National parks and nature reserves worldwide receive around eight billion visits annually.

Balmford A. *et al* (2015) Walk on the Wild Side: Estimating the Global Magnitude of Visits to Protected Areas. PLoS Biol 13(2) doi: 10.1371/journal.pbio.1002074

Should we limit visitors at national parks?

Record crowds push park service to seek new solutions.

MARY JO DILONARDO
August 3, 2017, 12:34 p.m.

Crowds gather around Old Faithful geyser at Yellowstone National Park. (Photo: Vlad Turchenko/Shutterstock)

New Rules For Machu Picchu Visit in 2024

The entrance ticket to Machu Picchu is used differently since 2021. The **Machu Picchu new visiting rules for 2024** in addition to introducing **5 different circuits** to visit the Inca site, the park administration has taken measures to facilitate the visit through the four different circuits.

These five different circuits enable to the preservation and sustainability of the UNESCO WORLD HERITAGE. They are regulated by '**regulation on sustainable use and tourists visits for the conservation of Llacta Machu Picchu**'.

Machu Picchu tickets for 2024 can be booked online on the Ministry of Culture website or we can help you book them. According to the Ministry of Culture website for booking, there are only 4,500 tickets available for Machu Picchu. These tickets are distributed between Inca trail tours, Machu Picchu citadel, Huchuy Picchu, Huaynapicchu and Mountain, therefore you'd better book it in advance.

Tickets	Availability
Machu Picchu Citadel	2950 Tickets
Huayna Picchu Mountain	200 Tickets
Machu Picchu Mountain	400 Tickets

Request Information

Full name

email

Select your country

Date of travel:

Please select

Select a tour

Number of people:

01

How did you hear about us:

Please select

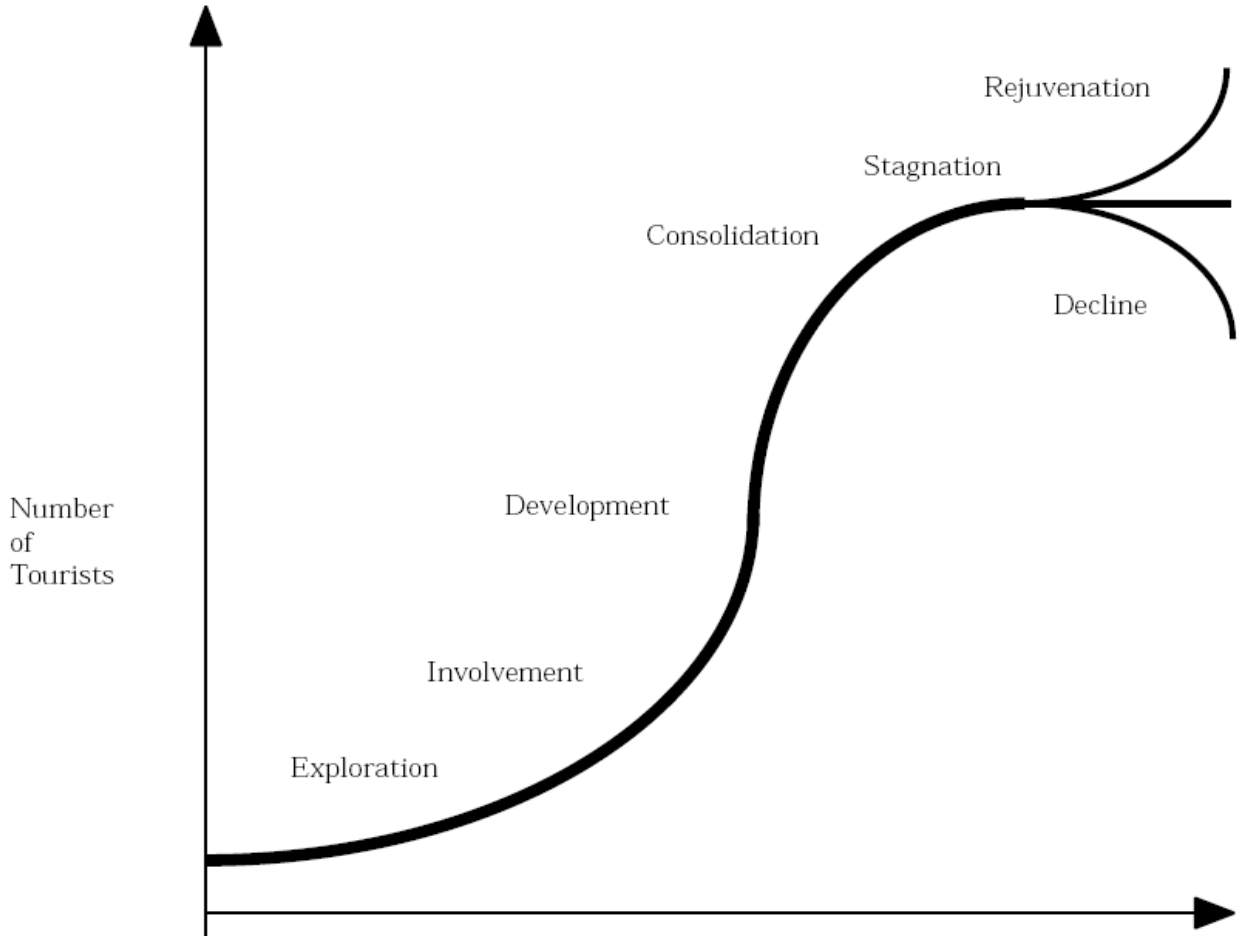
Comments

Send Clear

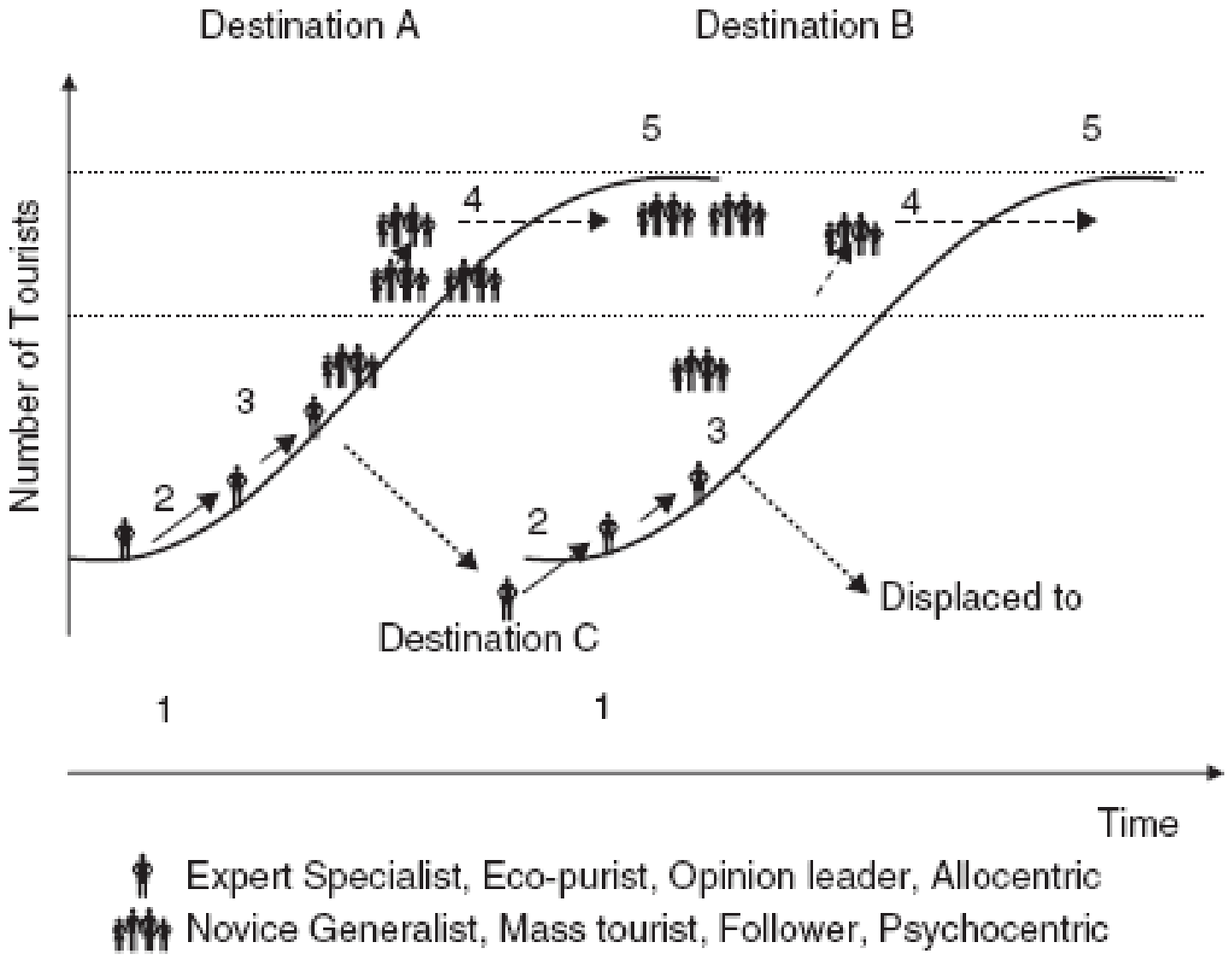
Responsible People


MAGICAL NUMBER
HOW MANY ARE TOO MANY?

TOURISM CYCLE



Butler, 1989



In CRITICAL ISSUES IN ECOTOURISM, Edited by James Higham, Elsievier, 2007

CARRYING CAPACITY

- Balance between reproduction and potential environmental resistance.

- Maximum population of a species that a specific ecosystem can endure indefinitely without irreversible degradation of nature and quality of resources.

RECREATIONAL CARRYING CAPACITY

Limit from which the resource becomes saturated [illegible] **rrying capacity), OR** environmental characteristi[illegible] **ecological carrying capacity) OR** user fruition d[illegible] **cial carrying capacity).**

A set of conditions - p[illegible]gical, social and economic - that allow to manage a cer[illegible]e than a mere calculation of the limit of visitors t[illegible].

IT'S NOT A MAGICAL NUMBER!!

(Titre et al, 1996).

BURCH Jr., W. R. (1984)

- “Much ado about nothing—some reflections on the wider and wilder implications of social carrying capacity.”

- “ …In short, we have a large amount of research driven by a poorly understood concept whose main function is to help managers to control something they do not understand” .

- “Carrying capacity seemed a way of blaming the victim, without doing the hard work of getting more money to do a proper job of maintenance”.

CARRYING CAPACITY

- What is the Objective when assessing the Carrying Capacity;

- What is the Limit of Acceptable change that is acceptable to the ideal situation, in order to consider that the Carrying Capacity of a site is exceeded?

CARRYING CAPACITY

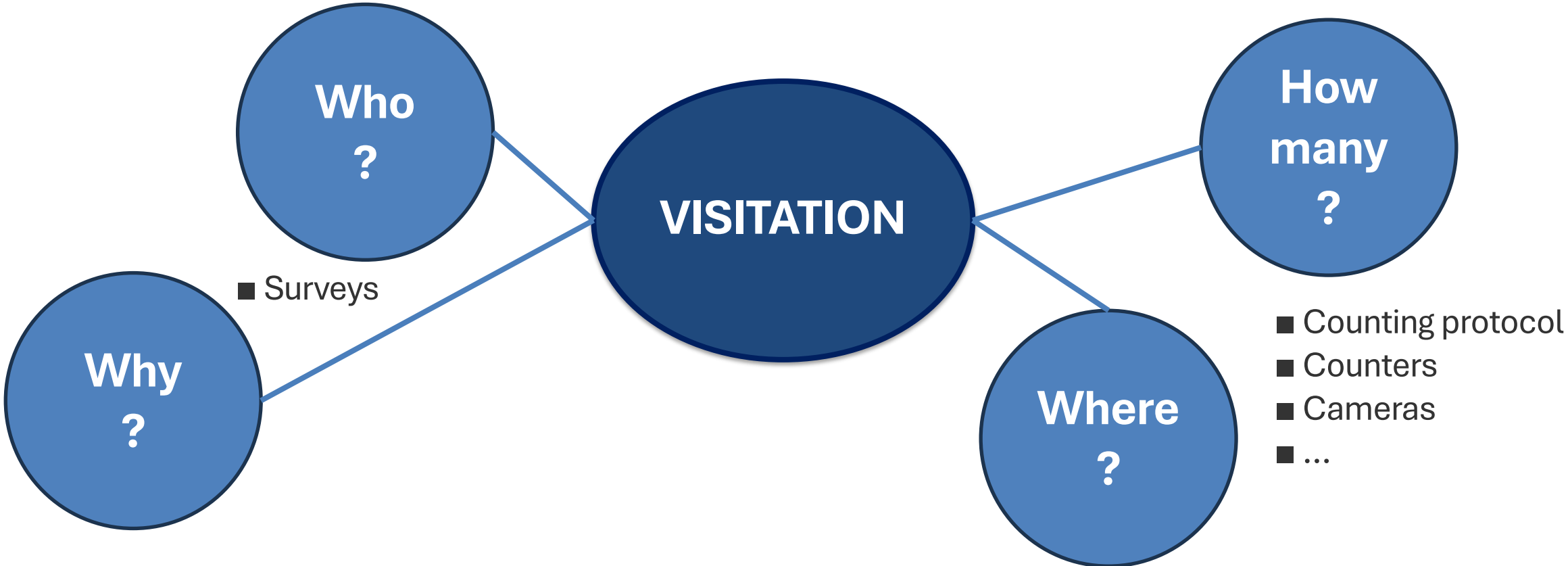
Comprises three components or dimensions:

- Physical-ecological
- Socio-demographic,
- Political-economic.

- Different weights in different destinations

CARRYING CAPACITY

- visitation capacity that a certain place can support without changing or threaten its original characteristics.



CARRYING CAPACITY WHY?

Journal of Coastal Research	SI	95	920–924	Coconut Creek, Florida	2020

25 Years of Beach Carrying Capacity in Portugal: A Place for Everything and Everything in Its Place?

Carlos Pereira da Silva[†*], Catarina Fonseca[†‡], and Ricardo Nogueira Mendes[†]

[†]CICS.NOVA, Interdisciplinary Center of Social Sciences, Faculty of Social Sciences and Humanities
University Nova de Lisboa, Portugal

[‡]CIBIO – Research Center in Biodiversity and Genetic Resources/InBIO – Associate Laboratory
University of the Azores, Portugal

www.cerf-jcr.org

www.JCRonline.org

ABSTRACT

Pereira da Silva, C.; Fonseca, C., and Nogueira Mendes, R., 2020. 25 years of beach carrying capacity in Portugal: A place for everything and everything in its place? *In:* Malvárez, G. and Navas, F. (eds.), *Global Coastal Issues of 2020. Journal of Coastal Research*, Special Issue No. 95, pp. 920–924. Coconut Creek (Florida), ISSN 0749-0208.

