



Information needs of tourists about the Baltic Sea in Mecklenburg-Western Pomerania

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Abstract

In the years since the reunification tourism has become an important economic sector of Mecklenburg-Western Pomerania, with the coast of the Baltic Sea playing a decisive role. However, the decreasing rates of growth and fallow accommodation capacities show that in order to compete successfully the branch needs to provide exceptional services. That is to say to inform tourists according to their demands about the holiday region.

In order to determine tourists' satisfaction with the provided information about the Baltic Sea and the demand for further information, on the Baltic coast of Mecklenburg-Western Pomerania a survey was conducted. For that purpose three typical coastal resorts were chosen. A media analysis determined which information about the Baltic Sea is available to tourists and to which extent they meet the interests of the tourists.

The conducted survey revealed that the tourism industry does not use its possibilities. $\frac{3}{4}$ of the tourists were interested in more information or completely unsatisfied with the available information. Great knowledge gaps exist particularly regarding to the assumed hazardousness of some species. Furthermore varying interests in information and information-habits of different groups of tourists were identified. The results of the media analysis showed that most available information is superficial or that it focuses on problems of the Baltic Sea. The interests of the tourists are only seldom taken into account. The only found exception was the magazine *Meer und Küste* of the EUCC Germany.

The results show a need for action. Information about the Baltic Sea, which takes different groups of tourists into account, which is easily available and which serves the interests of tourists is necessary. Furthermore it is essential to inform about typical phenomena and species of the Baltic Sea which tourists presume to be dangerous. Regarding the competition with coastal resorts which are a great distance from the Baltic Sea, it is recommended to provide information to compare the features of the Baltic Sea resorts with the features of coastal resorts.

1 Background and Objectives

The most popular tourist destination of Mecklenburg- Western Pomerania is its coastal region which was visited by $\frac{3}{4}$ of all guests during the years 2003 – 2006 (StA M-V 2004 – 2007). Despite its attractiveness the tourism industry has to face increasing competition, especially cheap-flight-tourism and the evolving tourism industry of the neighbouring Eastern European Baltic Sea states. This creates new tasks for the tourism industry regarding the Europe-wide competition for guests.

To be able to stand up to the European competition the service quality has to satisfy the raised expectations of tourists (Opaschowski 2002). Offering information about the holiday region is a component of high quality service. Concerning the coastal region of Mecklenburg-Western Pomerania this implies informing tourists about topics related to the Baltic Sea.

If and how the information needs of the tourists are satisfied was examined by a tourist survey and media analysis during the summer season 2007. The objective was to determine the information demand of tourists, to reveal weaknesses in the distribution of information and, if necessary, to propose actions for the future. The following central research questions were developed:

1. What information deficits about the Baltic Sea exist among tourists?
2. What information about the Baltic Sea dominates the current media coverage?
3. What ways of distribution are suitable for the transfer of information?

A survey was conducted, to determine tourists' satisfaction with their information level. Tourism industry information relating to the Baltic Sea was collected by content analysis of print- and internet publications. Publications of other relevant editors were also analysed. Combining the results of both the tourist survey and the media analysis makes the evaluation of the current situation and development of recommendations possible.

2 Tourism industry in M-V and the meaning of tourism information

Economic meaning of the tourism industry

Beside cultural aspects, the importance of the tourism industry is in the value creation. The economic relevance of tourism for Mecklenburg-Western Pomerania (M-V) can be seen in its contribution of 10.1 % to the GDP in the year 1999. Approximately 15.1 % of all employees were directly or indirectly dependant on tourism.

Since 80 % of all overnight-stays take place in the coastal resorts of the country, the Baltic Sea can be assumed to be the main reason for the high contribution to the GDB and to jobs. The considerable concentration of guests in the summer season is due to "bathing and sunbathing" (Breitzmann 2004), (Figure 1).

The annual mean use of accommodation facilities is only 40 % of total capacity, which is slightly over the necessary minimum occupancy rate. Furthermore the high contribution of tourism to the GDP is an indication of the weakness of the other industry branches of M-V.

Importance of tourism information

When tourists choose a holiday resort, the decision is affected by environmental influences (Mouthino 1987, Figure 2)¹, which an individual cannot control (Schmuecker 2006).

Models from Baloglu (2000)² and Jeng & Fesenmaier (2002)³, cited by Schmuecker (2006), show, that audio-visual information which is directly (Advertisement for a hotel) or indirectly (Nature Documentary) connected to a product, plays a role in the evaluation of a product. Further Schmuecker cited Simon (1962)⁴ who considered habits to influence decisions. Thus, information, which influences a decision is received via different and at times unintended ways. This is partly proved by results of a tourist-survey carried out in M-V by Sperling (2004) (Table 1).

Previous surveys of the effect of tourist media were only superficial or had methodical faults. Furthermore the existing results are not available to the public. Examinations of the impact of information, conveyed by media, were conducted in connection with the affectivity of advertising. According to the results, the probability of influencing the consumer behaviour raises with consideration of criteria such as personal motivation or suitable amounts of information. But even without an explicit interest in advertising messages Krugman (1965)⁵ proved a learning effect on his

1 Mouthino, L. (1987): Consumer Behaviour in Tourism. In: European Journal of Marketing, Vol. 21, No. 10: pp. 1-45.

2 Baloglu, S. (2000): A Path-Analytical Model of Visitation Intention Involving Information Sources, Socio-Psychological Motivation and Destination Images. In: Woodside, G.A. et al. (eds.): Consumer Psychology of Tourism, Hospitality and Leisure. Wallingford, New York. pp. 63-90.

