drakou *et al.* 2015; JRC 2015).

So far, only some publications review visitor monitoring studies. For example, Kajala *et al.* (2006) review trends of visitor monitoring in Scandinavian and Baltic countries. They highlight the importance of standardised approaches and methodologies across countries. In the follow-up report, Kajala *et al.* (2007) propose some standards for monitoring visitors in the Nordic and Baltic countries, but with a more general focus. Whereas Hornback and Eagles (1999) propose visitor monitoring standards for protected areas in an international context and focus more on the results of the conducted studies than on detailed reporting, Sievänen *et al.* (2008) and Sievänen *et al.* (2009) review recreational monitoring programs across Europe as well as recreational supply indicators, but with a focus on forests only. They also propose a harmonisation of visitor monitoring and counting programs.

We instead promote the application of a variety of approaches and methodologies in recreational visitor monitoring and counting in order to let the methods evolve and develop, but call for detailed and standardised reporting of results and applied methodologies. A wide variety of methods can be used to estimate the number of recreational visits including the evaluation of trail use, samples of personal counting, and automated remote controlled counting devices. Counting samples can be scaled up over time and space by different means of accounting for counting times, days, season and weather as well as counting locations. The emerging use of GPS tracking and social media may allow for new and more efficient ways of estimating visitor numbers for recreational sites (Brandenburg *et al.* 2008; Wood *et al.* 2013b). Each visitor counting method may have its specific advantages and disadvantages and the methodological choice may have a strong and systematic effect on the estimated visitor numbers and on the accuracy of the estimate. By comprehensive reporting of the methodological choice, statistical regression analysis by means of meta-analysis can identify these effects and thereby help to improve visitor counting methods and give insights into the drivers of recreational use. Thereby, detailed reporting allows comparing results of different methods, but also for visitor monitoring and counting methods to evolve and progress. A harmonisation of visitor monitoring and counting approaches would increase the comparability of different studies even more, but may require the application of methods that do not fit the site-specific circumstances and the purpose of the study. In addition, it may hamper methodological developments and innovations in visitor monitoring and counting. Quality and reporting standards for primary data collection have been repeatedly proposed in other disciplines in order to ease statistical assessments such as in environmental economic valuation (Eigenbrod *et al.* 2010a; Johnston and Rosenberger 2010; Loomis and Rosenberger 2006; Rosenberger and Phipps 2007; Rosenthal and DiMatteo 2001; Stanley *et al.* 2013) or species distribution sampling (EU BON and GBIF 2015; Walls *et al.* 2014).

Based on a broad review of visitor monitoring studies with special focus on visitor counting, we propose that recreational visitor counting should (1) receive far more attention in scientific literature and funding schemes and (2) apply a more scientific and professional approach towards presentation of the gathered results and knowledge as well as reporting of the used methodologies. Multiple visitor counting studies are characterised by rudimentary reporting that does neither allow identifying the study area without local knowledge nor the study's quality. Officially published visitor numbers that are based on rough guesses may overstate real numbers by up to 26 fold (Job *et al.* 2014; Mehnen 2005; Ruschkowski 2010).

Within this paper we contribute to the field of visitor monitoring and counting by: (1) presenting a harmonised, spatially-explicit geo-database at EU level containing 1,267 total annual visitor observations at 518 separate nature areas including their exact locations and extension, (2) giving a review on visitor monitoring activities throughout Europe with a specific focus on visitor counting, (3) proposing a methodological reporting standard template for visitor counting studies based on the findings of our literature review (see appendix of this chapter) and (4) inviting the community to submit their visitor counting data via an web interface to contribute to a global database at rris.biopama.org/visitor-reporting.

The visitor number database allows for identifying visitor counting studies across Europe and can be used to estimate the importance of different drivers of recreational use. Thereby it may help to design and manage attractive recreational areas. The review provides insights into the trends of visitor monitoring across Europe and gives guidance on future prospects in visitor monitoring and counting practice. The reporting standards may support the quality and transparency of future visitor counting studies by allowing for assessments of the quality of single visitor estimates and for drawing conclusions on future visitor counting practice. It may also support the use of study results for secondary research, such as reviewing methodological evolvements and to allow for conducting meta-analysis as done in other disciplines such as in recreational economic valuation (Rosenthal and DiMatteo 2001; Zandersen and Tol 2009).

This paper is organised as follows: Section 2 gives a brief description on why and how the data was collected. Section 3.1 gives some summary statistics on the database. Then, in section 3.2, we describe general trends in visitor counting across Europe, and in section 3.3 we identify shortcomings in recent methodological reporting in visitor monitoring and counting studies. Therefore, we propose a reporting standard for visitor counting studies. Section 4 discusses our main findings before we conclude in the final section.

# 2. Methodology and Data

The aim of the study was to build up a database of total annual recreational visitor numbers of non-urban ecosystems all across Europe, in order to highlight the importance and value of different ecosystems for nature recreation. The database serves as a basis for statistical regression analysis of the drivers of recreational use and the effects of different methodologies in order to identify what ecosystem characteristics and landscape features attract and deter recreational visitors. The modelling results are published in Schägner *et al.* (2016a) and Schägner *et al.* (2016b). Therefore, we collected recreational visitor estimates that relates to a clearly defined nature area within Europe and that represent the number of visitors for an entire year and also appear to be a reliable estimate. To collect data we conducted a vast review of visitor monitoring literature. Visitor monitoring consists of a variety of survey and counting exercises that are implemented in order to obtain systematic information about recreational visitors. Total annual visitor estimates are often produced as part of a visitor monitoring study (Kajala *et al.* 2007). To search for visitor data we consulted online search tools, using general search engines, such as Google scholar, web of science, science direct and Scopus. Furthermore, we contacted relevant stakeholders from governmental and non-governmental agencies as well as researchers and managers of national park administrations across Europe. Finally, relevant conference proceedings were scanned, particularly the International Conferences on Management and Monitoring Visitors in Recreational Areas (MMV). The primary search for data was conducted in English, searching for data published within international scientific publications. However, a large amount of data is published in grey literature, which is solely published in national languages. Therefore, we also conducted an extensive online search for data in German and more rudimentary searches in Italian, Spanish, French and Portuguese, the languages accessible to the authors of this study. All total annual visitor estimates were entered into an ArcGIS geo-database and combined with referenced bibliographic information, all available methodological information and a GIS-shape file that indicates the exact location and extension of the case study area. We obtained shape files for each case study area by extracting them from an existing database on protected areas (EEA 2013; IUCN and UNEP 2015), by contacting study authors or stake-holders or by manually drawing them from map images presented in the publication or on the internet. For further analysis, all area covered by water (either inland or ocean water) was erased from the shape files in order to derive shapes of the terrestrial area only. This was done in order to derive comparable estimates of visitors per hectare. Some case study areas, such as a lake or a marine protected area, consist of more than 90% of water cover and since visitors spend most of their time on land, water covered areas would be a distortion. The database allows extracting site-specific information of the different case study areas by using available GIS data, such as ecosystem characteristics, socio-demographic and climate data, without consulting single publications, stake-holders or collecting data on-site. While hunting for visitor data, we reviewed relevant visitor monitoring studies and activities in different European countries.

# 3. Results

## 3.1 A Geo-database of Visitor Counts

In total we found 1,267 total annual visitor observations of about 518 separate case study areas all across Europe, which estimate a total of about 400 million visits a year. By far, the most case study areas are located in the UK (170), but also in Italy (57) and the relatively small countries Denmark (57) and the Netherlands (50) show a large amount of case study areas. Surprisingly, only very few estimates for the large countries Germany (13) and France (5) were found. For the following EU countries we could not obtain any observation: Portugal, Bulgaria, Estonia, Lithonia, Greece, and Iceland and the small countries Luxembourg, Cypress and Malta, even though visitor monitoring activities take place in most countries.

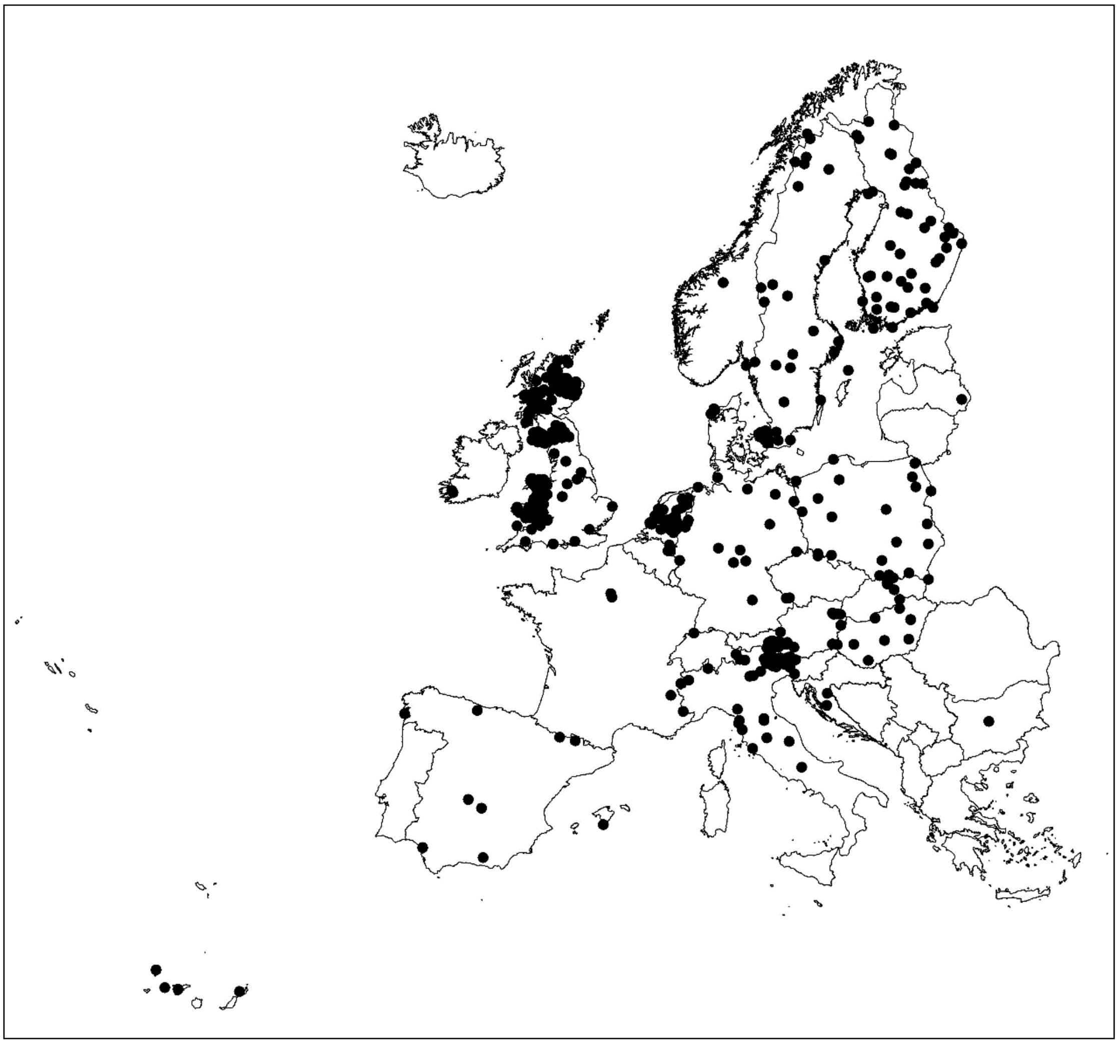

**Figure 1: Location of total annual visitor observations across Europe.**

About 40% of all the observations represent visitor estimates of national parks or parts of national parks. Another 15% of case study areas are other types of protected areas[2]. We found a considerable amount of monitored sites not being protected at all only in four countries; 140 in the UK, 41 in Denmark, 27 in the Netherlands and 17 in Italy.

On average, each case study area receives about 760,000 visits a year. However, annual visits differ widely with regard to visitation rates per km² and the case study area size. The overall average of the case study areas size is about 194 km² big (excluding water cover), but ranges from only 1 hectare up to almost 9,000 km². Country averages range from 13 km² and 20 km² in Denmark and the Netherlands up to 2,200 km² in France. The average annual visits per terrestrial km² are about 4,163, but differ widely. It ranges from three visits per km² in large remote sites to up to 15.7 million in small visitor hot spot areas. There are stark differences between countries. For the Netherlands, the average is 36,600 visitors per km² and for Finland only 213. Detailed statistical analysis of drivers explaining the differing visitation rates can be found in Schägner *et al.* (2016a) and Schägner *et al.* (2016b) . Summary statistics on the gathered data are presented in Table 1. The entire database is presented in the SOM.

We were not able to obtain information on the methodology of the visitor counting studies for most of the case study areas in our database due to incomplete methodological reporting. As a result, it is impossible to apply a statistical assessment of the impacts of different visitor counting methodologies on the total annual visitor estimates. Some studies and databases list visitor numbers from multiple sites within tables without giving any reference to how this data was collected and how total annual visitor estimates are obtained. In many cases the information might be available in a language not accessible to the authors (BR 2008; BR 2012; GOBT 2007; GOBT 2009; GOBT 2010). A positive example of detailed visitor counting methodology reporting are the visitor monitoring studies of the UK Forestry Commission (TNS and FCS 2006b; TNS and FCS 2006a; TNS and FCS 2008; TNS and FCW 2005). On request, we could obtain detailed information including shapes of the study areas, precise counting locations, counting length and used devices as well as methodologies used to upscale the counted visits to the entire area and year. Many studies on single sites do have a different focus than finding total annual visitor estimates such as economic valuation of recreation (Cullinan *et al.* 2008a), evaluating the effect of crowding (Arnberger and Brandenburg 2007; Kalisch 2012) or the effects of dog walking (Jaarsma and Kooij 2010), but do include a total annual visitor estimate as a by-product. Other studies do collect all data required, but do not come up with a total annual visitor estimate, due to a different study focus (Andersen *et al.* 2014; Fredman *et al.* 2009).

[2] We classified each site as a protected area, if at least 50% of its area is classified as protected. For estimating the share of the total area classified as protected we used the intersect tool of ArcGIS 10.2, the World Database of Protected Areas and the Common Database of Designated Areas (EEA 2013; IUCN and UNEP 2015).

**Table 1: Summary of the database of annual visitor counts to sampled nature areas.**

| Country | Observations | National parks | Other protected areas | Share national parks | Share protected areas | Total visitors of sampled sites | Mean visitors per observation | Mean visitors per km² |
|---|---|---|---|---|---|---|---|---|
| Austria | 30 | 28 | 0 | 93% | 0% | 8,021,604 | 267,387 | 1,370 |
| Belgium | 2 | 0 | 1 | 0% | 50% | 136,835 | 68,418 | 289 |
| Bulgaria | 1 | 1 | 0 | 100% | 0% | 15,000 | 15,000 | 21 |
| Croatia | 2 | 2 | 0 | 100% | 0% | 1,056,726 | 528,363 | 2,674 |
| Czech Republic | 3 | 3 | 0 | 100% | 0% | 7,460,771 | 2,486,924 | 5,648 |
| Denmark | 57 | 5 | 11 | 9% | 19% | 16,097,268 | 282,408 | 22,257 |
| Finland | 46 | 39 | 6 | 85% | 13% | 2,337,254 | 50,810 | 213 |
| France | 5 | 3 | 0 | 60% | 0% | 30,566,216 | 6,113,243 | 2,750 |
| Germany | 13 | 12 | 1 | 92% | 8% | 28,001,142 | 2,153,934 | 3,269 |
| Hungary | 11 | 11 | 0 | 100% | 0% | 6,110,000 | 555,455 | 1,310 |
| Ireland | 2 | 1 | 0 | 50% | 0% | 78,504 | 39,252 | 672 |
| Italy | 55 | 11 | 28 | 20% | 51% | 22,493,267 | 408,968 | 1,769 |
| Latvia | 1 | 1 | 0 | 100% | 0% | 55,667 | 55,667 | 93 |
| Netherlands | 50 | 7 | 16 | 14% | 32% | 53,666,782 | 1,073,336 | 36,609 |
| Norway | 1 | 1 | 0 | 100% | 0% | 30,000 | 30,000 | 19 |
| Poland | 24 | 24 | 0 | 100% | 0% | 13,296,300 | 554,013 | 3,983 |
| Slovakia | 2 | 2 | 0 | 100% | 0% | 4,900,000 | 2,450,000 | 3,758 |
| Slovenia | 1 | 1 | 0 | 100% | 0% | 2,000,000 | 2,000,000 | 2,386 |
| Spain | 14 | 14 | 0 | 100% | 0% | 9,321,895 | 665,850 | 2,742 |
| Sweden | 27 | 26 | 1 | 96% | 4% | 2,256,369 | 83,569 | 369 |
| Switzerland | 1 | 1 | 0 | 100% | 0% | 165,000 | 165,000 | 1,001 |
| UK | 170 | 16 | 14 | 9% | 8% | 184,132,506 | 1,083,132 | 7,638 |
| **sum** | **518** | **209** | **78** | | | **392,200,000** | **800,000** | |
| **mean** | | | | **40%** | **15%** | | | **3,899** |

## 3.2 Visitor monitoring and Counting Activities in Europe

The number of total annual visitor observations reported in this study represent an indicator of the visitor counting and monitoring activities in different European countries. For collecting the data, we reviewed visitor monitoring literature broadly, but with a special focus on studies estimating total annual visitor numbers. The results of this review are presented in the following section. However, we do not claim that the review is exhaustive and fully representative for visitor counting and monitoring in Europe for several reasons. First, we encountered difficulties as a lot of the primarily grey literature is published in national languages and is not accessible to the authors. Second, publication policies of visitor monitoring programs differ across countries and institutions. Asking stakeholders to supply data was characterised by varying success. Policies and helpfulness in supplying data differed across institutions and individuals and sometimes it was just a matter of luck to contact the right person at the right time, willing to help and having access the desired data. Finally, the primary purpose of this study was to construct a database on visitor counts and therefore we did not search and analyse visitor monitoring studies in depth that do not provide the desired data.

