

Visitor Management by Visitor Monitoring? Methodological Approach and Empirical Results from the Wadden Sea National Park in Schleswig-Holstein

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Abstract: Even today monitoring in most large nature reserves is mainly concerned with ecological environmental observations. Socio-economical parameters and special parameters concerned with tourism are rarely part of such programmes. This is not the case in the Schleswig-Holstein Wadden Sea National Park (SH-WSNP). During an extensive ecosystem research project the necessary basis for a better understanding of the structure and dynamics of the Wadden Sea was made. The local population and economy of the Wadden Sea region, especially tourism, played an important role in the project right from the start. The knowledge gained by the project was used as a basis for the revision of the national park law and in the concept for an interstate monitoring programme for the Wadden Sea. The three modules of the socio-economic monitoring (SEM): SEM-Regional, SEM-Trend and SEM-Poll document the, for Germany, unique and thus innovative character of this monitoring programme which is orientated towards comprehensive data collection and assessment. Extensive experience with different methods and results of the quantitative and qualitative monitoring of visitors were gathered during a three year test phase. The possible use of the results for an optimisation of the management of visitor flow in and adjacent to the National park and for more targeted information and public relations work are discussed.

INTRODUCTION

Monitoring² is a well established tool in protected areas and the field of environmental issues. It can be regarded as an integrated part of national park or nature reserve management and it is vital in order to control i.e. the efficiency of management measures or the ecological situation for endangered species and biotopes. The necessity of monitoring these ecological aspects can not be doubted. However, the dominating concept of monitoring seems to consider man solely as an impact factor and in a more or less negative way. With respect to the Wadden Sea, Kellermann et al. (1994) define monitoring as repeated measurement of „parameters which indicate the status of the Wadden Sea and of each of its compartments (...) or activities or natural and anthropogenic inputs which may affect the quality of the environment or the effects of such activities“.

On the other hand in research models such as Man and Biosphere projects (Kerner et al. 1991) or ecosystem approaches as in the Wadden Sea Region (Leuschner 1988, Stock et al. 1996) social and

economic systems are an integrated part. They define the relationship between man and nature with reciprocal action. Thus the consequences and effects on the anthropogenic system deriving from the natural system or its protection are equally regarded.

It is this theoretical and empirical concept of reciprocal action which actually seems to meet practical management needs. To achieve protection of nature against the will of people and visitors has proved futile in many cases, at least it demands a steadily growing effort with extensive measures for controlling and prosecuting prohibited actions and behaviour. To monitor attitudes of visitors and the local population towards nature protection can therefore be very useful. Last but not least it is also a legally and politically fixed goal for nature reserves and National parks to inform their visitors and to enable a special kind of nature experience (IUCN³ 1994). Visitor management in a broader sense of the word therefore is more than just guiding people and keeping them away from sensitive areas. Besides control and management measures it comprises nature education, information, guidance, even tourist packages. A rising need for non governmental funds and sponsoring puts forward the need to know more about the visitors, their expectations and

² A short definition is given by BAYFIELD (1997) „Monitoring is to record change“, whereas HELLAWELL (1991) describes monitoring more detailed as „intermittent (regular or irregular) surveillance carried out in order to ascertain the extent of compliance with a predetermined standard or the degree of deviation from an expected norm“.

³ International Union for Conservation of Nature

willingness-to-pay. This sums up to a monitoring concept which also supplies information for advanced visitor marketing.

The case of the Schleswig-Holstein Wadden Sea National Park (SH-WSNP) illustrates the long process of putting these experiences into a working socio-economic monitoring system (SEM). Although the original research concept (Leuschner 1988) for the area was already based on a reciprocal approach, it took 6 years of socio-economic basic research within the ecosystem research program and another 6 years from presentation of a monitoring concept (1993) to establish SEM in the National Park office in Tönning (Möller & Feil, 1997). Today it is the most comprehensive socio-economic monitoring system that includes a continuous visitor monitoring in nature reserves and national parks in Germany.

