Regional Studies in Marine Science 61 (2023) 102888

Contents lists available at ScienceDirect

Regional Studies in Marine Science

journal homepage: www.elsevier.com/locate/rsma

Are local fisheries important for marine tourism? A case study of the Swedish fishing village Träslövsläge

Staffan Waldo [a,*], Johan Blomquist [a], Kristian Sundström [b], Åsa Waldo [c]

[a] Agrifood Economics Centre, Department of Economics, Swedish University of Agricultural Sciences, Sweden
[b] AgriFood Economic Centre, Lund University, Sweden
[c] Environmental Psychology, Department of Architecture and Built Environment, Lund University, Sweden

ARTICLE INFO

Article history:
Received 29 July 2022
Received in revised form 22 December 2022
Accepted 13 February 2023
Available online xxxx

Keywords:
Coastal community
Fisheries
In-depth interviews
Travel cost
Tourism

ABSTRACT

Coastal fishing fleets are declining in many parts of Europe. In Sweden, this has left many traditional fishing harbours with no or very few active fishers. This might have effects on the marine tourism industry where the existence of commercial fishing is part of the visitors' tourism experience. In this paper in-depth interviews with local representatives for the tourism sector are combined with a questionnaire to 647 tourists visiting the Swedish harbour of Träslövsläge in 2020. A travel-cost analysis shows that tourists value the existence of fishing vessels to about 9 percent of the total value of the visit, while fishing architecture and a harbour with active commercial fisheries are lower valued. The importance of the fishing attributes varies substantially among tourists. From the interviews it can be concluded that the fishery is important for characterizing the village, but that the tourism experience also needs other activities such as restaurants.

1. Introduction

Sweden, as many other countries, has faced a substantial reduction of the fishing fleet in recent years and today many communities along the Swedish coastline have no or very few fishing vessels left (Waldo and Blomquist, 2020). Some of these communities have a long history of fishing and when the last fisher exits, the villages lose an iconic cultural heritage and important part of their identity (Johansson and Waldo, 2020). This will reduce the attractiveness of the coastal region as a tourist destination if tourists appreciate the local atmosphere provided by fisheries (Reed et al., 2013). The risk is, therefore, that the benefits provided by fisheries may be undersupplied from a societal point of view — at least when fishing is performed with traditional small-scale coastal vessels contributing to a lively and attractive harbour. This situation is referred to as a positive external effect of coastal fisheries as the fishers are not rewarded financially for providing non-market benefits to the tourism sector (see e.g. Mulazzani et al., 2019 for a discussion about non-market benefits of fisheries). Under these circumstances, public policy needs to take both tourism and coastal fisheries into account in order to reach an optimal size and structure of the fishing fleet. This paper analyses the importance of coastal fisheries for tourism using the Swedish coastal village of Träslövsläge as case study. By using a survey to visiting tourist as well as in-depth interviews with representatives for local authorities and the tourism industry, the study generates insights to which harbour related attributes are attractive for coastal tourists. This paper also estimates the non-market values of different coastal fisheries' attributes using a travel-cost analysis.

The presence of a fishery ascribes certain visible attributes to a harbour, for example vessels, nets, gears, and fishing huts. If tourists value these fishing attributes, this might be an important reason for visiting a harbour. Two previous studies have estimated the non-market economic values of fishing related attributes using stated preference methods. Durán et al. (2015) found that preserving a maritime cultural heritage, such as fishers' knowledge and traditional fisheries architecture, was worth on average $70 per household (both coastal and inland) per year in Galicia, Spain. Ropars-Collet et al. (2017) estimated the value of visitors being able to watch fishing boats during a one-day trip to fictitious coastal sites to be EUR 5.8, 4.5 and 7.7 per trip in France, Belgium, and United Kingdom, respectively. Using a revealed preference approach, Andersson et al. (2021) analysed whether fisheries attract tourists in 74 Swedish municipalities between 1998 and 2015 using panel data of overnight stays. The authors found that municipalities with more fishing (vessels, harbours, landings) also had more tourists, but could not establish a causal relationship proving that fisheries actually attract tourists.

* Correspondence to: AgriFood Economics Centre, PO Box 7080, SE 22007 Lund, Sweden.
E-mail addresses: staffan.waldo@slu.se (S. Waldo), johan.blomquist@slu.se (J. Blomquist), kristian.sundstrom@agrifood.lu.se (K. Sundström), asa.waldo@arkitektur.lth.se (Å. Waldo).

https://doi.org/10.1016/j.rsma.2023.102888

While coastal fisheries may provide a benefit to maritime tourism, other aspects of the harbour such as restaurants and cafés could of course be equally important. To formulate relevant policy measures, it is therefore important to include both fishery and non-fishery related attributes in the analysis, as well as potential synergies between them. The present study contributes by estimating non-market values of three different attributes of fisheries (*fishing vessels*, *fishing huts*[1] and an *active commercial fishery*) using the travel cost method, and by comparing the importance of these attributes to other harbour attributes in a survey to tourists visiting the harbour. Further, a small number of in-depth interviews were conducted in order to gain insights regarding how representatives for local authorities and tourism industry view the importance of coastal fisheries for marine tourism development.

The outline of the paper is as follows. In the next section, the conceptual background based on ecosystem services is presented, followed by a section on materials and methods where both the qualitative and quantitative methodologies are discussed. This section also contains a description of Träslövsläge as a fishing and tourism community. The result section contains the results from the survey on fishery attributes, the non-market valuation of these attributes using the travel-cost method, and the findings from the in-depth interviews. The results are discussed in a separate discussion section, and the main results are concluded in the last section of the paper.

2. Conceptual background

Marine waters provide ecosystem services affecting both commercial fisheries and tourism. To analyse these services, theoretical frameworks from the (Millennium Ecosystem Assessment, 2005) and the Common International Classification of Ecosystem Services (CICES, www.cices.eu) are used. In both these frameworks the recreational values of marine tourism are defined as *cultural ecosystem services* and include direct activities such as swimming and diving, but also aesthetic interactions, cultural heritage, and educational services (Hasler et al., 2016). Fish for food, on the other hand, is defined as a *provisioning service* in both frameworks, and the commercial fishery is dependent on this service for producing fish for the consumption market. This paper focuses on cultural ecosystem services in terms of non-market benefits provided by fisheries for marine tourism. In doing so it should be pointed out that fishing in Sweden, as elsewhere in the world, is a vastly heterogeneous activity ranging from large factory trawlers selling their catch on international markets, to small vessels using traditional passive gears such as creels and gill-nets to supply small quantities of fresh fish to local markets. The cultural values provided by fisheries for tourism are likely to vary substantially between large-scale vessels operating high seas and small-scale coastal vessels (e.g. Urquhart et al., 2011).

