Application of a model for the evaluation of the "Visitor Satisfaction" in a nature reserve of South Italy

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Abstract

Di Franco C.P., Borsellino V., La Sala L., Schimmenti E. (2017): Application of a model for the evaluation of the "Visitor Satisfaction" in a nature reserve of South Italy. J. For. Sci., 63: 206–218.

The protected natural area represents an important resource because from it sustainable and long-lasting social and economic development processes can start. In fact, the conservation of biodiversity can help create economic values by using natural capital which, if properly valorised, can help the momentum of local sustainable development and create diffuse welfare in terms of employment and income. To such a purpose, the evaluation both of the demand by those who enjoy the services of a protected area and of the level of satisfaction that visitors draw from their experience becomes a priority. The present study aims at investigating the behaviour and the preferences of the visitors to a protected natural area by means of the application of a "Visitor Satisfaction" model, in order to provide the managing institution and the local stakeholders with a method for the evaluation of the services offered, and in particular those services that directly concern the recreational function. The model has been implemented in the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe", which is part of the provinces of Agrigento and Trapani in the Region of Sicilia (Sicily, South Italy). Our hope is that it can be extended to other protected areas.

Keywords: protected areas; recreational services; local development; assessment; preferences; Sicily

In Italy the National Framework Law No. 394/91 and regional laws consider protected areas as zones to protect and conserve and as instruments for economic and social valorisation. At the international level, the equilibrium between conservative and promotion functions of the protected areas has been finally rendered official in 2003, on the occasion of the 5th IUCN World Parks Congress in Durban, in South Africa (IUCN 2003). The protected area becomes the unifying element of the territory "beyond boundaries". In it synergies can take place between forms of preservation, conservation, valorisation and local micro economies. Initiatives can be undertaken capable of promoting models of local sustainable development from the environmental point of view (Maciocco, Preite 1997; Arabatzis, Grigoroudis 2010; De Filippo et al.

2013), with positive effects on the development of the local economy and society (Dematteis 1995).

As a consequence, the administrations and the managing institutions are called to experiment with prudent and efficient management of the natural areas they control, in order to conciliate the need to protect nature and the cultural identity of the territory with the needs of touristic development, and of economic development in general (De Filippo et al. 2013). Protected areas can generate an attraction capacity for some specific segments of touristic demand, those belonging to the ecotourism category (Ceballos-Lascurain 1996; Tempesta et al. 2002; Asciuto et al. 2013; Lanfranchi et al. 2014; Schimmenti et al. 2016). Effective planning, management and control represent a "conditio sine qua non" for an equilibrated relationship between

protected areas and ecotourism (Boo 1990a, b; Hunter, Green 1995; Yu et al. 1997; Petrosillo et al. 2007). The management of the recreational eco-systemic services itself depends on how they are perceived by those who intend to enjoy them (Daily 1997): to improve their management it is necessary to consider how their users perceive them (Schnurr, Holtz 1998; Daily 2000).

There follows that on the one hand it is necessary to protect and valorise the natural environment, and on the other hand to gauge the quality of the recreational services and their specific characteristics in order to put into practice and satisfy the needs and desires of the users.

The "satisfaction" of the visitors to a tourist and recreational destination is a concept that has been amply debated in the literature (Ryan 1995; Oliver 1997; Bowen 2001; Kozak 2001; Yuksel, Yuksel 2001; Quan-Sheng 2005; Devesa et al. 2010). However, no unanimously shared definition has been reached (Giese, Cote 2000). As a consequence, some ambiguity has remained concerning its nature (Babin, Griffin 1998; Devesa et al. 2010) and the possibility to effectively measure it (Vittersø et al. 2000; Žabkar et al. 2010). A number of studies are based on the evaluation of the "Visitor Satisfaction" (VS) by monitoring the perceptions of the visitors, while others are concerned with the analysis of the gap between the expectations and the personal experience of the users.

Starting from the former, some works (Geva, Goldman 1991; Tian-Cole et al. 2002; Tian-Cole, Crompton 2003; Daniels, Marion 2006; Moore, Polley 2007) tend to adopt a direct approach to the measurement of the satisfaction of visitors to protected areas, basing both on the enjoyment of some given services, and on the characteristics or specific attributes of the natural environment, thus supplying a picture of the factors that influence satisfaction.

The second stream of research measures the satisfaction of visitors by means of the comparison between their expectations and the experience they had in visiting the protected area (Pizam et al. 1978; Oliver 1980; Moutinho 1987; Tribe, Snaith 1998; Schofield 2000; Arabatzis, Grigoroudis 2010). Some theoretical models refer to a user who is able to evaluate the single features of the product or service, and measure their satisfaction by considering the performance of one or more of its attributes. A classic model is the matrix of the Importance-Performance Analysis – IPA (Martilla, James 1977), which contains the evaluation of the degree of importance and of the level of performance that have been measured for a set of opportunely selected attributes. The IPA model is widely used in research about tourism and hospitality for the analysis of hotels and restaurants, as well as for guided visits (Oh 2001; Fuchs, Weiermair 2003; Aktaş et al. 2007; De Nisco et al. 2015). It has also been utilized in protected areas to evaluate the quality of recreational functional structures (Wade, Eagles 2003).

