UNESCO Biosphere Reserves in Sweden:
Ideal concept for development or inefficient decorative label?

Annette Krause
List of contents

1 INTRODUCTION ........................................................................................................... 6
2 THEORETICAL BACKGROUND ...................................................................................... 9
  2.1 The evolution of development ................................................................................. 9
  2.2 Economic growth and its influences ..................................................................... 10
  2.3 Regional and local development .......................................................................... 11
  2.4 Tourism as agent for development ...................................................................... 12
     2.4.1 Social and cultural impacts .......................................................................... 12
     2.4.2 Environmental impacts .............................................................................. 12
     2.4.3 Economic impacts ...................................................................................... 14
  2.5 Sustainable Tourism as a Tool for Sustainable Development ......................... 16
  2.6 Development of Protected Areas ....................................................................... 17
3 IMPACTS OF PROTECTED AREAS .............................................................................. 18
4 UNESCO BIOSPHERE RESERVES ............................................................................. 20
  4.1 Evolution of the Concept .................................................................................... 20
  4.2 Area Setting in Sweden ...................................................................................... 21
     4.2.1 Vänerskärgården med Kinnekulle ............................................................... 22
     4.2.2 Älvlandskapet Nedre Dalälven ................................................................. 22
     4.2.3 Blekinge Arkipelag .................................................................................... 22
     4.2.4 Östra Vätterbranterna .............................................................................. 22
     4.2.5 Kristianstads Vattenrike ........................................................................... 23
5 METHODOLOGY ............................................................................................................ 23
  5.1 Data ....................................................................................................................... 24
  5.2 Variables ............................................................................................................... 24
  5.3 Stakeholder survey .............................................................................................. 25
  5.4 Limitations ............................................................................................................ 26
6 RESULTS ....................................................................................................................... 27
  6.1 Effects on general development ......................................................................... 27
  6.2 Effects on tourism development .......................................................................... 28
  6.3 Stakeholder perceptions in the Kristianstad municipality .................................. 31
7 DISCUSSION ................................................................................................................. 33
8 CONCLUSION ................................................................................................................ 35
9 REFERENCES ................................................................................................................. 36
10 APPENDIX .................................................................................................................... 44
List of figures

Figure 1: Location of the Swedish Biosphere Reserves .......................................................... 21
Figure 2: Sample population and questionnaire response, own elaboration ...................... 25
Figure 3: Development of visitor origin ................................................................................... 29

List of tables

Table 1: Selected indicators of development .............................................................................. 27
Table 2: Development of the number of average commercial guest nights .............................. 28
Table 3: Regression output 1 (all municipalities included) ......................................................... 30
Table 4: Regression output 2 (biggest municipalities excluded) ................................................ 31
Table 5: Tourist attractions in the Kristianstad municipality ...................................................... 31
Table 6: Impacts on tourism attraction ...................................................................................... 32
Table 7: Impacts on economic development .............................................................................. 32
Table 8: Stakeholder perceptions .............................................................................................. 32
Abstract

UNESCO’s Biosphere Reserve model reflects a shift from segregating towards more integrating area protection. This is attempted to be achieved through combining environmental protection with sustainable development, acknowledging hereby also human interests. The model is conceptually appealing and gaining popularity, which is indicated by the growing number of reserves worldwide. However, to successfully implement the desired goals in practice is challenging and substantial evidence of the concept’s effects is scarce. The aim of this thesis is, therefore, to investigate on the basis of the Swedish Biosphere Reserves what actual effects they have on local development, with a special focus on tourism. This was accomplished through analysis of general development indicators and a negative binomial regression to investigate the effect of Biosphere Reserves on the number of guest nights in the municipalities. In addition, to determine if stakeholder perceptions and the obtained results coincide, a survey amongst stakeholders in the lodging sector of Kristianstad has been carried out.

The results suggest that being a municipality with a Biosphere Reserve may have no effect on general development regarding the chosen key variables and no effect on tourism development in terms of guest nights. Regarding stakeholder perceptions in Kristianstad, the Biosphere Reserve did not seem to be perceived as such an important asset, rather the single tourist attractions located in the Biosphere Reserve area were of interest. Overall, the standpoint that Biosphere Reserves are an ideal concept for sustainable development has been challenged in regard to the studied aspects and an objective view in the future on the matter is advised.

Keywords: UNESCO Biosphere Reserves, protected areas, socio-economic development, tourism, sustainable development, panel data
Acknowledgments

First, I would like to thank my supervisor Roger Marjavaara for his valuable and constructive feedback during this thesis project. Furthermore, advice given by Dominik Elsner has been a great help in handling the data analysis software. Lastly, I am very thankful for my family and friends who have supported me throughout my studies here in Umeå.
1 INTRODUCTION

In the past, development has mainly been looked at from an economic perspective. After some time, a sole focus on economic development showed to be insufficient and more aspects of the human perspective have been taken into account by adding e.g. quality of life to development goals. However, only since the term “Sustainable Development” has first appeared in the 1980 World Conservation Strategy (IUCN et al., 1980) there have been debates on the nexus of human and economic development and environmental factors (Hopwood et al., 2005). One widely recognized definition of Sustainable Development has been put forward by the Our Common Future report by the World Commission on Environment and Development, namely that development should meet “the needs of the present without compromising the ability of future generations to meet their own needs” (1987, p. 43).

However, sustainable development is not without ambiguity and has been criticised inter alia for its weak theoretical background (Wackernagel & Rees, 1996). This is also one of the reasons for the concept being used by many actors and being interpreted differently many times which led some to argue that it has become meaningless (Workshop on Urban Sustainability, 2000). Others see it rather as a strength that the concept seems reasonable to everyone and possesses interpretative flexibility (Kemp & Martens, 2007; Pearce et al., 1989).

Although the only statement widely agreed upon is that there does not exist a universal interpretation that fits all, the concept has gained worldwide acknowledgment (Giddings et al., 2002; Hopwood et al., 2005). Therefore, the baseline of sustainable development has been acknowledged around the world, which consists of environmental protection, societal, and economic growth that can be combined goals. To achieve those goals, a variety of tactics has been established. The creation of protected areas is one of them. Tourism can be seen a bridge to link the environment with development (Newsome et al., 2002). Especially new concepts such as Biosphere Reserves or Regional Parks aim to transform protected areas into ‘living landscapes’ where conservation and development coexist. Tourism is one arena where it can be experimented how the integration can be advanced in practice (Mose, 2007).

This knowledge is needed, as tourism is one of the world’s largest economic sectors and an important economic activity or sector in most countries (Turner & Freiermuth, 2017). It is thus no surprise that sustainable development has also been increasingly incorporated into tourism. Though, this is an approach focussed on a single sector, which is somehow contradicting the more comprehensive idea of sustainable development (Wall, 1996). This implies that sustainable tourism does not automatically have to be the same as tourism that is developed based on sustainable development principles (Butler, 1999). Also, it can be argued if it is even possible to be sustainable for such a big industry. Currently, there is no decrease in tourism in sight. According to the latest UNWTO (2018) World Tourism Barometer, international tourist arrivals grew by 7% in 2017 and a growth rate of 4%-5% is expected for 2018.
One of the key trends visible over time is the increase of natural area tourism, from around 2% of all tourism at the end of the 1980s to around 20% in 2009 (Buckley, 2009). These rising figures can both lead to beneficial or detrimental impacts, which are also the two main lines of thought most taken up by researchers. Often the impacts of tourism on the environment are perceived as negative, for instance, due to resulting pollution, overdevelopment or wildlife disturbance (Hvenegaard, 1994; Wall, 1994). On the other hand, also symbiotic relationships have been acknowledged, such as tourism being able to provide conservation together with economic validation (Phillips, 1985) and being beneficial for regional development (Pearce, 1985). However, this may seem paradoxical, as, on the one hand, nature protection is a focus, but on the other hand, natural areas are increasingly developed in order to use and “consume” them. This paradox is reflected in the development of area protection over time, where a paradigm shift has been observed. In comparison to earlier conservation approaches that are often restricting human involvement (e.g. National Parks), new approaches aspire the integration of conservation while at the same time being a tool for sustainable development (Mose & Weixlbaumer, 2007).

This desired change from being segregating to being integrating is especially well demonstrated by the UNESCO Biosphere Reserve (hereafter BR) concept (Hammer et al., 2003; Mose & Weixlbaumer, 2007). It aims to achieve three main functions: Conservation (protecting cultural diversity and biodiversity, including genetic variation, species, ecosystems and landscapes and securing services provided by such diversity), development (fostering economic and human development that is environmentally and socially sustainable and culturally appropriate), and logistic support (facilitating demonstration projects, environmental education and sustainable development education and training, research, and monitoring) (UNESCO, 2018). The combination of many directions of development and integration of local actors makes the concept seem like an ideal way of achieving sustainability goals.

The literature mostly reflects this positive impression (Coetzer et al., 2013; Etienne, 2007; Ishwaran et al., 2008; Kraus et al., 2014). Not only opportunities but also challenges and negative influences on a BR’s success are extensively discussed from various angles, such as the perception of local stakeholders (Stoll-Kleemann et al., 2010; Wallner et al., 2007; Xu et al., 2006), governance (Cormier-Salem, 2014; Pütz & Job, 2016), community participation (Cuong et al., 2017; Stoll-Kleemann et al., 2010) or specific economic perspectives (Knaus et al., 2017; Kraus et al., 2014). However, the high expectations BRs are confronted with are rarely being met in all regards (Coetzer et al., 2013; McShane et al., 2011). Mose (2007) states that although in some countries there can be observed positive advances, in others none at all or very little change in regard to their goals has been identified. The over-inflated expectations rather endanger the concept and lead to a loss of acceptance (Hammer et al., 2003).

What previous studies have in common are their largely narrative case-study approaches. Substantial evidence of BR’s effects on their location is missing, instead, mostly qualitative evaluations are performed. More fundamental evaluations are thus needed (Ferraro & Pattanayak, 2007). It is difficult to acknowledge the BRs as “learning laboratories” (Ishwaran et
al., 2008) if no actual impacts have been investigated which the research community could learn from. Also from the societal perspective, those shortcomings are visible. One core strategy of all Swedish BRs is, for instance, the development of sustainable tourism (Axelsson et al., 2011; Hedin, 2013; Heinrup, 2016; Lindström, 2012; Magnusson et al., 2010) but it is not clear if efforts have been successful in terms of visitor attraction. Even in BRs that are not even designated yet, tourism is emphasized as one of the most important parts of the strategy and hopes for it to positively influence employment in its sparsely populated areas are high (Nilsson et al., 2018).