As discussed in more detail in the next section, the fishing in Träslövsläge may be described as mainly small-scale with vessels below 12 m fishing close to the coast and supply fresh seafood to the west coast of Sweden. In traditional fishing villages, such as Träslövsläge, the harbour and the fishing are commonly integrated parts of the local identity creating a sense of place that provides social and cultural contributions to the community (Ignatius and Haapasaari, 2018; Reed et al., 2013). In this sense, the cultural heritage of coastal fisheries may relate to, for example, knowledge and skills, fishing practices, traditional fishing gears and fishing architecture that are established and passed on between generations. It has been recognized that a fishing cultural heritage may provide non-market benefits to the tourism sector as it increases the attractiveness of the coastal region (e.g. Jiménez de Madariaga and García del Hoyo, 2019; Mulazzani et al., 2019). In our context, the cultural heritage is viewed as an important basis for why tourists are expected to value attributes of the coastal fisheries. Similar fishing activities as in Träslövsläge are present in many places along the Swedish west coast. The cultural values of fisheries are, however, likely to be different in harbours characterized by large-scale industrial vessels. These could still be important for the life and culture of local citizens, but are not likely to contribute with a picturesque harbour environment attracting tourists.

An interesting aspect of the cultural heritage is which elements carry the heritage. Durán et al. (2015) use the concepts of *tangible* and *non-tangible* elements, where tangible elements in a marine context are e.g. vessels and lighthouses and non-tangible elements could be traditional stories and songs or fishers' professional knowledge. In this paper, we distinguished between tangible elements in the form of fishing vessels and fishing huts as part of fisheries related architecture on the one hand, and an active fishery which was considered a non-tangible element. The concept of *active fishery* entails activities such as boats leaving and returning to the harbour and fishers unloading their catch, but also includes tangible elements such as signs of the activities that are observable and noticeable also when the fishers are absent, e.g., nets, tools, flags and fish smell. An active fishery will contribute to preserving local knowledge that will become visible for tourists in the harbour. The intangible elements are closely related to the concept of real vs. virtual fishing industries as proposed by Brookfield et al. (2005). In a community with a virtual fishing industry, the fishing image remains e.g., in the form of buildings and old vessels, but the fishery is no longer active. This might be enough for attracting tourists but might not preserve all aspects of the marine cultural heritage.

3. Materials and methods

3.1. The fishing village of Träslövsläge

Träslövsläge is a small fishing village located on the Swedish west coast with around four thousand residents.[2] The village is part of Varberg municipality with approximately 65 000 citizens and is located about 7 km south of the main city area. The fishing harbour was built in 1913 and is currently the largest fishing harbour in the region. However, it is still small by international standards hosting about 20 fishing vessels.

The main fishery in Träslövsläge is for Norwegian lobster (*Nephrops norwegicus*) in the Kattegat using either trawl or creels. The Swedish fishery for Norwegian lobster is a small-scale fishery, with many vessels below 12 m. The catch is aimed for the fresh seafood market, with most first-hand sales taking place at the two largest fish auctions in Sweden (Gothenburg and Smögen), but the catch is also sold locally to restaurants and fish mongers. The Norwegian lobster is a high value species and creel-fished catches are perceived as being of higher quality and therefore receive a price premium on the market (Hammarlund et al., 2022). The landings of Norwegian lobster in Träslövsläge were 346 tons in 2018, which constituted around 20% of total Swedish landings.[3] With an average price of SEK 103 per kilo (Statistics Sweden,

[1] Fishing huts are used for storage of gears etc. and can be seen as part of fishing architecture in the harbour.

[2] The number of residents in the two electoral districts in Träslövsläge ("Träslövsläge NV and Träslövsläge SÖ") was 3761 in year 2021. This data is from Statistics Sweden and available here https://valresultat.svt.se/2022/regionval-13830237-traslovslage-nv.html and https://valresultat.svt.se/2022/regionval-13830238-traslovslage-so.html.

[3] Own calculations based on logbook data provided by the Swedish Agency for Marine and Water Management.

Fig. 1. A map of Träslövsläge and its location in northern Europe.
Notes: Source for the detailed map to the left: GSD-Fastighetskartan, © Lantmateriet (2020). Source for the large-scale map to the right: © EuroGeographics (2020) administrative boundaries.

2021) the value of first-hand sales in Träslövsläge is around SEK 35 million per year (equivalent to around EUR 4 million). For the small village Träslövsläge, the Norwegian lobster fishery constitutes a notable part of the local economic activity. The SEK 35 million may for example be compared to the turnover in the restaurant sector of SEK 50 million, the retail sector of SEK 52 million, and the hotel sector of SEK 17 million.[4]

Träslövsläge is a popular tourist destination in the summer months. About 2 km from the harbour there is a major camping area and possibilities for bathing and wind surfing that attract tourists. In addition to the fishing harbour, Träslövsläge also has a marina for leisure boats, an ice-cream parlour, a restaurant, a fishmonger, and some other minor attractions for tourists. Although located within a short walking distance from each other, the attractions do not form a traditional marina and the fishing harbour and marina are separate from each other making the harbour area rather widespread. A map of Träslövsläge is provided in Fig. 1 indicating the fishing harbour, the fishmonger, the restaurant, the guest harbour for leisure boats and the ice-cream parlour.

Träslövsläge was chosen as study object mainly because it is an active fishing harbour that also attracts tourists. Using alternative harbours (e.g., the close-by Bua fishing community) with less tourists would face the risk of not having enough tourists in the harbour to answer the survey and not enough tourism enterprises to interview. In this sense, the chosen harbour is not representative for all Swedish fishing harbours but provides an example of a location where both fisheries and tourism are considered important for the local community. The choice of Träslövsläge was also based on the wide variety of possible tourist attractions ensuring that both fishery and non-fishery related attributes could be found.

[4] The total turnover of all economic activities in Träslövsläge was 868 million SEK in 2018. The data on turnover in Träslövsläge are provided by Statistics Sweden, database "Företagens Ekonomi", and are based on the postal codes of companies. The postal codes in Träslövsläge are: 43254, 43274 and 43275.

3.2. Qualitative methods

In-depth interviews were used to acquire an understanding of local conditions and to explore the importance of fishery for tourism in the specific village. The results of these interviews were also used to facilitate the construction of the main survey and to provide a better understanding and interpretation of survey results.

Our focus in the study was on local authorities and the tourist sector in the area. Interviewees were chosen strategically (Palinkas et al., 2015) to ensure variety in perspectives. In total six interviews were conducted: two with municipal representatives (local politician, official at the Business and destination office), one with a local cultural association representative, and three with local entrepreneurs (one in fishery related business and two in non-fishery related business). They were asked to provide their individual views on fishery and tourism in the village, ensuring a diversified understanding of these activities in the village. Six interviews were considered to be sufficient due to the interview method that allows interviewees to fully develop their reasoning about the topic, and given the small size of the village. The interviews were focused on the representatives' description of the village in terms of cultural history, aesthetics, tourist attractions, local businesses, and future development potential. Three themes guided the interviews:

- Essential attributes of the village *(i.e., characteristics from municipal, tourism and developmental perspective)*
- The harbour as a local quality *(i.e., importance compared to other local qualities such as beaches, shops, activities, restaurants, etc.; features important for tourism such as character of fishing village, possibility to buy fish, etc.)*
- Importance of an active local fishery *(i.e., for the community, for tourism; possible replacement with other activities).*

The interviews were semi-structured, which means that they started from these themes, but interviewees were encouraged to develop their responses from their own experiences and views.