The present work evaluates the efficiency and quality of the services that are functional to the recreational supply offered by a protected area on the Southern coast of Sicily (South Italy), the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe" (RNO FFBdl). Such a natural area is strongly characterized by deep dunes and estuary zones that have a great naturalistic importance. An evaluation model of the VS experienced by the users of the said natural area has been implemented. This has allowed us to evaluate through a direct approach the levels of satisfaction at the very moment the area is being used, as well as the quality of the fruition service, comparing the lack that has been found and the services requested by the visitors and thus realizing the matrix of the intervention priorities. Our final goal is to supply the managing institution and the local stakeholders with information concerning the evaluation of the services offered by the protected area as well as the services requested by the users who have been interviewed. Such information will support the definition of the opportune actions to be undertaken to enhance the attractiveness and competitiveness of the area concerned, with positive consequences for local development.

MATERIAL AND METHODS

Study area. The RNO FFBdl was created on March 14, 1984 (Act No. 98/1981 of the Region of Sicily), with the aim to preserve and reconstitute the dune formation and the fauna and flora typical of sandy environments. After a few years, once finalized and enforced the regulations and instructions for use (Regional Ministry Decree No. 823/1987), the Riserva has been entrusted to the management of the province of Trapani (Regional Ministry Decree No. 968/1987).

The Riserva covers an area of about 241 ha, comprising the whole beach between Marinella di Selinunte (Castelvetrano, province of Trapani) and the promontory of Porto Palo (Menfi, province of Agrigento). The Riserva, which extends for about 5 km along the coast, is subdivided into two zones

in function of the degree of protection: the "Zone A" represents the true reservation and includes the coast, the dune and the estuary of the Belice River, covering 129 ha; the "Zone B", the pre-reservation, covers the remaining 112 ha.

The RNO FFBdl is situated in the Site of Community Interest "Sistema dunale Capo Granitola, Porto Palo e Foce del Belice" (Ministerial Decree of April 3, 2000), which covers 538 ha including almost the whole "Zone A" and part of the "Zone B" (Fig. 1).

The Riserva, due to the high diversification of the landscape (mainly defined by a pine forest of human origin, low dune vegetation, evergreen plants of the inside land, thick vegetation on both sides of the Belice River, and the dune formation), can generate, also in relation to the recent trends in the tourism industry, an attraction capacity for eco-tourists who are particularly interested in natural trips and landscape photography. As a matter of fact, the presence of the river does attract to the Riserva rich flora and fauna that comprises several species of migratory birds, reptiles and invertebrates. Moreover, the sandy sea front offers a good environment for the nesting of the *Caretta caretta* (Linnaeus) sea turtle, let alone allowing the bathing opportunities for common people in an unpolluted area.

The RNO FFBdl does not have any fences and it can be entered from 5 points. Of these, only 3 are very simple to find (due to the scanty presence of road signs), the most important being the main entrance on the Western coast. In other words, today the Riserva can be used free of charge all the year round. The Riserva, despite its enormous potentialities, is not managed properly and efficiently. There is no effective planning able to reconcile the protection and valorisation of the natural environment with the fruition of the recreation eco-services. In fact, in the Riserva only the paper distribution service at the main entrance and some refreshment points are active. The footbridges that should make movement in the Riserva and access to the seaside safe are instead damaged in many parts, and are in-
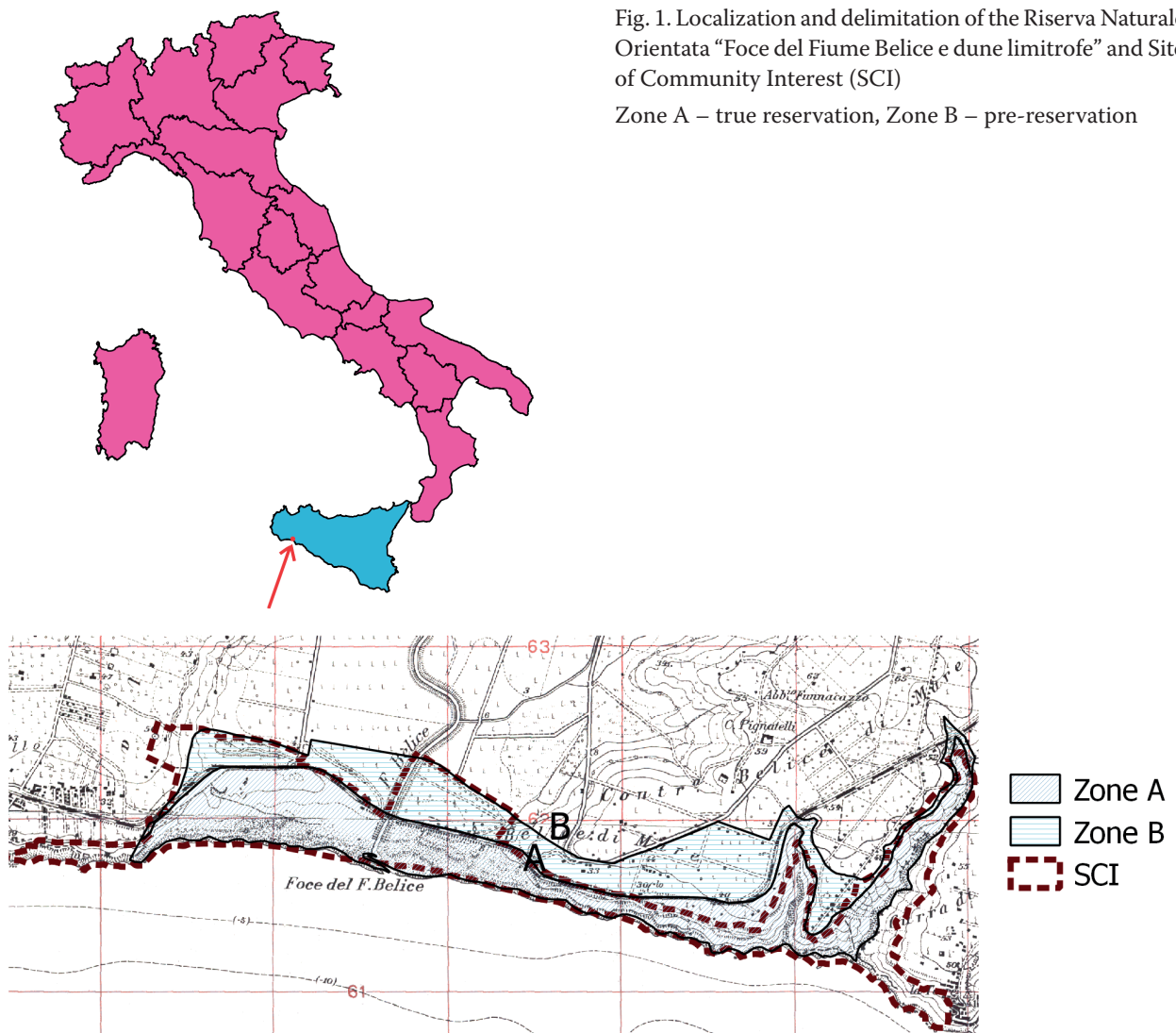