The Swedish perspective is thus especially interesting because of the heterogeneity of area protection that is present today. On the one hand, there are prestigious national parks such as Sarek, which is located in a sparsely populated part of Sweden and contains no tourist amenities. On the other hand, more and more different approaches take place, such as the before mentioned BRs which actively cater to visitors and aim to be accessible as a part of their strategy. Tourism is also used specifically as an argument to establish new BRs (Nilsson et al., 2018). This makes the approach an interesting study object.

In general, according to stakeholder perceptions, recreation and tourism are seen as important opportunities as this was connected to an improved economic and employment situation (Hernes & Metzger, 2017). In the Swedish public debate, a similarly positive picture is presented in the local newspapers. For example, the BRs are accentuated as a source for new income possibilities and a cynosure for both tourists and researchers (Lidköpingsnytt, 2017; Linhard, 2017; Pilhem, 2015). Evidence if this is the case, however, has rarely been given.

The aim of this thesis is, therefore, to determine the effects of the creation of Biosphere Reserves on local development, focussing especially on tourism. The following research questions will be answered:

1. What are the general effects of the Swedish BR’s designations on their respective municipalities?

2. What are the effects of the BR designation on tourism development in the respective municipalities?

3. Is there a gap between the results and the perception of tourism stakeholders?

This thesis is separated into eight chapters. After the introduction, chapter two introduces important theory as a background. There, the departure point is the discussion of the development concept which inter alia led to the development of protected areas. The role of tourism and its impacts are discussed, as well as the role of the protected areas themselves. In the following chapter, the concept of UNESCO’s Biosphere Reserves and the area setting in Sweden is described. Chapter five is dedicated to the methodology used and the obtained results are presented in chapter six. Lastly, chapter seven presents a discussion of the findings and chapter eight concluding remarks.
2 THEORETICAL BACKGROUND

2.1 The evolution of development
Development has been and still is a concern of governments, economists, and social scientists alike, which means a great number of people worldwide is affected. Indirectly, everyone is somehow affected by development of some sort, but there is no all-encompassing definition. What development is comprised of or how it can be achieved depends on the point of perspective taken.

After the Second World War, economic growth (EG) became the main focus as growth in capital was seen as the best way to achieve development (UNDP, 1990). Following this line of thought, GDP and GDP per capita were used as the only indicators to measure development, according to the first Human Development Report. Individual well-being was not a center of attention as it was assumed that it would automatically be a result of economic growth due to the trickle-down effect (UNDP, 1990). This position has, however, been contradicted by Srinivasan (1994) who points to earlier publications already applying different measures for development. Buchanan and Ellis (1955), for instance, included ‘quality of life’ as an outcome in the first of their two groups of statistical indexes for development. In the second group, economic performance was depicted and life as end product explained. Lewis (1955) puts emphasis on the instrumental role of growth in stimulating human development, as growing wealth also increases the options to choose from and thus increases individuals’ freedom. A shift towards new inputs was therefore already emerging.

Later on in the 1960s, ongoing poverty in the developing world indicated that income growth did not lead to the desired solution (UNDP, 1990). The adequacy of income as a measure for development thus needed to be reconsidered. Consequently, more attention was paid to the distribution of income and equity with the background of alleviating poverty and also amongst others unemployment (Seers, 1969; UNDP, 1990). The next steps in this direction of change were using a portfolio of indicators, such as health and education indicators to supplement the economic indicators (Hicks & Streeten, 1979), and a growing interest in composite indices (Harbison & Myers, 1964). They proposed a composite indicator focused on human resource development containing enrolment at the secondary level of education and enrolment at the tertiary level of education.

As a result of these advances, McGranahan et al. (1972) proposed an index for the United Nations Research Institute for Social Development (UNRISD) for a socioeconomic development containing 19 indicators amongst others for health, education, structural change and economic development. Those were correlated to GDP per capita through regressions which then resulted in a development threshold level (UNDP, 1990). However, this did neither solve the issue of requiring a single measure equivalent to income nor facilitating the decision which indicators to include or not. The more indicators are included, the greater the risk of reduced relevance and transparency. Therefore, the Human Development Index (HDI) has been introduced. This composite index contains life expectancy, education, and per capita
income indicators with the goal of measuring development not only as the increase in wealth but also the increase in choices people have (UNDP, 1990).

The index is the outcome of this shift of perspective from economic development to socioeconomic development and subsequently human development. Advantages include that the economic component, however, has not been entirely dismissed, that unlike the earlier UNRISD index it has a clearer structure due to fewer components, and that all components are intuitive. In addition, the UNDP provided annual updates (Santos & Santos, 2014).

Although the HDI has not been the only composite indicator of development, there have been others that focus on certain aspects of development. Their usefulness depends thus on the setting they are used in and their purpose (Bandura, 2008). Even though the HDI has received the most attention, there have been critical voices, especially regarding dimensions and indicator selection, implicit trade-offs, and insensitivity to distribution inequalities in the population (Santos & Santos, 2014). Also, Srinivasan (1994) points out a deficiency of the HDI, namely that the relative values of its components are not necessarily the same amongst individuals and countries. On the other hand, due to its continuous updates, the index is modified and thus some of the mentioned critiques have been used to improve it (Oxford Poverty & Human Development Initiative (OPHI), 2011).

Considering these advances that have been made over time to determine development, growth is still considered as a crucial measure. Despite that “Growth is not an end in itself […] it makes it possible to achieve other important objectives of individuals and societies”. It is thus “a necessary, if not sufficient, condition for broader development” (Commission on Growth and Development, 2008, p. 1). Ravallion (1997) states that economic growth being the main objective of development policy is not contradictory to human well-being being an “end” for which growth is a “means.” It can still be a stand-alone objective depending on the circumstances (p. 632). However, he refers also to the possibility of seeing growth and human development as “twin goals”, rather than one only being an instrument to achieving the other as an end.

2.2 Economic growth and its influences

Concerning economic growth and what generates it there exist a number of theoretical models and thus an extensive body of literature. Historically, however, much is building on Solow’s (1956) and Swan’s (1956) contributions. One key aspect of this model is conditional convergence, predicting that the lower the GDP per capita starting levels, the faster the growth rate will be (Acemoglu, 2008; Barro & Sala-i-Martin, 2004). It is conditional because the steady-state levels of capital and output per worker depend on the saving rate, the growth rate of population, and the position of the production function, all of which are attributes that differ across economies. Another prediction of the model is that if no continuing technological improvements happen, per capita growth is ceasing which will result in a steady state of per capita income. However, it has been observed that positive growth rates can be present for a longer time without decline. The notion that technological progress is exogenously given (“manna from heaven”) was furthermore criticised. Therefore, to address the limitation of long-run per capita growth rate only being determined by technological
progress, later research emphasizes endogenous factors such as human capital (Barro & Sala-i-Martin, 2004; Capello & Nijkamp, 2009). Others focused on the endogeneity of labor supply which has an influence on migration and labor as well as leisure choice (Barro & Sala-i-Martin, 2004). Endogenous growth theory is still changing and further developed. In some modifications are, for example, aspects of new economic geography integrated. There, spillover effects and competitive advantages are presented as important contributing factors to growth (Capello & Nijkamp, 2009).

The most apparent difference between the early and the later theories is that later research pays closer attention to empirics and the connection to data. However, hypotheses from the earlier theories often are still incorporated into the more applied research, such as the concept of convergence. This notion still is said to have substantial explanatory power for growth across countries and regions (Barro & Sala-i-Martin, 2004).

Being aware of these notions and their implications, states often aim to stimulate development also on a regional level. In the European context, regional development strategies are characterized by disaggregation of the state. The regionalization of strategies represents a vertical disaggregation, creating multilevel governance. Disaggregation also creates horizontal relations between regional authorities and national governments. The state can moreover act as a contact or broker in creating networks and empowering local actors, thereby aiming for a bottom-up approach (Ansell, 2000). In general in the EU and also in Sweden, the regional level is increasing in importance as it is more and more recognized that growth is created there (The Swedish Environmental Protection Agency, 2004). Therefore, this notion is described further in the following.

2.3 Regional and local development

Due to external (e.g. weak education) and internal reasons (e.g. replication of standardized policies regardless of local conditions) traditional development policies frequently fail. Also, globalization and the dominant focus on economic development were reasons that led to alternative strategies being adopted in research as well as in practice (Pike et al., 2006). Increasingly, more local and social approaches were used partly as alternative economic strategies in the UK and USA which contested national structures by establishing new institutions at the local and regional level (Pike et al., 2007). However, to pinpoint an overarching definition of regional and local development is problematic, as there exists a variety of definitions due to the use of many different theoretical models. In spite of this difficulty, White and Grasser (2001) have established four general characteristics of regional and local development strategies. Participation and social dialogue are required, they are based on territory, they are locally managed and involve the utilization of local competitive advantages and local resources. The main difference to traditional approaches is the use of bottom-up instead of top-down strategies. This is claimed to lead to economic advantages. Firstly, one goal of regional and local development strategies is to establish economic activities that are connected to the specific local conditions. This is said to generate economic growth and a more resilient employment situation. Secondly, due to local stakeholders being involved the quality of jobs is improving. Nevertheless, bottom-up approaches can be very
time-consuming and in the worst case lead to inequitable development strategies (Pike et al., 2006).

In Swedish studies, regional development is measured mostly on economic performance determined by the average income growth rate. The net migration rate is used to determine a region’s attractiveness (Aronsson, Lundberg, & Wikström, 2001; Lundberg, 2003, 2017).

Due to the before mentioned characteristics, tourism is often not only a primary goal of some countries but mostly also part of local development strategies. At the local or regional level, the touristic end product is delivered and also there, impacts are recognized first and with them also farther reaching general effects on development.