The interviews were conducted in May–June 2020. This coincided with the Covid-19 pandemic where physical distance was recommended. Therefore, all interviews were conducted using video (Zoom) or phone. This had the advantage of more focused interviews compared to in vivo meetings where there is usually more talk about other things than the studied topic. On the other hand, it had the disadvantage of social distancing making it more demanding to establish confidence in the relation between interviewer and interviewees, and also inferior understanding of local references when interviewees point at something or show examples to illustrate what they say. To counterbalance this, two field trips to Träslövsläge were conducted in March and June 2020. The field trips provided possibilities to observe the setting and activities in the harbour and to move around in the area to experience what visitors do. Pictures were taken to facilitate execution of interviews and analysis.

All interviews were transcribed verbatim and analysed using reflexive thematic analysis (Braun et al., 2019). In this context, thematic analysis implies: (1) analysis of beforehand formulated themes (e.g., importance of local fisheries, harbour attributes, perception of tourism), and (2) defining new themes (e.g., importance of activity in the harbour, importance of the experience in the harbour). This provided a deeper understanding of the local fishery as an important heritage and local value in the village, as well as information about important harbour attributes, adequate for evaluation by visiting tourists. From this, relevant survey questions were formulated.

3.3. Quantitative methods

The objective of the survey was to examine if fisheries attributes play an important role in tourists' decision to visit Träslövsläge harbour. The population of interest comprises all harbour visitors that are not permanent residents in Träslövsläge. Respondents therefore include both tourists staying overnight in hotels, camping, holiday cottages, etc., as well as tourists travelling to Träslövsläge for a one-day visit. All respondents answered questions about how important harbour attributes were to their visit, while a subsample were also asked about their travel costs (see section below). Together with input from the interviews and the two field trips, nine harbour attributes/activities were identified. These included both market activities (restaurant, ice-cream parlour, fishmonger) and non-market attributes of the harbour (historical/cultural heritage, bathing/on-water activities, leisure boats, fishing vessels, fishing huts, and a harbour with active fishing). The distinction between "harbour with active fishing" on the one hand, and "fishing vessels" and "fishing huts" on the other hand, was made to explore the concepts of actual vs. virtual fishing communities discussed above. Facilities such as parking, benches, toilets, etc., were considered but not included in the survey since they are not harbour-specific, and relate more generally to the question of accessibility, which is not the focus of this study. To examine the importance of the attributes, all respondents graded each of the nine attributes on a scale between 1 and 7, using the following question:

"*How important were the following nine attributes for your decision to visit Träslövsläge? Answer in a 7-point response scale: 1 = not important at all, 7 = very important.*"[5]

Summary statistics, such as means and distribution of scores, were used to analyse the relative importance of the attributes. Three variables capturing background characteristics were included in the survey: gender, age, and disposable monthly income. Associations between scores for fishing related attributes and background variables were examined by linear regression analyses.

The survey was conducted in Träslövsläge harbour during five weeks in the summer of 2020 (between 9 July–9 August). Interviews were conducted face-to-face, Monday to Friday between 9 a.m. and 4 p.m. The interviewer approached all harbour visitors at random to get a representative sample of respondents. Respondent selection based on pre-determined quotas of different characteristics (eg. gender or age), which is sometimes advocated when conducting nonprobability sampling techniques (Neuman, 2014), could not be used in the current study since no such proportions of the target population was known beforehand. In total, 647 complete interviews were conducted.

For a subsample of the respondents, the travel cost method was used to estimate the tourists' valuation of the three fishing related attributes (vessels, fishing huts, and 'harbour with active fishing') in the harbour. To be qualified for the travel cost analysis three criteria must be met: (i) the respondent was on a one-day trip, (ii) the respondent had had transportation costs to get to the harbour, and (iii) Träslövsläge should be the main destination of the trip. Among the 647 respondents in the survey, 160 qualified for the travel cost analysis.[6]

We estimated the value of the visit to Träslövsläge based on both a travel cost (fuel and wear and tear in the case of travelling by car, or bus/train ticket if travelling by public transport) and a time cost (the value of alternative uses of the time required to get to the site and back).

The time cost could thus be said to measure the value of the time lost because of the trip. The underlying supposition is that the travel to and from the site is just a necessary evil in order to get to the desired destination. This time could alternatively have been devoted to other, potentially income-generating activities, and therefore the value of this time lost has often been related to a person's disposable income (Czajkowski et al., 2015). Thus the time of travel should match, partly or completely, the salary you could have received if you had chosen to work instead (Becker, 1965). In this paper a variation of this approach was used in which respondents were first asked whether they would have wanted the journey to be shorter, in which case the full hourly salary was used. Otherwise it was assumed that the journey was part of the travel experience and therefore there was no time cost (Czajkowski et al., 2015). This way, the time cost will not be overvalued by including respondents who actually enjoy travelling to the site.[7]

The base of the analysis is a demand function in which the number of trips (the demand) was related to other variables according to Eq. (1):

$$x_n = f\,(p_n, R_n, z_n, y_n) \tag{1}$$

[5] A 7-point scale was selected to strike a balance between validity and discriminating power on the one hand, and ease of use for the respondents on the other. See for example (Preston and Colman, 2000) where the 7-point scale scored high on most points, including respondents preferences.

[6] The on-site sampling method results in two well-known problems related to sample representativity: endogenous stratification and truncation. Endogenous stratification implies that the more frequent a visitor is to the site, the greater the probability of being sampled. Thus the sample will have an overrepresentation of high frequency visitors. Furthermore, the sample is truncated at one visit, since potential visitors that do not visit the site the particular season the study takes place will never be included. There is a simple econometric correction measure that handles both these problems and which involves simply subtracting one from all reported trips and remove the zeros (Shaw, 1988). This measure was applied in this study to the expected number of trips under status quo.

[7] Naturally, the use of the hourly wage to value time spent travelling is not fully applicable in all circumstances, for example if you are a retiree with fixed pensions or if you have a work were you cannot choose freely your amount of leisure time or when to have it. See Czajkowski et al. (2015) for more details of different types of problems when measuring time costs.

where x_n represents the number of trips p_n is the price to get to the site (i.e. the trip cost), r_n is the trip cost to an alternative (similar) site, Z_n is a vector of individual characteristics and y_n is the disposable monthly income. If the number of trips declines with higher trip costs, the demand curve is downward sloping. The travel cost to a substitute site (a site that is an alternative to the one selected, as stated by each respondent) was included since this cost would be expected to affect the inclination to visit the analysed site (Freeman et al., 2014). For example, if a respondent has an alternative site in close proximity to his or her home, the demand for Träslövsläge would probably be more limited with fewer visits per year.