3 Jeng, J. & Fesenmaier, D. R. (2002): Conceptualizing the Travel Decision-Making Hierarchy: A Review of Recent developments. In: Tourism Analysis. Vol. 7, pp. 15-32.

4 Simon, H.A. (1962): The decision Maker as Innovator. In: Mailick, S. & van Ness, E.H. (Eds.): Concepts and Issues in Administrative Behavior. Englewood Cliffs NJ.

5 Krugman, H.E. (1965): The Impact of Television Advertising: Learning without Involvement. In: Public Opinion Quarterly, Vol. 29, 1965: pp. 349-356.

test persons. Thus, information is likely to impact thinking and consumer perception of holiday destinations. Not much is known however about the degree of the impacts.

Communicated information and vacation satisfaction

To sell a service successfully over a long time period it has to fulfil consumer expectations. Potential tourists inform themselves about the holiday resort in advance to find out if it can fulfil their expectations. Therefore the available information is partially responsible for the success of the journey. Should tourists, despite of an intensive search for information, be disappointed by their holiday resort, e.g. because of jelly fish, they will take that into account when planning their next holiday (Figure 1).

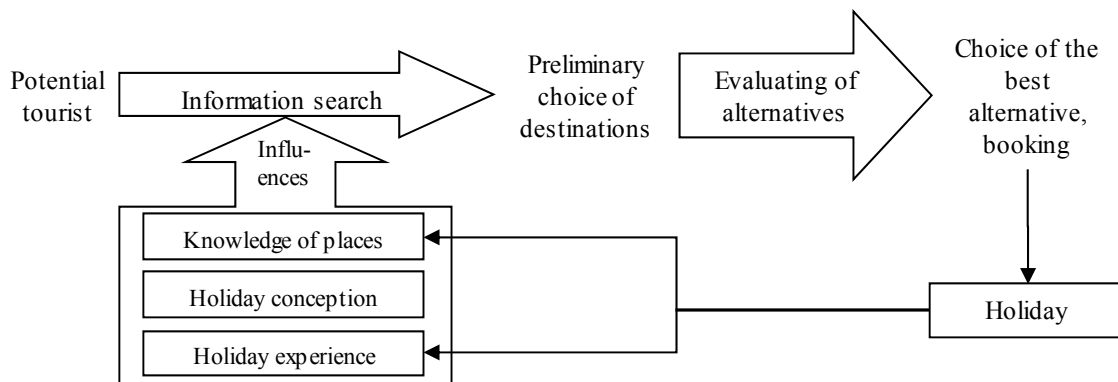


Figure 1: Influences of existing holiday experiences on the decision process. (Goodall, B., Ashworth, G. 1988⁶ In: Schmuecker 2006, modified)

The selection of information sources by consumers corresponds to its popularity, the information content, the accuracy, the costs, the availability and the usefulness (Gerhard 1995). Schmuecker (2006) further mentions the credibility of the information source (Figure 2) and the meaning of the editorial environment of holiday magazines.

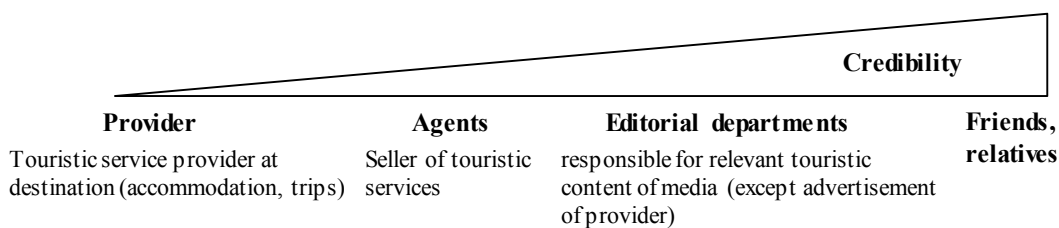


Figure 2: Bearer of information and their credibility. (Schmuecker 2006)

3 Locations, Materials and Methods

Locations

For the survey three typical holiday resorts (Warnemünde near Rostock, Ahlbeck and Zempin) on the coast of the Baltic Sea in M-V were chosen. By choosing the locations Ahlbeck and Zempin on the island of Usedom the results could be compared with those of previous surveys. The touristic relevance of the places chosen results from good infrastructure, big sandy beaches, and attractive

⁶ Goodall, B. (1988): How Tourists Choose Their Holidays. In: Goodall, B. & Ashworth, G. (Eds.): Marketing in the Tourism Industry. London, S. 1-17.

landscapes. Further the chosen places have been culturally and financially connected to tourism for decades.

Survey

For the survey, a standardized questionnaire was developed. It contained questions about the quality of the water especially questions about visible phenomena typical for the Baltic Sea. Further it asked about the satisfaction regarding the available information about the Baltic Sea and the sources of information. Demographic questions were also asked.

The survey was carried out on several sunny and warm days during the summer season 2007. For the survey only tourists, who were on the beach at that time, were considered. The questionnaire was handed out and the purpose of the survey was explained. People were asked to fill out the questionnaire alone. For each question-round about 10 people were approached. The questionnaires were collected after about 30 min.