The visitor monitoring and counting activities differs not only in scope but also in focus across European countries. In many countries household surveys on the recreational activities are conducted. Such surveys offer valuable information, such as the number of trips, destinations, activities and recreational needs and attitudes, but are only rarely used for estimating site specific total visitor numbers. Often they allow for conclusions on the relative recreational use of different ecosystem types and/or regions, but not to estimate total numbers for a specific location. On-site surveys are also a common visitor monitoring practice, sometimes combined with visitor counting. However, in many cases such studies are not used to estimate total annual visitors, although the required information is collected. Some studies estimate visitor numbers only for some periods (peak days and seasons) or locations, but do not up-scale them to the entire area and year. A number of studies publish total annual visitor estimates for some sites, but because of incomplete reporting, the sites cannot be identified since either the extension or the locations of the sites are not distinct.

Applied methods for estimating total annual visitor numbers to recreational areas are manifold (see Table 2) and have diversified in recent years. Whereas most studies conduct on-site visitor counting to estimate total visitor numbers, some studies use on- and off-site surveys to estimate total visitor numbers. The application of survey data for recreational destination choice modelling has been applied several times in recent year (Sen *et al.* 2011a; Termansen *et al.* 2008; UK NEA 2011b). In the past, personal on-site counting, ticket sales or simple expert judgment based on indirect methods such as trail use etc. were most common, but new technical developments increase the options of visitor counting and estimation. Nowadays, automated remote controlled counting devices are widely used and offer great opportunities for extensive counting at relatively low costs. The application of drones, aerial images and high resolution satellite images are used to monitor species such as whales (Fretwell *et al.* 2014), elephants (McMahon *et al.* 2014) and penguins (Fretwell *et al.* 2012) as well as human crowds (Coghlan 2012). It may also be used for large scale visitor counting in recreational areas. Since the start of the digital and new media age, the vast amount of "*big data*" may open visitor estimation options that are currently hardly exploited and still to be explored. Mobile phone traffic and Wi-Fi tracking may be used to track visitors and their movements on sites, as what is done to estimate traffic jams (Stenovec 2015). On social media platforms, users share a vast amount of data that can also be used to estimate their recreational behaviour (Wood *et al.* 2013b). Search engine queries reveal the interest in certain locations. Online map surveys allow the researchers to generate surveys on recreational behaviour with increased spatial resolution at lower costs (Maptionnaire 2016). Smart phone app such as geocaching or sports activity trackers record movement patterns and the activity of recreational visitors (SDI4Apps 2016; Vítek 2012).

In the **UK**, where we found the most observations, but also in the **Netherlands, Italy and Denmark**, total annual visitor estimates of recreational areas are used as an indicator for the recreational importance and economic value of different recreational sites. This indicates a long term and widely accepted importance of expressing the value of recreational areas in economic terms that are often used to promote their conservation and compete for public funding. Also, many recreational valuation studies were found for these countries. In the **UK**, visitor monitoring is widely applied, not only for national parks and sites of recreational areas, but also for the general countryside (Cope *et al.* 2000; TNS and FCS 2006b). The Forestry Commission and as well *Natural England* provide a number of visitor monitoring studies, some publish only total annual visits, but others include general surveys on visitor needs, perception and behaviour (FC 2015; Kajala *et al.* 2007; NE 2014). Many of these studies focus on forest recreation. Visitor numbers are based on on-site counting (TNS and FCS 2006b; TNS and FCS 2006a; TNS and FCS 2008; TNS and FCW 2005) or on up-scaling of survey results (Jones *et al.* 2003; Morris and Doick 2009). Some data could be extracted from secondary studies, mainly environmental economic valuation studies (Bateman *et al.* 1998; Hill and Courtney 2006; Jones *et al.* 2003). Governmental databases present visitor numbers to a variety of visitor sites including indoor attractions such as museums and amusement parks, but also country parks and nature reserves. However, due to incomplete reporting, the quality of these estimates could not be assessed and in many cases it was difficult to define exact case study areas (VE 2014; VS 2013; VW 2014).

Most reports in **Denmark and the Netherlands** are published in national languages only and thus, we had difficulties in evaluating the visitor monitoring activities in detail. Multiple visitor estimates do show that they are vibrant. For Denmark we found indications of many total annual visitor estimates of mainly forest sites, resulting from a large scale of survey based methods and car traffic counts, some dating back to the 1970s (Jensen 1992; 2003; Jensen & Guldager 2005; Kajala *et al.* 2006; Koch 1978; 1980; 1984; Sievänen *et al.* 2008; de Vries & Veer 2007). However, we did succeed in accessing only some of these numbers. For the Netherlands, some publications list total visitor numbers for a variety of different sites (GOBT 2010; Goossen *et al.* 2011), but there is no information on the methodology and on the spatial location of the sites reported, making it a difficult task to include them in the geo-database. In addition, we found some isolated visitor estimates in separate visitor monitoring studies (Hein *et al.* 2006; Jaarsma and Kooij 2010; Ligtenberg *et al.* 2008; Nunes *et al.* 2005).

Although most of the **Southern European** countries show less experience with visitor monitoring and counting, many visitor estimates were found for sites in **Italy**, some of them in combination with a monetary valuation study (Tempesta 2010), but most focusing solely on visitor numbers as a value indicator of different sites (Sanesi *et al.* 2008; Tempesta *et al.* 2002). Nevertheless, the methodological reporting was limited in most publications except Lehar *et al.* (2004). In particular, the study area definitions are deficient in many cases and consequently, it was not possible to locate part of the case study areas.

The countries **Sweden and Finland** show strong activity in visitor monitoring, but seem to have a slightly different focus. Studies are mainly concerned with on-site visitor managing and the quality of the recreational experiences, and less on highlighting the recreational economic value and importance, by publishing total visitor numbers. General population surveys resulting in outdoor recreation demand inventories are applied widely, but do not offer site-specific numbers (Kajala *et al.* 2006; Kajala *et al.* 2007; Sievänen *et al.* 2008; Sievänen 2012). We were able to obtain visitor numbers based on on-site counting for all national parks and some other official recreational sites. Most of these estimates are based on institutionalised visitor monitoring programs including long time series of visitor counting. Metsähallitus, a Finnish state-owned enterprise, runs electronic counters continuously in national parks and recreational areas. Summary reports in English and study area maps are available online, but no detailed methodological reporting is included (Metsähallitus 2015). Swedish visitor numbers including basic information on the methodology, such as counting devices etc. were obtained on request via email (Nasstrom 2012). Further visitor estimates for urban forests and other sites are indicated in literature, but it was not possible to obtain them (Ankre and Fredman 2012a; Fredman *et al.* 2012).

Alternatively for **Norway**, it was possible to obtain only a single visitor estimate for one site. Even though visitor monitoring is not as widespread as in the other Scandinavian countries, more visitor estimates exist from on-site counting (Andersen *et al.* 2012; Andersen *et al.* 2014). More than 13 national recreation surveys were conducted in Norway, which might also include site-specific numbers (Aasetre 2008; Kajala *et al.* 2006).

In **Germany**, intensive visitor counting programs have evolved only in recent years. The recreational value of nature areas has been approached less in a quantitative manner by research and policy documents than in other countries (Mann 2007). Even though some economic valuation studies on recreation exist (Elsasser and Meyerhoff 2007), we could obtain visitor numbers only for national parks provided by studies that are mainly supervised by Hubert Job from the University of Würzburg (Job *et al.* 2003; 2005; 2010; Job and Stein 2010). Müritz national park is the only area for which we found time-series of total visitors (NPA 2010). Nevertheless, in 2011 the Federal Agency for Nature Conservation initiated a socioeconomic monitoring program, which resulted in visitor monitoring and counting activities in several protected areas.

In **France and Spain** the situations are similar. We obtained visitor numbers of national parks and some single additional sites only, but without reference to the applied methodologies. Nevertheless, visitor estimates have existed for all Spanish national parks for several years. Only very few publications on visitor monitoring and recreational valuation are published in English and language barriers made it difficult to derive further information on the visitor monitoring activities. We found some studies on the economic valuation of recreation, indicating that further visitor numbers exist in France, but could not obtain them (Bonnieux and Rainelli 2003; Scherrer 2003).

In **Austria and Switzerland** some isolated studies were found that provided visitor numbers to most national parks and some other sites. Studies result from individual initiatives of researchers and site managers. We could not identify an institutional setting for collecting such data across sites. In Austria, the team of Arne Arnberger from BOKU University is active in visitor monitoring, but focuses more on aspects such as evaluating device accuracy (Arnberger *et al.* 2005), crowding effects (Arnberger and Brandenburg 2007) or visitor structures (Arnberger and Brandenburg 2002), than on the recreational value of various recreation sites.

Language barriers particularly hindered the search for visitor numbers in eastern and southeastern Europe. Nevertheless, also thanks to the helpfulness of stakeholders, we could obtain visitor numbers and spatial information for all national parks in **Poland** and **Hungary**. An evaluation of general visitor monitoring activities in Eastern Europe beyond these activities was only possible in parts. We found some isolated studies offering visitor estimates for single sites in **Slovakia** (Taczanowska 2004) and in the **Czech Republic** (Cihar *et al.* 2008a; Cihar *et al.* 2008b). For the **Baltic countries**, only one estimate was discovered in **Latvia**, although some publications indicate growing activities in visitor monitoring (Kajala *et al.* 2006; Livina 2014). We obtained some visitor numbers from an extensive visitor counting in **Estonian** forest- and national parks, but they were not yet not scaled up to an annual basis (Karoles & Maran 2014; Roose & Sepp 2012; Vítek 2012).

In addition, we obtained some visitor estimates from isolated studies also for **Croatia** (Lukač 2002; Pettenella 2008)**, Slovenia** (Erhartic *et al.* 2012)**, Belgium** (Doidi *et al.* 2012; Gilissen and Van Den Bosch 2013), **Iceland** (Ólafsson 2012) and **Ireland**. Several of the Irish visitor estimates are part of economic valuation studies (Cronin *et al.* 2000; Cullinan *et al.* 2008a; Hynes and Hanley 2006). Even though some visitor monitoring take place, we could not obtain any total annual visitor estimate for a specific case study area in **Portugal** (de Oliveira and Mendes 2014; Mendes *et al.* 2012), in **Greece** (Xanthopoulou 2007) and in **Cyprus** (Kakouris 2007).

## 3.3 Proposed Reporting Standard for Visitor Counting

Surprisingly, visitor monitoring studies and in particular visitor counting are typically characterised by relatively rudimentary reporting on the applied methodologies and study areas. In many publications not even the case study area is sufficiently defined, although this information is crucial because recreational behaviour has a highly spatial dimension. The size of the study area is fundamental for defining the average visitors per hectare, which is the most important indicator to assess the recreational value of different landscapes and to compare different recreational sites. Geo-locating the case study area — by some centroid coordinates, or better by displaying clear borders of the site – is essential for assessing any characteristics of the site not reported in the study itself. Even if the study estimates visitor numbers of a national park, the definition of the case study area is not always as clear as someone may expect. National parks may consist of zones of different protection levels and its borders may change over time. For many studies, study area identification is impossible without contacting the authors. If the monitored site cannot be identified, then what is the use of the estimated visitor numbers? Researchers may want to use the data for future research, acquire further information on the site, compare it to other sites and may display it on larger scale GIS maps. For identifying ecosystem characteristics and landscape features that attract recreational visitors, accurate, spatially explicit and fine-resolution visitor estimates are required.

The methodologies used to estimate total recreational visitors are manifold and may have a substantial effect on the accuracy of the result and may introduce a systematic bias. Even though some publications call for standardised visitor monitoring programs (Kajala *et al.* 2006; Kajala *et al.* 2007), the used methodologies will never be the same across all studies. Detailed reporting standards allow for comparing different studies by controlling for the effects of different methodologies. Statistical analysis in terms of meta-analysis (a common procedure in many other disciplines) is a helpful tool to identify effects of different methods on study results as well as the effects of different ecosystem characteristics. Thereby, intra-area comparison can be done even though non-standardised approaches are used, and drivers of recreational use can be identified. In addition, methods for estimating total visitors numbers can evolve and new ways of recreational use estimation can develop. New data sources such as GPS tracking, remote sensing and social media data, may allow for new methods of visitor number estimation.

We therefore propose a reporting standard for recreational visitor counting studies in a language accessible to the international research community (Table 1). All the methodological aspects that may have an impact on the final visitor estimates should be reported. A spreadsheet template for visitor counting reporting can be found in the appendix of this chapter. This could be used as a minimum requirement for peer reviewed publications that contain visitor counting. The spreadsheet template contains a "*must have reporting standard*" sheet, which is considered to be the absolute minimum methodological and spatial reporting on visitor counting studies, a "*should have reporting standard*" sheet, which we strongly recommend in order to allow statistical analysis of different methodological variables and a "*nice to have reporting standard*" sheet, which contains more detailed reporting options on the spatial distribution of visitors and visitor counting within the study area. The template is flexible as it allows users to add new variables and questions in order to fit it to specific user needs and to be extended to more general visitor monitoring studies.

**Table 2: Proposed reporting standard for visitor counting studies.**

| Methodology | Description |
|---|---|
| Study area | A clear definition of the study area including information on the size and location, preferably by a GIS shape file, otherwise by a map illustration in combination with reference coordinates;<br><br>Further information on the type of ecosystem and the availability of recreational facilities such as trail length, activities offered, visitor centres, etc. |
| Year | Declaration of data collection periods and the year that are correlated with the final visitor estimates. |
| Counting methods | Clear description of the counting methods used (on-site vs. off-site methods):<br>- On-site: direct vs. indirect methods; direct counting: personally, interviews, automated counting via turnstiles, photoelectric counters, pressure sensitive devices or video counters etc.; validation of automated counter against false counts; Indirect methods: analysis of car parks, trace use, garbage, ticket sales or deterioration of certain facilities; self-registration via guest books and boxes at summits or huts etc.; use of related statistic such as overnight stays in hotels etc.<br>- Off-site: catchment population interviews via post, telephone or personally, expert judgment.<br><br>Detailed description of visitor counting methods can be found in (Cessford and Muhar 2003; Muhar and Arnberger 2002). |
| Number of counts / interviews | The number of interviews taken and / or of counts made in order to estimate the total visitor numbers for the study area; the refusal rate of interviews and the targeted survey population |
| Type of visitors counted | The type of visitors, if only a certain type of visitors is assessed, such as defined by the type of activities (anglers, hikers or boaters), mode of transport or length of stay (day trip vs. overnight) |
| Spatial and temporal counting resolution | The counting resolution including information on the number and length of counting, number of counting samples and number of counting locations; the time of counting (day time, week days, months, seasons); the type of counting locations (entrance point, central hub, peripheral location etc.); coordinates of counting locations; selection of counting locations and temporal counting samples (random, systematic) |
| Up-scaling methodology | Methodology used to scale-up counting samples to entire area and entire year (temporal: all-year counting, visitor interview information, expert guessing, temporal trends, accounting for weather etc.; spatial: comprehensive all entrance points counting, statistical modelling, trend analysis, visitor interview information, expert guessing) |

In collaboration with the TAPAS Group, IUCN and the WCPA, the visitor counting reporting template has also been translated into a web interface that allows users to report their visitor counting studies online and obtain a filled spread sheet. The web interface is meant to automate visitor data collection and to construct a global visitor database that will be shared via http://esp-mapping.net. Please visit the site and encourage everybody to share their data at http://rris.biopama.org/visitor-reporting.