THE SEM – CONCEPT: AN HOLISTIC APPROACH ON MONITORING THE ANTHROPOGENIC SYSTEM RELATED TO THE WADDEN SEA NATIONAL PARK

The SEM – Modules

Socio-economic monitoring performed in the region of the SH-WSNP consists of three modules (figure 1):

- A basic monitoring "SEM Regional" describes the development of the regional population and economic structure;
- A second module "SEM Trend" focusses on quantitative and qualitative data about park visitors, e.g. numbers, visitor structure, publicity and valuation of national park attractions, attitudes and motivations;
- "SEM Poll" provides information on knowledge, profile and acceptance of the

national park within the region itself and nationwide.

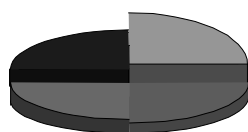
VISITOR MONITORING – STRUCTURE AND EMPIRICAL INSTRUMENTS OF THE MODULES SEM TREND AND SEM POLL

SEM Trend combines visitor counts, surveys of visitor structure and visitor polls using face-to-face interviews at 16 locations (figure 2 – map of study area) which serve as entrances to the national park. The geographical situation – the landward boarder of the national park stretches along about 450 km of coastline and island shores, principally accessible at any time - required the selection of a few typical sites for the counts and opinion polls. Their number is also limited by financial and work resources. Selection of locations followed two criteria:

- Locations on islands, Halligen and at the coastal mainland along the national park boarder;
- hot spots of tourism, locations with moderate visitor frequency and day trip destinations.

An important precondition was the presence of national park service ranger at the respective coastal section, who simultaneously carried out the counts and interviews at the selected locations. Workers were thoroughly and repeatedly trained to minimise probable bias caused by the interviewers.

SEM Poll uses the instrument of representative (computer-aided) telephone interviews with random sampling. Co-operation with a neighbouring university of applied sciences was established in the case of the opinion polls of local residents. An independent market research institution was charged to carry out the nation wide poll.



SEM Regional

We trace the economic development and future perspectives of the region in order to foster sustainable use

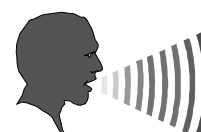
- Official statistics and data of
- population
 - regional economic structure
 - labour market
 - environmental trends



SEM Trend

We watch the development of visitor numbers, type and intensity of leisure activities as well as expectations and travel motives of park visitors

- Performance of
- counts
 - visitor polls
 - extrapolation



SEM Poll

We are interested in opinions, wishes and criticism of people who live in the national park region as well as of holiday makers from all over Germany

- Representative sampling of
- local residents
 - German citizens

Fig. 1: Modules of socio-economic monitoring

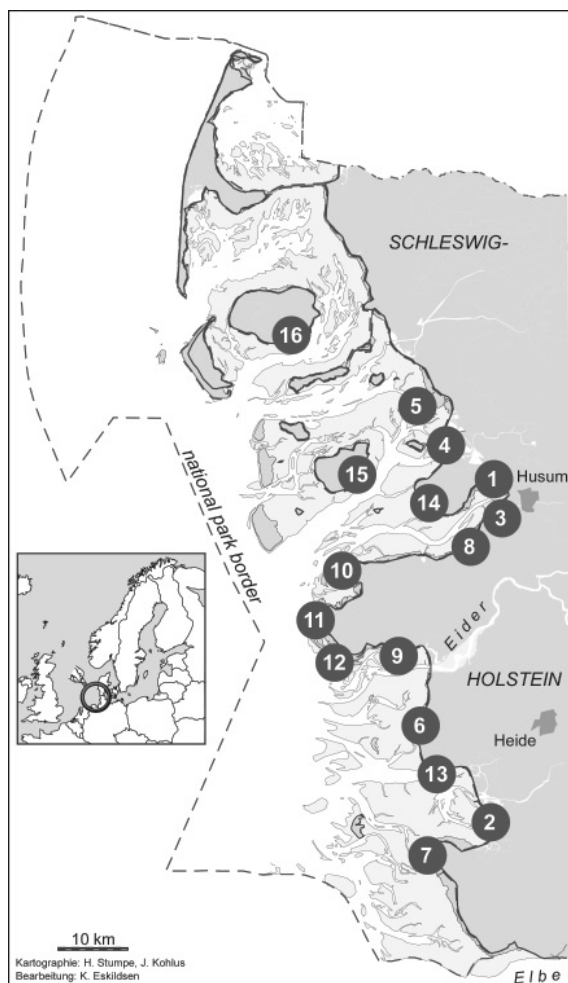


Fig. 2: Map of study area with locations for visitor monitoring. Numbers of locations refer to figure 3.