The evaluation of the questionnaires was carried out automatically by the software Teleform Desktop 10.1 and a scanner Canon DR-9080C. In case of unclear results during the processing of the data the software requested manual help. The data received were converted into the SPSS file format. With the help of SPSS 15 the data was edited and categorized. Entries into the labelling fields of hybrid questions were split into categories.

Literature research

Relevant publications were chosen by previously set criteria. The criteria included the free availability of the publication, the topic and the relevance of editors.

By searching the internet, organizations and their publications which met the criteria were identified. The search was focused on the topics of tourism, coastal protection, coastal development, and nature conservation in M-V. Finally the publications were gathered by personal collection, ordering or downloading from the internet.

The tables of contents and the headlines of articles of the chosen publications were searched with the aid of keywords. As soon as a keyword was found the text was read and, according to its content, evaluated. For the evaluation the texts were assigned to Baltic Sea related categories. The categorization was conducted during the evaluation. Additionally the degree of detail was divided into 3 levels.

- a. Level 1: Mention of objects, animals, plants including enumerations
- b. Level 2: Mention with short additional information (e.g. spawning area, habitat)
- c. Level 3: Detailed dealing with a topic (articles or several sentences with facts)

The analysis of the data was done with SPSS 15.

Online research

To choose internet pages for the examination the most used internet pages referring to holidays on the Baltic Sea were identified first. For all search activities "Google.de" was used with the preference "moderate filtering".

At the beginning search terms and phrases were identified, which were frequently used in connection with Baltic Sea- or holiday related terms. For that purpose the internet-pages "<http://www.ranking-check.de/keyword-datenbank>" as well as "<http://inventory.de.overture.com/d/searchinventory/suggestion/>" were used.

Out of these results the phrases, which contained the words "Ostsee", "Mecklenburg", "Vorpommern" and/or requested location names were chosen. The first 15 places on the list were used to search for internet pages.

During the search for the pages only the first result pages were used in accordance with 85 % of all users of internet search engines (Spink & Jansen 2004). Double Internet pages or pages with irrelevant topics were not considered. The internet pages were searched with their own search function, with the help of sitemaps, or manually. For the search keywords were used, similar to the literature analysis. Information about the Baltic Sea was, categorized and assigned to respective internet pages. The categories are listed in the results part of this work. If a keyword was found the site was read and evaluated as described in the paragraph "literature research".

The analysis of the data was done with SPSS 15.

4 Results

A total of 423 persons were interviewed. About 52 % of the persons were between 30 and 49 years old, 29 % were older. 71 % spent their annual holidays on the Baltic Sea. Specific aspects were rated as especially important when tourists decided to spend their holidays on the Baltic Sea coast, including: the beaches, the maritime climate and the Baltic Sea itself. Favourite activities were bathing and sunbathing. The quality of the sea water was "important" or "very important" for 91 % of those surveyed, and the cleanliness of the beaches for 95 %.

Tourist Assumptions about the Baltic Sea

To determine if it is necessary to inform tourists about certain typical species or phenomena of the Baltic Sea it was asked if several organisms are dangerous. Furthermore it was asked, which criteria tourists use to evaluate the water- and beach quality.

Potential dangers: Asked after possible harms by given organisms the respondents classified *Cyanea capillata* and Blue-green algae as the most dangerous species. Seaweed was classified as "not dangerous" by 71 %. The greatest uncertainty existed over the effects of bladder wrack and common jellyfish (*Aurelia aurita*). More than 50 % did not know, if they are dangerous for human beings. Day trippers and people, who felt poorly informed, had the greatest gaps in knowledge and responded most frequently with "I don't know".

Quality of water and beaches: Most tourists evaluated the quality of the water and the beaches as "good". To get an idea, on which factors the evaluation depended, several related aspects were queried. As expected, the absence of oil pollution and dead fish were the most important criteria (control aspects). A harmless proportion of pollutants is an important aspect, directly followed by the absence of jellyfish, the clearness of the water and the absence of seaweed and algae.

Most respondents (96 %) found waste in the water or on the beach especially disturbing during their stay at the Baltic Sea; followed by dead animals (90 %), and accidentally touching jellyfish in the water (56 %).

Analysis of the data revealed, that persons, who assessed the quality of the water and the beaches as "very good"⁷, felt less disturbed by jellyfish and seaweed than those, who assessed the quality of the water and the beaches as "satisfying"⁸ (Figure 3).

7 "very good" represented the best possible choice (Possibility 1 out of 6, 1 = best, 6 = worst)