Trip costs (p_n) for each respondent was calculated according to the following equation:

$$p_n = s\left(\frac{y_n}{h_n}\right) + (a_n \cdot b_n) \tag{2}$$

where s is a binary operator equal to 1 if a respondent would have preferred a shorter travel time (indicating that he/she had a time cost) and to 0 otherwise (see below). The term h_n indicates the average number of working hours per month, y_n is the disposable monthly income as above, while a_n and b_n are the unit cost per kilometre of travel and the return distance to the recreation site, respectively. Thus the left part of equation calculates the time cost of travel, while the right part describes the travel cost.

For travellers by car, the variable b_n was calculated based on respondents'place of departure, by inserting departure coordinates into an online map application and assuming the visitors had taken the closest way to Träslövsläge as suggested by the application. For bus and train travellers, the time of the interview was matched with the place of departure to obtain the most probable route taken (as suggested by the application) and the ticket price for a (return) journey for this route was found by searching for an equivalent journey on the web sites of the relevant bus/train companies.

The survey data includes four different measures of the annual number of visits for each respondent. The first measure is a status quo-scenario where the respondents were asked to state their estimated number of visits to Träslövsläge in 2020. We also asked for estimated number of visits with scenarios where Träslövsläge hypothetically lacked one of its current characteristics: (1) fishing vessels, (2) fishing huts and (3) harbour with active fishing. The four observations per individual were stacked and analysed in a quasi-panel using a random effects Poisson model. The Poisson model assumes equidispersion (mean and variance are equal), an assumption that is often not fulfilled.[8] To check for robustness of the Poisson model a negative binomial model (which does not have this constraint) was also estimated.

The individual demand function estimated in the regression was of a log-linear form and specified in the following way:

$$\ln(x_n) = \alpha + \beta_1 p_n + \beta_2 r_n + \beta_3 y_n + \beta_4 GENDER + \beta_5 AGE + \beta_6 HYP_{NOBOATS} + \beta_7 HYP_{NOHUTS} + \beta_8 HYP_{NOFISHERY} \tag{3}$$

where r_n is the trip cost to a stated alternative site and where *HYP_NOBOATS*, *HYP_NOHUTS* and *HYP_NOFISHERY* are dummies that indicate which scenario is being evaluated. The variable *GENDER* is a binary equal to zero if stated gender was female, and to one if stated gender was male. The log-linear form was used to ensure non-negative probabilities in accordance with Parsons (2003).

[8] This requirement was tested using a restricted likelihood ratio test (chi bar squared)

Based on (1), consumer surplus for accessing the site for respondent n (cs_n) is equal to:

$$cs_n = \int_{p_n^{\alpha}}^{p_n^{*}} f(p_n, R_n, Z_n, y_n)dp_n \tag{4}$$

where p_n^{α} is the actual trip cost for respondent n and p_n^{*} is the trip cost where demand falls to zero (the choke price). Given the Poisson form, the per-trip consumer surplus reduces to $-\frac{1}{\widehat{\beta_1}}$ where $\widehat{\beta_1}$ is the constant in the estimated regression. Similarly, the per-trip value loss in the hypothetical scenarios are reduced to $-\frac{1}{\hat{\beta}_i}$ ($for\ i = 6, 7, 8$), where $\hat{\beta}_6, \hat{\beta}_7 and \hat{\beta}_8$ are the estimated coefficients for the absence of fishing vessels, fishing huts and a harbour with active fishing according to (3).

4. Results

4.1. Voices from the local context

In the interviews it was put forward that fisheries and other activities are important as a joint concept, suggesting that tourists appreciate the cultural heritage and presence of fishing activities, but they also need something to do while visiting. As a tourist destination the attractiveness of the harbour was thus described in terms of a multifaceted experience combining an aesthetical experience (picturesque environment with fishing vessels and fishing huts), an emotional experience (being part of a cultural heritage and visiting a vivid harbour), and some form of activity (shopping, eating, walking, etc.). This was illustrated as:

> *Not only that there are… boats for example, but that things are happening there. That there are restaurants, coffee shops and handicraft… That's what you appreciate when you are on a trip. The combination of something that is a bit cosy and picturesque at the same time as there are things to do.*

In the interviews, there was no question about fisheries being a main part of the village identity. The fishing activities were viewed as the very foundation from which the village has emerged and thereby as a genuine cultural aspect. This was manifested in the harbour as a place where the genuine fishing tradition is visible.

> *Somehow the harbour is the nave or centre of it all. And I'm not referring to the marina, because it is a bit behind it all, but to the fishing harbour itself. That is the nave of 'Läjet' [local name for Träslövsläge].*

According to the interviewees this fishing related culture in the harbour sets an attractive context for tourism and has a positive effect on fishing related businesses.

> *It's the historical heritage that strikes you when you get down there [to the harbour] and see all there is. There are two restaurants and one fishmonger, a young couple that has taken over 'Läjets fisk'. They buy as much local fish as they can, and also display the name of the boat in the harbour that caught the fish on a note. There is a very successful restaurant, 'Joels brygga'. […] 75–80 percentage of what they sell is fish or shellfish.*

Turning to the question of whether this fishing context requires an active fishery or not, i.e., if Träslövsläge will survive a declining fishery as a real or virtual fishing community, two different views were expressed in the interviews. The first was that an active fishery is crucial for the genuine experience of the visit to the harbour.

Table 1
Descriptive statistics of the respondents, N = 647.

Type of visitor	*N*	*Background characteristics*	*Average value*
Travelled to Träslövsläge	419	Age	49
Temporary staying in Träslövsläge	228	Female (0/1)	0.62
Type of accommodation:		Income above 40 000 SEK (0/1)	0.35
Bed & Breakfast/hotel/home rental	41		
Camping	43		
Holiday cottage	70		
Other	74		

Table 2
Mean scores for the nine attributes.

Rank	Attribute	Mean	Standard error	95% Confidence Interval
1	Ice-cream parlour	4.55	0.09	[4.37; 4.73]
2	Fishing vessels	4.08	0.09	[3.91; 4.25]
3	Bathing/on-water activities	4.06	0.10	[3.86; 4.26]
4	Fishing huts	3.99	0.08	[3.83; 4.16]
5	harbour with active fishing	3.85	0.09	[3.68; 4.03]
6	Fishmonger	3.82	0.10	[3.63; 4.01]
7	Leisure boats	3.66	0.08	[3.50; 3.82]
8	Restaurant	3.39	0.09	[3.22; 3.56]
9	Historical/cultural heritage	3.05	0.08	[2.89; 3.20]

It's very, very important that it [the fishery] is still there. It's the entire atmosphere, the culture, it's a feeling that is present there. It doesn't exist in the marina. […] The feeling of seeing boats come in and watching them load and unload, and work and potter about with their gear. It's an atmosphere for the entire village, and it's a feeling I think many are protective of and find important for the community.

