

Outdoor recreation in French Coastal and Marine Protected Areas. Exploring recreation experience preference as a way for building conservation support

Nicolas Le Corre, Aude Saint-Pierre, Michael Hughes, Ingrid I. Peuziat, Alix Cosquer, Thierry Michot, Nicolas Bernard

▶ To cite this version:

Nicolas Le Corre, Aude Saint-Pierre, Michael Hughes, Ingrid I. Peuziat, Alix Cosquer, et al.. Outdoor recreation in French Coastal and Marine Protected Areas. Exploring recreation experience preference as a way for building conservation support. Journal of Outdoor Recreation and Tourism, 2021, 33, pp.100332. 10.1016/j.jort.2020.100332. hal-03585683

HAL Id: hal-03585683

https://hal.science/hal-03585683

Submitted on 17 Oct 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers. L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Outdoor recreation in French Coastal and Marine Protected Areas. Exploring recreation experience preference as a way for building conservation support

Authors:

Nicolas Le Corre (corresponding author)

Univ Brest, CNRS, UMR 6554, F-29200 Brest, France Nicolas.lecorre@univ-brest.fr

Aude Saint-Pierre

Univ Brest, Inserm, EFS, UMR 1078, GGB, F-29200 Brest, France

Michael Hughes

Murdoch University, Environmental and Conservation Sciences, Western Australia, Australia

Ingrid Peuziat

Univ Brest, CNRS, UMR 6554, F-29200 Brest, France

Alix Cosquer

CEFE, CNRS, Univ. Montpellier, EPHE, IRD, Univ. Paul Valéry Montpellier 3, UMR 5175, F-34293 Montpellier, France

Thierry Michot

Univ Brest, CNRS, L'Aboratoire d'Etudes et de Recherches en Sociologie (EA 3149), F-29200 Brest, France

Nicolas Bernard

Univ Brest, CNRS, Laboratoire Géoarchitecture (EA 7462), F-29200 Brest, France

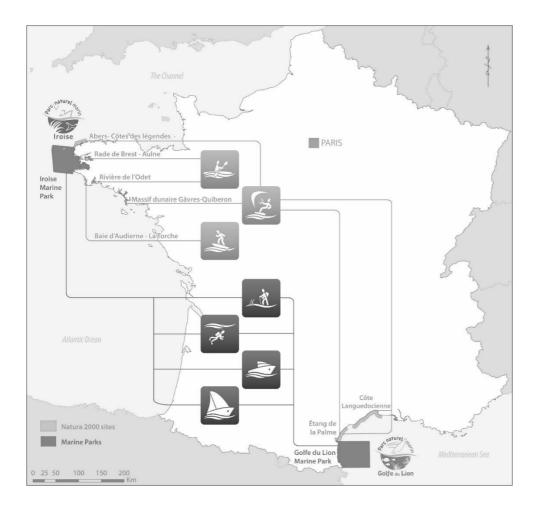


Figure 1. Map of sampled protected areas and recreation activities

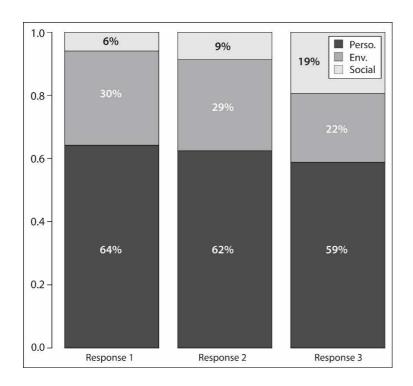


Figure 2: Description of user meta-motivations depending on the response's rank

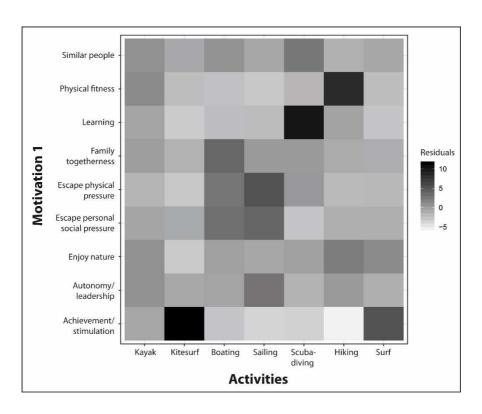


Figure 3. Map of statistical associations between the REP domains and the type of activity (Darker squares indicate stronger association, lighter squares indicate weaker associations).

