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## Rethinking the economic valuation of natural land

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**Deep feelings around a shallow coast. A spatial  
analysis of tourism jobs and the attractiveness of  
nature in the dutch waddenarea**



#### **4. Deep feelings around a shallow coast. A spatial analysis of tourism jobs and the attractivity of nature in the Dutch Waddenarea<sup>20</sup>**

*Abstract* – The Dutch Wadden area is an internationally renowned natural area with World Heritage status. Its ecological uniqueness can be attributed to its shallow coastal waters. However, the Wadden area is also a rural area in search of competitive economic activity so as to provide employment to its population. The aim of the analysis is to ascertain the level of the contribution of tourism to different parts of the rural economy, and to examine which parts and aspects of the natural area are highly appreciated by visitors and thus may serve as immobile resources for the local economy. The results of our study indicate that the islands have a completely specialized local economy: tourism, while the share of tourism in the economy of the mainland coast is below the Dutch national average. The natural attractivity of the Wadden area relates mainly to the islands and the sea, whereas the mainland coast is very modestly appreciated for its natural qualities. Eight spatial clusters of attractive places are identified. The tourism employment level and the share in attractive places are assessed for each cluster. Although strongly attractive parts of the Wadden area are often spatially-related to huge numbers of visitors, they nevertheless lead to only modest employment figures. We also find that the natural attractivity of the Wadden area arouses deep feelings in visitors in that they experience priceless qualities such as the purity and immensity of the natural environment, and they feel strongly connected to nature. Our findings cast light on the need for an integrative management approach to the Wadden area as both a rural and a natural area, and meanwhile relating it to competing urban areas. An example of a suitable integrative policy would be one that accounts for the trade-off between the value of urban dwellers' deep feelings (as tourists) and the value of rural jobs.

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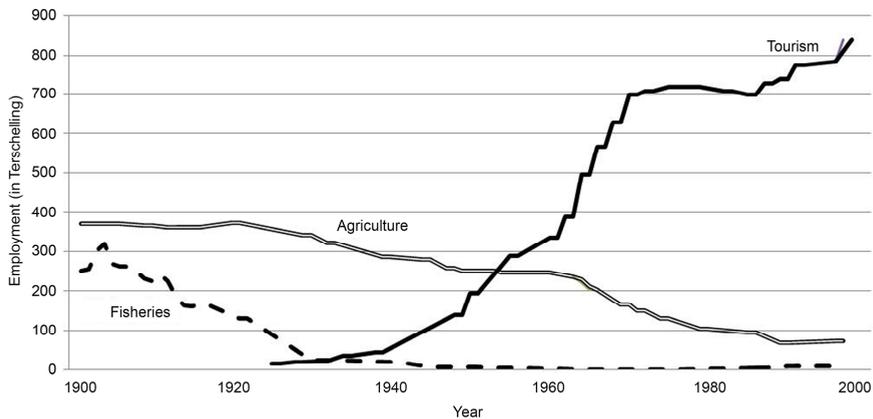
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## 4.1 Introduction

The Dutch Waddenarea is an internationally renowned natural area whose ecological qualities and uniqueness have been acknowledged by European Natura 2000 protection and by its World Heritage status. The Waddenarea is, however, also a rural area in search of competitive economic activity so that it may provide employment to its population. Tourism is a well-developed and competitive economic activity within the Dutch Waddenarea. This paper analyzes the role of tourism in the Waddenarea in a spatially explicit way, in order to shed light on the dual roles of different parts of the Waddenarea as attractive nature site and source of employment. The paper ascertains the level of the contribution of tourism to the rural economy, and examines which parts and aspects of the natural area are highly appreciated. We build on three strands in the scientific literature: tourism research with its focus on visitors, rural economics and regional development, and the measurement of landscape appreciation and explore the fruitful linkages between them.

The Tourism Area Life Cycle (TALC) concept is the most robust and widely used conceptual and managerial framework in tourism worldwide (Butler 2006a; 2006b). In the TALC concept the two axes, visitors and time, are central (Butler 1980). In this two-axis framework five evolutionary stages can be defined for a tourism area: exploration, involvement, development, consolidation, and stagnation. After stagnation, the evolution of an area may take a variety of routes, with rejuvenation and new growth at the upper extreme and decline and diminishing numbers of visitors at the lower extreme. Hovinen (2002) and Getz (1992) argue that some tourism areas in the later stages of development would be better classified in a stage of maturity, where “elements of consolidation, stagnation, decline, and rejuvenation co-exist” (Getz 1992, p. 762). There may be a case for classifying parts of the Dutch Waddenarea as ‘mature’ in this sense. Butler (1980) realized the value of his framework because of the lessons it brought to those “responsible for planning, developing, and managing tourist areas” (Butler 1980; 2006, p.11). Policy is important when determining the future direction of a tourism area, and policy options differ strongly for different stages in the life cycle. However, we think that, in order to gain a fuller understanding of tourism stages of development and accompanying policy options, insight into visitor flows is not enough. Our inspiration comes from a 100-year time series of employment in tourism on the Dutch island of Terschelling (Hoekstra 2009). This unique database was gathered during a specific study for this single island; data for the whole of the Waddenarea is not available. Tourism employment shown in Figure 4.1 depicts a TALC-like curve often seen in the development of tourism areas: it resembles the commonly used visitors/visits curves but is now shown for tourism employment. Furthermore, Figure 4.1 also shows employment in other parts of the economy of this rural area: employment in fisheries/maritime activity

and employment in agriculture. At the beginning of this period (1900-1930) the island was involved mainly in agriculture and fisheries. This was the time when tourists explored the island.