Fig. 1. Localization and delimitation of the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe" and Site of Community Interest (SCI)

Zone A – true reservation, Zone B – pre-reservation

deed a danger for the safety of the visitors, let alone the fact that the situation forbids entrance to handicapped visitors and to the old.

Methods. The model adopted for the evaluation of the VS implies the measurement of the satisfaction of the Riserva visitors in relation to the quality of the visit experience, and the quality of the fruition of the specific services of the Riserva itself. In such a way we take into account both the research streams that have been developed so far.

Taking into account the literature we have examined on the VS theme, and considering our direct knowledge of the study area we have individuated the intrinsic and extrinsic variables we wanted to submit to the visitors: environmental quality, vehicle parking lots, road signs to reach the Riserva, inside signs of the Riserva itself.

The quality of the experience has been directly estimated by means of two different perspectives: the one of the non-attribute-based type, in order to measure the general satisfaction with the recreational service; the other of the multi-attribute-based type, which instead considers satisfaction as a multidimensional variable formed by the various attributes of the recreational service.

The quality of the fruition services emerges from the analysis of the visitors' perception in terms of the gap between their own expectations and their personal experience which they have acquired from their visit to the Riserva. To this goal we have deemed opportune to gauge the proposals of the visitors in terms of services that are useful to improve the fruition of the RNO FFBdl, as well as the lacks the visitors found, in order to discover the essential services that the Riserva can offer.

In order to implement the VS model described above, we turned to those users of the RNO FFBdl who proved willing to collaborate. The research was conducted between June and August 2015, which is the peak period for the yearly tourist visits. On average we operated three days of the week, always comprising weekends or holidays.

Data collection was done by distributing to the visitors, at the main entrance to the Riserva, a questionnaire in three languages (Italian, French and English), which was returned at the end of their visit.

The questionnaire underwent the field verification, a pre-test to 10 users of various nationalities, before being utilized in our actual investigation, in order to verify the adequacy of its contents, terminology and language.

In its final version the questionnaire takes the form of an A4 "booklet", with a cover where the research institution (Department of Agricultural and Forest Sciences, Università degli Studi di Palermo) and the name of the study area are reported.

The questionnaire is divided into three sections: the first concerns general information relative to the socio-demographic and economic characteristics of the interviewee (gender, age, education, profession, yearly family income, town where they live and town where they stay for the present visit). The second section contains the questions relative to the knowledge of the places, the hospitality offered and the activities pursued in their stay: Do you know this is a natural park? Is this your first time in this place? How did you get to know about this place? How often do you generally come to this place? In which season of the year do you visit the place? Where are you staying – hotel, etc.? Are you paying for your stay? Is your visit to the Riserva part of a multiple touristic itinerary? Which activities do you pursue while at the Riserva? The last section has the questions through which the interviewees have expressed their judgment on the general and relative satisfaction with the following aspects of the services: environmental quality; availability of car parks; road signs helpful to reach the Riserva; internal plaques to help move inside the Riserva. The judgment range was: excellent, good, sufficient, insufficient. We deemed such a range to be easy to interpret, and capable to push the interviewee to take a precise position. Finally, this part of the questionnaire also comprises the proposal for improving the recreational function and the defects that have been found during the visit.

Of a total of 288 questionnaires we distributed, 210 were returned (answering rate about 73%), some questionnaires were returned incomplete.

During the elaboration of the data, we started by first sketching the visitors' profile, and then we considered the variables for the application of the VS model.

Considering the peculiar period of our research (June–August) we deemed it opportune to divide the visitors we interviewed into two types: vacationers and day-trippers. We named vacationers those visitors who declared their residence to be a place other than the one where they stayed on the occasion of their visit to the Riserva; we called day-trippers those who declared their residence to be the same place where they stayed on the occasion of their visit to the Riserva.

Then, in order to evaluate the satisfaction of the people interviewed, both in general and concerning single aspects of the services, we used a Likert scale, attributing a number between 1 and 4 to

each answer, with 1 being the lowest value and 4 the maximum, in function of the degree of satisfaction expressed. In particular, number 1 meant an insufficient service, while 2, 3 and 4 represented sufficient, good and excellent services, respectively.