Question Type	Question content	Response type	Response options
Recreation	Type of activity at time of	Multi-choice	Select one of 7 activities
activity	survey		
characteristics	Overall length of activity	Multi-choice	Select one of 5 year ranges
	practice		
	Length of activity practice at the	Multi-choice	Select one of 5 year ranges
	site		
	Period of practice (time of year)	Multi-choice	Select one of 3 time frame options
	Importance of the activity to the	Rank	Select one of 3 options 1 (high) to 3
	users		(low)
Recreation	Region of activity practice	Multi-choice	Select 1 of 2 regions
setting	Type of physical environment	Multi-choice	Select one of 5 types
Recreation	Main motivations for practicing	Open	Name up to 3 motivations
motivation	the activity at the given site		
Demographics	Age, gender, occupation,	Multi-choice	Select one option for each question
_	residential status		

Table 1: Questionnaire design

	Hiking n=194	Surf n=99	Scuba diving n=158	Sailing n=166	Boating n=156	Kitesurf n=149	Kayak n=78	Total Sample N=1000	Total % *
Gender:									
- Male	83	77	112	144	142	132	47	737	74
- Female	108	22	46	22	14	16	31	259	26
- No response	3	0	0	0	0	1	0	4	-
Age:									1
- Under 29 years **	21	47	40	9	6	47	14	184	18,6
- 30-44 years	34	44	46	20	19	58	23	244	24.6
- 45-59 years	75	7	50	49	40	32	34	287	29.0
- 60-74 years	57	1	21	78	78	11	6	252	25.4
- More than 75 years	2	0	0	10	12	0	0	24	2.4
- No response	5	0	1	0	1	1	1	9	-
Occupation:									
- Artisans, merchants,									
company directors	5	10	10	12	18	14	4	73	7.4
- Higher education and									
the liberal professions	47	24	59	38	16	52	19	255	25.7
- Intermediate									
professions	34	11	17	13	5	20	15	115	11.6
- Employees	32	14	24	9	22	25	13	139	14.0
- Workers	4	4	1	2	6	3	4	24	2.4
- Retirees	57	0	13	82	82	10	9	253	25.5
- Students	10	24	19	1	1	7	5	67	6.7
- High school students	0	5	12	1	1	3	6	28	2.8
- Others ***	4	6	3	1	3	12	2	39	3.9
- No response	1	1	0	1	0	3	1	7	-
Residential status:									
- Locals	50	59	51	125	119	100	44	548	55.2
- Tourists	127	34	11	10	7	38	31	339	34.2
- Secondary residents	17	6	92	31	30	8	2	105	10.6
- Non-response	0	0	4	0	0	3	1	8	10.6
Region of practice:									
- Brittany	101	99	77	80	82	69	78	586	58,6
- Mediterrean	93	0	81	86	74	80	0	414	41,4

^{*}The total (%) was calculated without the "no response" numbers.

Table 2: Demographic characteristics of the sample included in the analysis.

^{**} Due to a low number of observations, the youngest age category (less than 15 years) was merge with the 15-29 category

^{***} Due to a low number of observations, the farmer's occupation was merged with the category "Others".

Motivation domains	Mean (sd)	Size	Freq. per REP domain	Meta-classes	Freq. per meta-class	
Enjoy nature	0.63 (0.67)	628	27.34%	Environmental motivations	27,3 %	
Escape personal-social- pressures	0.40 (0.59)	399	17.37%			
Achievement/stimulation	0.33 (0.58)	328	14.28%			
Physical fitness	0.27 (0.50)	267	11.62%			
Learning	0.21 (0.44)	205	8.92%			
Escape physical pressure	0.14 (0.37)	136	5.92%			
Autonomy/leadership	0.05 (0.21)	47	2.05%	Personal motivations	62,1%	
Creativity	0.02 (0.14)	19	0.83%			
Introspection	0.01 (0.09)	9	0.39%			
Physical rest	0.01 (0.08)	7	0.30%			
Nostalgia	0.01 (0.07)	5	0.22%			
Risk reduction	0.00 (0.05)	3	0.13%			
Equipment	0.00 (0.04)	2	0.09%			
Risk taking	0.00 (0.04)	2	0.09%			
Social security	0.00 (0.00)	0	0%			
Similar people	0.17 (0.39)	167	7.27%			
Family togetherness	0.04 (0.19)	35	1.52%	Social	10.60	
Teaching-leading others	0.03 (0.18)	27	1.18%	motivations	10,6%	
New people	0.01 (0.10)	11	0.48%			