# 4. Discussion

Detailed reporting of the visitor counting methodology is of great importance for two reasons. First, it enables readers to distinguish sound studies from rudimentary ones. Some visitor numbers circulating in the web may result from an unverified guess only, whereas others are based on long-term intensive visitor counting and monitoring programs and therefore are far more reliable. Visitor data quality has been given little consideration in secondary research (Hill and Courtney 2006), partly because the lack of given information makes it difficult to judge the quality of the visitor estimates. Empirical findings in Schägner *et al.* (2016a) indicate that rough guesses have the tendency of over-estimating visitor numbers. Managers and stakeholders may tend to exaggerate the recreational importance of their sites, as for example, in the case of Harz national park in Germany. Initial visitor numbers circulated by the national park administration amounted to about 45 million visitors a year (Mehnen 2005; Ruschkowski 2010), but this estimate was reduced later, first to 10 million (Lehar *et al.* 2004), then to about 4 million ('Nationalpark Harz' 2015), and finally, after a solid visitor monitoring to 1.7 million (Job *et al.* 2014). The counting method and the spatial and temporal counting resolution may be a good indicator of the uncertainties involved with visitor estimates. Visitor counting programs that are based on a few and short counting periods at a few counting locations across a large study area, require more assumptions to be made in order to generate the total visitor estimate. These assumptions should be made transparent. Presently, relatively cheap visitor counting devices are available allowing for remote access and thus comprehensive visitor counting within recreational areas is on a rise. Reporting on the used methodology becomes therefore even more important in order to distinguish reliable results from the vast amount of unverified numbers published on the web.

Second, methodological reporting allows for conducting meta-analysis of multiple visitor counting studies and thereby estimates how different recreational sites characteristics and counting methods may affect estimated visitors. This may help to improve visitor counting methods and give insights into the drivers of recreational use. Meta-analysis of multiple studies is common in various disciplines to synthesise research findings and identify patterns among study results, the effects of methodological choices and the effects of study object characteristics that may be observed by analysing multiple studies. It has a long history, mainly in epidemiology (Deeks *et al.* 2001) and clinical trials (DerSimonian and Laird 1986), but also in environment economic valuation (Rosenthal and DiMatteo 2001) psychology (Lipsey and Wilson 2000) or ecology (Claudet *et al.* 2008). Quality and methodological reporting standards are prerequisite for a successful application.

The collection of high quality, standardized and spatially explicit statistics of the number of visitors is also relevant for recreational service mapping and spatial modelling, which is one major input for natural capital accounting. Real world observation of recreational use is required to calibrate and validate geo-statistical models for ecosystem service mapping (Schägner *et al.* 2013). The EU 7th Environment Action Programme (EAP) and the EU Biodiversity Strategy include objectives to develop natural capital accounting (NCA) in the EU, with a focus on ecosystems and their services. In 2015, the European Commission has launched a dedicated initiative called INCA (Integrated system of Natural Capital and ecosystem services Accounting). The data collected in this study and our call for a reporting standard constitute a first valuable input to developing accounts which track the recreational use of nature in the EU over time (EKC 2015).

Ideally, for a spatial ecosystem service model calibration, study sites of primary data collection would be randomly selected, as done for example in ecology for estimating species distributions (Keirle 2002). Random sampling is of great importance to obtain unbiased estimators in regression analysis.

Nevertheless, the visitor data presented in this paper is strongly biased towards sites being prone of receiving high recreational visitor numbers, such as national parks or other protected areas. However, the aim of many visitor counting exercises as well as of spatial recreational service modelling is to highlight the recreational value or importance of certain ecosystems as compared to others. Therefore, it is not only important to know how many people visit a specific national park or recreational area, but also how few people visit an ordinary landscape. We therefore encourage the collection of visitor data for the general countryside and not only for specific recreational areas.

Finally, data sharing offers great benefits to science in general by allowing researchers to access multiple data sets at low costs and to combine them into valuable findings. Information technologies, metadata tools and repositories offer great opportunities for data sharing and many online data sharing tools have evolved (Drakou *et al.* 2015; JRC 2015). The Digital Observatory for Protected Areas (DOPA, http://dopa.jrc.ec.europa.eu/), for example, provides a set of web services and applications that can be used primarily to assess, monitor, report and possibly forecast the state of and the pressure on protected areas at multiple scales (Dubois *et al.* 2013; 2015). The data, indicators, maps and tools provided by the DOPA can be used to support spatial planning, resource allocation, protected area development and management as well as national and international reporting by a number of end-users including policy makers, funding agencies, protected area agencies and managers, researchers and the Convention on Biological Diversity (CBD). Although currently following a top-down approach that provides local data derived from global data sets, it is the objective of the forthcoming Open DOPA to capture information from the ground by allowing end-users to submit local information on the presence of key species, threats and pressures, projects, infrastructure and recreational visitors. Sharing visitor numbers through our web interface at rris.biopama.org/visitor-reporting presents a first contribution to the Open DOPA and will allow researchers to easily access, visualise and further analyse such data to better understand recreational patterns and stimulate the exchange of ideas and knowledge.

# 5. Conclusion

We reviewed visitor monitoring activities across Europe with a special focus on visitor counting and composed a geo-database on annual recreational visitor numbers to non-urban ecosystems across Europe, including 1,267 observations of 518 separate case study areas. The database gives insights into visitor monitoring and counting activities and recreation trends across Europe and it highlights the importance of recreation as an ecosystem service of non-urban ecosystems. Based on the review, we identify shortcomings and fields of improvements for future visitor monitoring and counting activities. In particular, we find that the presentation of results and methodologies is relatively unsatisfactory compared to other disciplines. Therefore, we propose a general reporting standard template for visitor counting studies with a special focus on: (1) case study area definition, (2) methodology documentation and (3) data sharing. It is meant to increase visitor monitoring professionalism and its scientific perception, and to facilitate the use of data for further research as well as the exchange of knowledge.

Visitor monitoring has moved on from sole visitor counts towards a manifold research topic, focusing on a variety of aspects such as visitor experiences, needs, attitudes and perceptions as well as activities, movement patterns, crowding effects, conflicts and wildlife disturbance (Aoki *et al.* 2014; Loomis 2000). However, it is necessary to note that simple visitor numbers are still a crucial piece of information and missing accurate visitor estimates are still a major obstacle in site management and secondary research (Booth 2006; Eagles 2014; Hill and Courtney 2006; Loomis 2000). Information on total recreational use is essential for assessing the value and importance of different nature areas for recreation and for identifying the determining factors of different sites' recreational values, but also for estimating visitors' impacts on resources, recreational facility management, budget allocation, for assessing the economic contribution of tourism and finally to defend recreational areas against competing uses. Advancements in automated visitor counting technologies, but also new data sources such as GPS tracking, drones, high resolution satellite imaginary, social media data, mobile phone traffic and smart phone apps may allow for more accurate and precise visitor estimates at lower costs.

By sharing data across the scientific community via online data sharing tools, the data provides a valuable asset for secondary research activities. The importance of reliable, comparable and accessible recreational visitor statistics has been recognised within the scientific community (Engels 2016; Spenceley 2016). Therefore, we aim at facilitating the reporting on visitor counting studies as well as the sharing of visitor data by providing a new web interface that allows users to insert their data. Please visit and promote our web interface and contribute to a global database on recreational visitor numbers in protected and nature areas at: rris.biopama.org/visitor-reporting.

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# Appendix

## Table A3.1: Database of annual visitor counts to sampled nature areas

| Site Name | km² | 1985 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | mean | Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Donaube Floodplain NP Forest (Lobbau) | 24 | | | | | | | | | | | | | | | | | | | | | 600,000 | | | | | | | 600,000 | (Arnberger 2006) |
| Lower Austria Donaube Floodplain NP | 69 | | | | | | | | | | | | | | | | 400,000 | | | | | | | | | | | | 400,000 | (Arnberger & Brandenburg 2007) |
| Nationalpark Hohe Tauern | 1,751 | | | | | | | | | | | | | | | | | | 1,750,000 | | | | | | | | | | 1,750,000 | (Lehar et al. 2004) |
| Nationalpark Hohe Tauern, Kärnten | 299 | | | | | | | | | | | | | | | | | | 165,180 | | | | | | | | | | 165,180 | (Lehar et al. 2004) |
| Nationalpark Hohe Tauern, Kärnten2 | 314 | | | | | | | | | | | | | | | 102,200 | | | | | | | | | | | | | 102,200 | (Wiederwald et al. 2000) |
| Nationalpark Hohe Tauern, Salzburg | 805 | | | | | | | | | | | | | | | | | | 917,488 | | | | | | | | | | 917,488 | (Lehar et al. 2004; Wiederwald et al. 2000) |
| Nationalpark Hohe Tauern, Tirol | 611 | | | | | | | | | | | | | | | | | | 446,720 | | | | | | | | | | 446,720 | (Lehar et al. 2004) |
| Naturpark Raab | 147 | | | | | | | | | | | | | | | | | | | | | 30,796 | | | | | | | 30,796 | (Weixlbaumer et al. 2007) |
| Nockberge | 171 | | | | | | | | | | | | | | | 320,000 | | | | | | | | | | | | | 320,000 | Wiederwald et al. 2000) |
| NP Hohe Tauern, Kärnten, Ankogelgruppe | 144 | | | | | | | | | | | | | | | | | | 109,130 | | | | | | | | | | 109,130 | (Lehar et al. 2004) |
| NP Hohe Tauern, Kärnten, Mölltal | 169 | | | | | | | | | | | | | | | | | | 56,050 | | | | | | | | | | 56,050 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Felbertal | 6 | | | | | | | | | | | | | | | | | | 39,180 | | | | | | | | | | 39,180 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Fuschertal | 91 | | | | | | | | | | | | | | | | | | 23,020 | | | | | | | | | | 23,020 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Gasteinertal | 95 | | | | | | | | | | | | | | | | | | 87,790 | | | | | | | | | | 87,790 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Groáarltal | 44 | | | | | | | | | | | | | | | | | | 93,260 | | | | | | | | | | 93,260 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Habachtal | 43 | | | | | | | | | | | | | | | | | | 19,110 | | | | | | | | | | 19,110 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Hollersbachtal | 63 | | | | | | | | | | | | | | | | | | 30,360 | | | | | | | | | | 30,360 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Kaprunertal | 28 | | | | | | | | | | | | | | | | | | 133,120 | | | | | | | | | | 133,120 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Obersulzbachtal | 114 | | | | | | | | | | | | | | | | | | 29,080 | | | | | | | | | | 29,080 | (Lehar et al. 2004) |
| NP Hohe Tauern, Salzburg, Stubachtal | 25 | | | | | | | | | | | | | | | | | | 44,070 | | | | | | | | | | 44,070 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Debanttal | 42 | | | | | | | | | | | | | | | | | | 50,850 | | | | | | | | | | 50,850 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Defreggental | 148 | | | | | | | | | | | | | | | | | | 50,190 | | | | | | | | | | 50,190 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Kalsertal | 116 | | | | | | | | | | | | | | | | | | 91,170 | | | | | | | | | | 91,170 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Matrei Umgebung | 90 | | | | | | | | | | | | | | | | | | 25,200 | | | | | | | | | | 25,200 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Tauerntal | 60 | | | | | | | | | | | | | | | | | | 44,350 | | | | | | | | | | 44,350 | (Lehar et al. 2004) |
| NP Hohe Tauern, Tirol, Virgental | 127 | | | | | | | | | | | | | | | | | | 93,790 | | | | | | | | | | 93,790 | (Lehar et al. 2004) |
| NP HT Salzburg, Zillertaler Alpen, Wilde Gerlos | 131 | | | | | | | | | | | | | | | | | | 458,620 | | | | | | | | | | 458,620 | (Lehar et al. 2004) |
| NP HT, Salzburg, Rauris-Seidlwinkeltal | 126 | | | | | | | | | | | | | | | | | | 170,580 | | | | | | | | | | 170,580 | (Lehar et al. 2004) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Viena Ottakringer Forest | 2 | | | | | | | | | | | | | | | | | | 400,300 | | | | | | | | | | 400,300 | (Arnberger & Eder 2007) |
| Wienerberg | 0.53 | | | | | | | | | | | | | | | | | 1,240,000 | | | | | | | | | | | 1,240,000 | (Arnberger 2006) |
| **Belgium** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kempen Broek | 266 | | | | | | | | | | | | | | | | | | | | | | | | | | | 105,117 | 105,117 | (Gilissen & Van Den Bosch 2013) |
| Maas Valley River Park | 208 | | | | | | | | | | | | | | | | | | | | | | | | | | 30,538 | 32,898 | 31,718 | (Gilissen & Van Den Bosch 2013) |
| **Bulgaria** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Central Balkan National Park (CBNP) | 727 | | | | | | | | | | | | | | | | | | 15,000 | | | | | | | | | | 15,000 | (Taylor 2004) |
| **Croatia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paklenica National Park | 99 | | | | | | | | | | | | 40,000 | | | | 90,000 | | | | | | | | | | | | 65,000 | (Lukač 2002) |
| Plitvice Lakes National Park | 296 | | | | | | | | | | | | | | | | | | | | | | 900,000 | | | | 1,083,451 | | 991,726 | (Čulinović 2012; Pettenella 2008) |
| **Czech Republic** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Krkonoše Mountains NP | 550 | | | | | | | | 6,000,000 | | | | | | | 5,700,000 | | | | | | | | | | | | | 5,850,000 | (Stursa 2002; Stastna 2006) |
| Sumava National Park | 685 | | | | | | | | | | | | 1,200,000 | | | | | | | | | | | | | | | | 1,200,000 | (Trebicky & Cihar 2006) |
| Sumava National Park (core area) | 86 | | | | | | | | | | | | 406,582 | 425,780 | 403,997 | 395,967 | 406,858 | 301,101 | 454,370 | 445,567 | 428,687 | 438,797 | | | | | | | 410,771 | (Cihar et al. 2008) |
| **Denmark** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aggebo og Græsted Hegn | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 33,710 | 33,710 | (Mette 2011) |
| Avderod Sk. | 0.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | 4,295 | 4,295 | (Mette 2011) |
| Bistrup Hegn | 0.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | 6,878 | 6,878 | (Mette 2011) |
| Brødemose Sk. | 0.70 | | | | | | | | | | | | | | | | | | | | | | | | | | | 6,752 | 6,752 | (Mette 2011) |
| Brødeskov | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 20,600 | 20,600 | (Mette 2011) |
| Charlottenlund Sk. | 0.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | 956,625 | 956,625 | (Mette 2011) |
| Danstrup og Krogenberg Hegn | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | 145,879 | 145,879 | (Mette 2011) |
| Egebæks Vang | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 68,923 | 68,923 | (Mette 2011) |
| Folehave | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 584,622 | 584,622 | (Mette 2011) |
| Freerslev Hegn | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 40,194 | 40,194 | (Mette 2011) |
| Ganlose Eget, Krogelund og Klokkekilde | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 92,466 | 92,466 | (Mette 2011) |
| Ganlose Ore, Farum Lillevang m.v. | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | 246,745 | 246,745 | (Mette 2011) |
| Geelskov | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 344,168 | 344,168 | (Mette 2011) |
| Gribskov Stenholtvang | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | 656,897 | 656,897 | (Mette 2011) |
| Gronholt Hegn | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 88,809 | 88,809 | (Mette 2011) |
| Gronholt Vang m.v. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 46,985 | 46,985 | (Mette 2011) |
| Gronnæsse Sk. | 1.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | 10,417 | 10,417 | (Mette 2011) |