RESULTS FROM SEM VISITORMONITORING – MEASURING MORE THAN JUST AN IMPACT FACTOR

Who is the visitor? - Identifying target groups

Unlike the situation in world famous national parks like Kruger National Park or Yosemite many, if not most, of the visitors to the SH-WSNP are not primarily visiting the national park. They are mainly tourists, looking for a holiday or day off near the seaside. The SH North Sea coast and Islands already became a recreation and spa region at the end of 19th century. The National park itself was founded much later, in 1985.

From earlier studies (Feige et al. 1993a, 1993b) visitors found along the coastline and island shores can be roughly categorised into:

- The North sea holiday makers, staying in the adjoining tourism sites and recognised as traditionally nature and health oriented guest group;
- Day trippers from outside the coastal region, who spontaneously decide to go for a weekend break or day trip to the beach or seaside;
- The local people, using the National park as their traditional leisure, living and working

environment, who often avoid tourist hot-spots and retreat into less popular but ecologically more vulnerable areas;

- Other visitors, such as people visiting friends and relatives, people on business trips, or people with a second home in the region etc.

SEM tries to assess the spatial and seasonal distribution of these visitor groups and to produce additional information on their - site related - behaviour, attitudes and expectations.

As shown in figure 3 i.e. shores on Islands (Föhr, Pellworm, Nordstrand) are dominated by holiday makers whereas smaller, so-called „green beaches“ along the coastline (Schobüll, Husum) or specialised sites like wind-surfing resorts (Elpersbüttel) have a higher percentage of local residents and day trippers.

These findings are important for the design of site related information, such as the established visitor information system (VIS) and service offers (i.e. National Park Service).

SEM also asks for additional socio-demographic visitor structures: age, number of persons and children, place of living.

General results on numbers and attitudes

The exact amount of visitors to the park is and will remain unknown, due to the above mentioned geographical situation which lacks a central entrance. Nevertheless SEM aims to collect and assess more information, conducting counts site by site and season after season. Using data from the selected locations a first extrapolation has been made:

The extrapolation for the selected 16 sites sums up to ca. 2,46 Mio visitors for one year, with numbers ranging from 15.000 in the smallest place to 0,5 Mio per year at the beach of Büsum, a traditional tourism site at the mainland coast. 35% of the visits are made during the two summer months July and August and 53 % in spring and autumn (April to June, September, October). Winter counts have been stopped because of a paucity of visitors. However, the winter season is estimated at about 5 to 12 % of the total.

The visitor structure throughout the busy tourist season (April to October) is dominated by North Sea holiday makers (75%), followed by day trippers from outside the region (13%). Locals and other visitors account for another 12%.

Table 1 gives an impression of the effort which has been undertaken by SEM until now.

	1999	2000	2001	Total
Number of visitors counted¹⁾	42.803	27.489	49.492	119.784
Registered visitor structure²⁾	4.089	3.264	5.167	12.520
Number of visitors interviewed³⁾	572	670	1.019	2.261
Number of work days⁴⁾	84	116	112	312