2.4 Tourism as agent for development

2.4.1 Social and cultural impacts

When considering the social and cultural impacts of tourism, similar difficulties as with other impacts become visible. For instance, to determine the exact degree of change that is induced by tourism in an area is almost unachievable as change can equally be a result of other influencing factors such as globalization (Hashimoto, 2002). Also, the aspects influenced by tourism are hard to quantify as they are often of qualitative nature and highly subjective. Aspects that seem to be rather quantifiable, such as e.g. the crime rate, can nevertheless not only be attributed to tourism (Cooper et al., 1998). Research has been concerned to a great extent with the hosts and the tourist-host relationship. Even though the interaction between tourism development and sociocultural change is complex, certain positive and negative impacts have been identified (Hashimoto, 2002).

Negative impacts are often observed in developing countries and associated with changes in culture due to cultural imperialism and assimilation. Other social impacts include changing family structures and values, increases in crime or drug use or prostitution. However, it is questionable if that can be attributed solely to tourism development (Hashimoto, 2002).

After considering this, also positive impacts made possible through well thought-out planning should be acknowledged. Tourism development ideally leads to economic benefits and consequently to an improved quality of life for the local people through added amenities. However, it is claimed that tourism can be a way to simultaneously contribute to protecting and enhancing local traditions and customs. If managed well, it is possible that there can be a cultural exchange where prejudice and stereotypes can be reduced. A closer connection of tourists and hosts can not only add to mutual cultural understanding but also empower local communities. They get more involved in planning and local knowledge is used in decision making which can even have indirect effects on society as a whole, as e.g. local political autonomy is increased (Hashimoto, 2002).

2.4.2 Environmental impacts

When examining and evaluating research on environmental impacts of tourism, several conceptual and methodological issues need to be taken into consideration. First, numerous studies analyze the effects of tourism only on certain environmental aspects although the environment consists of many interdependent and interrelated elements. The complexity of
those connections and possible secondary and tertiary effects of impacts make attempts to incorporate all extremely challenging (Buckley, 2004; D. G. Pearce, 1989; Williams, 1994). Second, a great part of conducted studies is focussed on North America, the UK, and Australia. Research is also done in other parts of the world but has not been published in English and therefore often been overlooked by the English speaking research community. As a result of the bias towards North America, research is consequently concentrated on the local ecosystems and on the corresponding tourist activities. That makes it difficult or even disadvantageous to compare findings (Buckley, 2004). Third, many studies are limited to “after the fact analysis”. This leads to certain problems, such as the unclear distinction between tourism induced impacts and impacts caused by other activities. In addition, due to insufficient information about the conditions previous to tourism development, there often is no reference point to which change can be measured (Wall & Mathieson, 2006b).

Despite these limitations which should be considered when evaluating results, it is still evident that understanding the tourism-environment relationship can reduce negative impacts and aid in planning management procedures (Wall & Mathieson, 2006b). According to Budowski (1976), three main categories of relationships between those promoting tourism and those advocating nature conservation exist. Firstly, they can coexist and have only little contact with each other. However, this coexistence rarely remains constant as growing tourism inevitably leads to considerable changes. Therefore, this phase is followed either by a relationship suitable for both or by conflict.

Accordingly, tourism and conservation can benefit from a symbiotic relationship where at the same time nature is conserved as good as possible and tourists use natural resources in a beneficial way. This can also lead to economic advantages (Budowski, 1976). Examples where this has been the case, however, are rather exceptions than the rule (Wall & Mathieson, 2006b). Tourism can help to raise environmental awareness, appreciation, and concern (Wall & Mathieson, 2006b). As tourism is dependent on intact destinations, it is also in the mind of planners to protect those attractions as an investment. At the same time conservation measures can be justified as economically necessary and not only taken to meet tourists demand (Cohen, 1978). Wall and Mathieson (2006b) state that there is growing evidence that tourism is increasingly integrating environmentally responsible standards into their processes. However, there is also evidence that in practice measures often are more pro-forma (Holcomb, Upchurch, & Okumus, 2007) or expressions of “veneer sustainability” where it is sympathized with conservation issues and measures but no major changes are willing to be done to address the issues (Weaver, 2007).

Unfortunately, even though tourism and conservation can benefit from each other in some ways, the relationships that are documented most can be found in the conflict-category (Wall & Mathieson, 2006b). It is, however, difficult to identify particular impacts on nature as several problems are problematic for researchers. Impacts also vary depending on the ecosystem which makes it challenging for research that aims for an understanding of the magnitude of impacts (Wall & Mathieson, 2006b).

However, not only certain parts of the natural environment are impacted by tourism. As a main part of the tourism industry is transportation, its contribution to air and noise pollution is
rather unsurprising. Even though it cannot be denied that increasing tourism leads to more pollution caused by increasing air travel and other vehicle transportation, standpoints regarding the magnitude vary. It is, for example, claimed that tourism does not pollute the environment as much as other industries, as it does not include manufacturing or transport of raw materials like other industries. Also, it is argued that the airplane engines are continuously developed further to be more efficient and less pollutant (Wall & Mathieson, 2006b).

Even though this may be a valid argument, tourism being less pollutant as heavy industries is not a great accomplishment. The point of view is depending on the global perspective, whereas especially at a more regional level tourism can be threatening for the environment in many other ways. Visitors consume large amounts of natural resources such as freshwater, which leads to problems and higher competition also for other industries and agriculture due to increased pressure on the water supply. This is especially (but not only) an issue in island destinations or coastal areas. Connected to this is the high amount of waste generated by tourists, which in turn can further deplete freshwater resources (Neto, 2003). Besides that, another area where conflicts can emerge is wildlife. There exist several examples where wild animals are disturbed in their natural behavior, such as vehicles approaching lions and distracting them from hunting, or whale watching where the animals are chased (Mastny, 2001). After approaching the preceding issues from the standpoint of nature suffering from tourism impacts, it should not be overlooked that those impacts ultimately also harm the tourism industry itself. In tourism literature, researchers often refer to Butler’s (1980) destination life-cycle where decline is a frequent consequence after the phases of development when places are overused and attractions or facilities deteriorate (Mastny, 2001).

2.4.3 Economic impacts

Tourism has, without doubt, evolved into an influential economic force worldwide that is generating billions of dollars and is frequently pointed out to foster economic development (Sharpley, 2002; Wall & Mathieson, 2006a). Especially in developing countries, empirical studies found a positive correlation between tourism receipts and growth rate while investigating the impact of tourism on growth (Sequeira & Maçãs Nunes, 2008).

However, there is no universally accepted method to measure the performance of tourism as a catalyst for economic growth. Repeated benefits that are mentioned such as employment generation can be seen as significant aspects of economic growth but they do not measure it entirely (Wall & Mathieson, 2006a). Also, international tourism can affect growth in various ways beyond direct revenues (Arezki, Cherif, & Piotrowski, 2009). Therefore, it is challenging to draw conclusions, which becomes apparent when reviewing the corresponding research.

Some authors have found tourism to be successful in generating economic growth, for example in Tanzania (Curry, 1990) Kenia, Tunisia, Morocco, Thailand (Diamond, 1977), Mexico (Ball, 1971; Jud, 1974), and the Seychelles (Archer & Fletcher, 1996). On the other hand, mixed results or failures have been documented for Turkey (Diamond, 1977; Tosun, 1999) and Ghana (Adu-Febiri, 1994). The focus of the different studies often depends on the importance of tourism for the respective country. In developing countries, generating foreign
exchange is emphasized, while in developed countries the focus is more on addressing regional socioeconomic problems (Sharpley, 2002; Wall & Mathieson, 2006a). In developed countries, tourism is also advocated to promote economic growth in peripheral areas that face industrial decline (George, Mair, & Reid, 2009; Schmalleger, Carson, & Tremblay, 2010). It is argued that tourism consumption leads to increased financial resources for the receiving peripheral region and thus to inter alia new jobs and new investments. In theory, income per capita is then increasing whereas economic growth in the visitors’ more developed home region is reduced (Mihalic, 2002). This supports the concept of convergence (see 2.2).

However, it is questioned if this really causes long-term economic growth and weak distinctions of peripherality are criticized (Schmalleger & Carson, 2010). Moreover, high dependence on external investments, limited human resources in the region, and problematic accessibility are indicated to impede success (Wall & Mathieson, 2006a). It should although be pointed out that tourism development rarely has the goal to achieve complete equality to very developed regions but rather to gain at least some economic benefits through tourism (Mihalic, 2002).

In general, those recognized economic benefits of tourism include contributions to foreign exchange earnings and balance of payments, generation of income, generation of employment, improvement of economic structures, encouragement of entrepreneurial activity, stimulation of regional economies and mitigation of regional economic disparities (Wall & Mathieson, 2006a).

In order for tourism to actually be able to stimulate the before mentioned benefits, certain conditions should be fulfilled. The main reason is that tourists can freely substitute destinations as competition is increasing. Thus, the capability to compete globally depends on four main conditions. First, the combination and prices of facilities and services should be diverse and meet the tourists’ expectations. Second, a skilled organizational body is needed. Third, it depends on the geographical location. This aspect has received more attention in an industrial context but also in tourism. The location of the destination is one of the most influential success factors, as the cost of transport is high. Thus, places near tourist generating regions have advantages. The fourth factor is the nature and origin of financial investments. Especially developing countries are dependent on (often foreign) investments in order to set up the required infrastructure for tourism development (Wall & Mathieson, 2006a).

To be aware of the character and conditions of the benefits of economic development is useful, but it is even more necessary to have credible and high-quality measurements to demonstrate those benefits (Wall & Mathieson, 2006a). To examine tourism’s economic impact on regions, input-output analysis and multiplier analysis have been one of the more frequently used methods over time (Crompton & Shuster, 2001; Fletcher & International, 1994; Frechtling & Horvath, 1999; Wall & Mathieson, 2006a). This, however, does not mean that these approaches are able to fully depict the whole economic impact of tourism. Briassoulis (1991) took a closer look at the methodological issues. Unrealistic assumptions and the exclusion of substitution effects are only two examples. Also, other researchers have put forward reasons for caution when applying these methods, especially in regard to inappropriate use and wrong interpretations (Tyrrell & Johnston, 2001). Crompton (2006)
discovered that economic impact studies have been used in order to legitimize certain political positions, which is one very clear example of how misuse can materialize. However, also newer methods such as e.g. the Computable General Equilibrium model face limitations, for example in terms of available and adequate data, just as the older ones (Wall & Mathieson, 2006a). Therefore, continuous efforts are needed, both in the further development of methods as well as in data treatment and acquisition.