Table 3: General description of user REP motivations

		REP motivations (9 classes) (*)		
		Chi-square χ2 (df)	P-value	
	Sex	28.1 (8)	0.0005	
	Age	115.7 (32)	< 0.0001	
Demographics	Occupation	127.4 (72)	< 0.0001	
	Residential status	77.8 (16)	< 0.0001	
	Types of activities	593.5 (48)	< 0.0001	
	Overall length of practice (in years)	68.1 (32)	0.0002	
Characteristics	Length of practice at the studied site (in years)	68.8 (32)	0.0002	
of activities	Period of practice within a year	35.8 (16)	0.003	
	Importance of the studied activity for the users	17.0 (16)	0.3840	
Geographical	Region (Brittany vs Mediterranean)	11.2 (8)	0.188	
and physical settings	Types of environment	459.7 (24)	< 0.0001	

^(*) All the Khi² tests are only based on the first response-motivation given by respondents.

Table 4: Statistical association results from crossing recreation variables and two dimensions of the recreational motivations.

Segment #1 (n=101, 13%)	V-test	Mean (sd) in category	Overall Mean (sd)	p.value
Escape physical pressure	26.84	1.08 (0.30)	0.14 (0.38)	1.20e-158
Physical fitness	-2.09	0.14 (0.35)	0.23 (0.46)	3.64e-02
Similar people	-2.32	0.09 (0.28)	0.18 (0.40)	2.03e-02
Enjoy nature	-2.49	0.47 (0.61)	0.62 (0.67)	1.27e-02
Learning	-2.50	0.11 (0.31)	0.21 (0.43)	1.26e-02
Achievement/Stimulation	-4.20	0.11 (0.31)	0.34 (0.59)	2.71e-05
Segment #2 (n=437, 56%)	V-test	Mean (sd) in category	Overall Mean (sd)	p.value
Achievement/Stimulation	6.16	0.46 (0.66)	0.34 (0.59)	7.27e-10
Escape persosocial presssure	4.31	0.48 (0.63)	0.4 (0.59)	1.64e-05
Enjoy nature	3.65	0.7 (0.7)	0.62 (0.67)	2.62e-04
Escape physical pressure	-11.51	0.00 (0.00)	0.14 (0.38)	1.23e-30
Similar people	-13.74	0.00 (0.00)	0.18 (0.40)	5.90e-43
Learning	-15.12	0.00 (0.00)	0.21 (0.43)	1.11e-51
Segment #3 (n=124, 16%)	V-test	Mean (sd) in category	Overall Mean (sd)	p.value
Similar people	26.23	1.04 (0.23)	0.18 (0.4)	1.18e-151
Physical fitness	2.03	0.31 (0.51)	0.23 (0.46)	4.19e-02
Enjoy nature	-3.06	0.45 (0.54)	0.62 (0.67)	2.24e-03
Escape physical pressure	-4.45	0.00 (0.00)	0.14 (0.38)	8.46e-06
Segment #4 (n=125, 16%)	V-test	Mean (sd) in category	Overall Mean (sd)	p.value
Learning	24.19	1.07 (0.26)	0.21 (0.43)	2.68e-129
Achievement/Stimulation	-3.53	0.17 (0.39)	0.34 (0.59)	4.10e-04
Escape persosocial presssure	-3.76	0.22 (0.47)	0.40 (0.59)	1.70e-04
Escape physical pressure	-4.47	0.00 (0.00)	0.14 (0.38)	7.66e-06
Similar people	-5.34	0.00 (0.00)	0.18 (0.40)	9.14e-08

Table 5: Segmentation based on recreationist's motivations (negative v-test values are in italics).