¹⁾Counts without interview

²⁾Short questionnaires, only visitor type, age, number of persons and children

³⁾Interviews on attitudes, knowledge and expectations

⁴⁾Appointed personnel x days of counting/interviewing

Table 1: SEM Trend effort from 1999-2001

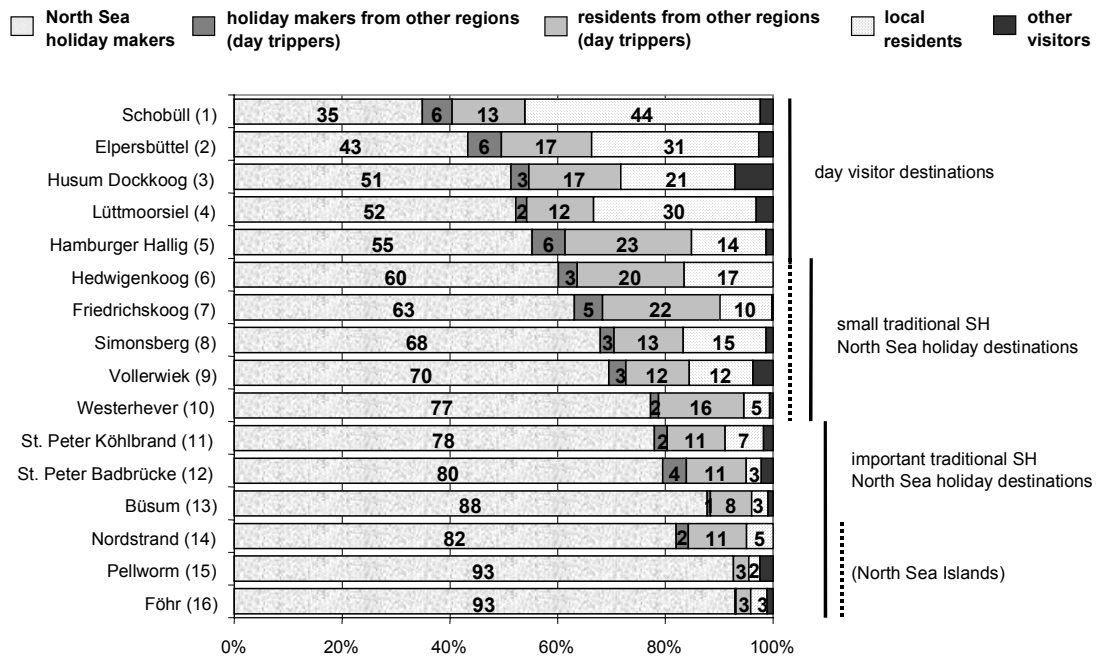


Fig. 3: Visitor structure at 16 locations at the Schleswig-Holstein Wadden Sea National Park in 2000 and 2001. Numbers of locations refer to figure 2

Change in visitor structures by management measures – A-priori and ex-post analysis (Hamburger Hallig)

The Hamburger Hallig is a small island within the national park territory with a causeway to the mainland. It could also easily be reached by car until 1996 when, after intensive negotiations, a toll-bar combined with an entrance fee was established. The national park office, in consensus with the adjoining community, who rejected a strict ban on cars, aimed to cut down car numbers in this way.

Counts of cars and visitors impressively illustrate the effects of this management measure: The number of registered car crossings to the Hallig declined by one third between 1997 and 2000 (see figure 4). Counts which also regarded the modal split show that in 1990 ca. 86% of the visitors came by car. In the year 2000 visitors by car only represent 26% of the total. The bicycle has now become the most important transport vehicle (48% in 2000, 6% in 1990).

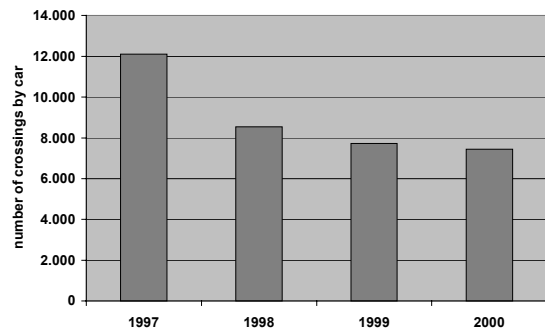


Figure 4: Numbers of registered car crossings at Hamburger Hallig 1997-2000

QUO VADIS? CONCLUSIONS AND PERSPECTIVES

Three years of continuous visitor monitoring have improved the knowledge on visitors to the national park and have built a solid basis of information. Monitoring is not an end in itself, but

is designed to provide benefits. Three characteristic steps mark the process of building up a qualified SEM in its way from visitor monitoring to visitor marketing (figure 5):

Step 1: Visitor Monitoring

Step 1 comprises the construction of an empirical and methodological framework with selection of locations for counting and interviewing as well as designing the sample, considering especially seasonal aspects. Because of the variety, number and different attractiveness of beaches, sites, harbours etc. This became quite a challenge in case of the SH-WSNP. This methodological step might prove much easier in other areas with different preconditions.

Developing a standardised procedure for extrapolation of visitor numbers was a second task, which has to be continuously improved upon. Supplementary opinion polls of the regional population as well as representative polls served additional qualitative information on acceptance of the SH-WSNP, interest and behaviour concerning nature protection, the knowledge of its existence and its potential for visitors.