As the preceding examples show, tourism impacts are never only black or white but mostly appear on a grey scale depending on the perspective taken.

2.5 Sustainable Tourism as a Tool for Sustainable Development

Considering the various aforementioned impacts it is interesting to determine why tourism is aspired and appealing to so many destinations, countries, and people in general. The main reason is that it is often believed to bring improvements for their well-being, mostly through economic means. Contribution to environmental and culture protection is rather a side effect. This line of thoughts implicates that tourism should be seen as a means of achieving well-being and other goals and not just as a final outcome (Wall & Mathieson, 2006c).

Bearing this in mind, as a consequence of the pursuit of development where economic growth and environmental quality coexist, the term sustainable development emerged (Wall & Mathieson, 2006). The Brundtland Commission is often mentioned as a milestone in this regard, where the approach was defined as development which meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development (WCED), 1987). Since then, sustainable development has been incorporated both globally and locally. In the beginning, however, tourism was not mentioned, only in the following meeting in Rio de Janeiro 1992. Besides the tourism industry, the concept has also been implemented in various other economic sectors (Wall & Mathieson, 2006).

The variety of use and the broad applicability of the concept make it complicated to determine a general definition. However, a widely accepted definition of Sustainable Tourism is:

“tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an infinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes” (Butler, 1993, p. 29)

He points to infinite viability, which implies a long-term perspective, but in contrast, development also implies change, namely the change from the existing state to a new and “better” one. This oxymoron often leads to people emphasizing their chosen side of the concept. Still, the inclusion of economic, environmental and cultural dimensions of sustainable development and its by-product sustainable tourism can have the potential to offer direction for change and impacts that should be advanced or addressed (Wall & Mathieson, 2006). Besides recognizing the concept, efforts have been made to operationalize it through,
for example, indicators for sustainable tourism developed by the World Tourism Organisation (Hardy et al., 2002).

Even though sustainability has been widely seen as a way to address negative tourism impacts, there are also critical opinions. Liu (2003) refers to an overstated promotion of “ideal” alternative tourism forms such as ecotourism as a counterpart to mass tourism in order to achieve sustainability. Overstated, because those “sustainable” tourism forms have not been able to fulfill the expectations so far. An especially misleading notion has been the use of ecotourism, which is commonly defined as tourism to rather undisturbed or protected areas that are environmentally responsible. However, those destinations that are particularly popular with eco-tourists are especially vulnerable to human impacts. The paradox appears again if the marketing and increasing demand for ecotourism should be encouraged or rather not in order to avoid destroying the nature that was aimed to be protected. Liu (2003) points out another critical aspect in regard to the global scale. He states that all alternative tourism forms are no more than niche products which cannot present a general possibility for tourism development that is realistically feasible. The mostly small-scale ecotourism projects in place cannot substitute well-developed mass tourism and are in addition often only promoted for marketing reasons to diversify a destination’s portfolio (Liu, 2003; Newsome et al., 2002). Nature conservation is rather subordinate. In theory, however, ecotourism should be an economically as well as socially sustainable way for nature conservation, while at the same time provide income for an improved well-being of the people living in or around important nature areas (Newsome et al., 2002).

2.6 Development of Protected Areas

Protected areas can be seen as the arena where the dynamic forces of tourism development, sustainability and nature protection meet. This can be observed in view of the development of protected areas over time. As Sweden is in the focus of this research work, in this part the focus will also be on the European perspective.

Even though there have been conservation efforts already in the 8th and 9th century when forests were protected to secure resources, modern nature protection is said to originate in the 18th and 19th centuries. The primary motives have been not only conservation of landscape but also the creation of recreation areas for the working population (Mose, 2007). Whereas in North America the first enactment of these ideas resulted in the first large American national parks at the end of the 19th century, this approach was less applicable in Europe due to a higher population density. Therefore, the first national park in Europe has been Sarek national park which was established in 1909 in the sparsely populated north of Sweden. Nevertheless, this was the beginning of further developments, even though at first, adequate legal foundations were lacking and only slowly incorporated. In the course of the European Year of Nature Protection 1970 and the Conference on the Human Environment in Stockholm 1972, the demand for area protection received new political attention which resulted amongst other things in the first German national park, Bayerischer Wald. Subsequently, the designation of protected areas multiplied (Mose, 2007).
The more recent historical developments are mainly characterized by the internationalization of area protection policies. Various new biosphere reserves (for a description of the concept see Ch. 4.1) and parks have been designated, as well as on EU level the NATURA 2000 areas which have a unified legal framework. These developments have contributed to a better integration of protected areas in Europe but simultaneously also added more complexity. This has been accompanied by a paradigm shift in protection policy. Until the middle of the 20th century, area protection concepts built mainly on the static-preservation approach (segregation) which are characterized by having little contact with the outside, a simple management structure and a mostly top-down and prohibitive protection approach. In comparison, in more recent times a shift has been observed to dynamic-innovation approaches (integration). There, nature protection is seen more as a basic principle which is expressed by aiming for procedural protection instead of strictness. Other characteristics include a more professional management structure, less normative and more bottom-up approaches and cooperation with all involved parties. The consequence of this paradigm shift is visible in the booming European area protection which is primarily oriented to innovative sustainable development (Mose, 2007).

However, also in this new paradigm the conflict of different priorities regarding the use of natural resources remains. Some aim for protection of a certain natural resource and others aim to use them. As an often proposed alternative, spatial zoning where zones are designated for different uses (e.g. work, industry, living) has been put forward to mitigate conflicts. Mose (2007) although criticises this notion for not being sufficient for larger scale projects as human activity should not be completely excluded. On the other hand, too many small protected areas are also counterproductive as overarching landscapes are not included. This makes it difficult to achieve conservation objectives.

3 IMPACTS OF PROTECTED AREAS

Tourism increasingly contributes to economic development which is one reason for the sector growing continuously. The increasing awareness for resource issues has led to more efforts in achieving this growth in a more sustainable manner. One approach is supposed to be the use of protected areas, where a two-way relationship is the desired outcome. Tourism is planned to generate funds that can be further invested into nature protection and the protected nature in turn can contribute in generating tourism demand. Concepts such as the BRs additionally aim to be beneficial for the involved inhabitants in the area but substantial proof for their usefulness is often still awaited to be obtained.

The rise in new concepts of area protection, mentioned in the previous chapter, has led to a large increase in the number of protected areas. In 2016, 21.8% of EU28’s terrestrial surface was protected by a total of 127,574 sites, comparing to worldwide 48,400 in 1992 (International Union for Conservation of Nature and Natural Resources, 2017; Mose, 2007). This rapid increase in area protection indicates growing importance and will according to Mose (2007) provide further prospects for integrated use and protection efforts.
This development is also attributable to the expectations protected areas are confronted with. They should ideally act as motors or instruments for regional development by having a positive impact on the regional economy (e.g. through tourism), having positive social and cultural effects, and not least of all conserve regional biodiversity (Hammer et al., 2003).

It has been a topic of lively discussions if these expectations can be met. To make things difficult, most of the times only certain aspects have been in focus of research, overarching evaluations are scarce. What effects those designations really have on their surrounding are largely unknown. Nevertheless, both studies with positive and negative results can be found.

One example is the BR Entlebuch where it was deducted from a perceived increase in tourism and sale of regional products that the BR has a positive impact on regional development (Knaus et al., 2017; Hammer, 2007). Substantial evidence for the assumptions, however, has not been provided. In other BRs there have been different results, such as in two Slovakian BRs. There, the opportunity of the designation has not yet been recognized. Tourism remains the main prospect for regional development but has not been found to promote regional development so far (Nolte, 2007). A general problem with these case studies is, however, that reliable data is missing or has not been available so only suggestions could have been made. A Czech case study had better access to data and observed mixed results (Kušová et al., 2008).

There, a triangulation approach was applied, consisting of analysis of official statistical data, analysis of regional media content, conducting semi-standardized interviews with key personalities and conducting a questionnaire survey. On the one hand, no statistically significant difference was found regarding material well-being between the protected areas and their surroundings. On the other hand, the “sound environment” and the “well-preserved nature” were found to positively affect both visitors and locals. Visitors, as those attributes were the main attractors to the area, and locals, as they were more closely attached to the area because of those attributes. The tourism potential was not perceived as fully exploited and local formal and legislative constraints were perceived as hindering successful future developments. In comparison to other studies, their approach seems rather comprehensive, even though the selected interview participants were mostly staff members of protected areas administration, mayors of local municipalities or other key stakeholders. That may have biased their results, at least in this part of the research, in the way that those informants possibly all have a rather positive view on the BR concept.

Besides those European local examples, other researchers took a broader perspective which has led to interesting but also contested insights. In those studies, the designation of UNESCO World Heritage is in focus. As this is not the main focus of this thesis, only a short description will be given. Nevertheless, as this is a similar international designation, interesting insights can be gained that should be taken into consideration.

In an Australian case study that takes all Australian World Natural Heritage sites into account, it was observed that the designation does not necessarily add to touristic and recreational economic value or boost tourism, contrary to what is often publicly claimed (Tisdell & Wilsall, 2002). A Chinese study reports a significantly positive impact of World Heritage Sites on international tourist arrivals but cannot clearly identify the exact influence of the designation (Yang et al., 2010). This study has also been criticized by Cellini (2011), who
states that the Chinese study has flaws which should not be overlooked. The effects that were observed have, for example, been unclear and the results not robust. He even questions the overall effectiveness of the UNESCO designation in promoting tourism and refers to the deeply established public opinion that designations act as strong driver for tourism attraction, which is not represented in econometric evaluations.

On the other hand, literature that quantifies effects of BRs on tourism and development is scarce. One reason is, amongst others, that concrete data regarding quantitative goals is difficult to obtain. In addition, other goals are challenging to quantify, such as more environmentally sensitive development of private and public transport, which in turn makes it difficult to assess the impacts (Hammer, 2007). As previous studies generally adopted more qualitative approaches, results vary not only due to location but also on the different stakeholders’ perspective. This can give an inaccurate view, depending on the stakeholders’ connection to the BR. Also, due to the mentioned lack of high quality data it is challenging to identify effects, especially on a local level.