In the elaboration, based upon the literature on the VS (Grigoroudis, Siskos 2002; Arabatzis, Grigoroudis 2010; Tsitsiloni et al. 2012), our analysis has made use of a number of boxplot diagrams (Tukey 1977) geared to analyse the general satisfaction of the visitors, considering them both as a whole and divided into the two types we have identified (vacationers and day-trippers), as well as the individual aspects of satisfaction that are under consideration.

After that we analysed the data relative to the services requested and the faults found by those who visited the Riserva.

Finally, we produced a matrix for the intervention priorities, considering both the faults and what was positively appreciated by the visitors.

RESULTS

Visitor's profile

Our research material was, as said above, the 210 visitors who filled the questionnaire, although it was not completed in some cases. The gender variable indicates an unequal subdivision of the sample, constituted by 53.6% males and 46.4% women. The age distribution shows values that tend to increase as we pass from the initial class to the central classes, with the highest concentration in the 41–50 years class (Table 1).

Table 1. Characteristics of the sample

Characteristic		Visitors	
		number	percentage
Gender	male	111	53.6
	female	96	46.4
	total	207	100.0
Age (yr)	< 18	5	2.4
	18–30	24	11.6
	31–40	45	21.6
	41–50	55	26.4
	51–60	44	21.2
	> 60	35	16.8
	total	208	100.0
Education	primary school	3	1.5
	secondary school	22	10.9
	high school diploma	101	50.3
	university degree	69	34.3
	other	6	3.0
	total	201	100.0
Profession	employed	150	75.4
	student	8	4.0
	pensioners	32	16.1
	unemployed/housewife	9	4.5
	total	199	100.0
Income (EUR)	< 15,000.00	28	15.9
	15,001.00–28,000.00	68	38.7
	28,001.00–55,000.00	53	30.1
	55,001.00–75,000.00	15	8.5
	> 75,000.00	12	6.8
	total	176	100.0
Residence	provinces of Trapani and Agrigento	42	21.9
	other Sicilian provinces	15	7.8
	other Italian regions	63	32.8
	international	72	37.5
	total	192	100.0

The socio-cultural level of the visitors interviewed is average or high; in terms of employment, employees prevail; then there are retired people and the remaining categories.

The data on the yearly income of the family confirms the tendency, already a few years old (Osservatorio Permanente sul Turismo Natura 2016), towards a tourist with an average expenditure capability.

62.5% of the sample is made up of Italians, above all from Sicily (57 visitors), Lombardy (21), Piedmont (14) and Veneto (7).

Foreigners are 37.5% of the sample. Most of them come from France (80.5% of the international residents), because in the territory of our research there are powerful "tour operators" that work for large French hotel chains; the remaining foreign visitors are from the United Kingdom, Germany, Switzerland, the United States and Poland.

Visitors to the RNO FFBdl are prevalently vacationers (78.8%), i.e. those visitors who declared their residence to be a place other than the one where they stayed on the occasion of their visit to the Riserva; the majority of them live in the close vicinity of the main entrance to the Riserva (Castelvetrano, Selinunte), while few are split between nearby municipalities and other towns of the region (Table 2). 77.6% of the said visitors live in paid for accommodations (hotels above all and, to a lesser extent, rented houses and B&B), while the remaining part enjoys a free accommodation (own house, guest of friends and relatives).

Coming to the fidelity to the RNO FFBdl, 53.0% of the sample declare to be at their first visit.

The knowledge of the Riserva existence mainly derives by word of mouth among friends, acquaintances and relatives, and also from the promotion operated by tourist agents and (excluding the residents and natives of the zone) from internet navigation.

For only 1/3 of the visitors the visit to the RNO FFBdl is part of a multiple touristic plan joined with other visits, mainly to Selinunte and its Parco archeologico.

The interviewees declared that they go to the Riserva prevalently as couples (43%) or with their families (40%); there are modest presences of group visitors (11%) and individuals (6%). Almost the totality of visitors (93.6%) declare that they go to the Riserva only during the summer, while 6.4% visit it at all seasons.

The frequency of the visits to the RNO FFBdl (number of days over the research year), as it was

Table 2. Knowledge and hospitality

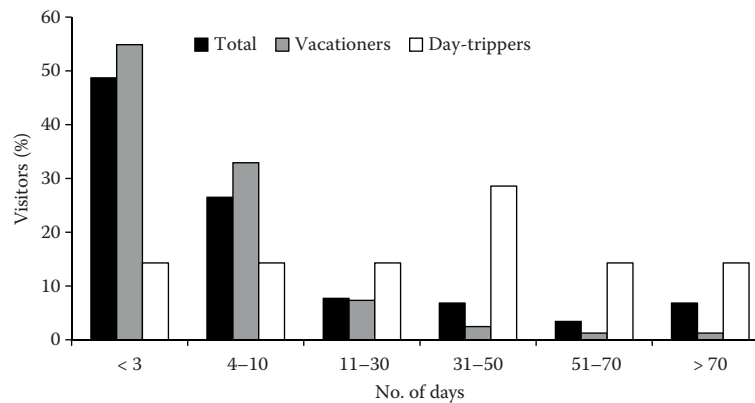| | | Visitors | |
		number	percentage
	internet	24	11.8
	tourist agents	49	24.1
	magazines	9	4.5
	word of mouth	64	31.5
Origin of knowledge	hotel	10	4.9
	native/resident of the zone	35	17.2
	casual occurrences	9	4.5
	other	3	1.5
	total	203	100.0
	day-trippers	39	21.2
Type of tourists	vacationers	145	78.8
	total	184	100.0
	Selinunte/Castelvetrano	128	88.3
Vacationers hospitality	nearby municipalities	6	4.1
	other municipalities	11	7.6
	total	145	100.0
	hotel	80	58.0
	boarding house	2	1.5
	B&B	10	7.2
Type of accommodation	agritourism	3	2.2
	rented house	12	8.7
	own house	10	7.2
	guest of relatives/friends	21	15.2
	total	138	100.0

Fig. 2. Frequency of the visits to the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe"

only logical to expect, sees a different behaviour for the vacationers and the day-trippers. In particular, the frequency of the vacationers is concentrated in the classes of up to 10 days, while that of the day-trippers in the frequency class "31–50 days", with a rather homogeneous distribution in the remaining frequency classes (Fig. 2).