8 "satisfying"- Possibility 3 out of 6, 1 = best, 6 = worst

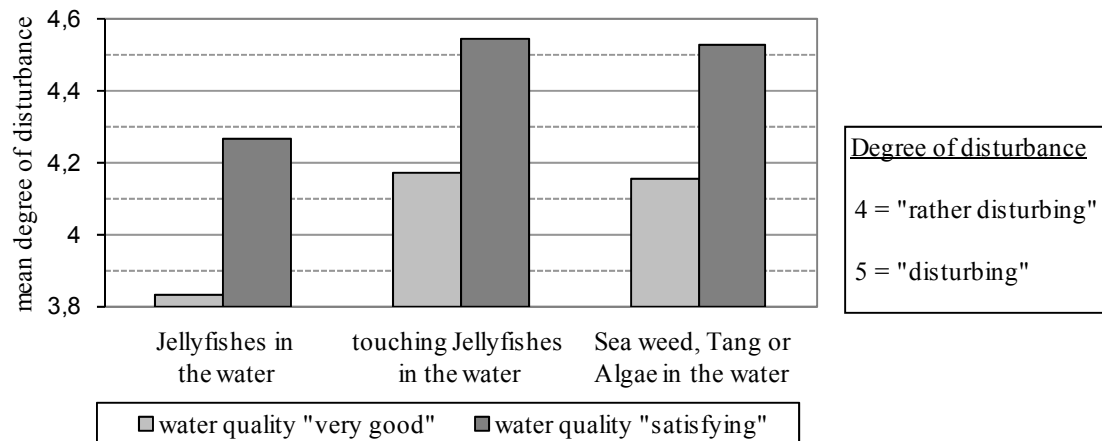


Figure 3: Classification of the disrelish towards water-organisms depending on the evaluation of the water quality. Persons, who evaluated the water worse, felt more disturbed by organisms.

Interest in information about the Baltic Sea and its flora and fauna

When asked for their satisfaction with the level of information 25 % were satisfied, 73 % (14 % + 59 %) wanted to be informed in a better way, and 2 % of the respondents did not have interest in information (Figure 4).

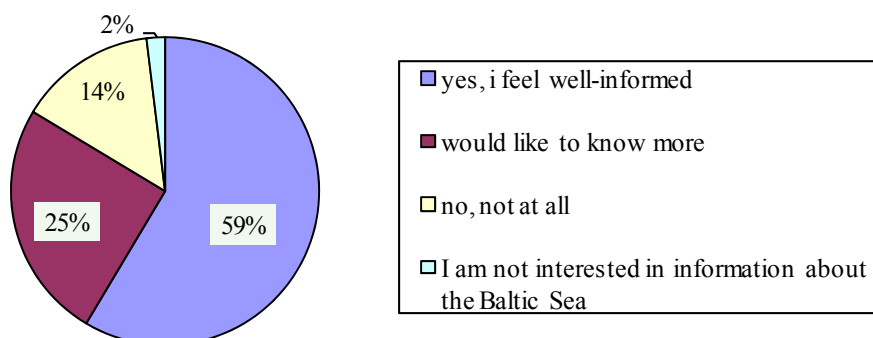


Figure 4: Do you feel well informed about the Baltic Sea? (percentage share)

69 % of the persons answering stated an interest in more information about the Baltic Sea. About 20 % had no interest in information.

Out of the topics offered respondents found mammals in the Baltic Sea most interesting (66 %). About 64 % of the respondents were interested in the quality of the water and 56 % in fishes, followed by marine protected areas of the Baltic Sea and jellyfish (Table 1).

Table 1: Most interesting topics for respondents

Rank (% of Respondents)	Topic	Rank (% of Respondents)	Topic
1 (66%)	Mammals of the Baltic Sea	8 (32%)	Algae
2 (64%)	Water quality	9 (29%)	Mussels
3 (56%)	Fishes	10 (27%)	Crabs
4 (55%)	Protected areas	11 (23%)	Microorganisms
5 (52%)	Coastal protection	12 (19%)	Seaweed
6 (47%)	Jellyfishes	13 (11%)	Other topics
7 (43%)	Birds		

Information needs of different tourist categories

Length of stay: In terms of length of stay day trippers were least likely to feel poorly informed and were most likely to have no interest in information. People spending more than 5 days on the Sea had the most interest in further information (Figure 5).

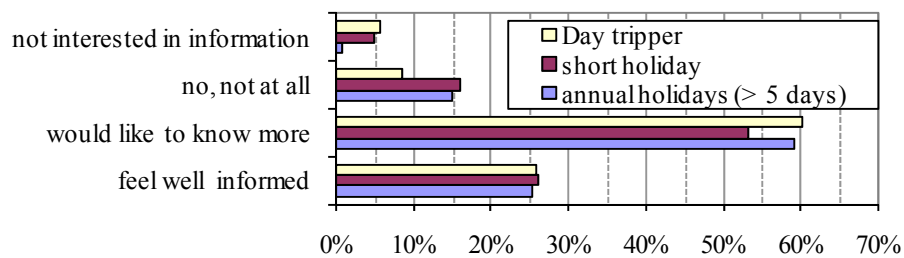


Figure 5: Satisfaction with level of information about the Baltic Sea depending on the length of stay.

Age groups: There was no significant relationship between age and interest in information about the Baltic Sea; however a gradual decrease of interest in information with increasing age was noted.

Official level of education achieved: Regarding to level of education the respondents with an A-Level had significantly higher interest in information than the others. People, who graduated from the lowest type of the German school system, had the least interest in information. The same relationship was found within the different age groups.

Used sources of information

As information source about the Baltic Sea, 55 % of the respondents used Radio and TV, 50 % used neutral printed publications, 41 % used holiday-related information materials, 31 % used descriptions from other people and 29 % used the Internet. 22 % used other sources of information. 56 % of them used their own experiences as a source of information. 5 % did not receive any information.

As an information source about the water quality 73 % of the tourists, informing themselves before the start of their holiday, used the Internet. Tourism associations were also named as an information source (20 %).