This discussion shows that even though there are positive examples, critical aspects and results should not be overlooked. In order to allocate limited funding in a useful way to achieve desired development and protection goals, it is necessary to determine suitable measures. A positive subjective image does not necessarily mean measurable positive results in reality. Therefore, an objective point of view is essential when evaluating results and studies are needed where effects of concepts such as the BRs are investigated. Only then, educated decisions for further efforts can be made.

4 UNESCO BIOSPHERE RESERVES

4.1 Evolution of the Concept

A concept which recently has received increased attention and also counts on a positive public image is the international label of UNESCO Biosphere Reserves. In comparison to other protected area concepts, the BRs aspire to be integrating rather than segregating (Hammer et al., 2003; Mose & Weixlbaumer, 2007). This combination of integrating different players and goals makes this concept an interesting research subject, which is why it was chosen for this study.

The initiation began with the first intergovernmental ‘Conference on the Rational Use and Conservation of the Resources of the Biosphere’ in 1968 when sustainable development has not yet gotten much attention. From this conference, the Man and the Biosphere Programme (MAB) arose in 1971. This programme was planned to be interdisciplinary as well as problem-oriented in order to concentrate on three objectives: First, add force to the extent and relevance of biodiversity conservation through a worldwide network of protected areas. Second, ensure a harmonious coexistence of people living in rural areas and the ecosystems they live from. Third, make areas permanently available for researchers and use those as an information exchange network (Batisse, 1997; Bridgewater, 2016).
These main themes persevere and have been translated into the conservation, logistic and development roles that are still current. Thus, the BR designation was a result of the MAB approach with the BRs as instruments (Coetzer et al., 2013). Slowly, the number of designated reserves grew and by 1983 when the first international conference on BRs was held, there have already been 226 sites in 62 countries (Batisse, 1997). However, those earlier reserves suffered from various problems, such as no people living in the reserve or researchers being mainly from natural sciences, which led to a loss of support for the program (Bridgewater, 2016).

Therefore, at the second conference on BRs in Seville, Spain, in 1995 a new strategy and a Statutory Framework were formulated which are still valid today. The focus now is on regional conservation with sustainable development as an overarching goal (Ishwaran, Persic, & Tri, 2008). In the framework, the principles, criteria, and designation process are specified (Bridgewater, 2016). Besides the main functions, the focus lies on a multi-stakeholder approach with emphasis on local involvement (UNESCO, 2018). Unlike the UNESCO world heritage sites, the Biosphere Reserves have no formal restrictions regarding e.g. settlements. There are currently (2018) 669 sites in 120 countries worldwide. Recently, the MAB program has aimed to be more internationally involved and to support the Sustainable Development Goals' implementation (Bridgewater, 2016).

4.2 Area Setting in Sweden

In Sweden, five officially designated BRs exist: Kristianstad Vattenrike, Vänerskärgården with Kinnekulle, Älvlandskapet Nedre Dalälven, Blekinge Arkipelag and Östra Vätterbranterna. Interest has been growing and plans to establish more biosphere areas are ongoing. Areas that are candidates for a designation are Voxnadalen and Vindelälven-Juhtatdahka. The first Swedish BR Torneträsk was withdrawn in 2010 and is no longer part of the network due to not satisfying the requirements anymore.

![Location of the Swedish Biosphere Reserves](source)

Source: own elaboration, based on Heinrup & Schultz (2017)

Figure 1: Location of the Swedish Biosphere Reserves
4.2.1 Vänerskärgården med Kinnekulle
Sweden’s second BR was accepted by the UNESCO in 2010 and is called Vänerskärgården Kinnekulle. It includes part of the Lake Vänern drainage basin, which is the largest lake in Sweden and the third largest in Europe. Also, Västergötland’s highest plateau mountain Mount Kinnekulle is located in the reserve. The three involved municipalities Götene, Lidköping, and Mariestad cooperate in managing the BR. Within the area of the reserve, a variety of species that are red-listed or threatened as well as economically important species and crops can be found. The landscape is varied and seen as area of national interest for outdoor life that contribute to people's well-being and health. In regard to tourism, the BR is still in the beginning but plans have been made to develop the reserve area as a sustainable tourism destination (Bergquist et al., 2018; Lindström, 2012).

4.2.2 Älvlandskapet Nedre Dalälven
The Nedre Dalälven area has a varied landscape with a range of ecosystems including a large river, lakes, farmland, grasslands, forests, and grazing lands. The BR was declared in 2011 and stresses its open cultural landscape and its good accessibility. The location in the transition area between North and South Sweden has led to a great variety of mammals, birds, and fish. This is also marketed for tourism purposes. Tourism is described as an important tool to achieve better recognition for the area and to improve its attractiveness. The aim is to attract both tourists and new residents. Those efforts are coordinated by an organization named Nedre Dalälvscolab (NeDa) which is comprised of both public and private stakeholders (Hedin, 2013).

4.2.3 Blekinge Arkipelag
The BR Blekinge Archipelag also was declared in 2011 and is mostly comprised of coastal areas and located in the Southeast of Sweden. Traditional industries such as fishing and agriculture are still present but the influence of tourism is said to be growing. One goal of the BR is to further promote and foster tourism, especially sustainable tourism. However, for this to be feasible, more environmentally friendly transportation and other infrastructure needs to be developed as well as waste and water management issues due to the location in the archipelago. In addition, joint research is being carried out by the municipalities and universities on the sustainable use of coastal resources (Axelsson et al., 2011).

4.2.4 Östra Vätterbranterna
The BR Östra Vätterbranterna is characterized by a unique topography and a variety of actors. Urban areas can be found as well as forest landscapes and grazing lands. Today, numerous collaborations have led to a broad variety of projects and initiatives where actors with different objectives cooperate constructively to combine the use of land and forest with landscape conservation. However, this was not the case from the beginning. When started, there were conflicts between the seven actors involved in the development of the area regarding the extent of conservation and use. But, over the course of five years, the process went from conflict to cooperation and resulted in a BR where many parties work together (Heinrup, 2016; Olsson, 2012).
4.2.5 Kristianstads Vattenrike

After Torneträsk’s omission from the list of BRs, the oldest Swedish BR is Kristianstads Vattenrike which was designated in 2005. The reserve area extends across the greater part of Kristianstad municipality and is very diverse, including forests, wetlands, and sandy grasslands. Due to this variety of habitats, the area houses a total of about 700 nationally red-listed species and around 30% of all red-listed species in the province of Skåne. Compared to other parts of Sweden, this is a high number. Conservation efforts include the preservation and restoration of the wetlands and grasslands in order to counteract the decline of species. To achieve this, the BR cooperates with farmers, eco-tourism contractors, associations and authorities in projects aimed at preserving but also developing the landscape. One main goal for the future is to establish Kristianstads Vattenrike as an ecotourism destination. Right now, the attractions which are developed and marketed most are the visitor center ‘Naturum Vattenriket’ and the area's twenty-two visitor sites (Biosfärenheten Kristianstads kommun, 2015). A special event which attracts many visitors is the yearly arrival of the cranes in spring. The birds rest in the wetlands and can easily be watched. Around 250,000 visitors come to the BR area every year (Wettemark & Pearce, 2016). As Vattenrike is the oldest of the Swedish BRs, it has been decided to use its municipality as a study area to answer the third research question.

5 Methodology

First, to get an overview of the general effects the BR designation has on the involved municipalities, data on the average taxable income, on higher education as well as in- and outmigration was used to compare the municipalities with and without BRs. To answer the second research questions, i.e. determine the effects on tourism development, a quantitative approach was chosen. In this case this allows for a more objective view on the effects of BRs. Lastly, stakeholder perceptions are examined to determine possible discrepancies in comparison to the obtained results.

To achieve this, first, descriptive statistics will be presented. Then, a regression analysis seems to be a useful approach, as it allows determining the relationship between variables. The software Stata 12 will be used for all computations. Due to the large available dataset, a panel data regression would be the first method to consider, as this takes both effects over cross-sections and time into account (Wooldridge, 2002). However, the dependent variable ‘number of commercial nights’ is comprised of count data. This implies that the observations are always integers, the lowest possible value is zero, and cannot be negative. Also, count data is often non-normal highly skewed with many observations on the left end of the distribution (Cameron & Trivedi, 1998). One of the assumptions of multiple regression models is that residuals are normally distributed and typically follow the variable’s distribution (Cohen et al., 2003). Using OLS regression with count outcome variables may lead to bias and false estimates of standard errors and thus confidence intervals, which is why it may not be appropriate in this case (Beaujean & Morgan, 2016). Log-transformation of the depending variable followed by OLS regression is sometimes encountered in this case. The viability of this approach depends on the data. A high number of zeros may lead to problems due to
taking the log of zero and dispersion that cannot be modelled may result (UCLA Statistical Consulting Group, 2018). Thus, a different approach should be taken.

Count variables are mostly Poisson distributed, which is why Poisson regression is often used for modelling count data. The Poisson distribution, however, assumes that the mean and variance of the variable are equal, which is not always the case with count variables. If the variance is much larger than the mean, over-dispersion is present (Beaujean & Morgan, 2016). This is also the case with the data for the guest nights, which suggests using a Negative Binomial regression, as the Poisson regression is nested in it but takes the overdispersed nature of the data into account (UCLA Statistical Consulting Group, 2018).

5.1 Data
In this work, all data used originates from Statistics Sweden’s (SCB) database. The data was collected in several categories depending on availability on municipality level, ranging from economic statistics like income to tourism statistics. The dataset is balanced and includes cross-sectional and longitudinal data of 290 municipalities from 2003 to 2015.

As the data was retrieved from Statistics Sweden, the data collection and treatment follows the European quality guidelines. In addition, Statistics Sweden has been ISO certified (Statistics Sweden (SCB), 2018a). Therefore, all data is anonymous and ethical concerns are not an issue.