In Portugal, the concept of beach carrying capacity was introduced in 1993, with the Shoreline Management

BEACH PLANS, SCALE 1: 2000

- Available area for recreational use,
- Carrying capacity identified,
- Parking areas,
- Pedestrian accesses,
- Support infrastructures,
- Concession areas

Beach Plan for *Praia da Árvore* (POOC *Caminha-Espinho*, APA, 2006,CC = 1.700 users


EAP1
APC2
EAP2
EAP1
EAP1
EQUIPAMENTOS E APOIOS
APC Apoio de Praia Completo
APS Apoio de Praia Simples
AC Apoio Complementar
EAP Equipamento com Funções de Apoio de Praia
EC Equipamento Complementar
E Equipamento
Construções
A Manter (Tipologia/ Construção/Localização)
A Relocalizar
A Adaptar (Tipologia e/ou Construção)
A Demolir
Polígono Preferencial de Localização
ESTACIONAMENTO
A Manter
Polígono Preferencial de Localização
A Requalificar
ACESSOS PEDONAIS
A Manter
Rampa/Escada a Manter
Local Preferencial
OUTRAS INTERVENÇÕES
Áreas a Requalificar
ZONA A AFETAR A USOS
Frente de Praia
Zonas de apoio balnear
Corredor Afeto à Actividade Piscatória/ Canal de acesso das embarcações
INFORMAÇÃO COMPLEMENTAR
Limite de Espraiamento das Vagas
FAIXA DE SALVAGUARDA AOS RISCOS COSTEIROS
Faixas de Salvaguarda em Litoral de Arribas
Faixa de Salvaguarda para Terra - Nível I
Faixa de Salvaguarda para Terra - Nível II
Faixa de Salvaguarda para Mar
Áreas de Instabilidade Potencial
Faixas de Salvaguarda em Litoral Baixo e Arenoso
Faixa de Salvaguarda ao Galgamento e Inundação - Nível I
Faixa de Salvaguarda à Erosão Costeira - Nível I
DEMARCAÇÃO DA JURISDIÇÃO DA AUTORIDADE NACIONAL DA ÁGUA
LMPMVE - Linha de Máxima Preia-Mar de Águas Vivas Equinociais
LLL - Linha Limite de Leito
LLM - Linha Limite da Margem
PROGRAMA DA ORLA COSTEIRA ALCOBAÇA - CABO ESPICHEL
Rei Morena
Semi-natural
ALM-P18 ALM-P19
Almada
2018
biodesign

BUT AlSO…

MAIN METHODS & FRAMEWORKS

- Recreational Oportunity Spectrum – ROS (Clark & Stankey, 1979)
- Limit of Acceptable Changes – LAC (Stankey, 1985
- Turistic Carrying Capacity – TCC (Cifuentes, 1992)

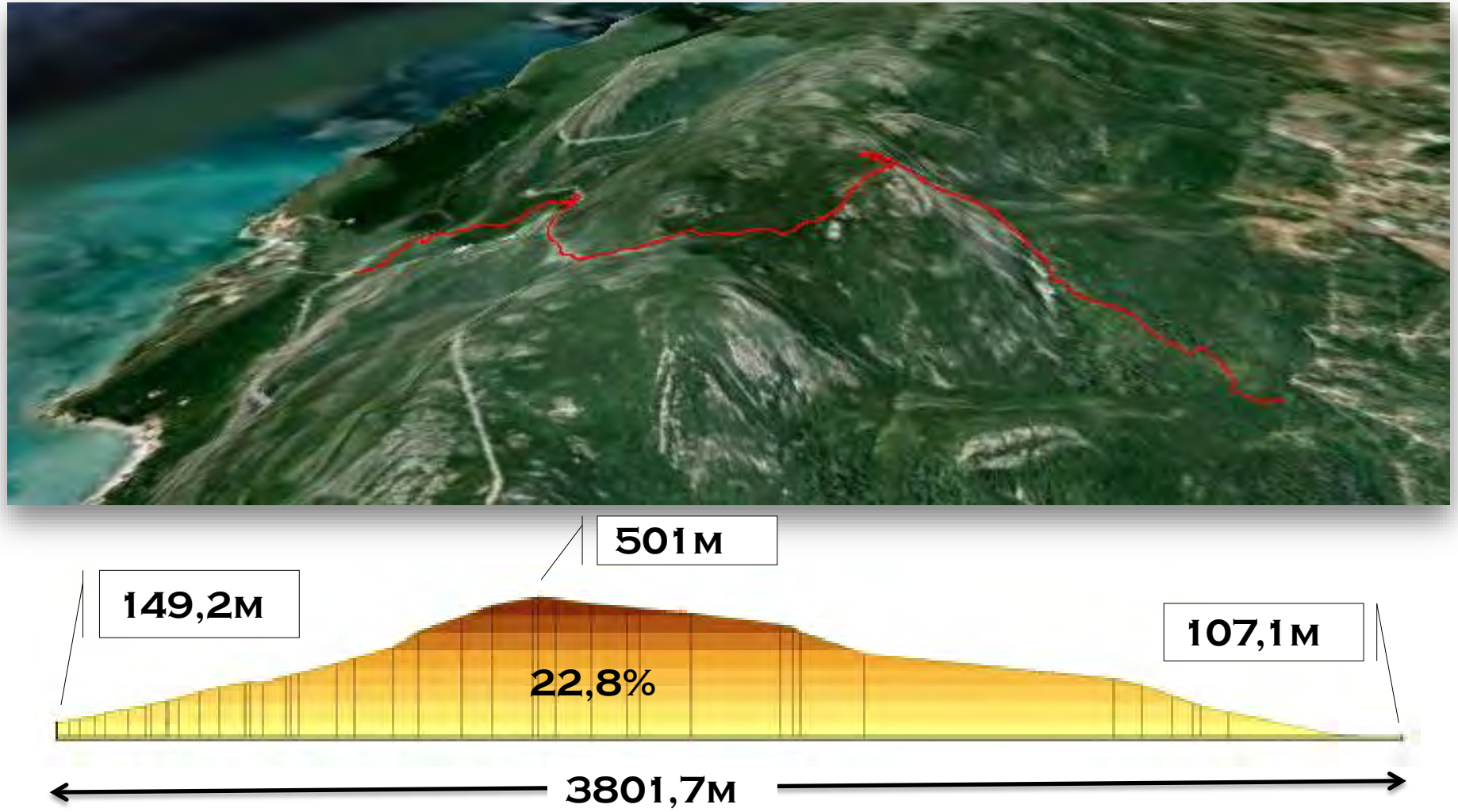
CARRYING CAPACITY

A tool for the management not the management it self.