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| Gurrevang | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 101,153 | 101,153 | (Mette 2011) |
| Hareskovene, Jonstrup Vang og Bondernes Hegn | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | 1,115,033 | 1,115,033 | (Mette 2011) |
| Hobjerg Hegn | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 29,351 | 29,351 | (Mette 2011) |
| Hornbæk Pl. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 154,114 | 154,114 | (Mette 2011) |
| Horneby Sand | 0.77 | | | | | | | | | | | | | | | | | | | | | | | | | | 54,052 | 54,052 | (Mette 2011) |
| Jugersborg Dyrehave | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | 3,310,682 | 3,310,682 | (Mette 2011) |
| Jugersborg Hegn | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | 928,342 | 928,342 | (Mette 2011) |
| Klosterris og Horserod Hegn m.v. | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | 93,299 | 93,299 | (Mette 2011) |
| Knorrenborg Vang | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 7,481 | 7,481 | (Mette 2011) |
| Kohaven m.v. | 0.34 | | | | | | | | | | | | | | | | | | | | | | | | | | 20,958 | 20,958 | (Mette 2011) |
| Kongelunden | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | 566,053 | 566,053 | (Mette 2011) |
| Krogerup, Babylone og Hejre Sk. | 0.68 | | | | | | | | | | | | | | | | | | | | | | | | | | 63,314 | 63,314 | (Mette 2011) |
| Lave Sk. | 0.76 | | | | | | | | | | | | | | | | | | | | | | | | | | 109,693 | 109,693 | (Mette 2011) |
| Lyngby Skov | 0.66 | | | | | | | | | | | | | | | | | | | | | | | | | | 18,843 | 18,843 | (Mette 2011) |
| Lystrup Skov | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 69,096 | 69,096 | (Mette 2011) |
| Nejede Vesterskov | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 9,093 | 9,093 | (Mette 2011) |
| Norresk. | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 251,546 | 251,546 | (Mette 2011) |
| Nyrup Hegn | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 116,697 | 116,697 | (Mette 2011) |
| Ravnsholt Sonderskov | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | 109,120 | 109,120 | (Mette 2011) |
| Rude Skov | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | 598,398 | 598,398 | (Mette 2011) |
| Sjælso Lund | 0.82 | | | | | | | | | | | | | | | | | | | | | | | | | | 65,907 | 65,907 | (Mette 2011) |
| Slagslunde | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 129,908 | 129,908 | (Mette 2011) |
| Snevret Skov | 0.69 | | | | | | | | | | | | | | | | | | | | | | | | | | 4,392 | 4,392 | (Mette 2011) |
| Sollerod Kirkesk. og Rygsrd | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | 334,498 | 334,498 | (Mette 2011) |
| Sonnerup Sk. m.v. | 0.61 | | | | | | | | | | | | | | | | | | | | | | | | | | 12,680 | 12,680 | (Mette 2011) |
| St Dyrehave | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | 267,218 | 267,218 | (Mette 2011) |
| Stasevang | 0.72 | | | | | | | | | | | | | | | | | | | | | | | | | | 35,153 | 35,153 | (Mette 2011) |
| Teglstrup Hegn og Hellebæk Sk. | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | 256,270 | 256,270 | (Mette 2011) |
| Thy (northern beaches) | 2 | | | | | | | | | | | | | | | | | | 51,000 | | | | | | | | | 51,000 | (NIRAS 2005) |
| Thy (northern part, line between Stenbjerg Tvorup) | 132 | | | | | | | | | | | | | | | | | | 300,000 | | | | | | | | | 300,000 | (NIRAS 2005) |
| Thy National Park | 244 | | | | | | | | | | | | | | | | | | 777,000 | | | | | | | | | 777,000 | (NIRAS 2005) |
| Thy National Park (southern beaches) | 4 | | | | | | | | | | | | | | | | | | 175,000 | | | | | | | | | 175,000 | (NIRAS 2005) |
| Thy(southern part, line between Stenbjerg Tvorup) | 111 | | | | | | | | | | | | | | | | | | 300,000 | | | | | | | | | 300,000 | (NIRAS 2005) |

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| Tisvilde Hegn m.v. | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | 523,000 | 523,000 | (Mette 2011) |
| Tokkekob Hegn | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | 170,275 | 170,275 | (Mette 2011) |
| Trorod Hegn | 0.56 | | | | | | | | | | | | | | | | | | | | | | | | | | | 104,669 | 104,669 | (Mette 2011) |
| Uggellose Skov | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | 57,917 | 57,917 | (Mette 2011) |
| Ullerup Sk. | 0.95 | | | | | | | | | | | | | | | | | | | | | | | | | | | 8,915 | 8,915 | (Mette 2011) |
| Valby Hegn | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 37,814 | 37,814 | (Mette 2011) |
| Vestskoven Vest | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1,404,369 | 1,404,369 | (Mette 2011) |
| **Finland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bothnian Sea | 918 | | | | | | | | | | | | | | | | | | | | | | | | | | 67,000 | | 67,000 | (MNHS 2002-2011) |
| Evo | 91 | | | | | | | | | | | | | | | | | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 84,500 | 61,000 | | 54,550 | (MNHS 2002-2011) |
| Helvetinjärvi | 53 | | | | | | | | | | | | | | | | | 32,000 | 32,000 | 32,000 | 32,000 | 32,000 | 33,000 | 33,000 | 33,000 | 23,000 | 20,500 | | 30,250 | (MNHS 2002-2011) |
| Hiidenportti | 45 | | | | | | | | | | | | | | | | | 8,000 | 7,500 | 7,700 | 10,000 | 10,000 | 6,500 | 9,000 | 12,000 | 11,000 | 10,000 | | 9,170 | (MNHS 2002-2011) |
| Hossa | 91 | | | | | | | | | | | | | | | | | 44,500 | 42,000 | 42,000 | 48,100 | 49,000 | 53,000 | 53,000 | 54,500 | 48,000 | 52,200 | | 48,630 | (MNHS 2002-2011) |
| Isojaervi | 22 | | | | | | | | | | | | | | | | | 8,000 | 8,000 | 9,000 | 8,000 | 7,000 | 8,000 | 11,000 | 10,500 | 10,500 | 10,500 | | 9,050 | (MNHS 2002-2011) |
| Iso-Syoete | 11 | | | | | | | | | | | | | | | | | 20,000 | 22,000 | 24,000 | 25,000 | 23,500 | 23,000 | 25,500 | 25,000 | 22,000 | 19,500 | | 22,950 | (MNHS 2002-2011) |
| Itäinen Suomenlahti (Eastern Gulf of Finland) | 7 | | | | | | | | | | | | | | | | | 15,000 | 15,000 | 15,000 | 16,000 | 17,000 | 17,000 | 17,000 | 19,000 | 19,000 | 16,500 | | 16,650 | (MNHS 2002-2011) |
| Kauhaneva-Pohjankangas | 61 | | | | | | | | | | | | | | | | | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | 3,500 | 4,500 | 5,500 | 5,000 | | 5,450 | (MNHS 2002-2011) |
| Koli | 30 | | | | | | | | | | | | | | | | | | 120,000 | | | | | 110,000 | 127,500 | 138,500 | 134,500 | | 126,100 | (MNHS 2002-2011) |
| Kolovesi | 48 | | | | | | | | | | | | | | | | | 6,000 | 6,000 | 6,000 | 6,500 | 7,000 | 7,000 | 6,500 | 7,500 | 7,500 | 8,000 | | 6,800 | (MNHS 2002-2011) |
| Kurjenrahka | 31 | | | | | | | | | | | | | | | | 20,000 | | 20,000 | 20,000 | 25,000 | 25,000 | 32,500 | 31,500 | 28,500 | 26,500 | 25,500 | | 25,450 | (MNHS 2002-2011) |
| Kylmaeluoma | 73 | | | | | | | | | | | | | | | | | 35,000 | 34,000 | 34,000 | 35,000 | 35,000 | 37,000 | 31,000 | 28,500 | 25,500 | 26,000 | | 32,100 | (MNHS 2002-2011) |
| Lauhanvuori | 50 | | | | | | | | | | | | | | | | | 30,000 | 25,000 | 27,000 | 27,000 | 27,000 | 27,500 | 10,000 | 10,000 | 9,500 | 10,000 | | 20,300 | (MNHS 2002-2011) |
| Leivonmäki | 30 | | | | | | | | | | | | | | | | | | 4,500 | 7,000 | 10,000 | 11,000 | 12,000 | 14,500 | 12,500 | 12,500 | 15,000 | | 11,000 | (MNHS 2002-2011) |
| Lemmenjoki | 2,859 | | | | | | | | | | | | | | | | | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 15,000 | | 10,500 | (MNHS 2002-2011) |
| Liesjärvi | 21 | | | | | | | | | | | | | | | | 25,000 | | 15,000 | 16,000 | 25,000 | 25,000 | 22,000 | 29,500 | 30,500 | 31,000 | 22,000 | | 24,100 | (MNHS 2002-2011) |
| Linnansaari | 265 | | | | | | | | | | | | | | | | | 27,500 | 28,000 | 28,000 | 28,000 | 29,000 | 29,000 | 29,000 | 31,000 | 31,000 | 31,000 | | 29,150 | (MNHS 2002-2011) |
| Nuuksio | 56 | | | | | | | | | | | | | | | | 100,000 | | 100,000 | 100,000 | 110,000 | 142,000 | 170,000 | 175,500 | 179,500 | 178,000 | 197,000 | | 145,200 | (MNHS 2002-2011) |
| Oulanka | 294 | | | | | | | | | | | | | | | | | 162,000 | 165,000 | 173,000 | 173,500 | 183,500 | 185,500 | 163,000 | 165,500 | 169,000 | 171,500 | | 171,227 | (MNHS 2002-2011) |
| Oulujaervi | 15 | | | | | | | | | | | | | | | | | 27,000 | 27,000 | 25,500 | 25,000 | 25,000 | 24,000 | 25,000 | 21,000 | 24,000 | 38,500 | | 26,200 | (MNHS 2002-2011) |
| Päijänne | 16 | | | | | | | | | | | | | | | | | 8,000 | 8,000 | 10,000 | 12,000 | 12,000 | 12,000 | 14,500 | 15,000 | 13,500 | 14,000 | | 11,273 | (MNHS 2002-2011) |
| Pallas-Ounastunturi | 594 | | | | | | | | | | | | | | | | | 98,000 | 125,000 | 125,000 | | | | | | | | | 116,000 | (MNHS 2002-2011) |
| Pallas-Yllästunturi | 1,022 | | | | | | | | | | | | | | | | | | 217,000 | | 300,000 | 310,000 | 312,000 | 329,500 | 419,000 | 436,000 | 435,500 | | 344,875 | (MNHS 2002-2011) |
| Patvinsuo | 105 | | | | | | | | | | | | | | | | 15,000 | | 15,000 | 20,000 | 14,000 | 15,000 | 14,000 | 12,000 | 12,000 | 12,000 | 12,500 | | 14,150 | (MNHS 2002-2011) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Perämeri | 159 | | | | | | | | | | | | | | | | | 6,500 | 7,200 | 7,200 | 2,500 | 5,500 | 6,000 | 5,000 | 9,000 | 9,500 | 10,000 | | 6,840 | (MNHS 2002-2011) |
| Petkeljärvi | 7 | | | | | | | | | | | | | | | | 15,000 | | 17,000 | 17,000 | 17,500 | 18,500 | 23,000 | 20,000 | 19,500 | 20,500 | 19,000 | | 18,700 | (MNHS 2002-2011) |
| Puurijärvi-Isosuo | 27 | | | | | | | | | | | | | | | | 22,000 | | 15,000 | 15,000 | 17,000 | 12,500 | 10,000 | 11,000 | 11,500 | 7,000 | 8,500 | | 12,950 | (MNHS 2002-2011) |
| Pyhä-Häkki | 13 | | | | | | | | | | | | | | | | | 11,000 | 11,000 | 11,000 | 9,000 | 15,500 | 14,500 | 13,500 | 17,000 | 16,500 | 15,500 | | 13,450 | (MNHS 2002-2011) |
| Pyhä-Luosto (Holy Luosto) | 144 | | | | | | | | | | | | | | | | | | 95,000 | | 95,000 | 103,500 | 109,500 | 114,000 | 128,000 | 119,000 | 118,500 | | 110,313 | (MNHS 2002-2011) |
| Pyhätunturi | 43 | | | | | | | | | | | | | | | | | 35,000 | 25,000 | 25,000 | | | | | | | | | 28,333 | (MNHS 2002-2011) |
| Repovesi | 16 | | | | | | | | | | | | | | | | | | 65,000 | 65,000 | 65,000 | 69,000 | 70,000 | 75,500 | 74,500 | 76,500 | 78,500 | | 71,000 | (MNHS 2002-2011) |
| Riisitunturi | 76 | | | | | | | | | | | | | | | | | 6,000 | 7,000 | 7,000 | 7,000 | 7,000 | 8,000 | 8,000 | 15,000 | 23,500 | 22,000 | | 11,050 | (MNHS 2002-2011) |
| Rokua | 9 | | | | | | | | | | | | | | | | | 24,000 | 24,000 | 20,000 | 20,000 | 18,000 | 23,500 | 23,500 | 23,500 | 23,500 | 17,000 | | 21,700 | (MNHS 2002-2011) |
| Ruunaa | 31 | | | | | | | | | | | | | | | | | 110,000 | 118,000 | 115,000 | 117,000 | 94,000 | 82,500 | 87,500 | 89,000 | 88,000 | 84,000 | | 98,500 | (MNHS 2002-2011) |
| Saaristomeri (archipelago) | 495 | | | | | | | | | | | | | | | | | 40,000 | 80,000 | 80,000 | 60,000 | 60,000 | 60,000 | 51,000 | 53,500 | 59,000 | 56,000 | | 61,773 | (MNHS 2002-2011) |
| Salamajärvi | 62 | | | | | | | | | | | | | | | | | 7,000 | 7,000 | 9,000 | 10,000 | 12,000 | 11,000 | 9,000 | 10,500 | 12,500 | 13,000 | | 10,100 | (MNHS 2002-2011) |
| Seitseminen | 45 | | | | | | | | | | | | | | | | | 37,000 | 40,000 | 40,000 | 40,000 | 42,000 | 44,000 | 51,000 | 45,500 | 40,500 | 37,500 | | 41,750 | (MNHS 2002-2011) |
| Sipoonkorpi | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | 75,500 | | 75,500 | (MNHS 2002-2011) |
| Syöte | 300 | | | | | | | | | | | | | | | | 25,000 | | 24,000 | 34,000 | 33,500 | 33,000 | 36,000 | 34,500 | 40,000 | 31,000 | 33,500 | | 32,450 | (MNHS 2002-2011) |
| Tammisaaren saaristo (Ekenäs Archipelago) | 55 | | | | | | | | | | | | | | | | | 22,000 | 20,000 | 20,000 | 23,000 | 25,000 | 47,000 | 49,000 | 44,500 | 54,000 | 51,000 | | 35,550 | (MNHS 2002-2011) |
| Teijo | 35 | | | | | | | | | | | | | | | | 50,000 | | 60,000 | 60,000 | 60,000 | 60,000 | 80,500 | 75,000 | 75,000 | 72,000 | 74,500 | | 66,700 | (MNHS 2002-2011) |
| Tiilikkajärvi | 34 | | | | | | | | | | | | | | | | | 6,000 | 6,000 | 7,000 | 6,500 | 7,000 | 7,000 | 6,500 | 7,500 | 8,500 | 7,500 | | 6,950 | (MNHS 2002-2011) |
| Torronsuo | 30 | | | | | | | | | | | | | | | | 15,000 | | 20,000 | 20,000 | 20,000 | 20,000 | 27,000 | 22,500 | 20,500 | 17,000 | 17,000 | | 19,900 | (MNHS 2002-2011) |
| Urho Kekkosen kansallispuisto | 2,548 | | | | | | | | | | | | | | | | | 150,000 | 160,000 | 160,000 | 165,000 | 170,000 | 180,000 | 252,000 | 289,000 | 287,500 | 277,000 | | 209,050 | (MNHS 2002-2011) |
| Valkmusa | 17 | | | | | | | | | | | | | | | | 6,000 | | 5,000 | 5,000 | 6,000 | 6,500 | 6,200 | 7,000 | 7,000 | 8,500 | 8,500 | | 6,570 | (MNHS 2002-2011) |
| France | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Le troncon | 28 | | | | | | | | | | | | | | | | | | | 3,174,603 | | | | | | | | | 3,174,603 | (Chegrani 2007) |
| Lorraine forest | 8,954 | | | | | | | | | | | | 25,620,000 | | | | | | | | | | | | | | | | 25,620,000 | (Després 1998) |
| Mercantour, central zone | 680 | | | | | | | | | | | | | | | 800,000 | 427,226 | | | | | | | | | | | | 613,613 | (Wiederwald et al. 2000) |
| Parc national de la Vanoise, central zone | 534 | | | | | | | | | | | | | | | 400,000 | 366,000 | | | | | | | | | | | | 383,000 | (Wiederwald et al. 2000) |
| Parc nationale des Ecrins, central zone | 919 | | | | | | | | | | | | | | | 800,000 | 750,000 | | | | | | | | | | | | 775,000 | (Wiederwald et al. 2000) |
| Germany | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Altmuehltal | 2,966 | | | | | | | | | | | | | | | | | | | 910,000 | | | | | | | | | 910,000 | (Job et al. 2005) |
| Bayrischer Wald | 242 | | | | | | | | | | | | | | | | | | | | | | 760,000 | | | | | | 760,000 | (Job et al. 2010) |
| Beach of Büsum (Wadden Sea NP) | 0.09 | | | | | | | | | | | | | | | 500,000 | | | | | | | | | | | | | 500,000 | (Gätje et al. 2002) |
| Berchtesgaden NP | 214 | | | | | | | | | | | | | | | | | 1,129,538 | | | | | | | | | | | 1,300,000 | (Job et al. 2003) |
| Eifel | 109 | | | | | | | | | | | | | | | | | | | | | | 450,000 | | | | | | 450,000 | (Job et al. 2010) |