5.2 Variables
It is challenging to identify suitable variables for the analysis of a broad aspect like general development as “no single indicator can provide a sufficient basis for assessing a region’s economic performance” (Dunnell, 2009, p. 22). Therefore, the focus is on few selected key variables orientated on previous studies (Aronsson et al., 2001; Lundberg, 2003) and a government report by the Institutet för Tillväxtpolitiska Studier (ITPS) which describes aspects that are relevant for development (Eliasson & Westerlund, 2003). Amongst them, the Net Migration Rate, Average Income Growth, and Higher Education have been included. The Net Migration Rate is the balance of migration into and out of the municipality per 1000 inhabitants. It is different from population growth as fertility and mortality are not included. This is supposed to proxy for the fact if municipalities are becoming more attractive to migrants (Lundberg, 2003). Average income growth measures the yearly increase of the average taxable earned income in the municipality of all people age 20-64. This age limit makes it possible to evade to some extent the effects of population change, as average income depends also on changes in the age composition (Aronsson et al., 2001). Higher Education describes the share of the population that has obtained higher education credits. This is seen as an indicator that positively influences development, as education often is followed by increasing income. Higher income, in turn, encourages other educated people to migrate there (Lundberg, 2017).

For the regression analysis to answer the second research question, the number of commercial nights spent is used as dependent variable. It is common to use this measure as an indicator for tourism development (Tillväxtverket, 2016). Another measure which could be used is tourist arrivals (Brakke, 2005), added value, or import/export values (Tillväxtverket, 2016).
However, as this kind of data is not available at the micro level, commercial nights will be used instead.

To determine the Biosphere Reserves’ effect on tourism development, a dummy variable is used as independent variable. Municipalities that became BRs at some point in time were here given the value of one and zero otherwise. Other independent variables are used as control variables and have been compiled inspired by previous research: Net migration rate, average income in thousand SEK, the share of people with higher education (three years or more), and the share of population aged between 20 and 64 (as working population) (Aronsson et al., 2001; Eliasson & Westerlund, 2003; Lundberg, 2003, 2017).

5.3 Stakeholder survey

Lodging plays an important role in tourism and it is the part tourists usually spend the most money on (Timothy & Teye, 2009). This is also the case in Sweden, together with expenses for restaurants (Tillväxtverket, 2016). Therefore, to answer this research question it was decided to take stakeholders from the lodging sector into account. Restaurants were not included, as they are also frequented by locals.

As Kristianstad has the oldest of the Swedish BRs, it was chosen as a study area. A complete list of all lodging venues in the Kristianstad municipality was kindly provided by the municipality’s development department. The list includes hotels, B&B, hostels, camping, cabin villages, and private rooms. Private rooms, however, were excluded from this survey, as the focus lies on the opinion of professional tourism stakeholders who have lodging as their primary business.

To determine if there are differences between the results obtained in the quantitative analysis and the impression of tourism stakeholders in the municipality, a telephone survey was conducted. This method was chosen due to several reasons. First, it provides a convenient, environmentally friendly way to obtain information. Second, in comparison to personal interviews, it is quick and efficient, which is important as the participants often do not have much time. Third, it has been preferred over an email survey, as it was hoped that a higher response rate could be achieved this way.

![Figure 2: Sample population and questionnaire response, own elaboration](image-url)
The survey was conducted by the author between March 23, 2018 and April 26, 2018, on weekdays between 9 and 17h to avoid calling at inconvenient times. The calls were recorded if participants agreed. Otherwise, notes were taken and key aspects summarized later on. From the initial list of venues, 68 remained after excluding duplicates and venues that were permanently closed. 48 did not want to participate and 20 agreed to answer the questionnaire. Therefore, a response rate of 29.4% was yielded (Figure 2).

The questionnaire (see Appendix for details) contained five closed and two open questions, which on the one hand provides consistency in the structure but also allows for freedom in the responses. However, as open questions are time-consuming, only two were included to maintain a reasonable length (Bryman, 2012). It was planned that each interview should not take longer than 10 minutes in order not to deter people from answering. The participants were assigned numbers from 1 to 20 in order to ensure their anonymity, which was also communicated before the interviews to obtain honest answers. The questions follow a pre-set order. First, to identify basic socio-demographics, closed questions on residence and time of residence in the region are asked. This is followed by an open question about the three most popular tourist attractions in the municipality according to the participant’s opinion (no special order). The BR has not been mentioned before in order not to steer the respondents into a certain direction. Only in the fourth question, awareness about the BR is examined with a straightforward closed question. If participants answered ‘no’, a short summary about the BR and its UNESCO designation was given. The following question was then about the impact the BR has on attracting tourists. Respondents could choose on a five point Likert scale, from ‘no impact’ to ‘major impact’. At the beginning of the survey, it was planned to leave no ‘in the middle’-option to avoid people always taking that option. However, it became clear that this did not depict reality. After several respondents saying they do not know or are not sure, the ‘neutral’ option was kept. Implications of this will be discussed further in the results section. The penultimate question covers the respondents’ opinion on the BR’s impact on economic development (described as increasing taxable income for the residents). The five answer options range from ‘very negative’ to ‘very positive’ with a ‘neutral’ option for neither positive nor negative impact. The last question is open-ended and aims to explore the perceptions participants have in regard to the Biosphere Reserve designation and tourism in the region.

5.4 Limitations

The decision to start the analysis with descriptive tables of selected indicators for general development was motivated by several aspects mentioned before. Due to time and space limitations in this thesis, it would go beyond the time frame to attempt to paint a comprehensive picture and at the same time single out the BR designation’s effect. Too many factors have or can possibly have an influence. Furthermore, it would have been useful and also suggested by literature (Aronsson et al., 2001; Lundberg, 2017) to include data on unemployment. Unfortunately, this data was not available at municipality level and thus was not included.
For the second research question, a negative binomial regression model was chosen. There, spatial effects are not included, which could be interesting to explore in the future. Also, the unavailability of data and possible omitted variable bias may have weakened the model. For example, more detailed data on tourism would have been beneficial, such as visitor expenditures, occupancy rates or the value of tourism imports/exports. However, this kind of data was not available on municipality level, like many other variables, which made it challenging to obtain variables that are relevant for the task of investigating effects on tourism development. The difficulty of determining tourism’s impacts on other aspects and separating its effects from other factors adds to the problem. Nevertheless, the high number of observations in the dataset together with its high quality from SCB (2018) provides a sound base for the model. When analyzing the results though, the limitations need to be taken into consideration.

In regard to the survey, there also exist some limitations. Time, even with the questionnaire kept short, was a limitation as various stakeholders called were too busy to participate. This resulted in a relatively low number of responses, which means it cannot be inferred that the results reflect all stakeholders’ opinions. Another limitation was the language. The interviews were conducted in English but if someone was not feeling confident in English, also answers in Swedish were accepted. However, as the author’s native language is not Swedish, participants were asked to use well understandable Swedish. This could have influenced their answers. Furthermore, it cannot be known if participants were biased towards certain aspects due to their profession. On the one hand, this is somehow desired by choosing a certain stakeholder group, on the other hand, them depending on tourists can steer their opinions about related issues.

6 RESULTS

6.1 Effects on general development

In regard to the variables chosen for general development, the following was observed (Table 1). Regarding the net migration rate in 2015 compared to 2003, it can be seen that in municipalities that become a BR in that time frame, the change per 1000 inhabitants is rounded +8 people, whereas those without becoming a BR have a plus of rounded 6 people, even when the three biggest cities (municipalities Stockholm, Gothenburg and Malmö) are excluded. This could indicate that BR municipalities are slightly more attractive to migrate to, as suggested by Lundberg (2003).

Table 1: Selected indicators of development

<table>
<thead>
<tr>
<th></th>
<th>BR</th>
<th>No BR</th>
<th>No BR (excl. biggest cities)</th>
<th>total SWE</th>
</tr>
</thead>
<tbody>
<tr>
<td>net migration rate 2003 (per 1000 inhabitants)</td>
<td>4.05</td>
<td>2.28</td>
<td>2.27</td>
<td>2.38</td>
</tr>
<tr>
<td>net migration rate 2015 (per 1000 inhabitants)</td>
<td>11.58</td>
<td>8.20</td>
<td>8.22</td>
<td>8.40</td>
</tr>
<tr>
<td>change (per 1000 inhabitants)</td>
<td>7.53</td>
<td>5.92</td>
<td>5.96</td>
<td>6.02</td>
</tr>
<tr>
<td>average income growth (age 20-64) 2003 (%)</td>
<td>2.28</td>
<td>2.13</td>
<td>2.15</td>
<td>2.14</td>
</tr>
<tr>
<td>average income growth (age 20-64) 2015 (%)</td>
<td>3.60</td>
<td>3.83</td>
<td>3.83</td>
<td>3.82</td>
</tr>
</tbody>
</table>
The income growth as percentage change from the previous year for individuals age 20-64 is also available. There it can be observed that the change in the growth rates in BR municipalities is lower than in those without. However, the data description from SCB does not indicate that it was adjusted for inflation. Therefore, caution is advised when looking at the numbers.

Regarding the share of people with higher education credits, big differences cannot be observed. In all municipalities, regardless if BR or not, the share of people with higher education increased.

Furthermore, a two-sample t test was performed for all selected variables to test the equality of means of the BR and No BR group. A statistically significant difference in the means was not found for any of them. This indicates that being a BR may not lead to significant differences compared to No BR regarding those variables.

6.2 Effects on tourism development

As one main argument for BRs is the development of tourism, it should be investigated more closely. To get an overview of the development of the number of average commercial guest nights, the period of time between 2003 and 2015 is looked at. It can be observed that municipalities which became a BR in this period had an increase in the average number of guest nights of 32.1%. Compared to municipalities without BRs, they had a bigger increase but a lower absolute average number. However, if the three biggest municipalities Stockholm, Gothenburg and Malmö are excluded, they perform better in comparison. When separating between Swedish and foreign visitors, BR municipalities had a bigger increase in nights spent by Swedes than those without. In regard to foreign visitors, it can be observed that BR municipalities had a smaller increase than other municipalities. This could indicate that those are more attractive destinations for Swedes than for international visitors.