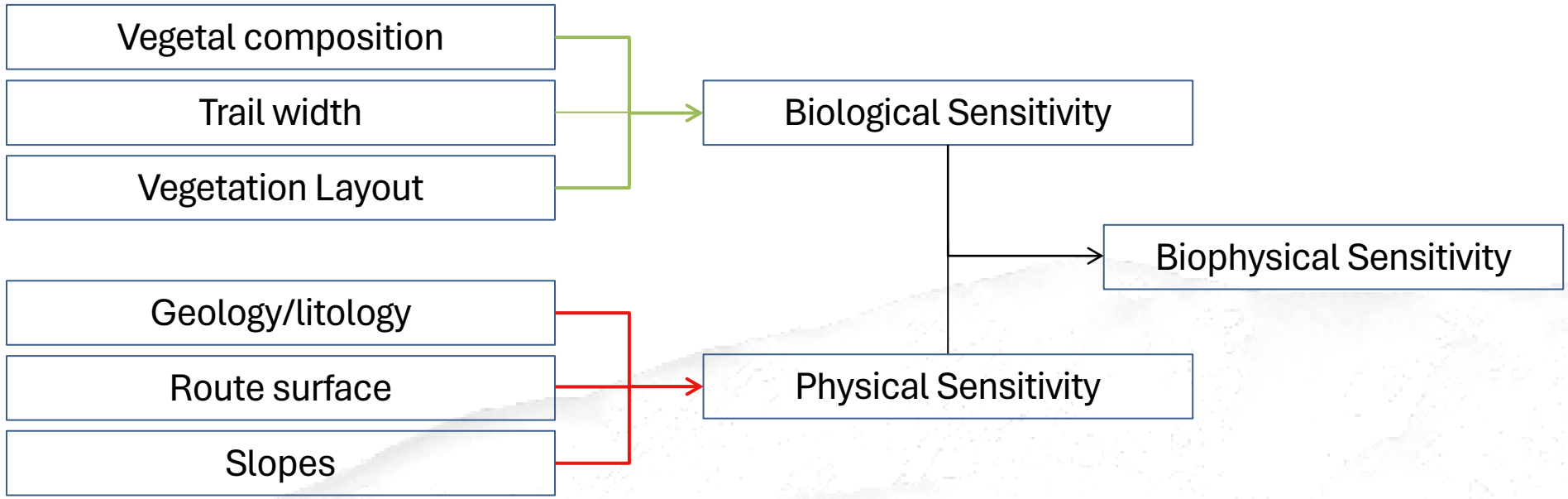
MANAGEMENT WITH CARRYING CAPACITY

- Zoning
- Regulating, Restricted, Forbiding activities
- Sacrifice areas, concentration *vs.* dispersion of impacts
- Taxes, Permits, etc.
- Environmental education and awareness

FORMOSINHO TRAIL,
NATURAL PARK OF ARRÁBIDA



ENVIRONMENTAL SYNTHESIS



Biological Sensitivity	Biophysical Sensitivity		
	Low (1)	**Average (2)**	**High (3)**
Low (1)	1	2	3
Average (2)	2	2	3
High	3	3	3

BIOPHYSICAL SENSITIVITY

- Steep slopes;
- Geolithological substrate with erosion or low resistance;
- Plant formations with natural interest and relevant habitats;
- Damage and direct contact between user and vegetation;

- **81,49%** of the trail with **High Biophysical Sensitivity**

FORMOSINHO TRAIL CARRYING CAPACITY

Considered aspects:

- Safety (Average slope of 22.8%; Erosion in 16 route units; Dangerous stopping areas)
- Enjoyment (14% dissatisfied with the size of the group)
- Environmental vulnerability of the route

- Thresholds considered:
  - Group size ~ 4 to 15 people
  - Daily maximum 45 people

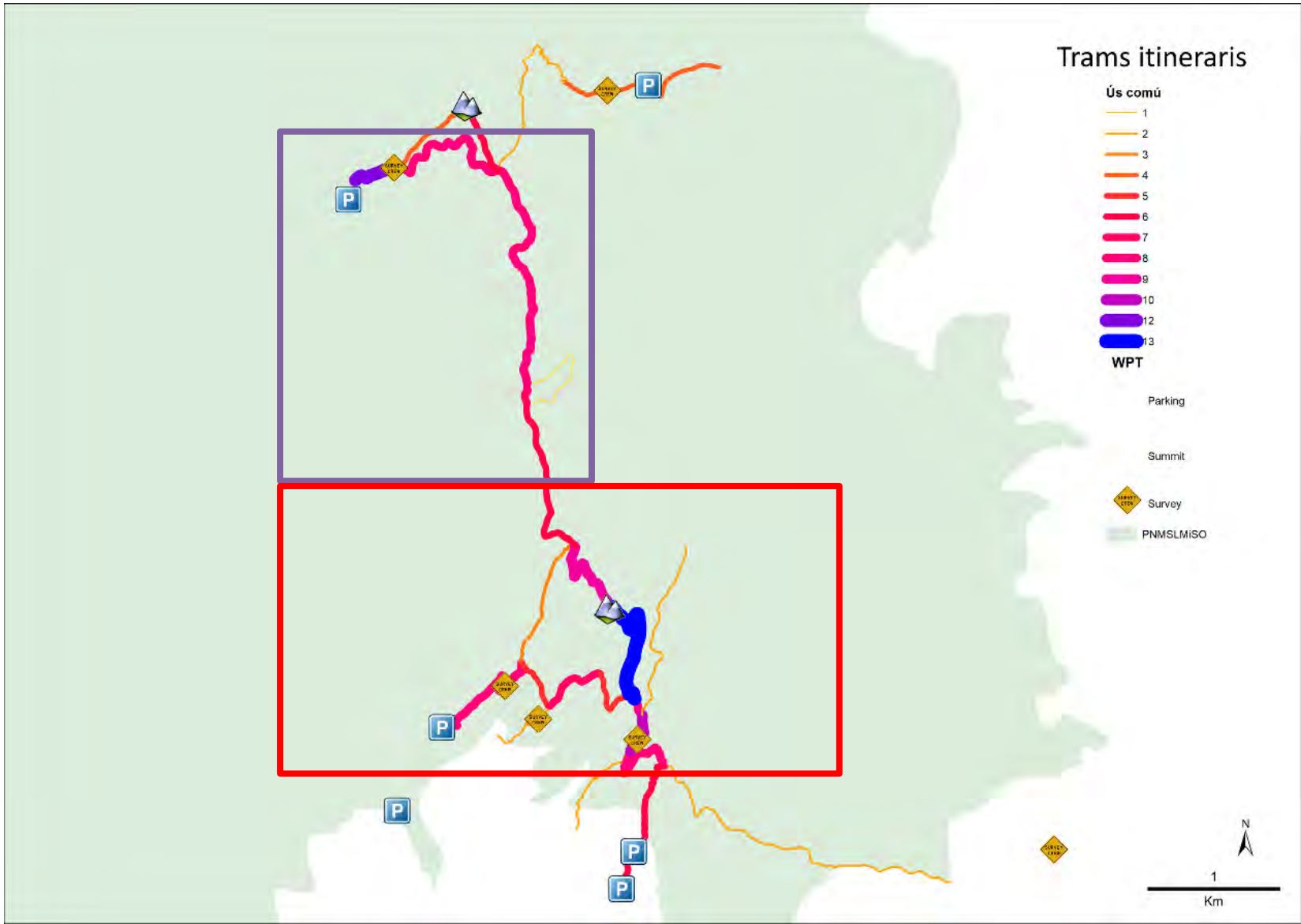

Parc Natural de Sant Llorenç del Munt i l'Obac
Cims
Xarxa de senders
Xarxa d'itineraris
Parc Natural SLMO
Municipis
Xarxa Natura 2000 PNSLMO
Manresa
Talamanca
Mura
Sant Vicenç
de Castellet
Montcau
Sant Llorenç
Savall
La Mola
Rellinars
Sant Feliu
del Racó
Castellar
del Vallès
Matadepera
Vacarisses
N
1
Km