To determine, where the tourists get special information, they were asked about their knowledge of Marine Protected Areas and their sources. The TV was the most-selected source (84 %) followed by magazines (51 %) and holiday-related information materials (16 %). The Internet was chosen only by 15 %.

Usage frequency depending on age: Among people older than 50 years the usage frequency of all information sources, except the Internet, increased. Above all the usage frequency of neutral magazines rose. Only 15 % of the people older than 50 years used the Internet. About 28 % of the people younger than 50 years did so.

Usage frequency depending on length of stay: This examination showed significant differences between day trippers and people, spending their annual holidays on a level of significance of 5 %. According to the results the usage frequency correlated positively with the length of stay (Correlation coefficient 0,159; level of significance 1 %).

Appropriate places of information

About 71 % of the respondents considered the tourist information as an especially appropriate place of information. This is consistent with the important role of the tourist information regarding the local seawater quality. The accommodation was named by 69 % and internet pages by 55 %. About 13 % named lifeguard towers.

Analysed Publications

To determine, which information about the Baltic Sea is already available a literature review was done. A total of 68 publications, subdivided into 6 groups of editors were considered (Table 2). Information about the Baltic Sea was found 191 times. The information was found in 79 % of the publications.

Table 2: Number of analysed publications according to editor groups.

Group of editors	Number	Share (%)	Group of editors	Number	Share (%)
Touristic associations	29	42,6	Authorities	7	10,3
Natur protection organisations	14	20,6	Scientific facilities	4	5,9
Private publishers	11	16,2	Other organisations	3	4,4

Furthermore the archives of 3 newspapers were analysed. This included “Die Welt” published nation wide and the “Norddeutschen Neuesten Nachrichten” published in M-V, as well as the „Schweriner Volkszeitung“ (SVZ). The search led to 41 articles about the Baltic Sea. “Die Welt” contained 68 % of them.

The search for relevant Internet pages was done with 16 of the most used search terms⁹. This finally led to 54 Internet pages of which 48 pages were closely connected to touristic topics.

Main topics and level of detail

The main topics differed depending on the editor group. The catalogues of the tourism industry mainly contained very short information about the quality of the beaches, the coastal morphology and fish species. The commercial travelling media dealt mainly with the (good) quality of the beaches (20 % of their articles) which were found in 75 % of their publications. The newspapers most commonly contained articles about the pollution and other problems of the Baltic Sea (20 %). Publications of the environmental protections groups also dealt mainly with this topic (13 % of their articles).

Most frequently information about the beach quality was found. This was followed by information about the topography of the coast and local species of fish (Table 3). This information was very basic (e.g. very short evaluations of the beach quality “beautiful white beaches”, mention of the steep coast,

⁹ 85% of all “holiday on the Baltic Sea”-related queries are done with those terms.

enumerations of species) and enumeration of fish species. This kind of information accounted for 57 % of the total, and it was mainly found in the publications of providers of tourist services.

Table 3: The most frequent information categories.

Information category	Frequency	Information category	Frequency
Beach quality	36	Jellyfish	11
Coast type	25	Marine protected areas	10
Fish species	24	Marine mammals	10
Pollution	20	Climate change	10
Water quality	19	Geology	9
Fishing	14	Marine chemistry	9
Amber	11	Avifauna	8

Most information from neutral¹⁰ publications (Newspaper, publications of scientific institutions) was considerably more detailed than the information published by tourist service providers (Figure 6). However it has to be mentioned that the average tourist is relatively seldom confronted with these publications or articles. Only 4.8 % of the newspapers contained articles about the Baltic Sea compared to 63 % of the tourist publications.

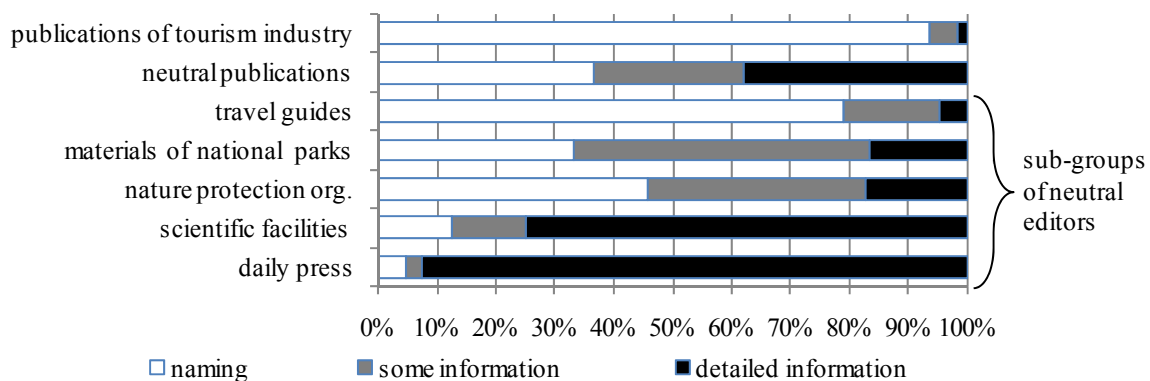


Figure 6: Different level of details of information subdivided into groups of editors and groups of publications.