Table 2: Development of the number of average commercial guest nights

<table>
<thead>
<tr>
<th></th>
<th>BR</th>
<th>No BR</th>
<th>No BR (excl. biggest cities)</th>
<th>total SWE</th>
</tr>
</thead>
<tbody>
<tr>
<td>average commercial guest nights in total 2003</td>
<td>99,260</td>
<td>141,891</td>
<td>99,742</td>
<td>138,630</td>
</tr>
<tr>
<td>average commercial guest nights in total 2015</td>
<td>131,082</td>
<td>185,060</td>
<td>116,947</td>
<td>181,495</td>
</tr>
<tr>
<td>change in %</td>
<td>32.1%</td>
<td>30.4%</td>
<td>17.2%</td>
<td>30.9%</td>
</tr>
<tr>
<td>average commercial guest nights by Swedes 2003</td>
<td>83,763</td>
<td>109,432</td>
<td>83,478</td>
<td>107,468</td>
</tr>
<tr>
<td>average commercial guest nights by Swedes 2015</td>
<td>111,059</td>
<td>137,856</td>
<td>95,513</td>
<td>136,086</td>
</tr>
<tr>
<td>change in %</td>
<td>32.6%</td>
<td>26.0%</td>
<td>14.4%</td>
<td>26.6%</td>
</tr>
</tbody>
</table>

Source: SCB (2018b)
average commercial guest nights by foreigners
2003 15,497 32,460 16,264 31,162
2015 20,023 47,204 21,434 45,409
change in % 29.2% 45.4% 31.8% 45.7%
Source: SCB (2018b)

To further investigate this, the share of visitors’ origin is looked at (Figure 3). It can be observed that in comparison to municipalities without BRs where the share of foreign visitor nights was increasing, in those with a BR the share is slightly decreasing. In terms of the share of Swedish visitor nights, the opposite can be observed. In No BR municipalities there was a decrease, whereas the BR municipalities had a slight increase.

Development of visitor origin - 2003 compared to 2015

Figure 3: Development of visitor origin

Also for the guest nights, a two-sample t test was performed to test the equality of means of the BR and No BR group. A statistically significant difference in the means was neither found for this variable. This indicates that being a BR may not lead to significant differences compared to No BR regarding guest nights.

However, this only provides a rough overview. The exact reasons for those developments are unknown at this point and with this available data. To investigate what influence the BR designation has, a negative binomial regression analysis was performed.

The model was deemed appropriate which was confirmed by comparing the mean and variance of the outcome variable, which is the average number of guest nights, for BR and No BR municipalities. BR was found to be a good candidate for predicting the outcome variable, because the mean value of the outcome shows variation. The differences between means and variances suggest that over-dispersion is present and that the negative binomial model is appropriate. This was also confirmed by the likelihood ratio chi-square test comparing the
model to a Poisson model\(^1\). The chi-squared value is 4.4e+08 with one degree of freedom which strongly suggests that alpha is non-zero and the negative binomial model is more appropriate than the Poisson model (UCLA Statistical Consulting Group, 2018).

After running the regressions, the estimated coefficients can be interpreted following this instruction: “For a one unit change in the predictor variable, the difference in the logs of expected counts of the response variable is expected to change by the respective regression coefficient, given the other predictor variables in the model are held constant” (UCLA Statistical Consulting Group, 2018). Column (1) shows only the theoretically interesting variable, BR, in the model (Table 3). The variable BR is significant on a 1% level. That implies in this case that municipalities with BR have on average 0.306 log counts less than non-BR municipalities, as it is a dichotomous predictor variable. If the coefficient is exponentiated, the ratio of sample means is obtained, in this case 0.736.

After the sequential addition of control variables in the models (2)-(5), the variable BR stays significant but the size of the coefficient estimate is reduced to -0.202 (0.817 mean ratio) in the preferred model. All control variables, except the net migration rate in model (5), stay significant on a 1% level throughout the models.

Table 3: Regression output 1 (all municipalities included)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) gaest_total</th>
<th>(2) gaest_total</th>
<th>(3) gaest_total</th>
<th>(4) gaest_total</th>
<th>(5) gaest_total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR</td>
<td>-0.306***</td>
<td>-0.300***</td>
<td>-0.296***</td>
<td>-0.195**</td>
<td>-0.202***</td>
</tr>
<tr>
<td></td>
<td>(0.0980)</td>
<td>(0.0940)</td>
<td>(0.0939)</td>
<td>(0.0789)</td>
<td>(0.0744)</td>
</tr>
<tr>
<td>netmigrate</td>
<td>0.0750***</td>
<td>0.0751***</td>
<td>0.0289***</td>
<td>0.000848</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.00411)</td>
<td>(0.00410)</td>
<td>(0.00337)</td>
<td>(0.00341)</td>
<td></td>
</tr>
<tr>
<td>incgrowth</td>
<td>4.368***</td>
<td>5.557***</td>
<td>3.068***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.512)</td>
<td>(1.276)</td>
<td>(1.191)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shareworker</td>
<td>22.50***</td>
<td>13.71***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.593)</td>
<td>(0.754)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>higheedu</td>
<td>12.13***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.617)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>11.97***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0253)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>2,602</td>
<td>2,602</td>
<td>2,602</td>
<td>2,602</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

However, it was suspected that the municipalities that attract the most tourists bias the results. This was confirmed by scatter plotting the data and identifying the three biggest municipalities Stockholm, Gothenburg and Malmö as outliers that have substantially more commercial overnights than all other municipalities. Therefore, a second regression was run, excluding those municipalities.

\(^1\) The likelihood-ratio chi-square test tests if the dispersion parameter alpha equals 0. A large test statistic would suggest that the response variable is over-dispersed and not sufficiently described by the simpler Poisson distribution (UCLA Statistical Consulting Group, 2018).
Table 4: Regression output 2 (biggest municipalities excluded)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(3)</th>
<th>(5)</th>
<th>(7)</th>
<th>(9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gaest_total2</td>
<td>BR</td>
<td>netmigrate</td>
<td>incgrowth</td>
<td>shareworker</td>
<td>highedu</td>
</tr>
<tr>
<td></td>
<td>0.105</td>
<td>0.0406***</td>
<td>3.700***</td>
<td>15.07***</td>
<td>8.073***</td>
</tr>
<tr>
<td></td>
<td>(0.0814)</td>
<td>(0.00354)</td>
<td>(1.312)</td>
<td>(0.668)</td>
<td>(0.0211)</td>
</tr>
<tr>
<td>gaest_total2</td>
<td>0.0705</td>
<td>0.0409***</td>
<td>4.756***</td>
<td>11.20***</td>
<td>11.40***</td>
</tr>
<tr>
<td></td>
<td>(0.0799)</td>
<td>(0.00354)</td>
<td>(1.219)</td>
<td>(0.744)</td>
<td>(0.0239)</td>
</tr>
<tr>
<td>gaest_total2</td>
<td>0.0734</td>
<td>0.0243***</td>
<td>3.487***</td>
<td>11.29***</td>
<td>11.29***</td>
</tr>
<tr>
<td></td>
<td>(0.0798)</td>
<td>(0.00332)</td>
<td>(1.178)</td>
<td>(0.417)</td>
<td>(0.0432)</td>
</tr>
<tr>
<td>gaest_total2</td>
<td>-0.00438</td>
<td>0.006667***</td>
<td>1.863***</td>
<td>3.596***</td>
<td>3.596***</td>
</tr>
<tr>
<td></td>
<td>(0.0745)</td>
<td>(0.00337)</td>
<td>(0.417)</td>
<td>(0.447)</td>
<td>(0.447)</td>
</tr>
<tr>
<td>gaest_total2</td>
<td>-0.0608</td>
<td>-0.0608</td>
<td>-0.0608</td>
<td>-0.0608</td>
<td>-0.0608</td>
</tr>
<tr>
<td></td>
<td>(0.0729)</td>
<td>(0.0729)</td>
<td>(0.0729)</td>
<td>(0.0729)</td>
<td>(0.0729)</td>
</tr>
<tr>
<td>Observations</td>
<td>2,563</td>
<td>2,563</td>
<td>2,563</td>
<td>2,563</td>
<td>2,563</td>
</tr>
</tbody>
</table>

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Now it can be observed that the coefficients of BR are much smaller and not significant in any of the models. All control variables, however, are significant on a 1% level or 5% in case of net migration rate.

6.3 Stakeholder perceptions in the Kristianstad municipality

Lastly, the results for the telephone survey are presented. All participants were residents in the municipality, 45% have been living there or 10 or less years, 15% for 11-20 years and 40% for over 20 years. When asked about the three most popular tourist attractions in the municipality, 45% included the Naturum visitor center (Table 4). The second most named single attraction was Åhus beach (30%), followed by Åhus town (25%). The BR Vattenrike shares the 4th place with the Forsaker waterfall and the Absolut Vodka Experience Center. Other answers include mostly nature related attractions, followed by other sights and experiences.

Table 5: Tourist attractions in the Kristianstad municipality

|---------------------|------------|---------------|--------------|-----------------------|-----------------------|---------------|----------------------|-----|---------------------|---|---------------------|---|
The subsequent question aimed to investigate the awareness about the BR designation. 60% were aware of its existence, 40% were not. After explaining about the BR to those who were not aware, the fifth question was asked about the impact the BR has on attracting tourists (Table 5).

**Table 6: Impacts on tourism attraction**

<table>
<thead>
<tr>
<th>Impact BR on attracting tourists</th>
<th>1 - no impact</th>
<th>2 - minor impact</th>
<th>3 - neutral</th>
<th>4 - moderate impact</th>
<th>5 - major impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>10%</td>
<td>30%</td>
<td>35%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Most of the participants (55%) perceived the BR to have a moderate or major impact on attracting tourists. 15% stated that the BR has no or minor impacts. 30% chose the neutral option. Next, opinions on the BR’s impact on economic development described as increasing taxable income for the residents was examined (Table 6).

**Table 7: Impacts on economic development**

<table>
<thead>
<tr>
<th>Impact BR on economic development</th>
<th>1 - very negative</th>
<th>2 - negative</th>
<th>3 - neutral</th>
<th>4 - positive</th>
<th>5 - very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>11</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>0%</td>
<td>55%</td>
<td>40%</td>
<td>0%</td>
</tr>
</tbody>
</table>

55% answered that in their opinion, the BR has neither a positive nor a negative effect on economic development. One participant (5%) perceived the impact to be very negative, whereas 8 (40%) of them state that the impact is positive. The last question aimed to portray stakeholders’ perceptions in regard to the Biosphere Reserve and tourism in the region (Table 7).