An opposite view was that it will be possible for other businesses and activities to fill the void if fisheries left the harbour, securing the attractiveness of the harbour as tourist destination. Still even from this perspective the cultural heritage of fishery was viewed as an important part.

I'm not sure, but if we find other things to attract tourists, I reckon… […] If we have good restaurants, a wide range of activities, good beaches, it will attract just as much. But of course, we want to keep… the feeling of being a fishing village.

It depends on how you would administer it when it [the fishery] vanishes. If you are good at profiling a fishing harbour that has been transformed, so that it feels like an old fishing harbour that has changed and been modernised. […] Then I think there is a very good potential to attract tourists.

From the interviews it is clear that fishery is important in Träslövsläge, both from a historical perspective and as characterizing the village today. It is an important part of the experience offered tourists visiting the harbour. There is consensus that the interpretation of the place as a fishing village is crucial, but there is uncertainty whether this requires active fishery or if it is possible to continue being attractive as a virtual fishing community.

4.2. Harbour attributes

Turning to the survey, descriptive statistics of the respondents are presented in Table 1. As can be seen, most tourists had travelled to Träslövsläge for a one-day visit ($N = 419$). Among the respondents staying in the village, around 30% lived in holiday cottages and 10% stayed on camping sites. In the "other" category, most respondents (44) stayed with family/friends.

The mean scores of the nine harbour attributes, ranked from highest to lowest, are presented in Table 2. Column 4 and 5 of the table shows standard errors and 95% confidence intervals of the means.

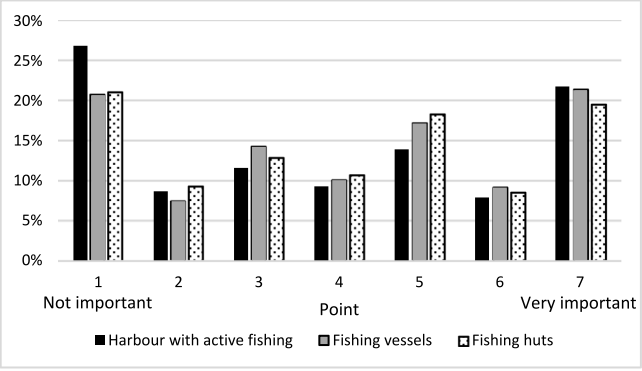

Fig. 2. Distribution of scores for fishing related attributes.

As is clear from the table, the most important attribute for visiting the harbour was buying ice-cream. This is followed by watching fishing vessels, bathing/on-water activities and experiencing fishing architecture (presence of fishing huts), which all have approximately the same score (around 4 on the 7-point scale). To experience a harbour with active fishing was considered somewhat less important.

In addition to means, it is interesting to take a closer look at the distribution of scores. Since the focus of the paper is on the fishing-related attributes, Fig. 2 shows the distribution of scores for fishing vessels, fishing huts and harbour with active fishing. The *y*-axis of the figure shows the share (in percentage) of total respondents that selected a particular value on the 7-point scale.

The figure shows two interesting patterns. First, the fishing related attributes get approximately the same share of respondents for each score indicating that the respondents either valued them equally or did not differ between them. The second pattern is that a relatively large share of the respondents found the fishing related attributes either *very important* or *not important at all* (around 20 percent each). Thus, the distribution does not exhibit the traditional "central tendency bias", which inclines respondents to avoid the endpoints of the scale and to prefer responses closer to the midpoint, and that is often found in surveys using rating scales (e.g. Albaum et al., 2007)

To examine if the scores for the fishing attributes are related to the background variables, a linear dummy variable regression

Table 3
Estimation results, relationship between scores and background variables.

	Harbour with active fishing		Fishing vessels		Fishing huts	
	Coefficient	Std.error	Coefficient	Std.error	Coefficient	Std.error
Base category (constant)	2.87***	*0.33*	3.27***	*0.32*	3.03***	*0.33*
Coefficients						
Travelled (not main destination)	−0.46*	*0.24*	−0.52**	*0.24*	−0.36	*0.23*
Tourists staying in Träslövsläge	0.87***	*0.22*	0.78***	*0.21*	0.92***	*0.20*
Female	−0.04	*0.20*	0.08	*0.19*	0.34*	*0.19*
Income above 40 000 SEK	0.01	*0.21*	0.00	*0.20*	−0.12	*0.20*
Age (30–44)	0.57*	*0.32*	0.41	*0.31*	0.38	*0.31*
Age (45–60)	0.92***	*0.31*	0.72**	*0.30*	0.64**	*0.30*
Age (>60)	1.27***	*0.32*	1.00***	*0.31*	0.89***	*0.31*
R^2	0.09		0.08		0.09	
N	570		570		570	

Notes: ***, **, and * indicates significance at $p < 0.01$, $p < 0.05$ and $p < 0.1$, respectively. Heteroscedasticity-robust standard errors in italics.

Table 4
Description of responders.

	Mean	Standard deviation	Min	Max	Observations
Men	0,36	0,48	0	1	160
Age (years)	49,83	14,79	18	86	160
Disposable monthly income (SEK)*	25 648	10 015	4 583	57 390	160

* Tax rates were based on data from the Swedish Tax Agency.

Table 5
Results from the random effects Poisson regressions^.

Variable	Coefficient	Std. error
Constant	2,485***	0,475
Travel cost	−0,003***	0,001
Travel cost substitute site	−0,001	0,001
Income	−0,003	0,012
Men	1,024***	0,253
Age	−0,005	0,001
Without fishing vessels	−0,107***	0,037
Without fishing huts	−0,049	0,036
Without an active fishing	−0,066*	0,036
Number of observations †	640	640
Number of individuals	160	160

Notes: ***, **, and * indicates significance at $p < 0.01$, $p < 0.05$ and $p < 0.1$, respectively.
^ The performed likelihood ratio test indicated that mean and variance were not equal (which is very common), and for this reason a corresponding negative binomial regression was also run. The outcomes of the two regressions were very similar, indicating that the results of the Poisson model are robust to model choice.
† Since four questions related to the number of visits are given to each respondent (one question without and three with hypothetical changes), the number of observations are four times higher than the number of individuals.

was used. Four age group variables were generated as follows: 18–29, 30–44. 45–60, and over 60. For the regression, the base category against which the other categories are compared was defined as: male, age 18–29 years, not staying overnight, income below 40 000 SEK, and Träslövsläge as the main destination of the trip. The results are presented in Table 3, where the coefficients should be interpreted as the difference in average score compared to the base category. Standard errors of the coefficients are shown in italics.[9]

Looking at the base category for "harbour with active fishing" the score is 2.87, which is below the average score in the total sample (3.84). Tourists that are staying in Träslövsläge for more than one day (holiday cottages, camping, etc.) gave on average a higher score. There are no gender or income differences, but older respondents (over 45) tend to value a harbour with active fishing higher than younger respondents. Looking at the other columns, we see that this conclusion holds also for the two other fishing related attributes. Thus, the typical tourist that appreciates fisheries attributes is older and stays in Träslövsläge for more than a day.