Another future gain may be the multiple use of market research instruments and data by different regional stakeholders. The communities and tourism organisations are equally interested in tourism data as is the national park office. The

linking-up and exchange of instruments and information will stimulate co-operation, synergetic effects will result in more effective application of funds.

Step 2: Visitor Management

Step 2 is made up of two parts. First of all processing the collected information into visitor profiles. This aims at identifying specific types of attitudes and behaviour through socio-demographic and other attributes. These are useful for designing customer-oriented products, information and services. SEM will, therefore, be able to provide useful information for the improvement of the already existing visitor information system (VIS).

Secondly we need analysis and a better understanding of interrelations and interdependencies. Up to now, we have only little comprehension of how i.e. weather conditions might influence visitor numbers and structures in certain sites and seasons. Successful visitor marketing requires a deepening of knowledge concerning influencing factors and their reciprocal relationships. Especially interesting are the opinions on information offers and nature experience by different types of visitors at varying sites. Detailed market research has to be conducted. With a special kind of „Hot spot“-monitoring we also learn about conflicts and their implications for visitors.

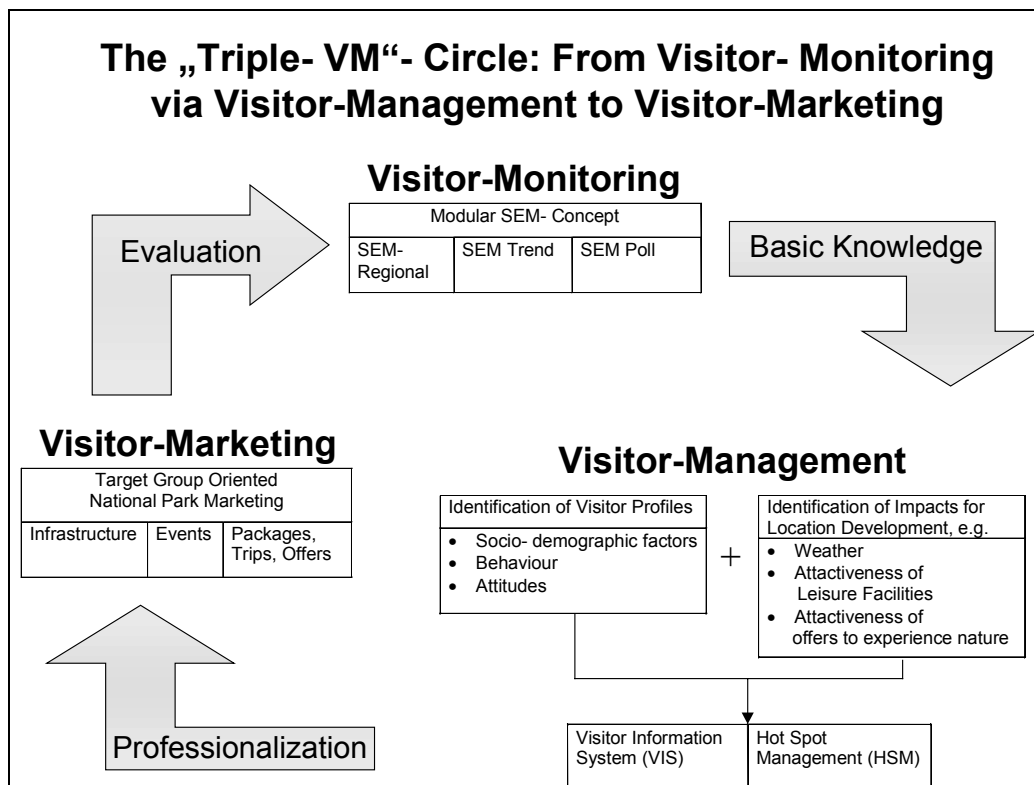


Figure 5: The "Triple-VM"-Circle: Three characteristic steps within the process of building up a qualified socio-economic monitoring (concept: M. Feige)

Step 3: Visitor Marketing

Summing up all information and findings SEM aims at a proactive and integrated visitor marketing. Of course there has always been some sort of visitor marketing. Nevertheless, it needs to become more and more orientated toward the specific needs and attitudes of various types of visitors (sun and beach, bird watchers, families, senior travellers, singles, technical visits etc.). SEM helps to offer them an attractive SH-WSNP experience, simultaneously safeguarding nature protection needs and respecting regulations.

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