Segment #1: "Solitaries"	V-test	% of ind. into the segment	% of ind. into the sample	p.value
Sailing	4.55	35.64	18.04	5.40e-06
Age = 60-74 years	3.90	42.57	25.92	9.53e-05
Retirees	3.74	41.58	25.67	1.81e-04
Length of practice = 31 years or more	2.26	30.69	21.73	2.40e-02
Boating	2.04	25.74	18.17	4.18e-02
Length of practice = 21-30 years	1.97	18.81	12.45	4.84e-02
Profession = Higher education and the liberal prof.	-2.11	17.82	26.30	3.45e-02
Surfing	-2.24	3.96	9.78	2.52e-02
Age = 15-29 years	-2.37	9.90	18.04	1.77e-02
Length of practice = less than 5 years	-2.70	14.85	25.41	6.91e-03
Kite-surfing	-4.29	2.97	15.76	1.81e-05
Segment #2: "Anti-stress performers"	V-test	% of ind. into the segment	% of ind. into the sample	p.value
Kite-surfing	6.77	23.34	15.76	1.31e-11
Boating	2.72	21.51	18.17	6.44e-03
Importance of the studied activity for the users = Rank3 and more	2.58	36.38	32.53	9.86e-03
Surfing	2.24	11.90	9.78	2.52e-02
Kayak	-2.09	6.64	8.51	3.70e-02
Length of practice = 21-30 years	-2.46	9.84	12.45	1.39e-02
Tourists	-2.69	26.77	30.75	7.16e-03
Importance of the studied activity for the users = Rang1	-3.00	40.96	45.74	2.68e-03
Scuba-diving	-9.00	6.64	17.41	2.32e-19
Segment #3: "Socialisers"	V-test	% of ind. into the segment	% of ind. into the sample	p.value
Region = Brittany	4.61	80.65	62.90	4.07e-06
Scuba-diving	3.28	28.23	17.41	1.04e-03
Importance of the studied activity for the users = Rang1	2.98	58.06	45.74	2.86e-03
Surfing	2.72	16.94	9.78	6.46e-03
Students	2.50	11.29	5.97	1.25e-02
Kayak	2.44	14.52	8.51	1.48e-02
Age = 30-44 years	-1.97	18.55	25.54	4.85e-02
Workers	-2.01	0	2.29	4.40e-02
Boating	-2.23	11.29	18.17	2.58e-02
Kite-surfing	-2.38	8.87	15.76	1.72e-02
Sailing	-2.76	9.68	18.04	5.80e-03
Residential status = Secondary resident	-2.85	4.03	10.80	4.41e-03
Importance of the studied activity for the users = Rank3 and more	-3.74	18.55	32.53	1.85e-04
Mediterranean	-4.61	19.35	37.10	4.07e-06
Segment #4: "Explorers"	V-test	% of ind. into the segment	% of ind. into the sample	p.value
Scuba-diving	9.27	49.60	17.41	1.93e-20
Tourists	4.01	46.40	30.75	6.14e-05

Length of practice on the studied site = Less than 5]	
years	3.38	57.60	43.71	7.12e-04
Mediterranean	2.90	48.80	37.10	3.68e-03
Workers	2.36	5.60	2.29	1.84e-02
Length of practice = Less than 5 years	2.24	33.60	25.41	2.54e-02
Length of practice on the studied site $= +30$ years	-2.09	4.80	9.66	3.64e-02
Length of practice = 31 years and more	-2.22	14.40	21.73	2.66e-02
Sailing	-2.23	11.20	18.04	2.55e-02
Length of practice on the studied site = 11-20 years	-2.62	10.40	18.42	8.68e-03
Brittany	-2.90	51.20	62.90	3.68e-03
Locals	-3.34	44.80	58.45	8.43e-04
Kite-surfing	-3.36	6.40	15.76	7.88e-04
Boating	-3.73	7.20	18.17	1.94e-04
Surfing	-4.94	0	9.78	7.72e-07

Table 6: Segments description by illustrative variables (negative v-test values are in italic).