**Figure 4.1** – Employment at Terschelling in the three main sectors of the economy (1900-2000). Source: Municipality administration.

However, the period from 1900 to 1945 indicates the complete disappearance of fisheries and maritime employment. Hoekstra observed in this period the typical ‘involvement phase’ in tourism; and by the time the fisheries/maritime sector has virtually disappeared, the ‘development phase’ of tourism has started. The time period 1945-1970 represents a cross-roads, where agriculture is still significant, but tourism is also gradually becoming a substantial activity for the island economy. The study by Hoekstra (2009) included an analysis of newspaper articles throughout the 100 year period, which showed that to policy making during this time it proved to be unclear whether tourism would continue to flourish or if agriculture were to develop into the preferred economic activity on which to build the local economy. After 1970, however, agricultural employment reduces to a very modest amount and the island economy has by then become dominated by tourism, which not only has grown to a ‘mature’ phase, but is by now the driver of the whole rural economy of Terschelling.

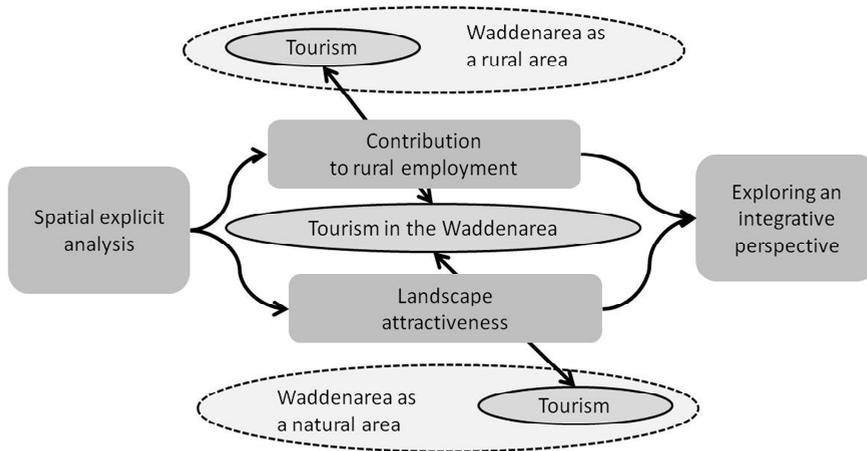
In this paper we take inspiration from the aforementioned illustration of Terschelling because it shows the importance of the relative degree of specialization – in terms of employment – of tourism. It is, in our view, a fundamental characteristic that enhances the understanding of policy options for regional development (Williams 2009; Deskin and Seevers 2011). From a regional development perspective, the (potential)

contribution of tourism to employment has been seen as essential for decades (George Hughes 1982; Polo et al. 2008). At a more general level, given the strong tendency around the world towards increased urbanization (McCann and Acs 2011), any rural area faces the challenge to develop and maintain competitive economic activities. According to Terluin, a rural region is an area “with one or more small or medium sized cities surrounded by large areas of open space, with a regional economy comprising agricultural, industrial and services activities, and a relatively low population density” (Terluin 2003, p. 328-329). The Waddenarea fits nicely into this definition. The contribution of different sectors to the employment possibilities of rural populations is critically important (Armstrong and Taylor 2000). Therefore, we will first assess the contribution of tourism employment to the local economy.

However, tourism may be a very special type of activity to the local economy, since it may be linked to immobile qualities of the area. Bryden and Munro (2000) argue that the increased mobility of capital, labour, information, and goods and services in the current era of globalization make these resources an unstable basis on which to build a development strategy. They emphasize that rural areas may build their competitiveness on immobile resources, of which environmental capital may be one important element. Camagni (2009) also points to the role of territorial capital in regional development; this approach to rural development focuses “on natural and cultural resources that are able to generate new forms of local development in the long term” (Daviet and Monge 2010, p.1497). We therefore turn to ‘the potential of the landscape as a factor for regional development’ as discussed by Dissart and Vollet (2011). We investigate the link between tourism employment and the appreciation of the natural qualities of the Waddenarea by looking at the spatial distribution of both elements. Several authors assert that spatial structure is essential to the understanding of the development of tourism and its potential (Hall and Page 2009, p. 6). Our analysis is therefore spatially explicit; we analyze which parts of the Waddenarea are highly appreciated and ask why. To understand the ‘appreciation’ of different natural parts of the Waddenarea we use results from the so-called Hotspotmonitor that builds on spatially explicit landscape appreciation techniques which have in recent years been used increasingly (Kytta 2011; Raymond and Brown 2007). The hotspotmonitor asks respondents to state which natural areas they find highly attractive and mark this place on an online map; permitting a spatial explicit view of attractiveness.