STARTING POINT

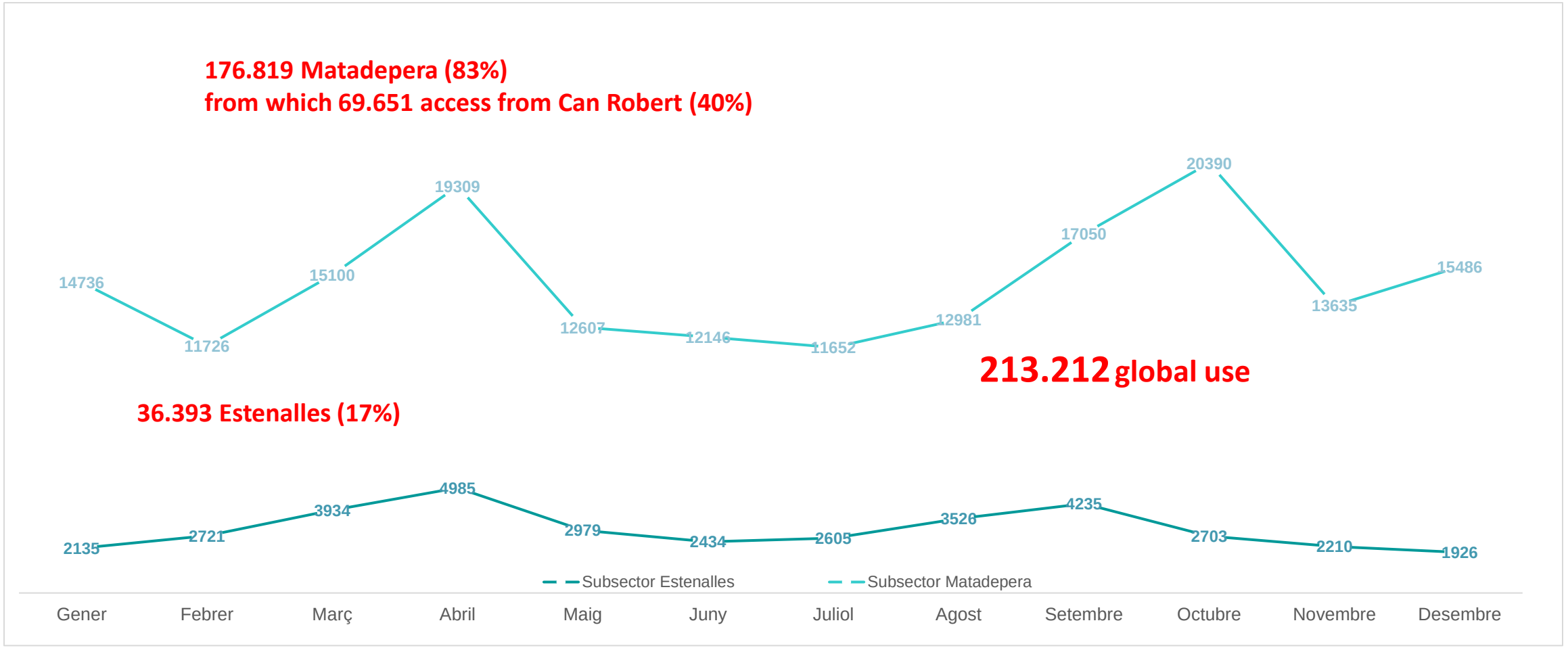
2 subsectors:

- **El Montcau**
- **La Mola**

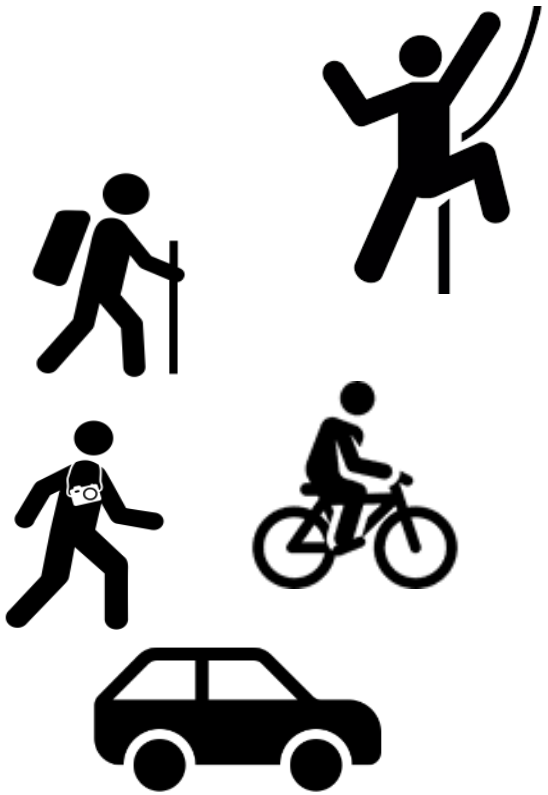
Large number of stretches With common use



STARTING POINT



Base Factor



PHYSICAL Carrying Capacity (PCC)

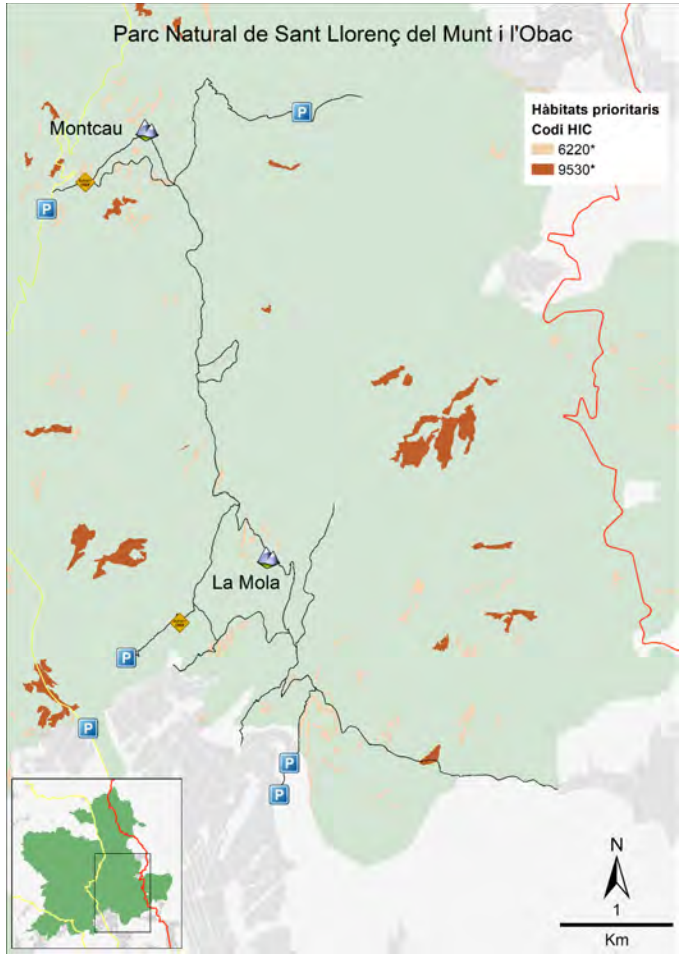
REAL Carrying Capacity (RCC)

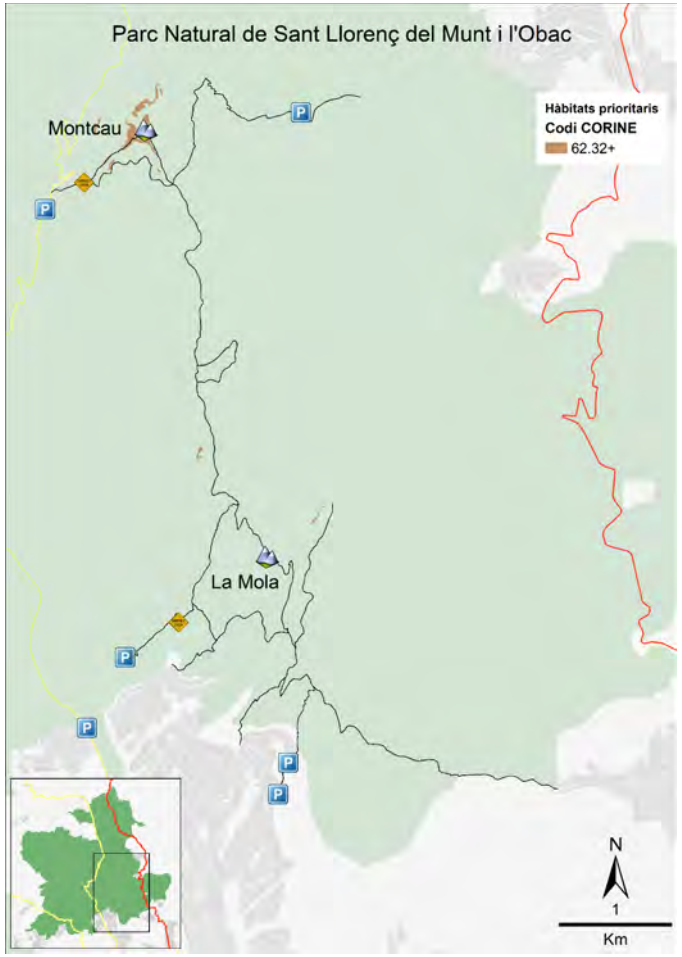
EFECTIVE Carrying Capacity (ECC)