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| Hainich | 75 | | | | | | | | | | | | | | | | | | | | | 290,000 | | | | | | | 290,000 | Job et al. 2010) |
| Kellerwald-Edersee | 57 | | | | | | | | | | | | | | | | | | | | | 200,000 | | | | | | | 200,000 | Job et al. 2010) |
| Mueritz Nationalpark | 322 | | | | | | | | | | | | | | 475,000 | 635,000 | 495,000 | 536,500 | 584,500 | 660,000 | 528,000 | 520,000 | 478,000 | 502,000 | 517,000 | | | | 515,077 | (Job et al. 2005; LFGMV n.d.; NPA 2006- 2010) |
| Naturpark Hoher Flaeming | 827 | | | | | | | | | | | | | | | | | | | 300,000 | | | | | | | | | 300,000 | Job et al. 2010) |
| Niedersaechsisches Wattenmeer | 2,777 | | | | | | | | | | | | | | | | | | | | | 20,630,455 | | | | | | | 20,630,455 | Job et al. 2010) |
| Sächsische Schweiz NP | 94 | | | | | | | | | | | | | | | | | | | | | | | 1,712,000 | | | | | 1,712,000 | (Job & Stein 2010) |
| Schaalsee | 778 | | | | | | | | | | | | | | | | | | | | | 227,610 | | | | | | | 227,610 | (HP 2008) |
| Unteres Odertal | 106 | | | | | | | | | | | | | | | | | | | | | | 206,000 | | | | | | 206,000 | (Rein et al. 2008) |
| **Hungary** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aggtelek National Park (zone b,c) | 154 | | | | | | | | | | | | | | | | | | 200,000 | | | | | | | | | | 200,000 | (Benkhard 2004) |
| Balaton-felvidéki Nemzeti Park | 480 | | | | | | | | | | | | | | | | | | 2,000,000 | | | | | | | | | | 2,000,000 | (Benkhard 2004) |
| Bükk (Bukki) NP Zone C | 21 | | | | | | | | | | | | | | | | | | 1,350,000 | | | | | | | | | | 1,350,000 | (Benkhard 2004) |
| Duna-Dráva Nemzeti Park | 499 | | | | | | | | | | | | | | | | | | 130,000 | | | | | | | | | | 130,000 | (Benkhard 2004) |
| Duna-Ipoly National Park | 618 | | | | | | | | | | | | | | | | | | 1,500,000 | | | | | | | | | | 1,500,000 | (Benkhard 2004) |
| Ferto Hanság National Park (zone C) | 50 | | | | | | | | | | | | | | | | | | 300,000 | | | | | | | | | | 300,000 | (Benkhard 2004) |
| Hortobagy Nemzeti Park | 748 | | | | | | | | | | | | | | | | 200,000 | | | | | | | | | | | | 200,000 | (Karácsonyi et al. 2002) |
| Hortobagy Nemzeti Park no zoneA | 643 | | | | | | | | | | | | | | | | | | 200,000 | | | | | | | | | | 200,000 | (Benkhard 2004) |
| Kiskunsag Nemzeti Park | 502 | | | | | | | | | | | | | | | | | | 130,000 | | | | | | | | | | 130,000 | (Benkhard 2004) |
| Körös-Maros Nemzeti Park | 539 | | | | | | | | | | | | | | | | | | 80,000 | | | | | | | | | | 80,000 | (Benkhard 2004) |
| Orség Nemzeti Park (zone C) | 410 | | | | | | | | | | | | | | | | | | 20,000 | | | | | | | | | | 20,000 | (Benkhard 2004) |
| **Ireland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Killarney-Nationalpark | 103 | | | | | | | | 62,500 | 62,500 | 65,000 | 75,000 | 75,000 | 80,000 | 80,000 | | | | | | | | | | | | | | 71,429 | (Luddy n.d.) |
| River Roughty | 13 | | | | | | | | | | | | | | | | | | 7,075 | | | | | | | | | | 7,075 | (Hynes & Hanley 2006) |
| **Italy** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agner- Pale S | 141 | | | | | | | | | | | | | | | | 75,748 | | | | | | | | | | | | 75,748 | (Tempesta et al. 2002) |
| Antelao-Marmarole | 210 | | | | | | | | | | | | | | | | 163,150 | | | | | | | | | | | | 163,150 | (Tempesta et al. 2002) |
| Appennino Tosco-Emiliano | 263 | | | | | | | | | | | | | | | | | | | | 23,000 | 30,000 | | | | | | | 26,500 | (Sanesi et al. 2008) |
| Asiago - Monte Grappa | 803 | | | | | | | | | | | | | | | | 2,179,223 | | | | | | | | | | | | 2,179,223 | (Tempesta et al. 2002) |
| Baldo-Lessini | 566 | | | | | | | | | | | | | | | | 617,641 | | | | | | | | | | | | 617,641 | (Tempesta et al. 2002) |
| Bosco di Pianura | 0.05 | | | | | | | | | | | | | | | | | | | | | | | | 30,839 | | | | 30,839 | (Tempesta et al. 2002) |
| Bosconero | 48 | | | | | | | | | | | | | | | | 52,441 | | | | | | | | | | | | 52,441 | (Tempesta et al. 2002) |
| Canal del Ferro | 296 | | | | | | | | | | | | | | | | 131,165 | | | | | | | | | | | | 131,165 | (Tempesta et al. 2002) |

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| Cansiglio Alpago | 248 | | | | | | | | | | | | | | | | 355,435 | | | | | | | | | | | | 355,435 | (Tempesta et al. 2002) |
| Carnia | 1,190 | | | | | | | | | | | | | | | | 847,890 | | | | | | | | | | | | 847,890 | (Tempesta et al. 2002 |
| Carso | 373 | | | | | | | | | | | | | | | | 719,067 | | | | | | | | | | | | 719,067 | (Tempesta et al. 2002 |
| Castelfranco | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | 7,500 | | | | 7,500 | (Tempesta 2010) |
| Civetta Moiazza | 126 | | | | | | | | | | | | | | | | 355,435 | | | | | | | | | | | | | (Tempesta et al. 2002) |
| Colline Moreniche | 233 | | | | | | | | | | | | | | | | 74,952 | | | | | | | | | | | | | (Tempesta et al. 2002 |
| Collio Colli Orientali del F | 166 | | | | | | | | | | | | | | | | 163,957 | | | | | | | | | | | | | (Tempesta et al. 2002 |
| Dolomiti Bellunesi NP | 314 | | | | | | | | | | | | | | 285,000 | | | 120,000 | | | | | | | | | | | 202,500 | (Tempesta et al. 2002; Wiederwald et al. 2000) |
| Dolomiti Friulane | 392 | | | | | | | | | | | | | | | | 220,267 | | | | | | | | | | | | | (Wiederwald et al. 2000) |
| Duranno-Cima Preti | 117 | | | | | | | | | | | | | | | | 64,095 | | | | | | | | | | | | | (Tempesta et al. 2002 |
| Foce dell Isonzo | 25 | | | | | | | | | | | | | | 31,000 | | | | | | | | | | | | | | 31,000 | (Tempesta et al. 2002 |
| Foreste Casentinesi M. Falterona e C. (Emilia-R.) | 190 | | | | | | | | | | | | | | | | | | | | 30,134 | 22,919 | | | | | | | 26,527 | (Sanesi et al. 2008) |
| Foreste Casentinesi M. Falterona e C. (Tuscany) | 181 | | | | | | | | | | | | | | | | | | | | 55,683 | 45,060 | | | | | | | 50,372 | (Sanesi et al. 2008) |
| Gran Paradiso | 712 | | | | | | | | | | | | | 1,700,000 | | | | | | | | | | | | | | | 1,700,000 | (Wiederwald et al. 2000) |
| Griffon vulture project | 5 | | | | | | | | | | | | | | 8,000 | | | | | | | | | | | | | | 8,000 | (Tempesta et al. 2002 |
| Historical garden Villa Varda | 0.20 | | | | | | | | | | | | | | 69,500 | | | | | | | | | | | | | | 69,500 | (Tempesta et al. 2002 |
| Iris | 0.06 | | | | | | | | | | | | | | | | | | | | | | | | 109,100 | | | | 109,100 | Tempesta 2010) |
| Manin | 0.04 | | | | | | | | | | | | | | | | | | | | | | | | 43,800 | | | | 43,800 | Tempesta 2010) |
| Maremma | 93 | | | | | | | | | | | | | | | | | | | | 64,810 | 64,058 | | | | | | | 64,434 | (Sanesi et al. 2008) |
| Marmolada | 31 | | | | | | | | | | | | | | | | 308,820 | | | | | | | | | | | | 308,820 | (Tempesta et al. 2002 |
| Monti Sibillini | 697 | | | | | | | | | | | | | | | | | | 500,000 | | | | | | | | | | 500,000 | (Taylor 2004) |
| Natural Park of the Dolomiti | 103 | | | | | | | | | | | | | | 540,000 | | | | | | | | | | | | | | 540,000 | (Tempesta et al. 2002 |
| Naturpark Rieserferner - Ahrn | 216 | | | | | | | | | | | | | | | | | | 569,670 | | | | | | | | | | 569,670 | (Lehar et al. 2004) |
| Nuvolau-Averau-Croda da L | 98 | | | | | | | | | | | | | | | | 145,670 | | | | | | | | | | | | 145,670 | (Tempesta et al. 2002 |
| Oasi Mulino di Cervara | 0.27 | | | | | | | | | | | | | | | | | | | | | | | | | | 14,900 | | 14,900 | (Tempesta 2013) |
| P R Ampezzane Cortina | 168 | | | | | | | | | | | | | | 340,000 | | | | | | | | | | | | | | 340,000 | (Tempesta et al. 2002 |
| Parco Buzzacarini Monselice | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | 5,803 | | | | 5,803 | (Tempesta 2013) |
| Parco Nazionale d'Abruzzo, Lazio e Molise | 507 | | | | | | | | | | | | | | | | 5,368,202 | | | | | | | | | | | | 5,368,202 | (Taylor 2004) |
| Parco Scan Martino delle Vaneze | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | 2,814 | | | | 2,814 | (Tempesta 2013 |
| Pelmo | 130 | | | | | | | | | | | | | | | | 180,631 | | | | | | | | | | | | 180,631 | (Tempesta et al. 2002 |
| Piccole Dolomiti - Pasubio | 147 | | | | | | | | | | | | | | | | 891,500 | | | | | | | | | | | | 891,500 | (Tempesta et al. 2002 |
| Prealpi Carniche e P C Merid | 668 | | | | | | | | | | | | | | | | 374,758 | | | | | | | | | | | | 374,758 | (Tempesta et al. 2002 |

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| Prealpi Giulie | 345 | | | | | | | | | | | | | | | | 430,972 | | | | | | | | | | | | 430,972 | (Tempesta et al. 2002 |
| Prealpi Giulie Meridionali | 398 | | | | | | | | | | | | | | | | 765,912 | | | | | | | | | | | | 765,912 | (Tempesta et al. 2002 |
| Prealpi Venete | 360 | | | | | | | | | | | | | | | | 306,833 | | | | | | | | | | | | 306,833 | (Tempesta et al. 2002 |
| Quadris nature area | 0.21 | | | | | | | | | | | | | | 9,000 | | | | | | | | | | | | | | 9,000 | (Tempesta et al. 2002 |
| Sorapiss Cadini | 80 | | | | | | | | | | | | | | | | 46,614 | | | | | | | | | | | | 46,614 | (Tempesta et al. 2002 |
| Stilfser Joch (Stelvio) Lombardy | 595 | | | | | | | | | | | | | | | | 27,609 | | | | | | | | | | | | 27,609 | (Wiederwald et al. 2000) |
| Stilfser Joch (Stelvio) Trient | 177 | | | | | | | | | | | | | | | | 200,000 | | | | | | | | | | | | 200,000 | (Wiederwald et al. 2000) |
| Tofane Cristallo | 143 | | | | | | | | | | | | | | | | 279,686 | | | | | | | | | | | | 279,686 | (Tempesta et al. 2002 |
| Tre Cime-Croda dei Toni-Popera | 73 | | | | | | | | | | | | | | | | 297,167 | | | | | | | | | | | | 297,167 | (Tempesta et al. 2002 |
| Val Grande | 119 | | | | | | | | | | | | | | | | 15,000 | | | | | | | | | | | | 15,000 | Wiederwald et al. 2000) |
| Valcanale | 428 | | | | | | | | | | | | | | | | 2,140,805 | | | | | | | | | | | | 2,140,805 | (Tempesta et al. 2002 |
| Valle Canal Novo2 | 0.57 | | | | | | | | | | | | | | 12,850 | | | | | | | | | | | | | | 12,850 | (Tempesta et al. 2002 |
| Vette Feltrine- Monte del Sole | 542 | | | | | | | | | | | | | | | | | | | | | | | | | | | | (Tempesta et al. 2002 | (Tempesta et al. 2002 |
| Vincheto Celarda | 1 | | | | | | | | | | | | | | 8,000 | | | | | | | | | | | | | | 8,000 | (Tempesta et al. 2002 |
| Waterfall of Molina | 2 | | | | | | | | | | | | | | 34,000 | | | | | | | | | | | | | | 34,000 | (Tempesta et al. 2002 |
| **Latvia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Razna NP | 596 | | | | | | | | | | | | | | | | | | | | | 42,000 | 62,000 | 63,000 | | | | | 55,667 | (Muskare 2012) |
| **Netherlands** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alkmaarder en Uitgeestermeer | 16 | | | | | | | | | | | | | | | | | | | | 643,725 | 534,868 | 527,677 | 525,022 | 450,433 | | | | 536,345 | (Goossen et al. 2011) |
| Amstelland De Hoge Dijk Gaasperzoom | 0.74 | | | | | | | | | | | | | | | | | | | | | 140,429 | 128,931 | 122,032 | 120,325 | | | | 127,929 | Goossen et al. 2011) |
| Amstelland Elsenhove | 0.25 | | | | | | | | | | | | | | | | | | | | | 257,490 | 270,527 | 257,661 | 258,887 | | | | 261,141 | Goossen et al. 2011) |
| Amstelland Ouderkerkerplas | 1 | | | | | | | | | | | | | | | | | | | | | 533,694 | 464,549 | 456,749 | 459,653 | | | | 478,661 | Goossen et al. 2011) |
| Bijland | 3 | | | | | | | | | | | | | | | | | | | | 55,000 | 80,000 | 30,000 | 40,000 | 45,000 | | | | 50,000 | Goossen et al. 2011) |
| Bosjes van Poot | 0.28 | | | | | | | | | | | | | | | | | | | | | | 439,000 | | | | | | 439,000 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 1 | 0.08 | | | | | | | | | | | | | | | | | | | | | | 375,606 | | | | | | 375,606 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 2 | 0.02 | | | | | | | | | | | | | | | | | | | | | | 226,632 | | | | | | 226,632 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 3 | 0.01 | | | | | | | | | | | | | | | | | | | | | | 215,538 | | | | | | 215,538 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 4 | 0.02 | | | | | | | | | | | | | | | | | | | | | | 294,780 | | | | | | 294,780 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 5 | 0.06 | | | | | | | | | | | | | | | | | | | | | | 218,708 | | | | | | 218,708 | (Jaarsma & Kooij 2010) |
| Bosjes van Poot 6 | 0.08 | | | | | | | | | | | | | | | | | | | | | | 358,173 | | | | | | 358,173 | (Jaarsma & Kooij 2010) |
| De Wieden wetland | 52 | | | | | | | | | | | | | | | | | | 172,456 | | | | | | | | | | 172,456 | (Hein et al. 2006) |
| Dobbeplas | 0.64 | | | | | | | | | | | | | | | | | | | | | | | 1,400,000 | | | | | 1,400,000 | Goossen et al. 2011) |
| Drentsche Aa National Landscape | 106 | | | | | | | | | | | | | | | | | 1,000,000 | | | | | | | | | | | 1,000,000 | Goossen et al. 2011) |