To the goals of the present study it has been fundamental to also individuate the activities of the visitors during their permanence in the RNO FFB-dl; the total of the answers was 430, considering that the answering visitors each indicated at least two activities.

Of all the activities indicated, sea bathing is the most common (90.8% of the visitors), motivated by the fact that the Riserva lies in a coastal area and the season when the research was done. Many users have also taken advantage of the beauty of the place to take walks and pictures of the landscape. The activities concerning naturalistic observations are chosen by 13.5% of the total (Fig. 3).

Also for the activities, differences can be noted between the two segments of users we have examined, with higher values for landscape photographing.

Applying the VS model

The level of satisfaction. The level of satisfaction of the users we examined as a whole and of vacationers and day-trippers has been determined both in general terms and with reference to the attributes indicated in the questionnaire: environmental quality; internal Riserva signs, availability of parking places; road indications to reach the place.

In order to compare and represent the distribution of the level of satisfaction expressed by the visitors, we utilized the boxplot diagram (Tukey 1977), which permits to represent the distribution in a synthetic and significant way. We thus considered the first quartile (Q1), the second quartile (Q2/median), the third quartile (Q3), the minimum and maximum value of the distributions.

By examining Fig. 4 we can notice that the general satisfaction of the total of visitors lies around sufficiency (median value 2). The total distribution and that relative to the vacationers are more concentrated (interquartile distance is 1) in comparison with the distribution concerning the day-trippers, which has a higher data variance; the first two
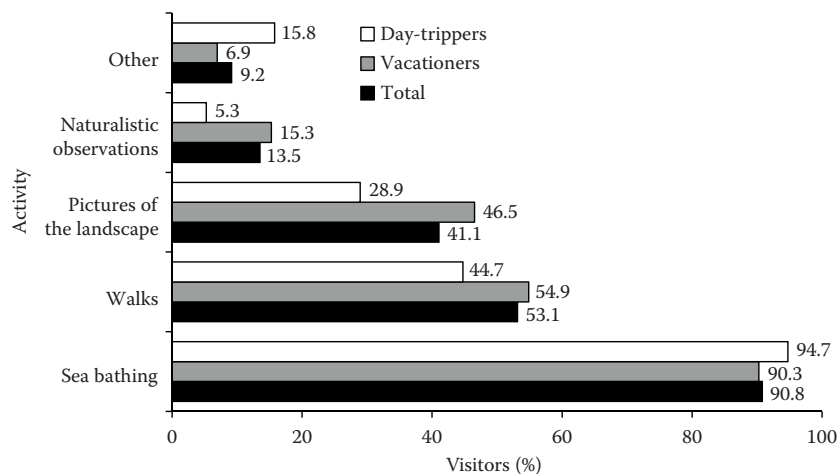

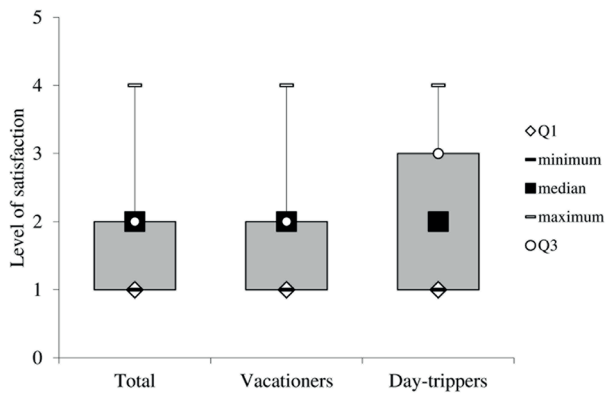Fig. 3. Tourist activities in the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe"

Fig. 4. General satisfaction from the visit to the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe"

Q1 – first quartile, Q3 – third quartile

distributions in fact are asymmetrical and present a median coinciding with Q3, while for the day-trippers the median is at the centre of the box.

Comparing such results with the socio-economic characteristics of the visitors, it appears that judgements relative to the satisfaction of the visit experience are lower for those persons who hold a higher education level and family income. Also, higher levels of satisfaction were found for those who visited the Riserva more than once (as a whole, 30% expressed a good/excellent grade), while lower levels were registered for those who were at their first visit (76% of these interviewees assess their experience as insufficient/sufficient).

Comparing the results relative to the single aspects of satisfaction taken into consideration, it can be noticed that the distributions of the sample are basically concentrated on sufficient values (Fig. 5); in particular, almost all judgments of satisfaction show a median value of 2 (sufficient), except for environmental quality, for which the median value is 3 (good).

The values of the total distributions relative to the environment and to parking places availability concentrate around the median, while those about the internal indications and road signs present a higher dispersion; the first two distributions are asymmetrical and present the median coinciding with Q3 and Q1, respectively.