4.3. Monetary value of fishing related attributes

The tourists responding to the travel-cost part of the survey had primarily travelled from Varberg city (86 respondents, 10 km from Träslövsläge), Gothenburg (28 respondents, 82 km), Borøas (25 respondents, 94 km), and Halmstad (16 respondents, 64 km). Almost all respondents (156) had travelled by car. Important characteristics of the respondents in the extended survey are presented in Table 4.

The share of male respondents is only 36% which is lower than expected. However, we could not find any gender differences in the scoring of attributes in Table 3 above. Mean age was 50 years with individual respondents ranging from 18 to 86 years. The mean net monthly income was EUR 2 473 corresponding to a gross income of about EUR 3 279. This is higher than the median gross income in Sweden of about EUR 2 652.[10]

The respondents claimed they would make 11 trips to Träslövsläge on average during 2020. The number of visits would be 8.9 on average if there were no fishing vessels, 9.4 without fishing related architecture (fishing huts), and 9.3 without an active fishery. The number of trips depends on both travel costs, attributes, and background variables as shown in Eq. (3). The empirical estimates for Eq. (3) are presented in Table 5.

The coefficient for travel cost is negative and significant as expected (people living further from the destination and thus have higher costs travel there less). The coefficient for men is positive and significant indicating that men visiting the harbour do so more often than women. The coefficients for age, income and travel cost to a substitute site are all insignificant which implies that we cannot prove that these attributes affect the number of trips. The coefficients for the fishing related attributes are all negative. They are significant for the absence of fishing vessels (1% level) and for a harbour with active fishing (10% level). In all, the results indicate that the number of visits would decline if no fishing related attributes were present.

[9] A number of respondents (77) did not want to state their income level. Therefore the number of respondents in the estimation sample (N=570) is somewhat lower than in Table 5.

[10] https://www.scb.se/hitta-statistik/sverige-i-siffror/utbildning-jobb-och-pengar/inkomster-for-personer/

Table 6
Average value per trip without changes and value changes due to the loss of three typical fishery attributes.

	Value/value changes (EUR)†	
	Per person and trip	Per trip
Status quo value	39,01	81,67
Value loss if fishing boats would disappear	−3,52***	−7,37***
Value loss if fishing architecture would disappear	−1,62	−3,38
Value loss if commercial fishing would disappear	−2,16*	−4,53*

Notes: ***, **, and * indicates significance at $p < 0.01$, $p < 0.05$ and $p < 0.1$, respectively.
† An SEK/EUR rate of 8,37 was used (average rate during the interviews).

The estimated value of a trip to Träslövsläge and the value changes due to losing any of the three fishing related attributes are presented in Table 6.

The left column contains the value per person and trip and the right column the value per trip (each trip involved 2.1 persons on average). The largest drop in value would follow a disappearance of fishing vessels with a loss of EUR 3.52 or 9%, per person and trip. The second most valuable attribute would be an active fishery, the disappearance of which would result in a value loss of EUR 2.16 per person and trip, corresponding to about 6% of the total value of the trip. The value decrease due to an absence of fishing huts is not significant.

5. Discussion

From the analysis it is clear that many tourists view the fisheries related attributes as important for visiting the harbour in Träslövsläge together with other attributes such as the opportunity of buying ice cream and bathing/water sports. This is expressive for how fisheries contribute to the tourism experience as a joint experience with other activities. The ice cream parlour is famous in the municipality and an obvious attraction for visiting the harbour, but from the analysis it is clear that the fishing atmosphere is also an important attraction and that the combination of e.g., eating and experiencing the fishery is important for many visitors. The importance of the atmosphere for tourism is in line with e.g., Reed et al. (2013) who finds that coastal fisheries in England are important for the wider community as the fishery puts it on the map for seaside tourism. Reed et al. (2013) link this to the fishing traditions and to fishers representing an authentic aspect of the area. Voyer et al. (2017), who conducted interviews with different stakeholders in New South Wales Australia, find that commercial fisheries contribute to coastal tourism in two ways. First, commercial fisheries provide locally-caught seafood meals, which is an important part of the holiday experience. Second, the presence of fishing boats in the harbour gives authenticity to the holiday experience for visitors wishing to witness fishing practices. While the provision of seafood to the market is part of the companies' revenues, the provision of "authenticity" is not. Thus, this is a positive external effect. Similar ways of expressing the fishery as promoting seafood eating and representing an authentic part of the local community is present in the interviews from Träslövsläge.

The current study estimates the non-market value of positive externalities produced by coastal fisheries in Träslövsläge; i.e. the authenticity effect generated by having vessels, fishing huts and active fisheries in the harbour. More specifically, while visitors may enjoy locally caught Norwegian lobster, this is not considered a positive externality because this value is already reflected in the market prices at e.g. restaurants and fishmongers. However, for benefits such as an authentic atmosphere provided by coastal fisheries, there is no market in which the values of such amenities can be observed. To quantify such non-market values of coastal fisheries for tourists is the main focus of this study. The results show that the value of preserving fishing vessels in the harbour is EUR 3.5 per visitor and trip, which corresponds to 9% of the total travel cost. The value of preserving an active fishery is somewhat lower, EUR 2.2 per person and trip corresponding to about 6% of the total travel cost. These estimates may be compared to Ropars-Collet et al. (2017) who estimate the value of watching fishing boats during a one-day trip to a fictitious coastal site to be EUR 5.8, 4.5 and 7.7 per trip in France, Belgium, and United Kingdom, respectively. A possible explanation of our lower estimates may be related to surveying visitors that have travelled to a coastal site. Studies have shown that making the choice setting tangible and relatable for the respondents can decrease the hypothetical bias often present in choice experiments (see e.g. Haghani et al., 2021). The differences may, of course, also be explained by heterogeneous preferences between countries as shown in Ropars-Collet et al. (2017), and the fact that regions across Europe are very different in terms of tourism and fishing activities.

Durán et al. (2015) perform a discrete choice experiment using choice cards in Galicia (Spain) and estimate the value of preserving maritime cultural heritage, including traditional fishing boats and fishing architecture, to be EUR 70 per household and year. To compare this number with the results of our study, it may be noted that the average value of preserving fishing vessels in Träslövsläge is EUR 7.4 per travel group and trip, and that visitors make on average 11 trips per year. The estimated total value per year and travel group (cf. household) is thus somewhat higher (EUR 81.4) in Träslövsläge compared to the findings in Durán et al. (2015). Ines et al. (2015) used a survey to estimate the expenditures made by visitors who came to experience the "fisheries identity" of a coastal site. They find that the value provided by fishing identity constitutes 34%, 10% and 6% of total expenditures in France (Le Guilvinec), Germany (Aischgrund) and Poland (Barycz Valley), respectively. This may be compared with our finding that the value of preserving fishing vessels constitutes 9% of visitors total travel expenditures. To sum up, the non-market values of fisheries' attributes found in this study seem to be comparable to results found in the literature.