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| Dwingelderveld National Park | 38 | | | | | | | | | | | | | | | | | | | | | | | | 1,800,000 | | | | 1,800,000 | (Ligtenberg et al. 2008) |
| Eiland van Maurik Maurik | 3 | | | | | | | | | | | | | | | | | | | | 165,000 | 250,000 | 110,000 | 100,000 | 185,000 | | | | 162,000 | Goossen et al. 2011) |
| Gaasperzoom Gaasperplas | 2 | | | | | | | | | | | | | | | | | | | | | 1,740,775 | 1,703,817 | 2,131,410 | 2,231,874 | | | | 1,951,969 | Goossen et al. 2011) |
| Gaasperzoom Overdiemen | 0.20 | | | | | | | | | | | | | | | | | | | | | | 51,434 | 53,851 | 44,290 | | | | 49,858 | Goossen et al. 2011) |
| Geestmerambacht | 2 | | | | | | | | | | | | | | | | | | | | 894,879 | 847,388 | 725,864 | 735,995 | 768,713 | | | | 794,568 | Goossen et al. 2011) |
| Ginkelse Heide Ede | 8 | | | | | | | | | | | | | | | | | | | | | | | 30,000 | 33,000 | | | | 31,500 | Goossen et al. 2011) |
| Greater Veluwe area | 988 | | | | | | | | | | | | | | | | | 29,700,000 | | | | | | | | | | | 29,700,000 | (Nunes et al. 2005) |
| Het Boomkroonpad | 0.01 | | | | | | | | | | | | | | | | | | | | 91,000 | 103,000 | 114,000 | 104,000 | 116,500 | | | | 105,700 | Goossen et al. 2011) |
| Het Hulsbeek | 3 | | | | | | | | | | | | | | | | | | | | 386,000 | 276,900 | 226,000 | 234,400 | 395,147 | | | | 303,689 | Goossen et al. 2011) |
| Het Nulde | 0.22 | | | | | | | | | | | | | | | | | | | | 371,000 | 435,000 | 302,500 | 424,000 | 518,000 | | | | 410,100 | Goossen et al. 2011) |
| Het Rutbeek | 1 | | | | | | | | | | | | | | | | | | | | 259,000 | 236,800 | 190,000 | 229,600 | 234,814 | | | | 230,043 | Goossen et al. 2011) |
| Het Twiske | 6 | | | | | | | | | | | | | | | | | | | | 1,550,911 | 1,389,352 | 1,307,968 | 1,096,732 | 1,117,487 | | | | 1,292,490 | Goossen et al. 2011) |
| Het Zandenbos | 3 | | | | | | | | | | | | | | | | | | | | 130,000 | 118,000 | 125,000 | 125,000 | 130,000 | | | | 125,600 | Goossen et al. 2011) |
| Hoge Veluwe National Park | 51 | | | | | | | | | | | | | | | | | 564,000 | 680,000 | 547,000 | 525,000 | 527,205 | 527,394 | 501,055 | 518,580 | | | | 537,651 | (GOBT 2007-2010) |
| Kievitsveld | 0.81 | | | | | | | | | | | | | | | | | | | | | | | 99,000 | 110,000 | | | | 104,500 | (GOBT 2010) |
| Kievitsveld Emst | 0.40 | | | | | | | | | | | | | | | | | | | | | | | 99,000 | 110,000 | | | | 104,500 | (GOBT 2010) |
| Landgoed Fraeylemaborg | 0.28 | | | | | | | | | | | | | | | | | | | | 88,429 | 92,552 | 75,784 | 76,037 | 82,527 | | | | 83,066 | Goossen et al. 2011) |
| Lingebos | 0.89 | | | | | | | | | | | | | | | | | | | | 95,000 | 80,000 | 92,000 | 50,000 | 16,500 | | | | 66,700 | Goossen et al. 2011) |
| Meijendel | 1 | | | | | | | | | | | | | | | | | | | | 913,000 | 839,000 | 875,000 | 859,704 | | | | | 871,676 | Goossen et al. 2011) |
| Mookerplas Plasmolen | 2 | | | | | | | | | | | | | | | | | | | | 223,000 | 295,000 | 165,000 | 244,750 | 253,500 | | | | 236,250 | (GOBT 2010) |
| Park van Luna | 3 | | | | | | | | | | | | | | | | | | | | | | 338,335 | 319,229 | 278,805 | | | | 312,123 | Goossen et al. 2011) |
| Recreatiegebied Hilgelo W | 0.74 | | | | | | | | | | | | | | | | | | | | 135,000 | 175,000 | 80,000 | 110,000 | 125,000 | | | | 125,000 | (GOBT 2010) |
| Recreatiegebied Beldert Z | 0.78 | | | | | | | | | | | | | | | | | | | | 205,000 | 290,000 | 120,000 | 110,000 | 150,000 | | | | 175,000 | (GOBT 2010) |
| Recreatiegebied Berendonck | 2 | | | | | | | | | | | | | | | | | | | | 270,000 | 375,000 | 209,000 | 270,000 | 293,250 | | | | 283,450 | (GOBT 2010) |
| Recreatiegebied Bussloo V | 3 | | | | | | | | | | | | | | | | | | | | 885,000 | 1,028,000 | 759,000 | 1,045,000 | 1,172,000 | | | | 977,800 | (GOBT 2010) |
| Recreatiegebied Heerderstr | 0.67 | | | | | | | | | | | | | | | | | | | | 221,000 | 230,000 | 115,500 | 181,450 | 183,500 | | | | 186,290 | (GOBT 2010) |
| Recreatiegebied Rhederlaag | 7 | | | | | | | | | | | | | | | | | | | | 352,000 | 466,000 | 220,000 | 371,900 | 432,750 | | | | 368,530 | (GOBT 2010) |
| Recreatiegebied Zeumeren | 0.72 | | | | | | | | | | | | | | | | | | | | 230,000 | 325,000 | 187,000 | 317,800 | 405,250 | | | | 293,010 | (GOBT 2010) |
| Recreatieschap West-Friesland | 3 | | | | | | | | | | | | | | | | | | | | | | 215,150 | | | | | | 215,150 | Goossen et al. 2011) |
| Rijkerswoerdse Plassen Elst | 0.79 | | | | | | | | | | | | | | | | | | | | 190,000 | 220,000 | 100,000 | 105,000 | 155,000 | | | | 154,000 | (GOBT 2010) |
| Stichting Recreatie Nienoord | 0.70 | | | | | | | | | | | | | | | | | | | | 292,000 | 296,000 | 306,000 | 304,000 | 295,000 | | | | 298,600 | Goossen et al. 2011) |
| Strandpark Slijk Ewijk | 0.94 | | | | | | | | | | | | | | | | | | | | 210,000 | 255,000 | 115,000 | 115,000 | 150,000 | | | | 169,000 | (GOBT 2010) |
| National Park | 64 | | | | | | | | | | | | | | | | | | | | | | | | 970,000 | | | | 970,000 | Goossen et al. 2011) |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Veluwezoom National Park | 50 | | | | | | | | | | | | | | | | | | | | 2,000,000 | 2,010,000 | 2,025,000 | 2,035,000 | 2,040,000 | | | | 2,022,000 | (GOBT 2010) |
| Zuid-Kennemerland National Park | 36 | | | | | | | | | | | | | | | | | | | | | | | 2,000,000 | | | | | 2,000,000 | Goossen et al. 2011) |
| **Norway** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dovrefjell Sunndalsfjella management area | 1,596 | | | | | | | | | | | | | | | | | | | | | | | | 30,000 | | | | 30,000 | (Gundersen & Andersen 2010) |
| **Poland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Babiog¢rski | 34 | | | | | | | | | | | | | | | | | | | | | | | | | | 75,000 | | 75,000 | (Skarbek 2012) |
| Bialowieza (Bialowieski) National Park | 104 | | | | | | | | | | | | | | | | 100,000 | | | | | | | | | | 133,800 | | 116,900 | (Kun 2002; Skarbek 2012) |
| Biebrzanski | 597 | | | | | | | | | | | | | | | | | | | | | | | | | | 27,200 | | 27,200 | (Skarbek 2012) |
| Bieszczady NP (Bieszczadzki) | 292 | | | | | | | | | | | | | | | | | | | | | | | | | | 290,000 | | 290,000 | (Skarbek 2012) |
| Bory Tucholskie Park Narodowy | 46 | | | | | | | | | | | | | | | | | | | | | | | | | | 60,000 | | 60,000 | (Skarbek 2012) |
| Drawienski Park Narodowy | 113 | | | | | | | | | | | | | | | | | | | | | | | | | | 48,000 | | 48,000 | (Skarbek 2012) |
| G¢r Stolowych Park Narodowy | 67 | | | | | | | | | | | | | | | | | | | | | | | | | | 335,000 | | 335,000 | (Skarbek 2012) |
| Gorczanski Park Narodowy | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | 65,000 | | 65,000 | (Skarbek 2012) |
| Kampinoski Park Narodowy | 377 | | | | | | | | | | | | | | | | | | | | | | | | | | 1,000,000 | | 1,000,000 | (Skarbek 2012) |
| Karkonoski Park Narodowy | 56 | | | | | | | | 2,500,000 | | | | | | | | | | | | | | | | | | 2,250,000 | | 2,250,000 | (Skarbek 2012; Stursa 2002) |
| Magurski Park Narodowy | 197 | | | | | | | | | | | | | | | | | | | | | | | | | | 45,000 | | 45,000 | (Skarbek 2012) |
| Narwianski Park Narodowy | 68 | | | | | | | | | | | | | | | | | | | | | | | | | | 10,000 | | 10,000 | (Skarbek 2012) |
| Ojcowski Park Narodowy | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | 400,000 | | 400,000 | (Skarbek 2012) |
| Pieninski Park Narodowy | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | 710,000 | | 710,000 | (Skarbek 2012) |
| Poleski Park Narodowy | 98 | | | | | | | | | | | | | | | | | | | | | | | | | | 23,700 | | 23,700 | (Skarbek 2012) |
| Roztoczanski Park Narodowy | 83 | | | | | | | | | | | | | | | | | | | | | | | | | | 100,000 | | 100,000 | (Skarbek 2012) |
| Slowinski Park Narodowy | 215 | | | | | | | | | | | | | | | | | | | | | | | | | | 317,100 | | 317,100 | (Skarbek 2012) |
| Swietokrzyski Park Narodowy | 78 | | | | | | | | | | | | | | | | | | | | | | | | | | 193,400 | | 193,400 | (Skarbek 2012) |
| Tatra NP (Polish part, mountains only, Tatry) | 176 | | | | | | | | | | | | | | | | | | | 1,900,000 | | | | | | | | | 1,900,000 | (Blazejczyk 2002) |
| Tatry NP (Polish part, Tatra, Tatrzanski) | 212 | | | | | | | | | | 2,500,000 | | | | | | | | | | | | | | | | | | 2,500,000 | (Taczanowska 2004) |
| Ujscie Warty Park Narodowy | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | 20,000 | | 20,000 | (Skarbek 2012) |
| Wielkopolski Park Narodowy | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | 1,200,000 | | 1,200,000 | (Skarbek 2012) |
| Wigierski Park Narodowy | 151 | | | | | | | | | | | | | | | | | | | | | | | | | | 110,000 | | 110,000 | (Skarbek 2012) |
| Wolinski Park Narodowy | 108 | | | | | | | | | | | | | | | | | | | | | | | | | | 1,500,000 | | 1,500,000 | (Skarbek 2012) |
| **Slovakia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tatra National Parks (Slovak part) | 743 | | | | | | | | | | | | | | | | | | 4,000,000 | | | | | | | | | | 4,000,000 | (Taczanowska 2004) |
| Tatra National Parks (Slovak part, mountains only) | 561 | | | | | | | | | | | | | | | | | | 900,000 | | | | | | | | | | 900,000 | Taczanowska 2004) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Slovenia** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Triglav | 838 | | | | | | | | | | | | | | 2,000,000 | | | | | | | | | | | | | 2,000,000 | (Wiederwald et al. 2000) |
| **Spain** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aigüestortes i Estany de Sant Maurici | 139 | | | | | | | | | | | 333,734 | 345,545 | 349,021 | 369,223 | 382,264 | 410,427 | 362,822 | 356,411 | 341,759 | 337,484 | 355,633 | 322,555 | 304,606 | 329,227 | 294,547 | | | 346,351 | (INE 2012) |
| Archipiélago de Cabrera | 100 | | | | | | 21,891 | 28,729 | 35,934 | 32,226 | 45,000 | 39,265 | 43,215 | 52,796 | 47,302 | 44,983 | 64,078 | 66,302 | 66,535 | 73,540 | 71,987 | 74,532 | 76,541 | 60,804 | 60,662 | 64,688 | | | 53,551 | (INE 2012) |
| Caballeros | 409 | | | | | | | | | 6,400 | | 22,984 | 30,145 | 51,000 | 52,921 | 59,015 | 51,822 | 63,277 | 63,739 | 70,782 | 66,935 | 73,926 | 72,688 | 78,767 | 90,001 | 92,578 | | | 59,186 | (INE 2012) |
| Caldera de Taburiente | 44 | | | | 100,000 | 120,000 | 142,167 | 157,520 | 324,705 | 212,179 | 200,000 | 250,000 | 210,141 | 265,961 | 288,032 | 347,619 | 377,726 | 375,753 | 395,264 | 367,938 | 380,399 | 371,558 | 389,024 | 408,088 | 337,649 | 387,805 | | | 291,342 | (INE 2012) |
| Doñana | 554 | | | | 250,000 | 250,000 | 225,818 | 249,526 | 269,331 | 202,954 | 250,000 | 366,287 | 417,287 | 385,393 | 384,276 | 385,563 | 394,401 | 407,693 | 361,984 | 391,536 | 381,964 | 376,287 | 384,638 | 350,005 | 380,155 | 341,961 | | | 336,685 | (INE 2012) |
| Garajonay | 38 | | | | 125,000 | 150,000 | 245,386 | 221,581 | 300,000 | 450,000 | 500,000 | 450,000 | 550,000 | 525,000 | 569,000 | 615,000 | 520,000 | 507,000 | 641,754 | 859,860 | 854,824 | 842,467 | 884,858 | 860,000 | 625,801 | 610,254 | | | 541,263 | (INE 2012) |
| Islas Atlánticas de Galicia | 11 | | | | | | | | | | | | | | | | | | 171,999 | 182,394 | 213,897 | 220,240 | 238,939 | 254,000 | 274,716 | 292,374 | | | 231,070 | (INE 2012) |
| Monfragüe | 184 | | | | | | | | | | | | | | | | | | | | | | 351,885 | 331,788 | 306,041 | 297,976 | | | 321,923 | (INE 2012) |
| Ordesa y Monte Perdido | 157 | | | | 450,000 | 500,000 | 585,000 | 600,000 | 650,000 | 650,000 | 702,700 | 624,503 | 601,500 | 603,004 | 624,263 | 635,876 | 657,045 | 622,014 | 619,700 | 582,800 | 598,950 | 616,700 | 617,950 | 616,600 | 617,500 | 614,059 | | | 608,644 | (INE 2012) |
| Picos de Europa | 641 | | | | 700,000 | 800,000 | 860,234 | 836,511 | 950,825 | 941,080 | 1,100,000 | 1,676,392 | 1,535,376 | 1,451,697 | 1,619,588 | 1,869,063 | 1,669,973 | 1,596,825 | 1,990,255 | 2,221,761 | 1,939,803 | 1,863,847 | 1,774,955 | 1,712,668 | 1,818,671 | 1,610,341 | | | 1,479,085 | (INE 2012) |
| Sierra Nevada | 863 | | | | | | | | | | | | | | 250,000 | 275,000 | 292,128 | 302,520 | 315,000 | 558,489 | 645,738 | 728,137 | 737,183 | 684,573 | 673,302 | 667,319 | | | 510,782 | (INE 2012) |
| Tablas de Daimiel | 19 | | | | 101,602 | 96,183 | 94,916 | 82,690 | 73,952 | 83,746 | 60,190 | 130,774 | 285,371 | 146,652 | 112,195 | 115,503 | 109,753 | 100,099 | 107,437 | 128,640 | 123,413 | 100,666 | 122,955 | 94,687 | 105,957 | 398,742 | | | 126,187 | (INE 2012) |
| Teide | 190 | | | | 1,000,000 | 1,100,000 | 2,227,000 | 2,250,000 | 2,250,000 | 2,434,152 | 2,500,000 | 3,000,000 | 3,237,000 | 3,554,782 | 3,868,839 | 3,722,913 | 3,589,164 | 3,488,622 | 3,364,873 | 3,540,195 | 3,349,204 | 3,567,701 | 3,142,418 | 2,866,057 | 3,052,830 | 2,407,480 | | | 2,886,965 | (INE 2012) |
| Timanfaya | 52 | | | | 800,000 | 700,000 | 1,000,000 | 1,200,000 | 1,300,000 | 1,757,513 | 1,450,000 | 1,575,135 | 1,606,638 | 1,691,347 | 1,742,087 | 1,800,000 | 1,866,000 | 1,768,566 | 1,841,431 | 1,815,186 | 1,778,882 | 1,787,776 | 1,748,149 | 1,600,175 | 1,371,349 | 1,434,705 | | | 1,528,861 | (INE 2012) |
| **Sweden** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Abisko | 77 | | | | | | | | | | | | | | | | | | | | | | | | | | | 50,000 | 50,000 | (Nasstrom 2012) |
| Ängsö | 0.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | 8,000 | 8,000 | (Nasstrom 2012) |
| Blå Jungfrun | 0.70 | | | | | | | | | | | | | | | | | | | | | | 3,215 | 4,010 | 4,180 | 3 440 | 2,684 | 3,400 | 3,400 | (Nasstrom 2012) |
| Dalby söderskog | 0.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | 100,000 | 100,000 | (Nasstrom 2012) |
| Djurö | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | 2,000 | 2,000 | (Nasstrom 2012) |
| Färnebofjärden | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | 48,000 | 48,000 | (Nasstrom 2012) |
| Fulufjället National Park | 408 | | | | | | | | | | | | | | | | 38,000 | 53,000 | 35,000 | | | | | | | | | 50,000 | 44,000 | (Nasstrom 2012; Taylor 2004; Fredman et al. 2007) |
| Garphyttan | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | 30,000 | 30,000 | (Nasstrom 2012) |
| Gotska Sandön | 45 | | | | | | | | | | | | | | | | | | | | | | 4,404 | 4,490 | 5,279 | 4,813 | 4,461 | 4,469 | 4,469 | (Nasstrom 2012) |
| Hamra | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | 11,000 | 11,000 | (Nasstrom 2012) |
| Haparanda Skärgård | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | 5,000 | 5,000 | (Nasstrom 2012) |
| Kosterhavet | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | 500,000 | 500,000 | (Nasstrom 2012) |
| Muddus | 511 | | | | | | | | | | | | | | | | | | | | | | | | | | | 5,000 | 5,000 | (Nasstrom 2012) |
| Pieljekaise | 155 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1,000 | 1,000 | (Nasstrom 2012) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sarek | 1,986 | | | | | | | | | | | | | | | | | | | | | | | | | | 5,000 | 5,000 | (Nasstrom 2012) |
| Skuleskogen | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | 36,000 | 36,000 | (Nasstrom 2012) |
| Söderåsen | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | 300,000 | 300,000 | (Nasstrom 2012) |
| Sonfjallet | 104 | | | | | | | | | | | | | | | | | | | | | | | | | | 10,000 | 10,000 | (Nasstrom 2012) |
| Stenshuvud | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | 500,000 | 500,000 | (Nasstrom 2012) |
| Stora Sjöfallet | 1,280 | | | | | | | | | | | | | | | | | | | | | | | | | | 10,000 | 10,000 | (Nasstrom 2012) |
| Store Mosse | 76 | | | | | | | | | | | | | | | | | | | | | | | | | | 100,000 | 100,000 | (Nasstrom 2012) |
| Tiveden | 14 | | | | | | | | | | | | | | | | | | | | | | | 120,340 | 116,750 | 125,268 | 120,886 | 120,800 | 120,800 | (Nasstrom 2012) |
| Töfsingdalen | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | 200 | 200 | (Nasstrom 2012) |
| Tresticklan | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | 4,000 | 4,000 | (Nasstrom 2012) |
| Tyresta | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | 320,000 | 320,000 | (Nasstrom 2012) |
| Vadvetjåkka | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | 500 | 500 | (Nasstrom 2012) |
| Valadalen, a natural reserve | 1,217 | 38,000 | | | | | | | | | | | | | | | | | | | | | | | | | | 38,000 | (Bojö & Hultkrantz 1985) |
| **Switzerland** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Parc naziunal Svizzer | 165 | | | | | | 250,000 | | 150,000 | | | | | | | | | | | | 110,000 | | | | | | | | 165,000 | (Wiederwald et al. 2000; Rupf-Haller et al. 2006; Lozza 1996) |
| **UK** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aberbeg | 3 | | | | | | | | | | | | | | | | | | | 3,000 | | | | | | | | | 3,000 | (TNS & FCW 2005) |
| Aberdulais Falls | 0.05 | | | | | | | | | | | | | | | | | | | | | | | | 20,267 | 25,705 | 25,962 | | 23,978 | (BR 2008) |
| Aberglasney Gardens | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | 44,625 | | 32,683 | | 38,654 | (BR 2008) |
| Achany | 8 | | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | 4,000 | (TNS & FCS 2006b) |
| Achduchil | 4 | | | | | | | | | | | | | | | | | | | | | 23,322 | | | | | | | 23,322 | (TNS & FCS 2008) |
| Alwen/Clocaenog | 55 | | | | | | | | | | | | | | | | | | | 59,000 | | | | | | | | | 59,000 | (TNS & FCW 2005) |
| Ardmore | 6 | | | | | | | | | | | | | | | | | | | | 19,000 | | | | | | | | 19,000 | (TNS & FCS 2006b) |
| Aros Park | 2 | | | | | | | | | | | | | | | | | | | | 20,000 | | | | | | | | 20,000 | (TNS & FCS 2006b) |
| Avon Forest Park in Dorset | 1 | | | | | 41,600 | | | | | | | | | | | | | | | | | | | | | | | 41,600 | (Hanley & Spash 1993) |
| Balcardine East | 7 | | | | | | | | | | | | | | | | | | | | 18,000 | | | | | | | | 18,000 | (TNS & FCS 2006b) |
| Balchers | 0.82 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCS 2006b) |
| Ballater | 2 | | | | | | | | | | | | | | | | | | | | | 3,148 | | | | | | | 3,148 | (TNS & FCS 2008) |
| Banchory | 11 | | | | | | | | | | | | | | | | | | | | | 57,807 | | | | | | | 57,807 | (TNS & FCS 2008) |
| Barrhill | 0.16 | | | | | | | | | | | | | | | | | | | 35,000 | | | | | | | | | 35,000 | (TNS & FCS 2006a) |
| Beddgelert | 8 | | | | | | | | | | | | | | | | | | | 37,000 | | | | | | | | | 37,000 | (TNS & FCW 2005) |
| Bennachie | 23 | | | | | | | | | | | | | | | | | | | 224,000 | | | | | | | | | 224,000 | (TNS & FCS 2006a) |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bentley Community Woodland | 0.93 | | | | | | | | | | | | | | | | | | | | | | 395,373 | | 989,160 | | | | 692,266 | (Morris & Doick 2009a) |
| Birches Valley Forest Centre | 4 | | | | | | | | | | | | | | | | | | | | | | 14,893,208 | | 14,244,270 | | | | 14,568,739 | (Morris & Doick 2010) |
| Bodnant Garden | 0.05 | | | | | | | | | | | | | | | | | | | | | | | 149,036 | 190,913 | 170,929 | | | 170,293 | (BR 2012) |
| Braehour | 16 | | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | 500 | (TNS & FCS 2006b) |
| Braelangwell | 2 | | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | 500 | (TNS & FCS 2006b) |
| Brechfa | 56 | | | | | | | | | | | | | | | | | | | 23,000 | | | | | | | | | 23,000 | (TNS & FCW 2005) |
| BRECON BEACONS NATIONAL PARK | 1,347 | | | | | | | | | | | | | | | | | | | | 4,789,000 | 4,836,000 | 4,963,000 | 5,246,000 | 5,021,300 | 4,955,300 | | | 4,968,433 | (STEAM 2010) |
| Breidden | 3 | | | | | | | | | | | | | | | | | | | 50,000 | | | | | | | | | 50,000 | (TNS & FCW 2005) |
| Brickfield Pond | 0.06 | | | | | | | | | | | | | | | | | | | | | | | | | | 80,000 | | 80,000 | (BR 2012 |
| Brownmoor | 1 | | | | | | | | | | | | | | | | | | | | | 1,740 | | | | | | | 1,740 | (TNS & FCS 2008) |
| Bwlch Nant yr Arian | 8 | | | | | | | | | | | | | | | | | | | 45,000 | | | | | | | | | 45,000 | (TNS & FCW 2005) |
| Caerphilly Woods | 2 | | | | | | | | | | | | | | | | | | | 9,000 | | | | | | | | | 9,000 | (TNS & FCW 2005) |
| CAIRNGORMS NATIONAL PARK | 3,816 | | | | | | | | | | | | | | | | | | 1,419,650 | 1,408,280 | | | | 3,053,000 | | | | | 1,960,310 | (STEAM 2009) |
| Callendar Crags | 2 | | | | | | | | | | | | | | | | | | | | | 47,353 | | | | | | | 47,353 | (TNS & FCS 2006b) |
| Callop | 7 | | | | | | | | | | | | | | | | | | | 15,000 | | | | | | | | | 15,000 | (TNS & FCS 2006a) |
| Carradale Walks | 9 | | | | | | | | | | | | | | | | | | | 10,000 | | | | | | | | | 10,000 | (TNS & FCS 2006a) |
| Carrick | 38 | | | | | | | | | | | | | | | | | | | 27,000 | | | | | | | | | 27,000 | (TNS & FCS 2006a) |
| Carrick Forest Drive | 87 | | | | | | | | | | | | | | | | | | | 58,000 | | | | | | | | | 58,000 | (TNS & FCS 2006a) |
| Castlemaddy Dundeugh | 25 | | | | | | | | | | | | | | | | | | | 10,000 | | | | | | | | | 10,000 | (TNS & FCS 2006a) |
| Chepstow Park | 10 | | | | | | | | | | | | | | | | | | | 40,000 | | | | | | | | | 40,000 | (TNS & FCW 2005) |
| Clashindarroch | 57 | | | | | | | | | | | | | | | | | | | 14,000 | | | | | | | | | 14,000 | (TNS & FCS 2006a) |
| Coed Creigiau | 5 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCW 2005) |
| Coed Taf | 15 | | | | | | | | | | | | | | | | | | | 200,000 | | | | | | | | | 200,000 | (TNS & FCW 2005) |
| Colby Woodland Garden | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | 28,377 | 33,785 | 33,885 | | 32,016 | (BR 2012) |
| Cologin | 3 | | | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | 2,000 | (TNS & FCS 2006b) |
| Conwy Nature Reserve | 0.36 | | | | | | | | | | | | | | | | | | | | | | | | 96,193 | 89,876 | 88,996 | | 91,688 | (BR 2012) |
| Corsemalzie | 5 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCS 2006a) |
| Corwen | 7 | | | | | | | | | | | | | | | | | | | 6,000 | | | | | | | | | 6,000 | (TNS & FCW 2005) |
| Cosmeston Lakes Country Park | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210,000 | 245,000 | 230,000 | | 228,333 | (BR 2012) |
| Cosmeston Medieval Village | 0.02 | | | | | | | | | | | | | | | | | | | | | | | | 18,980 | 17,828 | 10,357 | | 15,722 | (BR 2012) |
| Craig Fawr | 2 | | | | | | | | | | | | | | | | | | | 3,000 | | | | | | | | | 3,000 | (TNS & FCW 2005) |
| Craig Phadraig | 0.91 | | | | | | | | | | | | | | | | | | | | | 26,513 | | | | | | | 26,513 | (TNS & FCS 2006b) |
| Criffel | 2 | | | | | | | | | | | | | | | | | | | | | 3,932 | | | | | | | 3,932 | (TNS & FCS 2006b) |