Of the two segments of visitors, day-trippers are the most unsatisfied for all the aspects considered; the vacationers express a higher satisfaction concerning road signs, likely because they lodge near the Riserva, and environmental quality (in both cases the median value is 3).

In any case, the distributions relative to the two types of visitors for the different aspects analysed show a very low variability of the data, except for the question on road signals. In the latter case, the dispersion of judgements indicates a quite hetero-
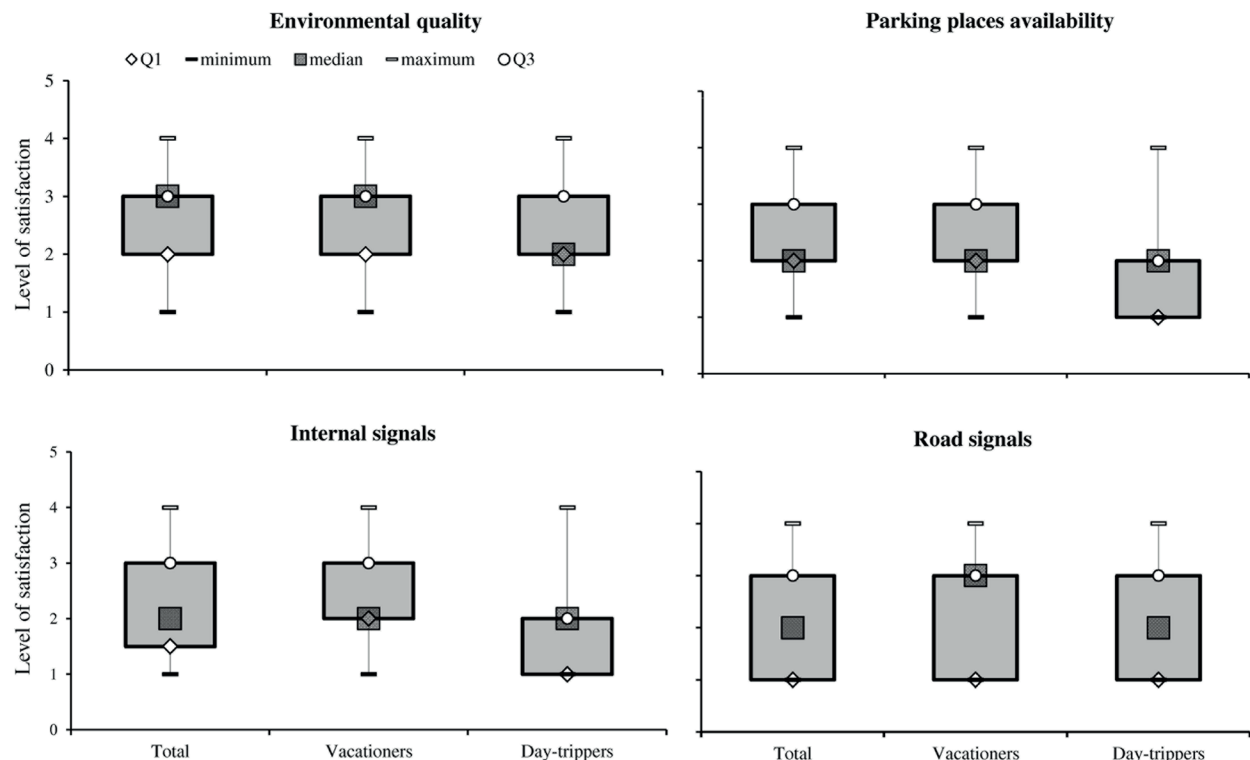

Fig. 5. Level of satisfaction by specific aspects of the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe"

Q1 – first quartile, Q3 – third quartile

geneous universe; in particular, for the vacationers the median coincides with the third quartile, while for the day-trippers it is at the centre of the box.

Services requested and problems found. The visitors were asked to indicate (through the multiple answers method) the services useful to improve the enjoyment of the RNO FFBdl. The proposals indicated in the questionnaires were then gathered in the following 7 groups: (*i*) cleanliness and supervision – higher number of bins, cleanliness of the beach and of the internal areas, supervision services, (*ii*) information office – even for the distribution of leaflets and the paper map at the entrance, (*iii*) guides for naturalistic paths and tours of the reservation, (*iv*) information plaques and paths – internal signs with the indication of the paths and the walking times, footbridges, (*v*) camping areas in the parking places by the side of the Riserva, (*vi*) children's play area, (*vii*) other services – picnic areas, catering points, showers, toilets, shuttle service at the entrance, services for the handicapped, horse rides, water sports.

It appears evident when examining Fig. 6a that among the services requested by the users of the Riserva, cleanliness and supervision are in the first place for 72.8% of the persons interviewed; the second come the guides for naturalistic tours and tours of the reservation (49.2%) and the third comes the information office (45.1%). The children's play area, information displays and camping areas follow. The other services, gathered under the entry "others", do not go beyond 11.8% of the total.

There are differences in the two types of users for the relative importance of the services: for the vacationers, the first three services that are deemed useful to improve the enjoyment of the Riserva are cleanliness and supervision (62.7%), information office (48.8%) and guides for naturalistic tours (45.3%); for the day-trippers, cleanliness and supervision get (97.4%), guides for naturalistic paths (60.5%) and children's play areas (52.6%).

The interviewees were also asked to indicate the problems found (also in this case multiple answers were available); this negative formulation leads the visitor to focus their consideration on the essentiality of the services that a reservation is supposed to offer.