Main topics of publications compared to the main interests of tourists

Interests of tourists and published topics had very little in common. After adding the Baltic Sea related articles of all analysed publications only the topic “Fish” ranked the same place (3rd). This was followed by the topic “Water quality” which ranked the 5th place in the publication and the 2nd place in the interest of tourists. The publication-frequency of all other topics did not match the ranking of the interests of tourists. However it has to be mentioned that the interests asked for did not match the found information categories of the publications.

10 Neutral: in this context neutral means to be independent from the tourism industry.

5 Discussion

Methods

Questioning: The survey was carried out in July and August so the data generated is valid only for summer tourists. In the interest of expanding the tourist season (better bed occupancy rate) it is advisable to carry out the survey in the low season as well, when answers may differ.

Some of the questionnaires were filled in by more than one person. By adding written responses this can be reduced. However it has to be taken into account that they have to be short and concise. To reduce influence by naming the client several clients could be named. To avoid influences by the appearance of the interviewer several interviewers could be employed.

To increase the validity of the answers questionnaires with and without response options (multiple-choice questions) could be used. Thereby the suggestive effect of response options could be verified and considered during the analysis of the answers.

During the research for the discussion part of this paper it became clear, that a combination of pictures and names of species is appropriate when asking for the knowledge about species. By letting the tourists assign the names of species to the related pictures it would be possible to get a better idea of their knowledge. By this method the level of recognition would most likely drop considerably compared to the results of the method used in this survey. In this context it is possible to classify the knowledge of species based on their appearance. To do so Randler et al. (2007) used factors like size of individuals, number of individuals in the concerned area, visibility and colour of individuals. For the according information results of former observations and research can be used. Thereby it is possible to check whether the species are known only by their names or by their appearance as well.

During the automatic analysis dark coloured pens increased the rate of recognition by the scanner-software system considerably. Therefore it is recommended to give appropriate remarks and to hand out suitable pens.

Online research: Methodical deficits resulted from the huge amount of easily accessible information in the internet. To check, which internet pages are used by tourists, it is recommended to do a survey on this topic to provide additional information. To increase the comparability of the found information it is recommended to create consistent thematic categories, to be used in the questionnaires as well as for further analysis (i.e. literature). The results of this report show indications for appropriate categories.

Literature research: The used criteria for choosing the media can be seen as a methodical lack. The intensity of the use of the analysed media by tourists was not known. This reduced the quality of the conclusions about the dependence between the knowledge of tourists and the literature used by them. A corresponding survey could reduce this deficit. Due to financial and time limitations the analysed literature may differ from the literature read by the tourists. To reduce this effect it is recommended to invest more time and money into this research. The results of the analysis of the available literature are assumed to meet the challenges of such a task in an appropriate manner.

Results of the survey

Age groups of respondents: The age distribution differed from other surveys. The short period of the survey during the annual summer school-holidays could be the explanation for the shift in age groups to younger tourists compared to the ages of tourists in summer 2003 (Sperling 2004). Compared to the age distribution of the federal republic of Germany elder tourists are especially rare, possibly caused by the reduced ability of elder people to travel.

Length of stay of respondents: While about 80 % of the tourists surveyed stayed longer than 5 days, Sperling (2004) found only 68 % staying longer than 5 days. This could again be due to the period of

time the survey was conducted. While the survey of Sperling (2004) was carried out during the whole summer season this survey was carried out only on 8 days during the summer school-holidays. Further this survey was restricted to the Beach while Sperling (2004) considered all of M-V.

Knowledge gaps about potential dangers

The large amount of uncertainty regarding jellyfish, algae and bladder wrack indicates a lack of knowledge. According to the agenda setting hypothesis, which claims that media have an influence on what people think (Schwarz 1996), it can be assumed that tourists' knowledge is influenced by the media. This is strengthened by the content of the analysed articles, which dealt rarely with algae, the common jellyfish or bladder wrack.

This lack of knowledge could lead to a worse appraisal of the holiday. Therefore it has to be assessed as an information deficit. The considerably quicker spreading of bad impressions compared to good impressions (Landgrebe 2003) highlights the importance of information about those species in advance.

It is very important that such information about organisms and phenomena attracts the attention of the tourists. Thus it is recommended to use information with very good pictures and short, concise texts. It is important, that this information allows tourists to identify the described organisms and phenomena. Possible ways to spread information are, to place signs on the entries of the beaches or to publish flyers (i.e. like flyers of the ministry of health and occupational safety of Schleswig-Holstein)¹¹ with adequate information. Appropriate places for flyers are the tourist information, the accommodations and other frequently used facilities (restaurants, public swimming pools).

Evaluation of water quality

The results of the evaluation correspond to the results of other surveys Dolch (2004), Ecotrans (2002). Aesthetic criteria seemed to play the most important role for the evaluation. Dolch (2004) stated that tourists evaluate the quality of the water mostly by optical criteria, and found that they have a special aversion to jellyfish.

The importance of jellyfish and seaweed for the evaluation is most likely caused by the evolution of human beings. Kellert (1993) stated: "*A predisposition to fear and avoid such creatures [snakes or arthropods, eds.] and other harmful elements of nature may have conferred some advantage during the course of human evolution (...). Schneirla (1965) (...) notes that the occurrence of "ugly, slimy, erratic" moving animals, such as snakes and invertebrates, provokes withdrawal responses among vertebrate neonates in the absence of overt or obvious threat.*"

A tourist market analysis carried out in Schleswig-Holstein proved that the perception of jellyfish is an inter-regional problem (NIT 2001). It stated that jellyfish have a negative impact on the image of the Baltic Sea.