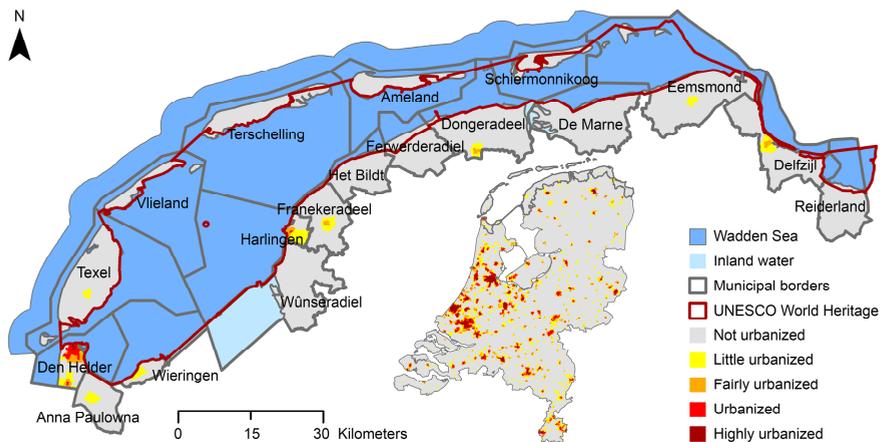
Figure 4.2 highlights our approach; we examine tourism in the Waddenarea by itself and by linking the rural perspective and the natural area perspectives of the area. The paper gives a spatially explicit analysis of the contribution of tourism to rural employment in the Dutch Waddenarea and the attractiveness of the natural area to tourists: how much do visitors contribute to the rural economy and is visitor appreciation

linked to unique immobile natural amenities? In the discussion we explore the integrative potential of our approach to the aforementioned strands in the literature.



**Figure 4.2** – The conceptual model of the paper relating to tourism in the Waddenarea: a spatially explicit analysis of the contribution to rural employment and the attractiveness to tourists

Before turning to our methods, we will first give a description of the Waddenarea and provide a general sketch of the visitor flows it attracts.



**Figure 4.3** – The Waddenarea as both rural and natural area. Sources: Statistics Netherlands; Common Wadden Sea Secretariat.

## 4.2 Description of the Waddenarea and its tourism

The Dutch Waddenarea is the northern-most coastal area of the highly urbanized Netherlands. Although only about 100 kilometers away from the core of the Dutch urban area, within the Netherlands it is generally regarded as a rural area. Various definitions exist for the Dutch Waddenarea, in which some are ecologically-based and others are economically-based. For our purposes here, with our rural area and policy focus, the most fitting and widely used definition seems to be the 18 municipalities bordering the Waddensea that include water (see Figure 4.3). We use this 'rural area' definition throughout the paper.

Figure 4.3 depicts this definition and highlights the (low) degree of urbanization in the Dutch Waddenarea in confirmation with Terluin's (2003) definition; given above. In 2009 around 258,000 people lived in this Waddenarea; of which 24,000 at the Wadden islands. The Waddenarea is also a valuable natural area with distinct ecological qualities. Towards its furtherance as a natural area, the conservation and strengthening of the Waddenarea's current ecological qualities is an essential goal; the implication here is to prevent degradation of the area by external forces and other economic activities. Several ecology-driven protection policy regimes have been formalized in order to reach this goal for different parts of the Waddenarea. For example, the 1998 Dutch Nature Conservation Act is operational at the national scale; Natura 2000 is in force at the EU scale; and World Heritage regulations are in force at the global level. Figure 4.3 indicates rural parts of the Waddenarea as well as its municipal borders, and the delineation of the World Heritage area that covers mainly the Wadden Sea and, to a lesser extent, the islands and the mainland.

### 4.2.1 Tourism and visitors in the Waddenarea

The Waddenarea is a very popular tourism area; tourists spend an estimated 6,5 million nights in the region each year. Three main areas within the Wadden can be distinguished: the Wadden islands, the Wadden Sea and the mainland coast.

#### *Wadden islands*

The Dutch Wadden islands (also known as the West Frisian islands) have developed into very popular holiday destinations. In 2010 1,2 million visitors spent 5,1 million nights on the Wadden islands. Tourists in the Waddenarea arrive mainly from the Netherlands (83% visitors; 76% nights), Germany (14%; 22%) and Belgium (1,5%; 1,2%). The number of nights spent on the islands by Dutch tourists during the period 1998-2009 was approximately four million each year, varying between 3,7 million and 4,2 million. Over half of all Dutch people have visited at least one of the islands, mostly on family holidays, and repeat visits are high.

The number of nights spent by German visitors has decreased quite strongly: from around 1.7 million nights in 1998/1999 down to 1.0 million in 2009. The development of tourism in the competing coastal area of former East Germany appears to be relevant to this decreased attractiveness. Due to the decline in German visitors to the Wadden islands, the share of foreign tourists in the total number of tourists has also decreased from 30% to 22%, highlighting the relevance of the TALC concept with its focus on competition between tourist destinations.

Although the Wadden islands are often regarded as a group, there are noteworthy differences among them. For instance, in the ferry distance and price, Texel, the western-most and most popular island, is situated close to the mainland; it takes about 10 minutes to cross and is low cost. Conversely, Vlieland and Terschelling are the most remote; crossing takes over 90 minutes with the most popular ferries, and the fee to cross is more expensive. Ameland and Schiermonnikoog, the most eastern islands, are in between in both distance and crossing cost.

#### *Wadden Sea*

The number of recreational sailing movements on Wadden Sea has doubled over the past 25 years (Sijtsma et al. 2008). Data from Waterrecreatieadvies show that approximately 350,000 nights are spent on boats in harbours around the Wadden Sea; most of these nights were spent at the Wadden islands (87%) and along the mainland coast in the harbours of Harlingen, Delfzijl and Den Helder (Waterrecreatieadvies/Oranjewoud 2010).