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| Culloden Muir | 4 | | | | | | | | | | | | | | | | | | | | | 23,619 | | | | | | | 23,619 | (TNS & FCS 2006b) |
| Culloden Wood | 1 | | | | | | | | | | | | | | | | | | | | | 4,092 | | | | | | | 4,092 | (TNS & FCS 2006b) |
| Cwm Idwal in the Snowdonia National Park | 0.83 | | | | | | | | | | | | | | | | | 77,190 | | | | | | | | | | | 77,190 | (Christie et al. n.d.) |
| Cwm Giedd | 3 | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | | | 2,000 | (TNS & FCW 2005) |
| Cwmcarn | 17 | | | | | | | | | | | | | | | | | | | 95,000 | | | | | | | | | 95,000 | (TNS & FCW 2005 |
| DARTMOOR NATIONAL PARK | 955 | | | | | | | | | | | | | | | | 3,800,000 | | | | | | | 3,013,000 | | | | | 3,406,500 | (STEAM 2009) |
| Delgaty | 2 | | | | | | | | | | | | | | | | | | | 18,000 | | | | | | | | | 18,000 | (TNS & FCS 2006a) |
| Devils Bridge Waterfalls | 0.01 | | | | | | | | | | | | | | | | | | | | | | | | 39,155 | 37,773 | 35,124 | | 37,351 | (BR 2012) |
| Dinas Mawddwy | 5 | | | | | | | | | | | | | | | | | | | 17,000 | | | | | | | | | 17,000 | (TNS & FCW 2005 |
| Dingle Local Nature Reserve | 0.11 | | | | | | | | | | | | | | | | | | | | | | | | | 54,950 | 51,238 | | 53,094 | (BR 2012) |
| Dorset Heathland | 91 | | | | | | | | | | | | | | | | | | | | 5,000,000 | | | | | | | | 5,000,000 | (Liley et al. 2006) |
| Dunbennan | 1 | | | | | | | | | | | | | | | | | | | 5,000 | | | | | | | | | 5,000 | (TNS & FCS 2006a) |
| Dunnyduff | 0.37 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCS 2006a) |
| Duror | 18 | | | | | | | | | | | | | | | | | | | | 9,000 | | | | | | | | 9,000 | (TNS & FCS 2006b) |
| Durris | 17 | | | | | | | | | | | | | | | | | | | | | 18,366 | | | | | | | 18,366 | (TNS & FCS 2008) |
| Dyffryn Gardens | 0.21 | | | | | | | | | | | | | | | | | | | | | | | | 49,398 | 56,753 | 36,032 | | 47,394 | (BR 2012) |
| EXMOOR NATIONAL PARK | 690 | | | | | | | | | | | | | | | | | | | 1,970,000 | 2,000,000 | 2,130,000 | 2,080,000 | 1,990,800 | | | | | 2,032,467 | (ENPA 2009) |
| Flat Holm | 0.26 | | | | | | | | | | | | | | | | | | | | | | | | | | 1,835 | | 1,835 | (BR 2012) |
| Garlty | 13 | | | | | | | | | | | | | | | | | | | 21,000 | | | | | | | | | 21,000 | (TNS & FCS 2006a) |
| Garw | 10 | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | | | 2,000 | (TNS & FCW 2005) |
| Gelli Aur Country Park | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | 130,284 | 148,029 | | 139,157 | (BR 2012) |
| Gelliwion/Gellieion | 2 | | | | | | | | | | | | | | | | | | | 67,000 | | | | | | | | | 67,000 | (TNS & FCW 2005) |
| Glansevern Hall Gardens | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | 3,487 | | 4,344 | | 3,916 | (BR 2012) |
| Glen Creran | 27 | | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | 1,000 | (TNS & FCS 2006b) |
| Glen Lochy South | 3 | | | | | | | | | | | | | | | | | | | | 20,000 | | | | | | | | 20,000 | (TNS & FCS 2006b) |
| Glen Loy | 9 | | | | | | | | | | | | | | | | | | | 26,000 | | | | | | | | | 26,000 | (TNS & FCS 2006a) |
| Glenmore Forest Park | 26 | | | | | | | | | | | | | | | | | | | | | | 68,380 | | | | | | 68,380 | (Hill & Courtney 2006) |
| Glentress | 11 | | | | | | | | | | | | | | | | | | | 385,000 | 190,000 | 55,372 | | | | | | | 210,124 | (Hill & Courtney 2006; Christie et al. n.d.; TNS & FCS n.d.) |
| Gnoll Estate | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | 170,051 | | 163,195 | | 166,623 | (BR 2012) |
| Golitcarg Rumster | 14 | | | | | | | | | | | | | | | | | | | | 3,000 | | | | | | | | 3,000 | (TNS & FCS 2006b) |
| Gunns Wood | 0.69 | | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | | 2,000 | (TNS & FCS 2006b) |
| Gwern Ddu Cefn Mabli | 4 | | | | | | | | | | | | | | | | | | | 17,000 | | | | | | | | | 17,000 | (TNS & FCW 2005) |