**Table 8: Stakeholder perceptions**

<table>
<thead>
<tr>
<th>Stakeholders perceptions</th>
<th>Respondent 1</th>
<th>Respondent 2</th>
<th>Respondent 3</th>
<th>Respondent 5</th>
<th>Respondent 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>positive: Kristianstad is an old and charming city; negative: big mall is built outside town - bad for small local businesses</td>
<td>guests come mainly because of the nature around the hotel</td>
<td>the BR is a positive aspect for tourism now, in some years it will play an even bigger role for tourism; Even though it has improved, the BR is still relatively unknown to tourists and visitors; It is mostly visited by locals who appreciate the proximity to nature and the variety of species</td>
<td>the nature is very nice in spring and a lot of foreign visitors come just for birdwatching (e.g. the cranes that arrive in spring)</td>
<td>problem: example new cycle paths: good idea because many tourists want to do that but bad implementation, no Fika /rest areas, signs missing or only in Swedish</td>
</tr>
</tbody>
</table>
Respondent 9 very bad tourism marketing from the municipality
Respondent 10 tourism has been important in the region for a long time; Absolut experience is hoped to develop into a big tourism attraction
Respondent 11 nice nature
Respondent 13 positive that many new things are going on, e.g. sightseeing boats
Respondent 14 happens so much, e.g. events; Absolut Experience will be an even bigger attraction in the future than it already is
Respondent 15 less guests come because we are not so active online and are not found so easily
Respondent 16 hope that the boat tours (Safaribåtarna) will continue, this was most appreciated by guests; for more economic development improvements are needed
Respondent 17 it is good that guests can do a lot of different things like golf, canoeing, biking etc.
Respondent 18 tourist information website could be better, focus mostly on summer activities; good: lots of sport activities like kart or motocross
Respondent 20 information for tourists should be improved, better signs are needed

Five participants chose not to answer. Nature and its importance for tourism in the municipality has been a recurrent theme which was mentioned by several participants. Positive aspects indicated were the many possibilities for activities, whereas lack of information or coordination as well as insufficient tourism infrastructure (e.g. signs) was mentioned negatively.

7 DISCUSSION

Considering that the overarching goal of the BR concept next to conservation is sustainable development, it is not clearly evident from the obtained results in this study that this is the case in the Swedish reserves. Even though there are, of course, many different influences on development indicators, municipalities with a designated BR do not seem to ‘perform’ better than those without. An aspect which certainly plays a role is the BRs’ location in mostly rural areas. This probably has an influence on economic development and other aspects. It would be rather incautious to think that a designation could make up for different disadvantages that may be present in those regions.

When it comes to tourism development, the results also rather point into the direction of the BR designation rather being a label. In regard to the average number of guest nights, the BR municipalities do not have an advantage overall. When the biggest municipalities Stockholm, Gothenburg, and Malmö are excluded, BR municipalities had a greater percentage increase in guest nights and more Swedish guest nights. In comparison to the overall Swedish average though, there is not much difference. This can have various reasons. Also in terms of tourism, the BRs are located away from the main foreign tourist generating regions which could explain the presence of more Swedish guests. Overall, however, there does not seem to be a big effect. The regression analysis confirms this suggestion. After controlling for socioeconomic and migratory variables, BR municipalities have on average significant lower expected log counts of guest nights than non-BR municipalities. Going even a step further, as soon as the three biggest Swedish municipalities are excluded, being a BR municipality is not significant at all when it comes to guest nights.
Even though this seems disappointing, the result can have several underlying reasons that we are not aware of, as those cannot be evaluated by the regression. It could be that BRs attract many local day visitors who do not appear in the statistic. Also, those have most likely less influence on tourism development in regard to added value for the municipality as they do not stay the night. In addition, the greatest share of tourists is still attracted by the most popular municipalities such as Stockholm, Gothenburg and Malmö, as they also cater for a bigger variety of tourism forms.

Therefore, it was all the more interesting to explore stakeholder perceptions in one of the BR municipalities. The survey with the lodging stakeholders in Kristianstad yielded indeed noteworthy insights. Regarding the three most popular tourist attractions in the municipality, 45% included the Naturum visitor center. The BR comes only at the 4th place together with the Forsaker waterfall and the Absolut Vodka Experience Center. It is interesting that 40% of the participants were not aware of the UNESCO designation, but at the same time, 45% mentioned the Naturum as one of the most popular attractions, which is the BR’s visitor center. Also, the Forsaker waterfall is located in the BR. Other places and also activities such as the crane watching in the BR also got mentioned in the survey, even though not repeatedly. However, if those are taken together, the single places and activities were stated more often than the BR itself as a whole.

This could indicate that the BR itself is not as important as the single attractions. One participant pointed out that especially the arrival of the cranes attracts a lot of tourists from abroad as well as from Sweden to do birdwatching. The question that arises now is if those tourists come for the fact that the area is a BR, as the event happens there. Probably not, as their main motivation is then birdwatching, which they would do regardless if the area is a designated BR or not.

This is also reflected in the results of the questions that followed. Even though 55% of the participants perceived the BR to have a moderate or major impact on attracting tourists, that still leaves 45% who stated that the BR has no or minor impacts or who were neutral. Regarding effects on economic development, 55% answered that in their opinion, the BR has neither a positive nor a negative effect. This result does not point to the BR being successful in reaching this part of its development goals.

When asked about their perceptions in regard to the Biosphere Reserve and tourism in the region, there were made interesting remarks from the stakeholders. On the one hand, nature was recognized as an important asset for tourism in the municipality and connected activities were pointed out as positive for further development. However, only one participant pointed out that the BR is positive for tourism and assumed that it will play a bigger role for tourism in the future. Even this participant mentioned that the BR is still relatively unknown to tourists and mostly visited by locals. Maybe the label does not stick out enough to be seen as a destination as itself. It does certainly not have the recognition to the extent of e.g. UNESCO World Heritage sites which often attract also many foreign visitors.
Other participants rather commented on single attractions or activities, such as the Absolut Vodka Experience Center. This is also pointed out to be an increasingly important attraction. Judging from the planned expansion with the goal to receive yearly around 120,000 visitors and aspiration to be a tourist magnet (Nordell, 2017), it seems that the main focus for tourism development in the municipality is predominantly not on the BR. This impression is confirmed by some respondents, who state that in their opinion the municipality’s tourism marketing can be improved as well as the implementation of new projects connected to the reserve area. One example that was mentioned is the development of new bike paths. Biking is a frequent activity done by tourists in the area which is why that seems to be a positive development. The respondent refers, however, to the insufficient implementation as not enough rest areas are available and signs, if existing, are only in Swedish.

When considering all these aspects, it seems that on the one hand, there is a gap between the results and stakeholders’ perception. Some of them do think that the BR has positive influences on economic and tourism development. On the other hand, several stakeholders also confirm the impression that the BR designation per se is not having a big effect. It rather appears that the destination’s assets are developed and people come to see them no matter if the area is a designated BR or not.

8 CONCLUSION

The aim of this thesis was to determine effects of the BRs’ designation on local development, focussing especially on tourism. The results have shown that, at least in the context of this study, the high expectations caused by the promising composition of the concept could not have been fulfilled yet. Also in the literature, many success stories have been communicated. It should be acknowledged that the BR designation can certainly have positive effects in some areas, raise awareness for issues that may otherwise be overlooked and encourage people to take part in the conservation of their living environment. However, it has not been proved to be the praised concept that fosters local development, at least not in regard to tourism. Tourism development is often used as a main argument in favor of the BR designation, which somehow contradicts the findings. If the BR designation is rather a decorative label, as suggested by the results, than anything that leads to substantial effects, it should be considered to use funds dedicated to those efforts for other projects that may aim for similar goals.

That does not mean the concept has no right to exist, all key aspects it is comprised of are valid and important, but it should be considered that further developing may also be possible without the label. It may not be needed to foster tourism, as its development does not necessarily depend on it. The main attractions and assets are probably marketed to tourists and developed further in any case.

Therefore, it would be useful for future research to investigate this from the demand side. It will certainly be interesting to study what tourists visiting the area think. What are their motivations to come to that specific place and how do they perceive the designation as a BR?
Concepts like the BRs present a playground for researchers from numerous disciplines and a main part of it also is being a living laboratory where efforts can be examined and new approaches for sustainable development can be tested. This is certainly worth striving for, however, if shortcomings become apparent, there should be no fear of thinking about alternatives.

9 REFERENCES


Bridgewater, P. (2016). The Man and Biosphere programme of UNESCO: rambunctious child of the sixties, but was the promise fulfilled? *Current Opinion in Environmental Sustainability, 19*, 1-6.


[https://openknowledge.worldbank.org/bitstream/handle/10986/6507/449860PUB0Box3101OFFICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y](https://openknowledge.worldbank.org/bitstream/handle/10986/6507/449860PUB0Box3101OFFICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y)


http://cf.cdn.unwto.org/sites/all/files/pdf/unwto_barom18_01_january_excerpt_hr.pdf


10 APPENDIX

Survey questionnaire

Process followed when contacting the potential respondents:

1) Inform about the topic of the study: Explain why the research is conducted and how the data will be used.

2) Inform about the expected time to complete the survey: 10 minutes

3) Inform about confidentiality and ask for recording permission.

Questions:

1. Do you live in the Kristianstad municipality? Yes/No

2. If yes, how long? years

3. In your opinion, what are the 3 most popular tourist attractions in the Kristianstad municipality? open

4. Are you aware of the existence of the UNESCO Biosphere Reserve “Kristianstad Vattenrike“? Yes/No

5. In your opinion, what impact does its existence have on attracting tourists? 1 – No impact, 2 – Minor impact, 3 – Neutral, 4 – Moderate impact, 5 – Major impact

6. How would you describe the BR’s impact on economic development (described as increasing taxable income for the residents) in the municipality? 1 – Very negative, 2 – Negative, 3 – Neutral, 4 – Positive, 5 – Very positive

7. What are your perceptions in regard to the Biosphere Reserve and tourism in the region?