Tourism activity at sea may be divided into three general categories. The first category of recreational sailing is carried out on sailing ships; more luxurious, larger boats sail mainly through the large fairways in the western Wadden Sea. A second category consists of shallower boats that sail the ecologically more vulnerable east-west route; they may anchor and ‘fall dry’ at low tide. A third category includes nearly 400 ships of the charter fleet (‘brown fleet’), which carry recreational and tourist groups. A modest but stable form of recreation known as mudflat walking, is mainly done in the eastern Waddenarea.

#### *Mainland Wadden coast*

Tourism at the mainland coastal area is far less developed and different in character. The nights spent by tourists in the area was estimated at around 21% of that of the Wadden islands: one million visitors each year. The area has a few smaller size cities, such as the industrial and port cities of Den Helder, Harlingen and Delfzijl. These cities have witnessed slow economic growth in the past decades. Tourism and recreation may therefore help to improve their performance, including large events such as Delfsail and

the Tall ships Race. In 2008 more than 600,000 visitors flocked to see Delfsail in Delfzijl and the Tall Ships Race in Den Helder attracted 350,000 visitors. The rest of this peripheral rural area is a haven of peace and quiet, especially when compared to the high-density hubbub of the Dutch urban core, the Randstad. Tourism in rural areas is mainly concentrated in the municipalities of Wûnseradiel (the IJsselmeer) and the Marne (Lauwerslake). Moreover, other non-urban attractions such as the seal sanctuary in Pieterburen (De Marne) and Fontana Spa Nieuweschans (Reiderland) are popular two-day excursions.

### **4.3 Materials and methods**

#### **4.3.1 Employment**

For recent employment information (1996-2007), we use LISA data at the municipality level in order to account for all types of employment, including parttime jobs. Employment data in LISA are available for every Dutch municipality, at a detailed sectoral level, and are based on the Standard Business Categorization (two versions: SBI'93 and SBI'08). For data before 2008 we use the SBI'93 version; for more recent years we use the SBI'08 scheme. However, according to the SBI, there is no clearcut 'tourism or recreation' sector. To identify 'tourism' jobs, we use two approaches. The first and narrow approach to tourism employment uses the accommodation industry employment; 'section' number 55 ('Logiesverstreking' in Dutch) in the SBI'08 scheme. This section lists employment in hotels, cafés, restaurants, holiday parks, camp sites, etc. We use this narrow definition for the spatial explicit analysis of 'tourism' employment. However this accommodation employment does not include employment in museums, swimming pools, bike rentals, various sports, etc., while this employment is tourism fueled (Leiper 1999). To measure the degree of specialization and/or dependence of the rural economy upon tourism we therefore use an approach developed by the Netherlands Environmental Assessment Agency (PBL), which measures broader 'leisure' employment. At the most detailed level of the SBI'93, PBL identifies 88 categories as 'leisure' activities, including the total (11 categories) of the hotel and catering industry (for details, see Sijtsma et al. 2008). In this paper we call this most inclusive measure, the 'leisure' employment.

#### **4.3.2 Spatial aspects of attractivity**

To assess the attractivity of places within the Waddenarea, we use Dutch data from the Hotspotmonitor. The aim of the Hotspotmonitor is to gather hotspots of landscape experience, places with high attractiveness in general, and attractiveness for specific experiences (peace and quiet, biking, bird watching, etc.). The Hotspotmonitor builds on spatially explicit landscape appreciation techniques which have in recent years been used

increasingly; techniques like the the SoftGIS method (Kytta 2011 ) and the value mapping (Raymond and Brown 2007; Brown 2011). It can also be seen as part of the trend to integrate the possibilities of GIS in Cost Benefit Analysis (see Bateman et al. 2005). The Hotspotmonitor is web-based and builds on the widely used Google maps tool; respondents mark attractive places on this map. The hotspotmonitor asks respondents to state which natural areas they find highly attractive and mark this place on an online map; permitting a spatial explicit view of attractiveness. The central question for respondents in the Hotspotmonitor is the following: Which places do you find very attractive, valuable or important? And why? The Hotspotmonitor was designed to measure preferences for nature or water and therefore limits the possible answers of respondents. They are instructed that places may be “both within or outside a city or village. The only condition is that places should be green and/or include water or nature.”

The Hotspotmonitor database contains two national datasets which are potentially useful in our context. The first (using Hotspotmonitor version 1.0) is a set of 3300 respondents in the Netherlands grouped into six spatial concentrations. These respondents represent the Dutch population as to age, gender and other non-spatial aspects. Respondents in this dataset marked in 2010 two attractive places on the national map. The second dataset comprises a total of 1781 respondents who are members of the largest Dutch private nature conservation organization Natuurmonumenten. They answered the online questionnaire (Hotspotmonitor version 1.9) in 2011 and marked one attractive place on the national map. Although this latter database (more elderly people, more highly educated) is not a fully representative sample of the Dutch population, it nevertheless contains a spatially random distribution across the Netherlands. Visual inspection of the maps of both databases reveals a roughly comparable picture, but the first dataset apparently has some over-representation in the Lauwerslake area (between De Marne and Dongeradeel), which may be due to the spatial clustering of respondents in Groningen. As our main focus is the spatial explicitness of attractiveness, we opt for the second dataset which has an advantage over the first in that it has richer possibilities for analyzing textual expressions of attractiveness. Respondents in the second database were asked to describe in their own words the attractiveness of the place they mark; while in the first dataset respondents were asked to address closed categories first and then give a small open response possibility. In the second dataset 320 markers have been placed in the Waddenarea.