Among the problems found by the users of the Riserva, the lack of cleanliness and supervision take the first place with 94.4% of the answers; the information office (40.8%) and the guides for naturalistic trips and tours of the reservation (40.1%) were found the second and the third, respectively, (Fig. 6b). Information display follows, with the

camping areas and children's play areas, with visitors' percentages that complain for the lack of such services ranging between 23.9 and 11.3%.

As found for the requested services, also for these problems the two types of users show a different sensitivity: the first three complaints for the vacationers are cleanliness and supervision (80.6%), information office (45.9%) and guides for naturalistic tours (42.9%); for the day-trippers, instead, it is cleanliness and supervision (77.8%), camping areas (33.3%) and guides for naturalistic tours (22.2%).

Comparing the services that are deemed useful for the enjoyable use of the Riserva and the complaints vented we note that the percentage for the "cleanliness and supervision" services, as expressed by the visitors, tends to grow (from 72.8 to 94.4%), in that the visitors (in this case represented by the "vacationers" type) pointed out that cleanliness and supervision are more important for the reservation than other services.

A second observation concerns the type of day-trip visitors who do not consider the children's play areas and the services grouped as "others" necessary.

Finally, the levels of visitor satisfaction are influenced by the quality of the fruition services; in particular, it emerges that the defects relative to the cleaning and supervision services, guides for naturalistic tours, information office and information plaques are the main causes of the low levels of satisfaction of the visitors to the Riserva.

Map of the priorities. The parallel analysis between the complaints found and the services requested by the visitors we have illustrated above
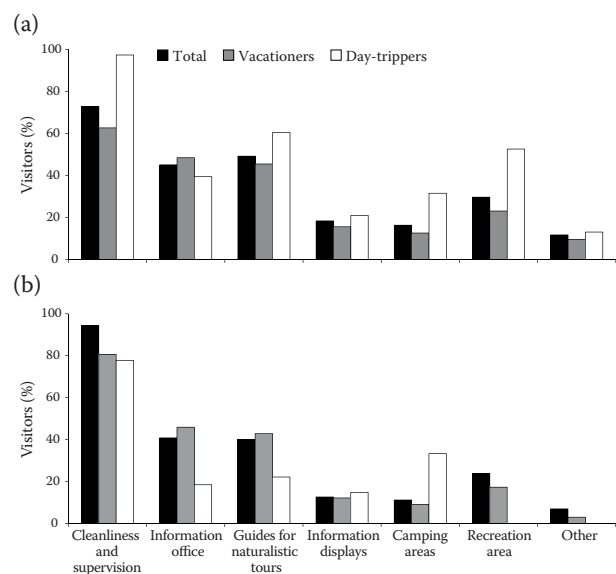

Fig. 6. Requested services (a), problems found (b) in the Riserva Naturale Orientata "Foce del Fiume Belice e dune limitrofe"
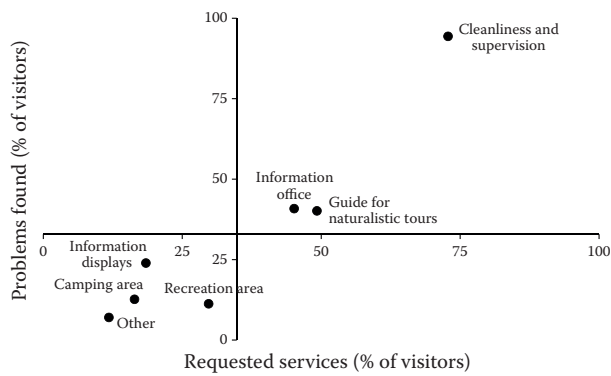
Fig. 7. Map of intervention priorities for the sample

also permitted the making of the matrix or map of the priorities of intervention; such a map provides a synthetic view of the performance of the RNO FFBdl for the recreational service.

On the map, represented by a two-dimensional plane with four quadrants, on the *x*-axis we find the percentage of users who requested services, and on the *y*-axis the percentage of users who pointed out the problems in the services on offer. In order to facilitate the reading, the map is divided into four quadrants using as a cut-off criterion, the average value of the percentage of visitors for the services requested and for the problem pointed out for all the indicators analysed, respectively. The quadrants of the map express the priorities for intervention in relation to the introduction and/or improvement of the requested services; in such a way one can visualize what needs a priority intervention, giving the correct weight to the requested services in relation to the actual problems that have been found. Such priorities will result to be those corresponding to the highest percentage of visitors who would like that service and in which the highest percentage of users who deem the service faulty is found.

The individuation of the services which present these characteristics allows the managing institu-

tion to make the main areas for improvement evident, concentrating intervention towards those services that are more requested by the users and at the same time are also the most faulty.

From the examination of Fig. 7, the need to preferentially intervene in the cleanliness and supervision services appears clearly; guides for the naturalistic tours and an information service follow.

The other services, all of which we find in the third quadrant, weigh less among the intervention priorities; it would nonetheless be useful monitoring that such needs of the users do not grow with time.

Considering the two segments of users (Fig. 8) it can be noticed that for the vacationers the intervention priorities are coherent with what has been found out for the sample as a whole.

On the contrary for the vacationers the priorities for intervention are mainly represented by the cleanliness/supervision services and by the children's play area; the naturalistic tour guides which we find in the fourth quadrant are requested by many visitors while at the same time it is judged a minor problem.

DISCUSSION

The results relative to the quality of the experience show that the general satisfaction of the total of the visitors reaches the sufficiency and that the judgements expressed by the vacationers are more uniform than those of the day-trippers.