It may also be interesting to compare the non-market values of coastal fisheries attributes to other coastal attributes. There are, for example, several studies using the travel cost method to estimate the non-market value of beaches. Egan et al. (2022) provide an overview of such studies showing that all reviewed studies analysing developed countries found a higher value compared to our estimates for coastal fisheries. For example, Zhang et al. (2015) estimate the recreational use value of Gold Coast beaches in Australia to be 19.5 Australian dollars (AUD) per person and trip (1 AUD = 0.7 EUR), and Voltaire and Koutchade (2020) estimate the value of a beach trip for residents in Catalonia, Spain, to be EUR 18.2 per person. Kipperberg et al. (2019) study the value of beaches in Norway and find values of EUR 7.8 and EUR 13.5 for two different locations (using 1 NOK = 0.1 EUR). Interestingly, Ropars-Collet et al. (2017) find that the presence of a beach is valued almost twice as high as the presence of fishing vessels in France, Belgium and the UK.

The fact that this study finds positive non-market values of coastal fisheries for tourism suggests that the coastal fisheries in Träslövsläge is subject to positive external effects (see e.g. Mulazzani et al., 2019). In other words, if Träslövsläge would lose its fishing vessels this would reduce the attractiveness of the village as a tourist destination. The presence of positive externalities could potentially motivate economic support for coastal

fisheries in areas with many tourists, such as Träslövsläge. However, fisheries management focuses typically on other objectives than tourism, such as productivity and environmental impacts. On the other hand, in the EU Common Fisheries Policy CFP; (EU, 2013) small-scale coastal fisheries are prioritized in the support schemes available in the European Maritime, Fisheries and Aquaculture Fund EMFVF; (EU, 2021). Small-scale fisheries are recognized in the EMFVF as being vital to the livelihood and cultural heritage of many coastal communities in the EU. The present study shows that such cultural values are recognized by tourists visiting a small village on the west coast of Sweden. However, as there is no information about the number of visitors in Träslövsläge, it is not possible to estimate the total value of the positive externality. A topic for future research would be to estimate the total value and compare it to the costs of keeping the different attributes in the harbour. In the case of a profitable fishing sector this is of course not an issue, but when the fleet is declining and needs support to survive the value of positive externalities becomes an important issue. In this case it is also important to have detailed knowledge regarding which attributes are appreciated by the tourists in order to efficiently allocate funding.

How can the information from Träslövsläge be used in a more general context of coastal tourism development? The analysis addresses several dimensions of the local fishery in the form of vessels, active fisheries, and fishing architecture. An important question for fisheries management and tourism policies is whether it is necessary to have an active fishery in a harbour or if is it enough with tangible cultural heritage symbols such as picturesque architecture, vessels and maybe old nets and traps. The latter can be organized by the tourism industry, while an active fishery needs a fishing industry and fisheries management. The results from Träslövsläge show that the respondents value the existence of fishing vessels in the harbour to about 9% of the value of the total tourism experience and an active fishery in the harbour to about 6%, while the model cannot find a statistically significant value for the existence of fishing huts. These estimated values are of course site specific, but indicates that the different attributes are not equally valued, which is consistent with the findings in Durán et al. (2015). Information on which characteristics are important for tourists is important for the development of any coastal tourism destination, and the results from similar analysis as ours can be used to form both fisheries and tourism policies. To formulate more general policies, it is however important with further research on which attributes are important and which are not in tourism destinations with different characteristics.

In the discussion of the results, it is important to note that the fishing community of Träslövsläge was strategically chosen with the knowledge that it is a popular tourist destination. Given this approach, the main purpose of the study is to analyse to what extent fisheries attributes is an important driving force for the tourist streams into the community. Similar fishing communities with vessels targeting crustaceans, such as northern prawn, Norwegian lobster and lobster, are present along the Swedish west coast but not all of them are also tourist destinations. As discussed above, fishing communities are heterogeneous when it comes to size and harbour activity, and the results of this study may not be generalizable to other communities. Additional case studies in both Sweden and other countries are necessary to complement and confirm the research findings in a wider context.

It should also be pointed out that the survey was conducted in the summer of 2020, in which the Covid-19 pandemic affected tourism in Sweden and internationally. However, Sweden applied a less restrictive Covid-policy compared to many other European countries and domestic travel for tourism purposes was allowed throughout the summer. Despite this the tourism consumption in Sweden decreased with 38 percent in 2020 compared to 2019, largely driven by a significant reduction in international tourists (Swedish Agency for Economic and Regional Growth, 2020). In the survey visitors were asked if they would have made more or fewer trips to Träslövsläge if there was no Covid-19. Around 20 percent of the visitors stated that they would have made more trips in absence of Covid-19, and only a few individuals answered that they would have made fewer trips. This suggests that there would be more visitors in Träslövsläge in a normal (non-Covid) year. It is, however, difficult to know how this may have affected the estimated results.

6. Conclusions

Each tourist trip to Träslövsläge was valued at EUR 39.01 per person. This value would be reduced by on average 6 percent (EUR 2.16) for the absence of an active coastal fishery and 9 percent (EUR 3.52) for the absence of fishing vessels. The study could not establish any significant effect on the per-trip value of removing fishing huts.

In Träslövsläge, the coastal fishery functions as the hub for the multi-facetted experience that tourists appreciate, but the fishery is not enough in itself. Other activities like food, ice-cream and water sports are needed as well, and while fishery related attributes are important for many visitors in the harbour there is also a group of tourists not viewing fisheries as important at all. It is yet for research to find more general patterns for which fishing attributes are important for tourists with different characteristics (age, income, etc.) and for different local settings (country, types of harbour, type of fishery, etc.). Also, further analyses is needed of the costs and benefits of different fisheries policies when including values for the tourism sector in addition to more traditional objectives such as sustainable use of marine resources and fleet economics.

CRediT authorship contribution statement

Staffan Waldo: Conceptualization, Methodology, Writing – original draft, Supervision, Project administration, Funding acquisition. **Johan Blomquist:** Conceptualization, Methodology, Formal analysis, Writing – original draft. **Kristian Sundström:** Conceptualization, Methodology, Formal analysis, Writing – original draft. **Åsa Waldo:** Conceptualization, Methodology, Formal analysis, Writing – original draft.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Quantitative data can be shared on request, in-depth interviews are confidential.

Acknowledgement

Funding from the Swedish Board of Agriculture and the Swedish Rural Network (contract 3.3.17-01982/2020) is greatly acknowledged.