This database thus contains spatially explicit information as to which places people value highly, and why they value them. After respondents place a marker on the map, they are asked several questions. In the paper we use the answers to the following questions:

- Can you describe, in your own words, why you find this place attractive? (open question);
- I find this place attractive because of [answer] (closed question; multiple answers possible);
- What activities do you engage in at this place? (closed question; multiple answers possible).

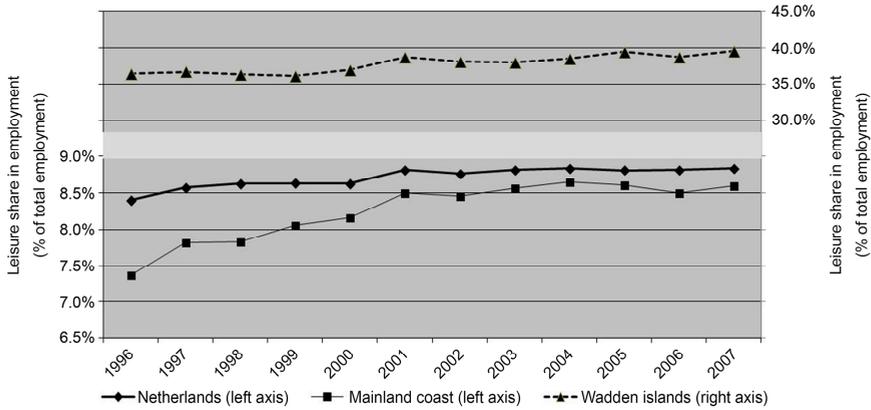
## 4.4 Results

### 4.4.1 Tourism employment in space

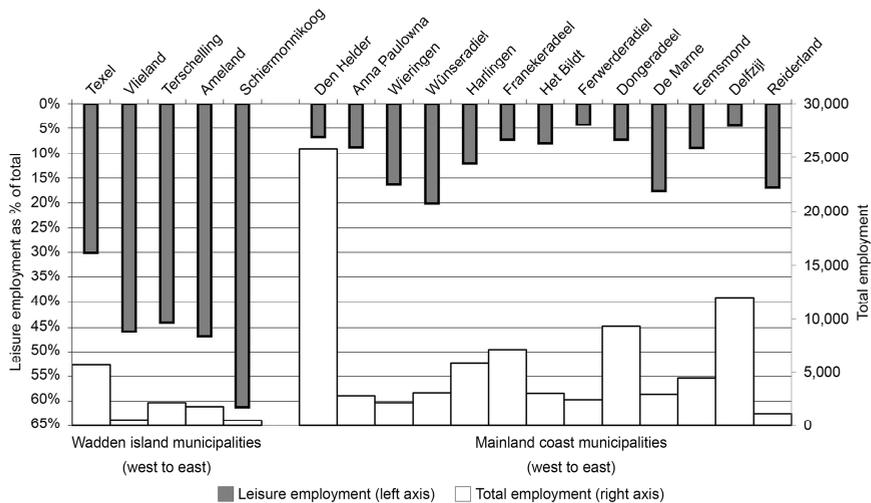
During the rise in the Dutch economy over the period 1996-2007, the Waddenarea as a whole lagged behind in terms of employment growth (Sijtsma et al. 2008, p. 10-12). However, although total employment growth in the Waddenarea did not keep pace with the national trend, leisure employment proved to be a relatively strong performing sector, while there was only a modest difference between the growth rate of leisure at the Wadden islands (19,8%) and that of the mainland coast (17,6%) between 1996 and 2007. For the weakly performing coastal area, this was a growth rate four times the average in its overall economy (Sijtsma et al. 2008). Due to this relatively strong growth, leisure employment gained importance in the total economy, as shown in Figure 4.4 the share of leisure in total employment has grown to nearly 40% at the Wadden islands; revealing a very high degree of specialization. The share of at the mainland coast was below the national average of 8,5%, but during this period caught up substantially, and began moving closer to the national average.

In Figure 4.5 we give a more spatially detailed view of the tourism economy in the Waddenarea by showing the leisure employment as part of the economy of 18 different Wadden municipalities. Figure 4.5 draws from employment data from the LISA database for year 2007. Employment is measured here as the total number of all jobs, including part-time, from 1 hour (+) per week. The 18 Wadden municipalities are illustrated in two groups; on the left are five Wadden island municipalities, and the municipalities on the mainland coast are depicted on the right side of the figure. Both groups are shown from west to east.

The overall economic structure of the Waddenarea clearly indicates that the Wadden islands are indeed small 'island economies'. Texel is by far the biggest island of these, with over 5000 jobs; Terschelling and Ameland have around 2500 jobs, while Vlieland and Schiermonnikoog have nearly 500 jobs. On the mainland coast Den Helder is the largest municipality in total employment, with over 25,000 jobs in 2007. Employment in Den Helder is dominated by the Royal Dutch Navy, and by firms that



**Figure 4.4** – Leisure employment in the Netherlands, the Wadden islands and the mainland Wadden coast (1996-2007). Source: LISA.



**Figure 4.5** – Employment and leisure employment in the different municipalities of the Wadden area (2007). Source: LISA.

operate in the the oil and gas sector in the North Sea. After Den Helder, Delfzijl and the municipality of Dongeradeel have the most jobs. If we focus on the extent of leisure specialization, i.e., the share of recreation and tourism related employment within the total employment number, the darker bars in Figure 4.5 reveal that the Wadden islands have

substantial shares of tourism employment, ranging from 30% for Texel – to over 60% for Schiermonnikoog.