The reason for the strong aversion to dark algae and seaweed on the sea bottom and on the beach is, also connected to the evolution of human beings, caused by ancient fears of nocturnal predators and an aversion to objects which look like dirt (possibility to be a source of diseases) (Heerwagen & Orians 1993). Bird (1996) mentioned Seaweed as a problem for holiday beaches. Therefore it is necessary to thoroughly inform visitors about jellyfish, algae and reasons for dark areas on the sea bottom to reduce or avoid causeless fears.

Furthermore the ranking of the criteria of tourists to evaluate the water- and beach quality indicates the need for new evaluation standards for the bathing water- and beach quality. The traditional criteria used by the authorities (e.g. Lagus 2006) do not take all of the criteria, used by tourists, into account.

Therefore an alternative list of criteria to evaluate the water quality could be created and offered. This should include the amount and species of jellyfish (jellyfish per unit of volume, i.e. classified from "no jellyfish" up to "many jellyfish"), the amount of algae, the amount of seaweed and the amount of potential harmful organisms (*Cyanea capillata*, blue green algae). This evaluation should be renewed

every other day. In addition flyers could inform about bathing-water-quality related topics. Good examples are the flyers of the ministry of health and occupational safety of Schleswig-Holstein¹¹.

Interest in information

The interest in information varies depending on different groups of tourists. The variations correspond with results of other research. Kellert (1996) stated a decreasing interest in animals with increasing age among citizens of the USA. Kellert (1996) also found a positive correlation between the interest in information and the official level of education. The increasing interest in information with increasing length of the duration of stay was stated by Schmuecker (2006). Additionally it should be noted that the capability to learn something correlates with raising interest in a topic (Naceur 2001). This means, that the official level of education does not necessarily indicate an appropriate (low) level of detail of the provided information. Therefore it can be concluded, that tourists who chose a cheap accommodation (lower education → less money) can be also very interested in detailed information.

Used sources of information

The results of this survey only partly match other research-results. A possible reason is that other surveys asked for the information tourists used regarding the holiday and its preparation. In this survey was asked for information regarding the Baltic Sea. The results show that the use of information sources corresponds to the daily use of media (Table 4).

Table 4: Ranking of the most frequent used media and information sources.

Rank	Sperling (2004), for preparation of holidays	Schmuecker (2006), for preparation of holidays	Ridder, Engel (2001), Daily use	This survey, about Baltic Sea
1	Earlier stays	Friends, relatives	Radio and TV	Radio and TV
2	Friends, relatives	Internet	Newspaper, magazines	Newspaper, magazines
3	Radio and TV	Travel guide	-	Catalogues, Brochures
4	Internet	Catalogues, Brochures	Internet	Internet

The used sources varied depending on the age of the respondents. The increasing use of newspaper and TV by older people was also stated by Hasebrink (2003). The decreasing use of the internet and holiday catalogues with rising age is caused by the using-habits of costumers (Hasebrink 2003). However, people older than 50 years and with an interest in nature used the internet and newspaper more often than other age groups. This could be caused by declining information networks with rising age (Wagner & Wolf 2001). Prospective information concepts should consider this and the changing using-habits of upcoming older generations.

Results of the analysis of publications

The found content in the analysed media corresponds to its purpose.

The articles in the brochures and catalogues of the tourism industry have a low level of detail. This is consistent with the role of those publications as advertising media (Kagelmann 1993). The information in the newspapers was mainly influenced by current events and often had a negative background when it came to environmental topics. This corresponds with the results of Dunwoody & Peters (1992) and Hmielorz & Löser (2006). The detailed information in scientific publications is due to its purpose to inform. The role of publications of nature conservation organizations is to inform about nature and to generate (financial) support. Therefore the found articles dealt mainly with ecological problems of the Baltic Sea.

11 URL: <http://www.schleswig-holstein.de/MSGF/DE/Service/Broschueren/PDF/quallenKuesten.html>

By offering information to the responsible editors and journalists it may be possible to influence the content of some publications. Regional newspaper, magazines and travel guides could especially benefit from such information sources. An internet database could be adequate for this.

Recommendations and guidelines

The results of the survey and the media analysis show a need for better information for tourists. The available information does not match the needs of the tourists or does not often enough reach them. The overall objective of future information strategies has to be the satisfaction of the tourists with their holidays. Therefore it should consider the interests of tourists as well as their fear of several animals and phenomena. An alternative catalogue of criteria to evaluate the water quality could be prepared.

Demand-orientated Information

Different groups of tourists (age groups, length of stay, education, financial background, languages) with varying information habits have to be satisfied. This can be reached by appropriate paths for spreading information, different levels of detail of the provided information and different price classes. Furthermore it is advisable to make information in different languages available (English, Polish).

For older people information could be packaged in other activities than just reading. Information could be placed in crosswords, in picture puzzles, in games or other kinds of activities. Since future generations will have more contact to the internet, it is recommended to refer back to it in other often used media. It could be helpful to create internet pages that take the complaints of old age (i.e. hypermetropia) into account. This could make them easier accessible by older people. Further it is recommended to implement comfortable print functions, thus people do not need to read on the screen.

Since day trippers are not as interested in information about the Baltic Sea as people, who stay longer, it is recommended to provide information, which is short and easily accessible. Besides the tourist information; restaurants, takeaways, kiosks near the beach or other important infrastructural elements could be used.