References

Albaum, G., Roster, C., Yu, J.H., Rogers, R.D., 2007. Simple rating scale formats: Exploring extreme response. Int. J. Mark. Res. 49 (5), 1–10.

Andersson, A., Blomquist, J., Waldo, S., 2021. Local fisheries and thriving harbors: Is there a value for the tourism sector? Mar. Resour. Econ. 36 (2), 111–131.

Becker, G.S., 1965. A theory of the allocation of time. Econ. J. 75 (299), 493–517.

Braun, V., Clarke, V., Hayfield, N., Terry, G., 2019. Thematic analysis. In: Liamputtong (red.) (Ed.), Handbook of Research Methods in Health Social Sciences. Springer, Singapore, pp. 843–860.

Brookfield, K., Gray, T., J., Hatchard, 2005. The concept of fisheries-dependent communities: A comparative analysis of four UK case studies: Shetland, Peterhead, north shields and lowestoft. Fish. Res. 72 (1), 55–69.

Czajkowski, M., Giergiczny, M., Kronenberg, J., Englin, J., 2015. The Individual Travel Cost Method with Consumer-Specific Values of Travel Time Savings. Working Paper-Faculty of Economic Sciences, University of Warsaw (WP12/160).

Durán, R., Farizo, B.A., Vázquez, M.X., 2015. Conservation of maritime cultural heritage: A discrete choice experiment in a European atlantic region. Mar. Policy 51, 356–365.

Egan, A.L., Rolfe, J., Cassells, S., Chilvers, B.L., 2022. Potential changes in the recreational use value for coastal bay of plenty, New Zealand due to oil spills: A combined approach of the travel cost and contingent behaviour methods. Ocean Coast. Manag. 228, 106306.

EU, 2013. Common Fisheries policy. Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 2013.

EU, 2021. The European maritime, fisheries and aquaculture fund. Regulation (EU) No 1139/2021 of the European Parliament and of the Council of 7 2021.

Freeman, A.M., Herriges, J.A., Kling, C.L., 2014. The Measurement of Environmental and Resource Values: Theory and Methods. Routledge.

Haghani, M., Bliemer, M.C.J., Rose, J.M., Oppewal, H., Lancsar, E., 2021. Hypothetical bias in stated choice experiments: Part I. Macro-scale analysis of literature and integrative synthesis of empirical evidence from applied economics, experimental psychology and neuroimaging. J. Choice Model. 41, 100309.

Hammarlund, C., Blomquist, J., Waldo, S., 2022. The way the wind blows: Tracing out the demand for Norwegian lobster using instrumental variables. Mar. Resour. Econ. 37, 263–282.

Hasler, B., Ahtiainen, H., Hasselström, L., Heiskanen, A.-S., Soutukorva, Å., och Martinsen, L., 2016. Marine Ecosystem Services: Marine Ecosystem Services in Nordic Marine Waters and the Baltic Sea – Possibilities for Valuation (TemaNord 2016:501). Nordic Council of Ministers, Copenhagen.

Ignatius, S., Haapasaari, P., 2018. Justification theory for the analysis of the sociocultural value of fish and fisheries: The case of Baltic salmon. Marine Policy 88, 167–173.

Ines, T., Changeant, A., Le Gallic, B., Nourry, M., 2015. Deliverable 3.5. Identifying and quantifying non-market values (Grant Agreement Number 635188). Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the European Seafood sector (SUCCESS).

Johansson, M., Waldo, Å., 2020. Local people's appraisal of the fishery-seal situation in traditional fishing villages on the Baltic sea coast in southeast Sweden. Soc. Nat. Resour. 34 (3), 271–290.

Kipperberg, G., Onozaka, Y., Bui, L.T., Lohaugen, M., Refsdal, G., Sæland, S., 2019. The impact of wind turbines on local recreation: Evidence from two travel cost method–contingent behavior studies. J. Outdoor Recreation and Tour 25, 66–75.

Jiménez de Madariaga, C., García del Hoyo, J.J., 2019. Enhancing of the cultural fishing heritage and the development of tourism: A case study in Isla Cristina (Spain). Ocean Coast. Manag. 168, 1–11.

Millennium Ecosystem Assessment, 2005. Ecosystems and Human Wellbeing: A Framework for Assessment. Island Press.

Mulazzani, L., Camanzi, L., Malorgio, G., 2019. Multifunctionality in fisheries and the provision of public goods. Ocean Coast. Manag. 168, 51–62.

Neuman, W.L., 2014. Qualitative and quantitative sampling. In: Social Research Methods: Qualitative and Quantitative Approaches. Pearson Education Limited, pp. 246–280.

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N., Hoagwood, K., 2015. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration Policy Mental Health 42 (5), 533–544.

Parsons, G.R., 2003. The travel cost model. In: A Primer on Nonmarket Valuation. Springer, pp. 269–329.

Preston, C.C., Colman, A.M., 2000. Optimal number of response categories in rating scales: Reliability, validity, discriminating power, and respondent preferences. Acta psychol. 104 (1), 1–15.

Reed, M., Courtney, P., Urquhart, J., N., Ross, 2013. Beyond fish as commodities: Understanding the socio-cultural role of inshore fisheries in England. Mar. Policy 37, 62–68.

Ropars-Collet, C., Leplat, M., Goffe, P.Le., 2017. Commercial fisheries as an asset for recreational demand on the coast: Evidence from a choice experiment. Mar. Resour. Econ. 32 (4), 391–409.

Shaw, D., 1988. On-site samples' regression: Problems of non-negative integers, truncation, and endogenous stratification. J. Econometrics 37 (2), 211–223.

Statistics Sweden, 2021. Swedish sea-fisheries during 2020. Definitive Data. JO55 SM 2101.

Swedish Agency for Economic and Regional Growth, 2020. Fakta Om Svensk Turism 2020. Tillväxtverket Report (0384), Stockholm, Sweden.

Urquhart, J., Acott, T., Reed, M., Courtney, P., 2011. Setting an agenda for social science research in fisheries policy in northern Europe. Fish. Res. 108, 240–247.

Voltaire, L., Koutchade, O.P., 2020. Public acceptance of and heterogeneity in behavioral beach trip responses to offshore wind farm development in Catalonia (Spain). Resour. Energy Econ. 60, 10115.

Voyer, M., Barclay, K., McIlgorm, A., Mazur, N., 2017. Connections or conflict? A social and economic analysis of the interconnections between the professional fishing industry, recreational fishing and marine tourism in coastal communities in NSW, Australia. Mar. Policy 76, 114–121.

Waldo, S., Blomquist, J., 2020. Var är det lönt att fiska? – en analys av fisket i svenska regioner. (AgriFood Fokus 2020:2). https://www.agrifood.se/publication.aspx?fKeyID=1987.

Zhang, F., Wang, X.H., Nunes, P.A.L.D., Ma, C., 2015. The recreational value of gold coast beaches, Australia: An application of the travel cost method. Ecosyst. Serv. 11, 106–114.