Tourism is, however, limited at the mainland coast, it reaches 20% in Wûnseradiel (where tourism is mainly located at the IJssellake) and De Marne (Lauwerslake). Leisure employment comprises around 7% of the total employment in Den Helder.

#### **4.4.2 Spatially explicit structure of employment and attractive areas**

Tourism employment and nature appreciation for the whole of the Waddenarea are spatially explicit in Figure 4.6. With regard to employment, this presentation nicely shows the overall dominance of Texel (compare Figure 4.5). The figure also shows that at Schiermonnikoog and Vlieland employment is concentrated in the single small villages of these islands, but that the other islands are more ‘covered’ with tourism employment. Figure 4.6 indicates the tourism employment in the Waddenarea and depicts a sharp contrast between the islands and the mainland coast. Only a few clusters exist on the mainland coast and these are located mostly in urban centres and around Lauwerslake.

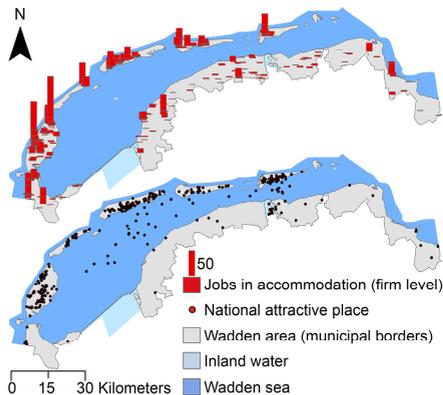
Figure 4.6 shows the spatial structure of the results of the Hotspotmonitor, in particular we can observe that the natural parts of the Waddenarea are highly appreciated by the Dutch members of Natuurmonumenten. Dense clusters of attractive places are found at the five larger Wadden islands (Texel, Terschelling, Ameland, Vlieland, and Schiermonnikoog) and Lauwerslake, while a less dense but nevertheless rather strong attractiveness is ascribed to the Wadden Sea. Although it covers the largest amount of land in the Waddenarea, the mainland receives scant appreciation. It is furthermore interesting that, taking in mind the World Heritage borders of Figure 4.3, no more than 29% of the attractiveness markers are placed in parts of the Waddenarea with World Heritage status.

When we compare the pattern of the attractive places with the recreational employment pattern, perhaps the most remarkable difference is between land and sea on both maps. The spatially explicit pattern of attractiveness strongly relates to tourism employment on the islands, but not at sea.

#### *Employment and tourist activity in eight attractive spatial clusters*

The spatially explicit approach in this case study shows that various clusters of attractive areas within the Waddenarea can be identified. The five islands clearly have their own separate attractiveness. The name of the specific island that they put their marker on is often mentioned by respondents who also regularly refer to the whole island in their evaluation. One in 10 respondents indicate that they preferably would have marked the whole Waddenarea. Apart from the five clusters at the islands, we observe a cluster at the sea

and one cluster at Lauwerslake. Finally, although not an actual spatial cluster, we treat the remaining markers below (the mainland coast) as one group, and for simplicity, call it a cluster too.



**Figure 4.6** – Tourism employment (SBI'08; 55) (above) and nationally attractive places (Hotspotmonitor markers) (below) in the Waddenarea. Source: LISA and Hotspotmonitor.

Table 4.1 shows that Texel is the dominant island, both in terms of clusters of attractivity markers and employment. Jobs and natural attractivity do not automatically co-occur to the same extent, however. Terschelling and Ameland for instance have a similar number of jobs, but Terschelling is valued higher in terms of natural attractivity. Three clusters Terschelling, Schiermonnikoog and Lauwerslake apparently have a relatively low share of employment compared to the attractivity markers. We note that the mainland coast in particular has a relatively high share of employment, given its low level of natural attractivity. Tourism attractivity appears to be more connected to cultural aspects as the for instance the substantial cluster of tourism employment in the city of Franeker shows. However, the sharpest difference is found in relation to the sea cluster, where we report 16% of the natural attractivity markers. But the jobs are elsewhere.

In the Hotspotmonitor, respondents mark the activities they undertake from a list of 23 predefined categories (see [www.hotspotmonitor.eu](http://www.hotspotmonitor.eu)). Table 4.2 shows the top10 activities in the clusters of our analysis. Many of the six most popular activities, hiking and observing (all) nature biking, cycling, sitting or tanning, sitting at a terrace or café, and observing birds appear consistently everywhere. People marking the sea include

**Table 4.1** – Share of attractivity markers compared to the share of tourism employment for 8 parts of the Waddenarea.

Cluster	Share of markers (% total)	Share of employment (% total)
Texel	88 (28%)	679 (31%)
Vlieland	17 (5%)	157 (7%)
Terschelling	66 (21%)	291 (13%)
Ameland	22 (7%)	272 (13%)
Schiermonnikoog	40 (13%)	160 (7%)
Lauwerslake area	13 (4%)	25 (1%)
Sea	52 (16%)	0 (0%)
Mainland	22 (7%)	598 (28%)
<i>Total</i>	<i>320 (100%)</i>	<i>2.157 (100%)</i>