The outcomes relative to the individual aspects of satisfaction show that environmental quality is the only attribute that obtains a judgement of good. Also, the day-trippers are less satisfied with all the aspects considered, while the vacationers express a higher satisfaction as the effect of a good appreciation of the road signs and of the environmental quality.
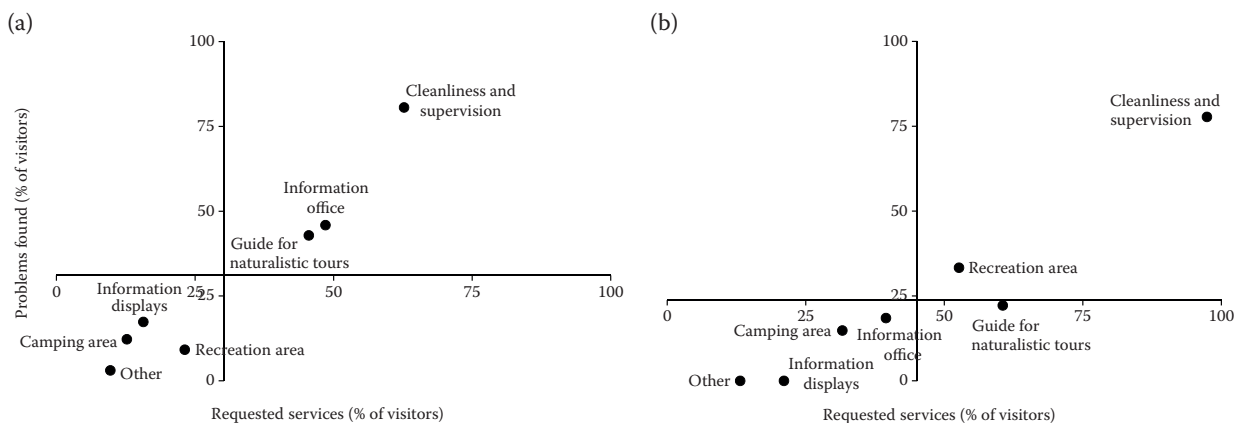
(a)

(b)

Fig. 8. Map of the intervention priorities for vacationers (a), day-trippers (b)

The study results also reveal that those at their first visit show lower levels of satisfaction than those who have visited the Riserva several times, in line with Gyte and Phelps (1989), Geva and Goldman (1991), Yuksel (2001), Rittichainuwat et al. (2002), Tian-Cole et al. (2002).

Also, the study results have shown that the differing levels of visitor satisfaction are also influenced by their own socio-economic characteristics, in concordance with the studies of Hughes (1991), Mossberg (1995), Yu and Weiler (2000). The higher the education level and the family income, the lower the level of satisfaction for the Riserva is.

The results of the quality of the services offered by the Riserva, evaluated on the basis of the services that are deemed useful to improve fruition, and of the lacks found by the visitors demonstrate that most of them deem the cleaning and supervision services more important than anything else, analogously to what was found by preceding studies, which report among the most important qualitative indicators of recreational areas the lack of disposal of litter and polluting materials, cleanliness, maintenance and the presence of the relative personnel (Lee 1975; Hammitt et al. 1996; Novatorov et al. 1998; Manning 1999).

Coming to the specific attributes of the Riserva, among the main factors that positively influence the satisfaction of the visitors, analogously to what was found in other studies (Lee 1975; McGuire et al. 1989; Hammitt et al. 1996; Novatorov et al. 1998; Manning 1999), we can signal: cleanliness and supervision services, guided naturalistic tours, information office and information signs.

The intervention priorities that emerge from the study concern in the first place, for both types of visitors, cleanliness and supervision, coherently with what was reported in the literature by Lee (1975), McGuire et al. (1989), Hammitt et al. (1996), Manning (1999); guided naturalistic tours and the information office follow, in synthony with the work of McGuire et al. (1989).

CONCLUSIONS

The present study of the results obtained for the RNO FFBdl has supplied rich details on the characteristics of the visitors, their areas of origin, their activities, the services they deem important and the complaints they have, as well as their satisfaction both with their experience as a whole and with the various aspects of the recreational services offered.

The Riserva appears to be a family and couples destination, whose main attractions are sea bathing, walking tours and taking photos of the landscape. The users are mainly vacationers who come in the majority from other Italian regions but also from other nations, considering, however, the period in which our research took place, which is the most significant in terms of yearly presences.

The model we have implemented is an attempt to harmonize the distinctions between the quality of experience and the quality of the services that directly influence the visitors satisfaction.

In general, the results of our investigation reveal that most of the visitors are sufficiently satisfied with their experience and enjoyed the RNO FFBdl; the results relative to the single aspects of satisfaction show that the environmental quality is the only attribute that is given a good judgement. Also, if we look at the two types of visitors we have individuated, the day-trippers appear less satisfied with all the aspects considered, while the vacationers are more satisfied because they have appreciated the road signs and the environmental quality.

In conclusion, the results supplied by the VS model have appeared capable to give a complete set of information on the behaviour of the users, on the evaluation of satisfaction, in general and relative to the two segments of visitors we have individuated, who expressed a different degree of satisfaction both concerning the quality of their experience and the quality of the services. This method can be adopted by the managers of this protected area and by the local stakeholders to determine the potential for improvement and to define precise actions to undertake in order to satisfy the expectations and the needs of various market segments, making the total supply of services more rich and oriented, thus increasing the attractiveness of the Riserva, in order to also enable processes of local socio-economic sustainable and lasting development.

More in general, we think that the application of the VS, with goals that are not only scientific but also operational, could opportunely be extended to other protected areas.

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