- Weather
  - Seasonality
- Environment
  - Infrastructure
- Erodibility
  - compatibility of uses
- Common sections
- Trail type
  - Dispersion
- Difficulty
  - Satisfaction
- Social perception
  - Local population

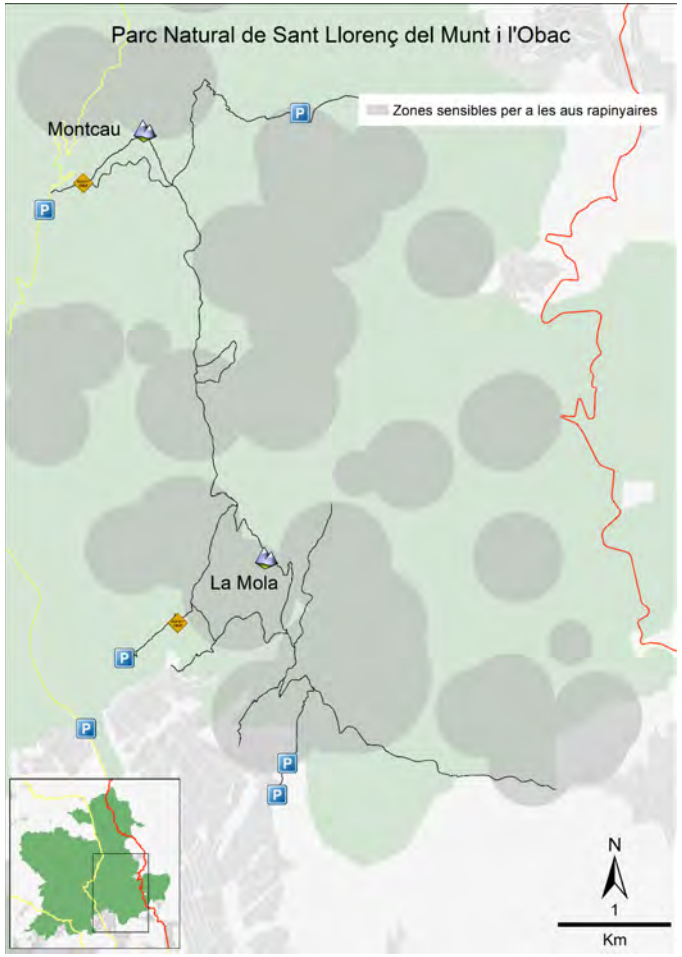
Physical CC ≥ **Real** CC ≥ **Effective** CC