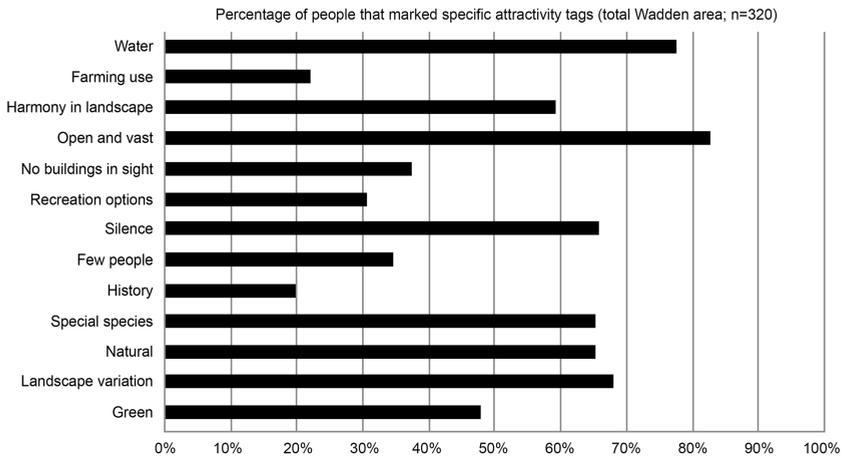
activities which are only possible when their boats are in the marinas; activities like cycling. Several top activities are popular (nearly) everywhere; activities like hiking and cycling, but we see stronger differences for the lower part of the top10 activities: we note for instance ‘Touring by car’ at Texel and the mainland coast, ‘Sailing’ at the sea and ‘Observing birds’ at Lauwerslake.

#### **4.4.3 Valuation of the Waddenarea’s immobile resources / the depth of the attraction**

Figure 4.7 shows which attractivity tags of the Waddenarea the 320 people marked. The number one attractivity experience is the openness and vastness of the area; over 80% of all respondents mark this as a major quality. The second major source of attractiveness is the water. The list of 13 possible items was designed to assess every type of landscape and is thus not specific to the Waddenarea. However, Figure 4.7 shows that seven of these general qualities are marked by over 50% of respondents, signifying the richness of its landscape attractivity.

Figure 4.7 shows the qualitative attractiveness of the area using closed answer categories. However, the Hotspotmonitor also asks respondents to state in their own words the attractivity of the marked area. We present these results on an online map . Here we will highlight two aspects. First we show below a so-called Wordle (created at [www.wordle.net](http://www.wordle.net)) in which all open answers have been processed (Figure 4.8). A Wordle is based on word counts; words that occur very often are large, whereas words that are mentioned less often appear smaller.





**Figure 4.7** – Attractivity tags marked by respondents of the Hotspotmonitor.

Respondents' own words seem to enrich the information of the closed attractivity tags (from Figure 4.7), which have been designed for every type of landscape. For instance, the 'water' and 'open and vast' attractivity tag was ranked highly with the closed tags, but the word 'water' was mentioned only 19 times and the word 'vastness' only 10 times. The most often used words by the 320 respondents who complete this open field are: 'nature' (82 times), 'sea' (54) 'beautiful' (51) and 'birds' (48). The words 'space' (40), 'island'(39), 'peace' (35) 'beach' (34), 'quiet' (29), 'Wadden' (24) and 'dunes'(22) also rank high on the map. Words such as island, beach and dunes support the placing of the markers shown above, which are oriented more towards the North Sea coastal area, with its sandy beach and its dunes, than to the muddy Waddensea. From an ecological point of view, it may be of some interest that 'birds' is mentioned 48 times, 'plants' 12 times, but 'seals' is mentioned only 4 times.

Finally, we would like to highlight an important extra quality to people's own words. When reading through all the open answers, we thought that the systematic data presented above still seemed somewhat superficial, given the content of the deeply felt attractiveness that some respondents chose to put into words.

Table 4.3 gives a selection of quotes that struck us for their uncommonly deep wording, including 'priceless' and 'pure', and 'vulnerable'. Or in other instances respondents comment that they 'experience the immensity of nature' and 'commune with nature'. We could have easily made the list twice as long. The aforementioned examples clearly indicate that the Waddenarea, a shallow coastal zone, arouses deep feelings of attraction in several tourists.



of income and jobs to the local community. We have presented a spatially explicit analysis of tourism jobs and attractivity of the natural parts of the Waddenarea, but we would now like to inquire into the merits of this type of analysis.

#### **4.5.1 Enriching TALC**

We have shown that an analysis of employment, rather than emphasis on visitor numbers, may serve to highlight the stages in the tourism lifecycle (TALC). Looking at the continuous strong employment performance of the Wadden islands, even given a decline in the important German segment, this might be seen as typical for a highly specialized and ‘mature’ tourism economy, one that may not be automatically stable or non-declining, but one which is nonetheless vital and innovative in a competitive environment. Following Getz and Hovinen, ‘mature’ may then be the preferred term, since “elements of consolidation, stagnation, decline, and rejuvenation co-exist” (Getz 1992, p. 762; Hovinen 2002). In other studies: Agarwal (2002) for British seaside destination, and Claver-Cortés et al. (2007) for ‘sun-and-sand’ Benidorm, show that this is not an uncommon phenomenon for mature locations elsewhere (Vera-Rebollo and Rodríguez-Sánchez 2010). Analysing both employment and visitors seems to help a better understanding of the life cycle stage that a tourism area is in.