It is advisable to provide information in different price groups. That well prepared information materials can be sold successfully is a result of a study by the WWF (Netforum 2000). A good example is the book "De Kustatlas Vlaanderen/België" ("The coastal atlas Flanders/Belgium") which was sold successfully. The book was illustrated excellently and contained carefully researched facts about the nature and economy of the coast of Belgium. A substantial corresponding internet page (www.kustatlas.be) brings the economic stakeholders and industry of the coastal region of Belgium together. Beside high-quality print media more simple magazines can be sold or articles about the Baltic Sea can be placed in other publications. Thereby tourists do not need to choose a publication with only one subject area. On camping sites it could be easier to spread information for lower prices or for free. This is due to the low prices for an overnight stay which indicates that the tourists there have a lower income.

Stakeholder networks and information sources

Through the network of various organizations it is possible to offer available knowledge about the Baltic Sea to all stakeholders. Stakeholders are, beside tourists, the tourism industry (owners and operators of Hotels, marinas, water sport-associations, tourist associations), the publishers of relevant magazines, brochures and newspaper and regional Radio- and TV-stations. Beside the named organizations other industry branches could contribute to the network since they also have an impact on the Baltic coast of M-V.

The stakeholders could be connected by an internet-based pool of information about the Baltic Sea. In this pool information of several levels of details could be collected and offered. The information in the pool could consist of facts only or it could also be "ready-to-publish" with suitable texts and pictures. Further the pool could offer products ready-to-sell. The range of products should be available to all relevant persons and organisations. The quality and type of the offered information could be identified

by a label which considers different aspects (neutrality of the information, the validity, the level of detail, the suitability for age groups). By divided access for private persons and professionals different usage levels could be offered.

The Baltic Sea related information for such a database could above all be provided by scientific organizations, universities and by offices for environment and nature conservation. The named organizations already possess a large amount of knowledge and information due to their work.

Spreading of information

To reach many different groups of tourists it is necessary to use different ways for spreading the information. Classic ways are flyers (e.g. like from the ministry of health and occupational safety of Schleswig-Holstein) and brochures which can be obtained in the tourist information, the accommodation and other facilities. Further it is recommended to use signs for important information on the entry of the beaches and on the beach.

Daily updated information could be made available to radio stations. This includes information about the water quality together with predictions about the appearance of jellyfishes and algae. This information could be used in connection with announcing the water temperature in the daily news of a radio station.

The decisive parts of the following ideas are that information can be more attractive to some groups of tourists, if they are connected to things that bring some fun. To reach families and children little card-games could be provided. Those could contain pictures of typical organisms of the Baltic Sea and some additional information. Furthermore magazines about the region or newspapers with an additional part for tourists could contain crossword puzzles or picture puzzles. Research could be done to determine if it is possible to generate money for such games and publications by placing advertisement on or in them.

Financing of information materials

To be able to offer information materials about the Baltic Sea it is necessary to keep the costs low and to generate sources of capital. Sources of capital can be funds from the EU (i.e. EFRD) but also companies who like to place advertisements in certain publications. Of course this will only work if the offered publications (i.e. magazines, games) are attractive to the tourists. In this context especially the packaging of information (games or riddles) plays an important role.

To profit from other experiences editors of similar print-publications (flyers, magazines) or internet-pages could be contacted. Experiences are available by the EUCC-D. The association published the magazine *Meer und Küste* ("Sea and Coast") in 2007 for the first time¹². The magazine was financed and supported by the European fund INTERREG III B, by SPICOSA (<http://www.spicosa.eu>), IKZM-Oder (<http://www.ikzm-oder.de/en>) the University of Greifswald and others (for further information see the downloadable magazine¹²). Other sources of information are museums and the editors of "The Coastal Atlas Flanders-Belgium" (Belpaeme & Konings 2004).

6 Conclusions

The results of this study show, that the information materials about the Baltic Sea do not completely fulfil the needs of tourists due to the following reasons:

- differences between the interests of the tourists and the content of the offered materials/publications
- a lack of knowledge and information regarding animals tourists are afraid of
- bad usage of information paths
- one sided media coverage about the Baltic Sea, depending on the media/editors

¹² Download: <http://www.eucc-d.de/plugins/kuestenmanagement/pdf/Meer-und-Kueste-2007.pdf>

These deficits can result in simple dissatisfaction with information materials. Moreover it could lead to annoying experiences with organisms that are assumed to be dangerous, despite being harmless. Both can lead to dissatisfied or even disappointed tourists who may not want to visit M-V again or who would spread their bad impressions about it.

To improve the current situation a possible solution is the publishing of well balanced information, which takes different groups of tourists into account and reaches them frequently. Available information sources about the Baltic Sea (i.e. scientific organizations, offices for environment and nature conservation) have to be used. Better and new ways of providing information have to be tested. Further it could be useful to introduce a new standard for evaluating the bathing water quality of the Baltic Sea which takes the needs of the tourists into account. An internet based information network about the Baltic Sea could be useful.

Future research should clarify how an information network can be organized, who is interested in it and who would take part in it. To generate money for information materials new strategies are needed. In this context it is necessary to know how much money tourists would spend for information materials. The packaging of information into products like games and the financing of information materials by advertisement could be analysed.

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