BASE DATA



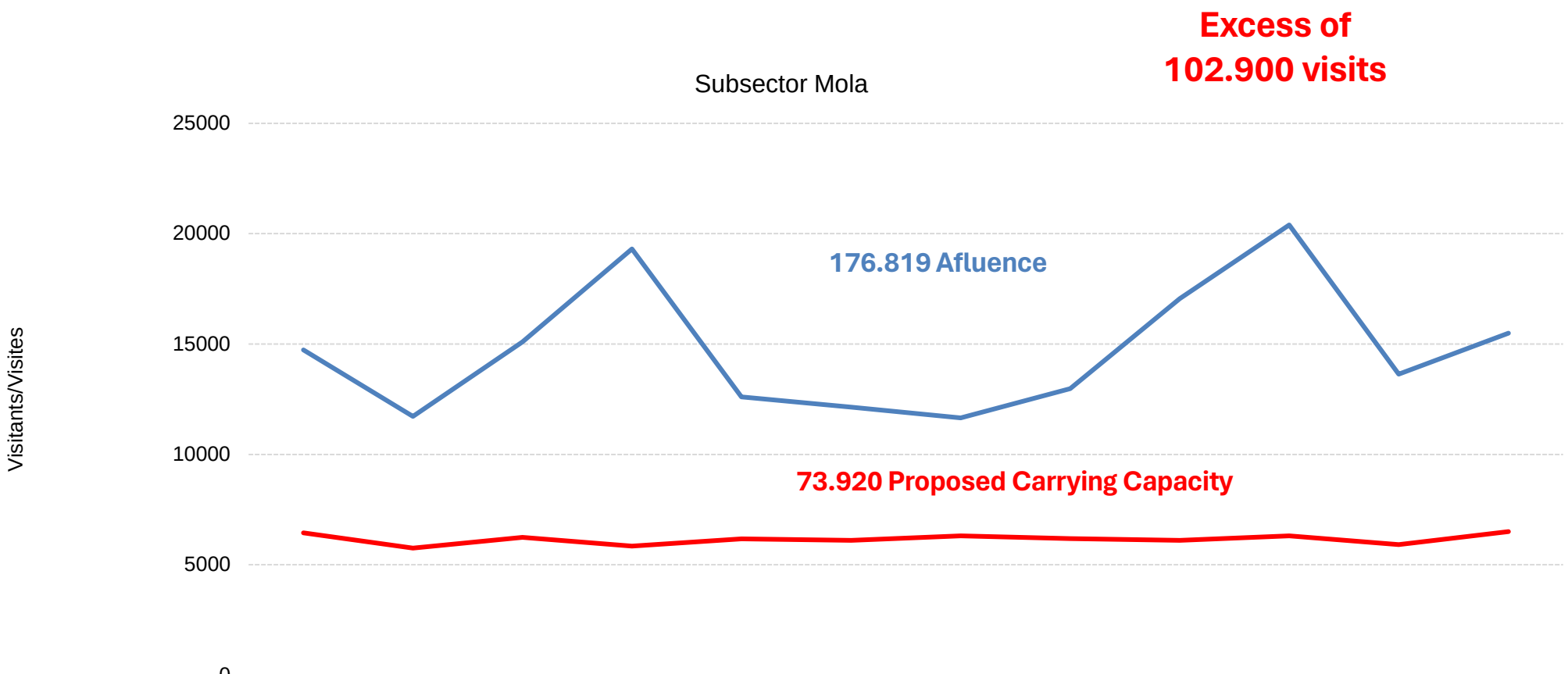


Prioritary habitats



Conservation buffers for Birds of prey

VISITOR CARRYING CAPACITY *vs* LA MOLA USE

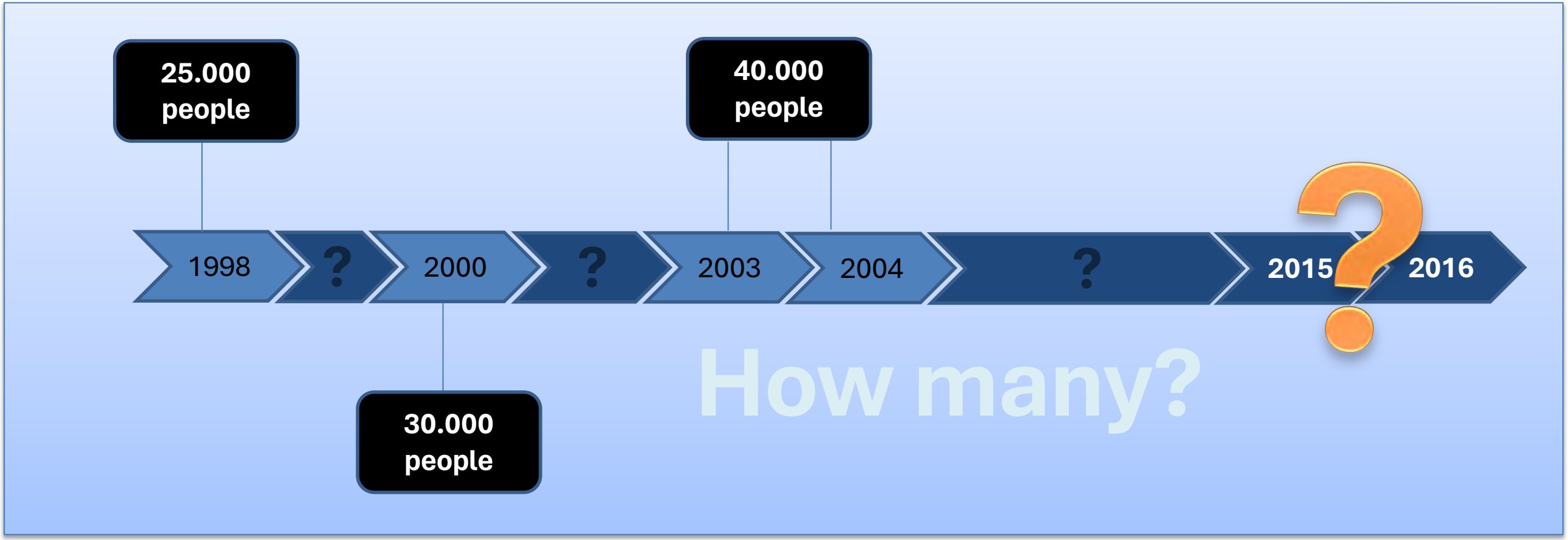


	Gener	Febrer	Març	Abril	Maig	Juny	Juliol	Agost	Set.	Oct.	Nov.	Des.
Capacitat d'acollida	6442	5759	6243	5849	6177	6110	6313	6185	6106	6310	5918	6509
Dades comptador	14736	11726	15100	19309	12607	12146	11652	12981	17050	20390	13635	15486

BERLENGAS NATURAL RESERVE

BERLENGA ISLAND VISITATION

- Seasonal visitation: May - September



METHODS & DATA

2015
- 15 – 20 July
- 12 – 17 August
- 27 – 31 August
- 2 – 5 September

2016
- 14 – 20 June
- 5 – 12 July
- 9 – 15 August
- 16 – 22 August

Count # people landed on the island

How many visitors?

Surveys
(35 questions)

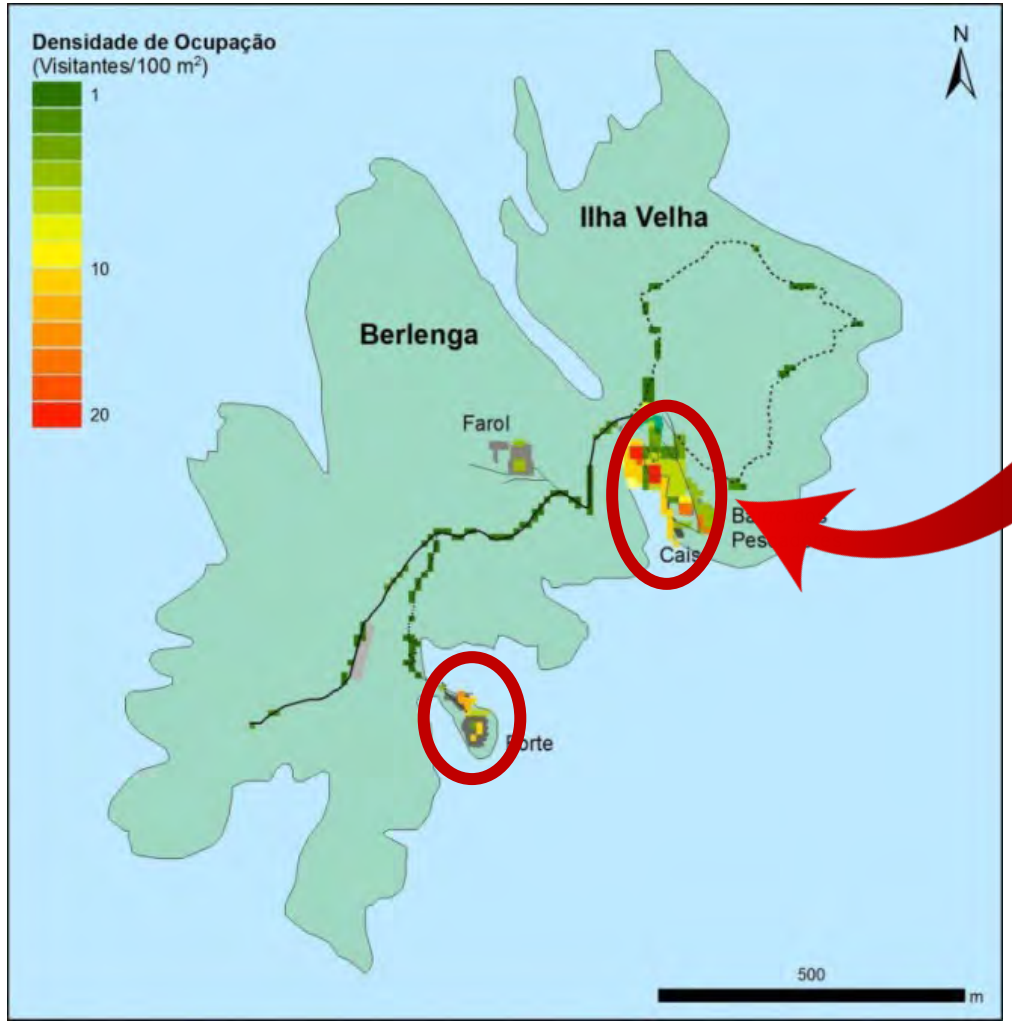
(3) Key questions

Visitation 'Barometer'

Quality scale associated to the **recreational pressure**

Theoretical model of Spatial Distribution during High Season 13-14h

(1000 people)

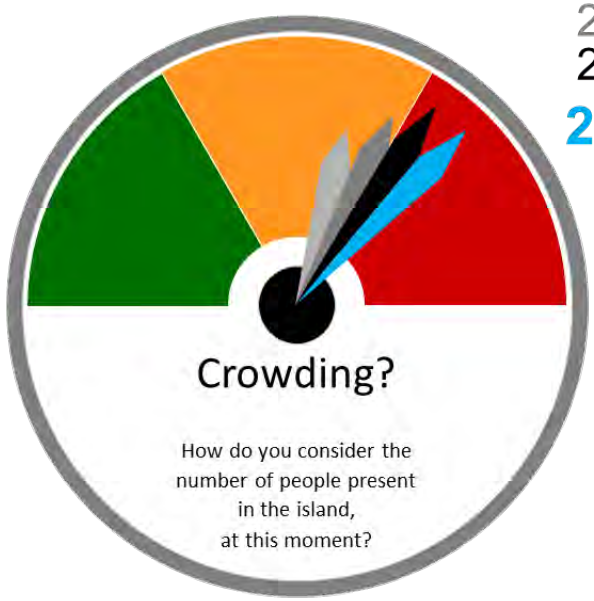


80~85% Total of visitors

1998	2000	2003	2004	2015	2016	2017	2018	2023
25.000 people	30.000 people	40.000 people		65.621 people	79.876 people	81 778 people	82.445 people	... people