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| Gwydyr North Central | 28 | | | | | | | | | | | | | | | | | | | 27,000 | | | | | | | | | 27,000 | (TNS & FCW 2005) |
| Gwydyr South | 32 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCW 2005) |
| Hafren | 35 | | | | | | | | | | | | | | | | | | | 19,000 | | | | | | | | | 19,000 | (TNS & FCW 2005) |
| Harriets | 3 | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | 500 | (TNS & FCS 2006b) |
| Heathall | 1 | | | | | | | | | | | | | | | | | | | | | 17,993 | | | | | | | 17,993 | (TNS & FCS 2008) |
| Hensol | 3 | | | | | | | | | | | | | | | | | | | 14,000 | | | | | | | | | 14,000 | (TNS & FCW 2005) |
| Ingrebourne Hill Community Woodland | 0.47 | | | | | | | | | | | | | | | | | | | | | | | 1,792,226 | | 2,394,675 | | | 2,093,451 | (Morris & Doick 2009b) |
| Inverarden and Benmore | 14 | | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | 4,000 | (TNS & FCS 2006b) |
| Inverawe | 4 | | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | 1,000 | (TNS & FCS 2006b) |
| Inverliever Collaig | 3 | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | | 1,000 | (TNS & FCS 2006a) |
| Kilmichael | 89 | | | | | | | | | | | | | | | | | | | 43,000 | | | | | | | | | 43,000 | (TNS & FCS 2006a) |
| Kilsture | 2 | | | | | | | | | | | | | | | | | | | 20,000 | | | | | | | | | 20,000 | (TNS & FCS 2006a) |
| Kirkhill | 5 | | | | | | | | | | | | | | | | | | | | | 86,123 | | | | | | | 86,123 | (TNS & FCS 2008) |
| Knapdale Crinan | 66 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (Hill & Courtney 2006) |
| Knockbain | 1 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCS 2006a) |
| Ladyurd | 3 | | | | | | | | | | | | | | | | | | | 13,000 | | | | | | | | | 13,000 | (TNS & FCS 2006a) |
| Laiken | 2 | | | | | | | | | | | | | | | | | | | | | 2,098 | | | | | | | 2,098 | (TNS & FCS 2008) |
| LAKE DISTRICT NATIONAL PARK | 2,284 | | | | | | | | | 12,000,000 | | | | | | | 22,000,000 | | | | | 23,100,000 | | | | | | | 19,033,333 | (STEAM 2009; Taylor 2004) |
| Lamington Lamington CCF | 9 | | | | | | | | | | | | | | | | | | | | | 12,000 | | | | | | | 12,000 | (TNS & FCS 2006b) |
| Leanachan | 29 | | | | | | | | | | | | | | | | | | | 143,000 | | | | | | | | | 143,000 | (TNS & FCS 2006a) |
| Learnie | 3 | | | | | | | | | | | | | | | | | | | | | 15,981 | | | | | | | 15,981 | (TNS & FCS 2008) |
| Lethem | 42 | | | | | | | | | | | | | | | | | | | 3,000 | | | | | | | | | 3,000 | (TNS & FCS 2006a) |
| Littleburn Cloutie Well | 2 | | | | | | | | | | | | | | | | | | | | | 10,958 | | | | | | | 10,958 | (TNS & FCS 2008) |
| Littlemill | 1 | | | | | | | | | | | | | | | | | | | | | 3,501 | | | | | | | 3,501 | (TNS & FCS 2008) |
| Llangwyfan | 0.42 | | | | | | | | | | | | | | | | | | | 46,000 | | | | | | | | | 46,000 | (TNS & FCW 2005) |
| LOCH LOMOND & THE TROSSACHS NATIONAL PARK | 1,863 | | | | | | | | | | | | | | | | | | | | | | | | | 7,000,000 | | | | (MC et al. 2011) |
| Loch Sunart East | 2 | | | | | | | | | | | | | | | | | | | 17,000 | | | | | | | | | 17,000 | (TNS & FCS 2006a) |
| Loch Sunart West | 5 | | | | | | | | | | | | | | | | | | | 7,000 | | | | | | | | | 7,000 | (TNS & FCS 2006a) |
| Lochaline | 22 | | | | | | | | | | | | | | | | | | | | 9,000 | | | | | | | | 9,000 | (TNS & FCS 2006b) |
| Lossie | 8 | | | | | | | | | | | | | | | | | | | | 10,000 | | | | | | | | 10,000 | (TNS & FCS 2006b) |
| Lundy Island | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | 17,000 | | 17,000 | (Chae et al. 2012) |
| Lussa Forest | 81 | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | | 1,000 | (TNS & FCS 2006a) |
| Lynford Stag | 5 | | | | | | | | | | | | 42,010 | | | | | | | | | | | | | | | | 42,010 | (Bateman et al. 1998) |

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| Mabie | 11 | | | | | | | | | | | | | | | | | 199,267 | | | | 123,793 | | | | | | | 161,530 | (TNS & FCS 2008; Bateman et al. 1998) |
| Meadshaw | 44 | | | | | | | | | | | | | | | | | | | 8,000 | | | | | | | | | 8,000 | (TNS & FCS 2006a) |
| Mill Wood | 1 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCW 2005) |
| Moel Famau | 6 | | | | | | | | | | | | | | | | | | | 134,000 | 32,695 | | | | | | 140,000 | | 102,232 | (Hill & Courtney 2006) |
| Monaughty | 3 | | | | | | | | | | | | | | | | | | | | 36,000 | | | | | | | | 36,000 | (TNS & FCS 2006b) |
| Morangie | 16 | | | | | | | | | | | | | | | | | | | | 19,000 | | | | | | | | 19,000 | (TNS & FCS 2006b) |
| Mynydd Dinas | 1 | | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | | 2,000 | (TNS & FCW 2005) |
| Mynydd Du | 11 | | | | | | | | | | | | | | | | | | | | 21,000 | | | | | | | | 21,000 | (TNS & FCW 2005) |
| Nercwys | 1 | | | | | | | | | | | | | | | | | | | | 50,000 | | | | | | | | 50,000 | (TNS & FCW 2005) |
| NEW FOREST NATIONAL PARK | 568 | | | | | | | 7,000,000 | | | | | | | | | | | | 13,345,400 | | 7,150,000 | | | | | 3,000,000 | | 11,193,636 | (Gallagher et al. 2007; Sharp et al. 2008; STEAM 2009) |
| Newborough | 10 | | | | | | | | | | | | | | | | | | | 296,000 | | | | | | | | | 296,000 | (Hill & Courtney 2006) |
| Newcastleton | 28 | | | | | | | | | | | | | | | | | | | 26,000 | | | | | | | | | 26,000 | (TNS & FCS 2006a) |
| NORFOLK AND SUFFOLK BROADS | 305 | | | | | | | | | | | | | | | | 5,400,000 | | | | | | | 11,300,000 | | | | | 8,350,000 | (STEAM 2009; Sharp et al. 2008) |
| NORTH YORKSHIRE MOORS NATIONAL PARK | 1,435 | | | | | | | | | | | | | | | | 8,000,000 | | | | | | | 10,700,000 | | | | | 9,350,000 | (STEAM 2009; Sharp et al. 2008) |
| NORTHUMBERLAND NATIONAL PARK | 1,054 | | | | | | | | | | | | | | | | 1,500,000 | | | | | | | 1,700,000 | | | | | 1,600,000 | (STEAM 2009; Sharp et al. 2008) |
| Ordiequish | 7 | | | | | | | | | | | | | | | | | | | | 8,000 | | | | | | | | 8,000 | (TNS & FCS 2006b) |
| PEAK DISTRICT NATIONAL PARK | 1,435 | | | | | | | | | | | | | | | | 19,000,000 | | | | | | | 10,389,000 | | | | | 14,694,500 | (STEAM 2009; Sharp et al. 2008) |
| Pembrey | 10 | | | | | | | | | | | | | | | | | | | 25,000 | | | | | | | | | 25,000 | (TNS & FCW 2005) |
| PEMBROKESHIRE COAST NATIONAL PARK | 610 | | | | | | | | | | | | | | | | | | | | | | | 12,868,000 | | | | | 12,868,000 | (STEAM 2009) |
| Queen Elizabeth Forest Park | 173 | | 94,359 | | | | | | | | | | | | | | | | | | 50,383 | | | | | | | | 79,700 | (Hanley 1989) |
| Queen Elizabeth Forest Park Forest Drive | 4 | | 6,978 | | | | | | | | | | | | | | | | | | | | | | | | | | 6,978 | Hanley 1989) |
| Quinish | 7 | | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | 1,000 | (TNS & FCS 2006b) |
| Radnor | 13 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCW 2005) |
| Rascarrel | 2 | | | | | | | | | | | | | | | | | | | | | 26,393 | | | | | | | 26,393 | (TNS & FCS 2008) |
| Rivox | 31 | | | | | | | | | | | | | | | | | | | | | 1,318 | | | | | | | 1,318 | (TNS & FCS 2008) |
| Rogart | 3 | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | 500 | (TNS & FCS 2006b) |
| Rosal | 32 | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | 500 | (TNS & FCS 2006b) |
| Roseisle | 0.07 | | | | | | | | | | | | | | | | | | | | 35,000 | | | | | | | | 35,000 | (TNS & FCS 2006b) |
| Rothiemurchus | 26 | | | | | | | | | | | | | | | | | | | | 250,000 | | | | | | | | 250,000 | (Christie et al. n.d.) |
| Scootmore | 5 | | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | 500 | (TNS & FCS 2006b) |

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| Shankend | 43 | | | | | | | | | | | | | | | | | | | 6,000 | | | | | | | | | 6,000 | (TNS & FCS 2006a) |
| Shira Achnatra | 29 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCS 2006a) |
| Sillyearn | 3 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCS 2006a) |
| Skelbo | 1 | | | | | | | | | | | | | | | | | | | | 11,000 | | | | | | | | 11,000 | (TNS & FCS 2006b) |
| Skipwith Common | 3 | | | 15,264 | | | | | | | | | | | | | | | | | | | | | | | | | 15,264 | (Willis & Benson 1988) |
| SNOWDONIA NATIONAL PARK | 2,143 | | | | | | | | | | | | | | | | | | | | | | | 10,390,000 | | | | | 10,390,000 | (STEAM 2009) |
| Soflen Soiflen | 2 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCW 2005) |
| South Downs | 1,653 | | | | | | | | | | | | | | | | | | 39,000,000 | | | | | | | | | | 39,000,000 | (STEAM 2009) |
| South Laggan | 17 | | | | | | | | | | | | | | | | | | | 18,000 | | | | | | | | | 18,000 | (TNS & FCS 2006a) |
| St Pierre Coppice Barnets | 3 | | | | | | | | | | | | | | | | | | | 42,000 | | | | | | | | | 42,000 | (TNS & FCW 2005) |
| Strathconon | 5 | | | | | | | | | | | | | | | | | | | | | 1,786 | | | | | | | 1,786 | (TNS & FCS 2008) |
| Strome | 16 | | | | | | | | | | | | | | | | | | | | | 258 | | | | | | | 258 | (TNS & FCS 2008) |
| Swinnie | 2 | | | | | | | | | | | | | | | | | | | 5,000 | | | | | | | | | 5,000 | (TNS & FCS 2006a) |
| Tarenig Myherin | 23 | | | | | | | | | | | | | | | | | | | 4,000 | | | | | | | | | 4,000 | (TNS & FCW 2005) |
| Teindland | 2 | | | | | | | | | | | | | | | | | | | | 3,000 | | | | | | | | 3,000 | (TNS & FCS 2006b) |
| Theford | 120 | | | | | 168,997 | | | | | | | | | | | | | | | | | | | | | | | 168,997 | (Jones et al. 2003) |
| Thornielee | 1 | | | | | | | | | | | | | | | | | | | 24,000 | | | | | | | | | 24,000 | (TNS & FCS 2006a) |
| Torinturk | 15 | | | | | | | | | | | | | | | | | | | 2,000 | | | | | | | | | 2,000 | (TNS & FCS 2006a) |
| Torrs Warren | 2 | | | | | | | | | | | | | | | | | | | 37,000 | | | | | | | | | 37,000 | (TNS & FCS 2006a) |
| Trecastle | 3 | | | | | | | | | | | | | | | | | | | 7,000 | | | | | | | | | 7,000 | (TNS & FCW 2005) |
| Trecwn | 3 | | | | | | | | | | | | | | | | | | | 500 | | | | | | | | | 500 | (TNS & FCW 2005) |
| Upper Teesdale | 145 | 9,094 | | | | | | | | | | | | | | | | | | | | | | | | | | | 9,094 | (Willis & Benson 1988) |
| Woodend Ord Hill | 2 | | | | | | | | | | | | | | | | | | | | | 25,917 | | | | | | | 25,917 | (TNS & FCS 2008) |
| YORKSHIRE DALES NATIONAL PARK | 1,768 | | | | | | | | | | | | | | | | 9,000,000 | | | | | | | 12,600,000 | | | | | 10,800,000 | (STEAM 2009) |
| Yr Allt Battle Hill | 1 | | | | | | | | | | | | | | | | | | | 1,000 | | | | | | | | | 1,000 | (TNS & FCS 2008) |
| Ystwyth | 9 | | | | | | | | | | | | | | | | | | | 5,000 | | | | | | | | | 5,000 | (TNS & FCW 2005) |