#### **4.5.2 Visitors versus jobs**

But there is more to learn from our analysis of tourism. One may easily be impressed by the huge number of visitors that the Waddenarea attracts, and especially the Wadden islands. In the whole Waddenarea we estimate a total of 6,5 million visitor nights per year. To the Wadden islands 1,2 million visitors per year visit a rural economy with the size of around 11 thousand jobs (see Figure 4.5) and 24 thousand inhabitants. From a rural development perspective in which employment for the local population is a key aspect, we may thus see that huge visitor flows lead only to modest employment figures (Leiper 1999).

On the mainland coast, tourism comprises about 8,5% of overall employment. Although tourism is growing slightly in its relative share in the mainland coast area, further tourism development in the whole area may have to entail greater absolute importance to the regional economy in order to prevent tourism attractiveness from being undermined by industrial and other economic developments that use the same space. The fact that the coastal region is open and vast, pure and clean, may be valid from a tourism perspective, but in recent years (environmentally speaking) gritty industrial development has also found attractivity in the same Waddenarea space. For instance, a large waste burning plant is under construction at the city of Harlingen, and at Eemsmond a series of large scale power plants, one of which is coal-fueled, are in the planning stages or under

construction. It is here at the crux between tourism and employment that we can highlight a major policy dilemma: that a robust tourism sector can hardly be realized in the absence of a strong position in the regional economy; i.e. a sizeable share of employment. Otherwise, the ‘mere space’ attractiveness of the region will dominate the ‘tourism space’ attractiveness. Inspired by Bryden and Munro (2000) and by landscape appreciation research (Kyttä 2011; Raymond and Brown 2007) we examine the attractiveness of the immobile resources and find that the mainland coast has very limited attractiveness of its natural resources. This clearly fits the spatial pattern of tourism jobs across the regions, but then we may ask how the mainland coast may profit more from tourism, when at the present time the attractiveness of the area is limited. How might tourism be balanced with industrial activities – that appear to have greater bargaining power – and seem to bring in more jobs? A challenging dilemma indeed.

#### **4.5.3 World Heritage potential?**

The spatial analysis of attractiveness using the Hotspotmonitor clearly shows different clusters of attractiveness in the Waddenarea and the different qualities perceived by visitors (McNamara and Prideaux 2010). This analysis incidently also sheds light on the possibilities for the Waddenarea to use its recent World Heritage status. Will this status help it to attract more visitors from beyond its Dutch, German and Belgium marketing area? Will the Waddenarea World Heritage designation lead to enhanced competitiveness and to a larger contribution to the rural economy (Cellini 2011; Yang and Lin 2011)? In general, this might be the case, since tourists often rely on the World Heritage brand in their selection of holiday destination (Ryan and Silvanto 2009). And given the relatively modest number of foreign visitors, it seems that there is potential, especially if organized trips can be arranged which combine other Dutch highlights like Amsterdam or other (Dutch) World Heritage sites. However, our spatially explicit analysis has apparently identified a major drawback; we detect a spatial mismatch between the demarcation of World heritage site and attractiveness to tourists. When we refer to numbers, we can observe that tourists very much appreciate the Wadden islands but they appreciate the Wadden Sea far less. The World Heritage area mainly includes the sea area, and only a few discrete parts of the Wadden islands. In all, only 29% of the markers were situated in the World Heritage area, which ostensibly limits the opportunities to attract large numbers of tourists; but it does suggest that a demarcation as World Heritage site to include the islands would give more potential.

#### **4.5.4 Trading-off urban deep feelings against rural jobs?**

Finally, we would like to explore the depth of the feelings respondents show when they describe the attractiveness of the Waddenarea, and its possible relation to rural jobs. As we showed above, one may be struck by the sometimes deep feelings of attractiveness that

people have for the area. Let us for instance consider MarkerID 2503 from Table 4.3 “Experienced precious and intense moments, both sailing and falling dry. This area is so dynamic and autonomous. It has a strong presence, but is also vulnerable and sometimes tranquil.” This respondent has a sailing boat (with the possibility of falling dry). But what about the economics and jobs of this deep felt attractivity? Having a sailing boat is quite expensive, as is having it in a home harbor and maintaining the boat. But these economics may not lead to jobs in the Waddenarea, no matter how deep the attractivity is! Typically many sail boats have their home harbor outside the Waddenarea, for instance in Lelystad, which is about 80 kilometers away from the Waddenarea and is closer to the urban core of the Netherlands. The deep-felt experience may lead to a couple of nights spent at the marina at say, Terschelling, thereby contributing to a job there. But how to assess this deeply felt attractivity in light of such a modest contribution to the rural economy? This is an issue that goes beyond the scale of the rural Waddenarea. In another paper (Sijtsma et al. 2012) we discussed people who live in urban areas with limited green space, and (for this reason) spend more holiday nights away from home. Likewise, it seems that attractivity of the Waddenarea is actually an urban–rural relation issue, involving a broad notion of well-being. A notion that exceeds well-being related to having a job, but instead includes ‘higher motivations’ as Maslow would call these deep feelings of tourists (Heylighen 1992; Bina and Vaz 2011). From a somewhat broader economic perspective in which urban and rural areas compete for the same economic activities (McCann and Acs 2011), should we then not with Bryden and Munro (2000) and Camagni (2009) also consider the immobile resource in urban areas, e.g. concentrations of real-estate and infrastructure? Within such a broader perspective (Meijer 1998) policy choices then have to be made at a different spatial level, in which it may even be an optimal rural development strategy to choose for less jobs but consolidation or more depth of attractiveness, and allow for the jobs to grow in the urban areas. Once again, this concern poses a challenging policy dilemma, and requires further research.

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