Visitation Barometer

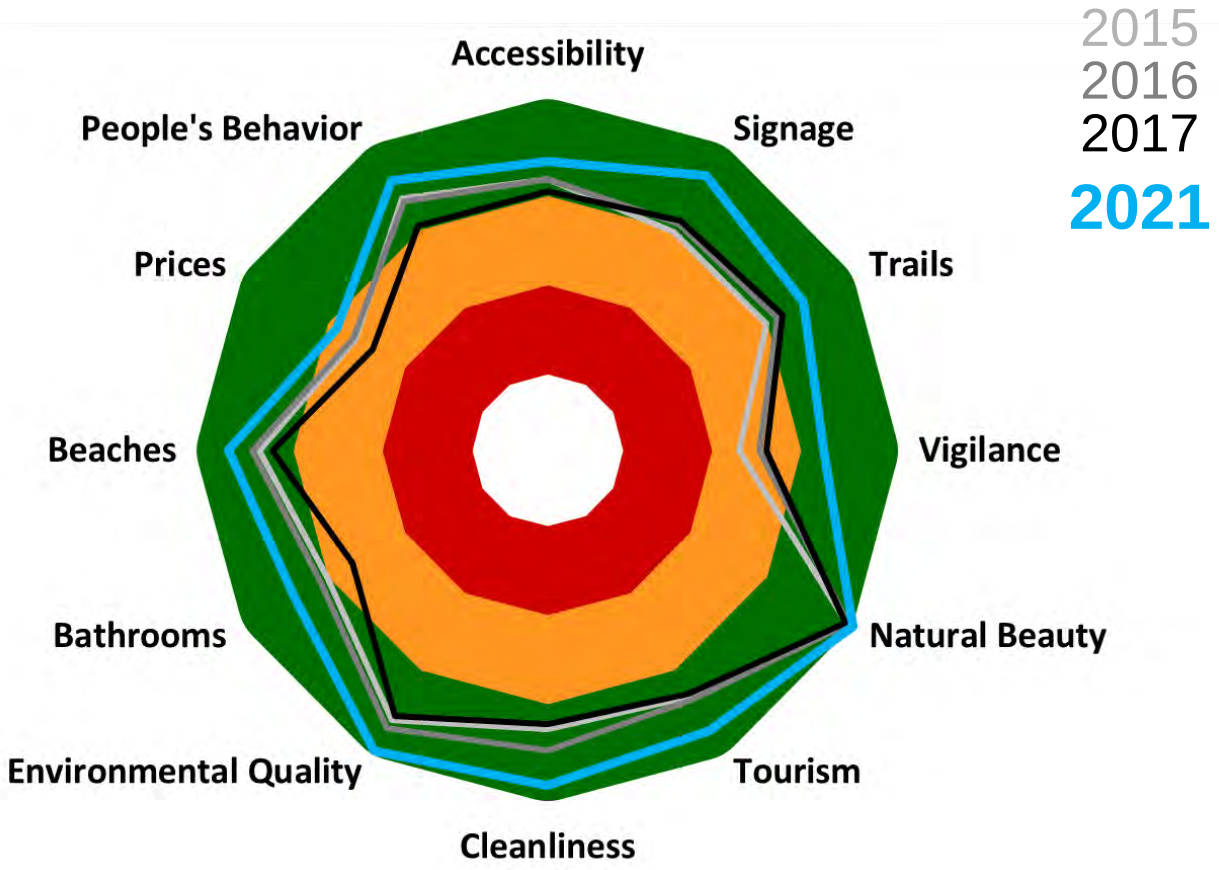
2015
2016
2017
2021



- Could acomodate more
- It's fine like this
- Too many people

- Better
- About the same
- Worse

Visitation Barometer



MAIN CHANGES IN THE LAST TEN YEARS:

a) **Definition of Carrying Capacity**, **550 visitors** per day **simultaneous** at the island.

b) Number of **trips** tourism operators **reduced**.

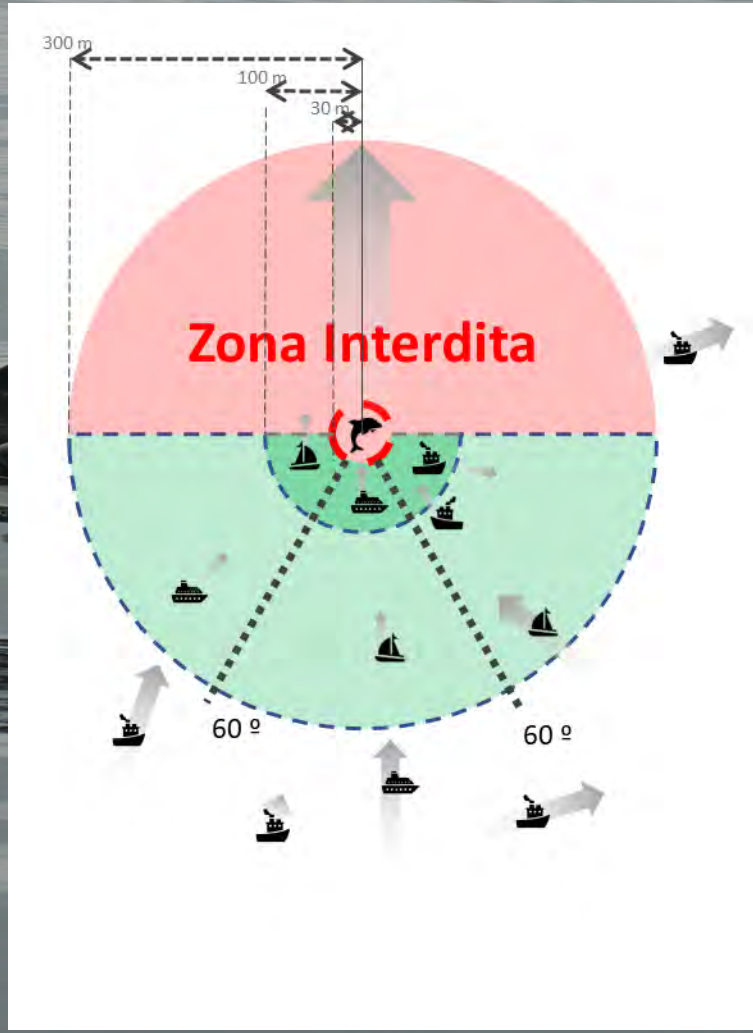
c) **Portal for registration of visitors** implemented in 2022, with a fee to be charged for management of the reserve .

Carrying Capacity for dolphin watching at Sado Estuary Portugal Mainland

CURRENT SITUATION & RULES

- **27 Dolphins / 56 Licensed boats**
  - SADO / ARRÁBIDA
- **25% of the Dolphins/Whale watching activity in Portugal mainland**

1. Máx. 30 min within the ative observation area
2. Activity could be done only during daytime
3. Comercial operations can only be done by licenced operators;
4. It's a NT activity, etc.



Decreto-Lei n.º 9/2006 - D.R. n.º 5, Série I-A de 6 de janeiro Regulamenta a atividade de Observação de Cetáceos nas Águas de Portugal continental. Alterado parcialmente pelo **Dec.-Lei n.º 92/2010 - D.R.n.º 143, Série I de 26 de julho.**

METHODOLOGY

SEA TRIPS FOR DATA COLLECTION

Results

2020-22

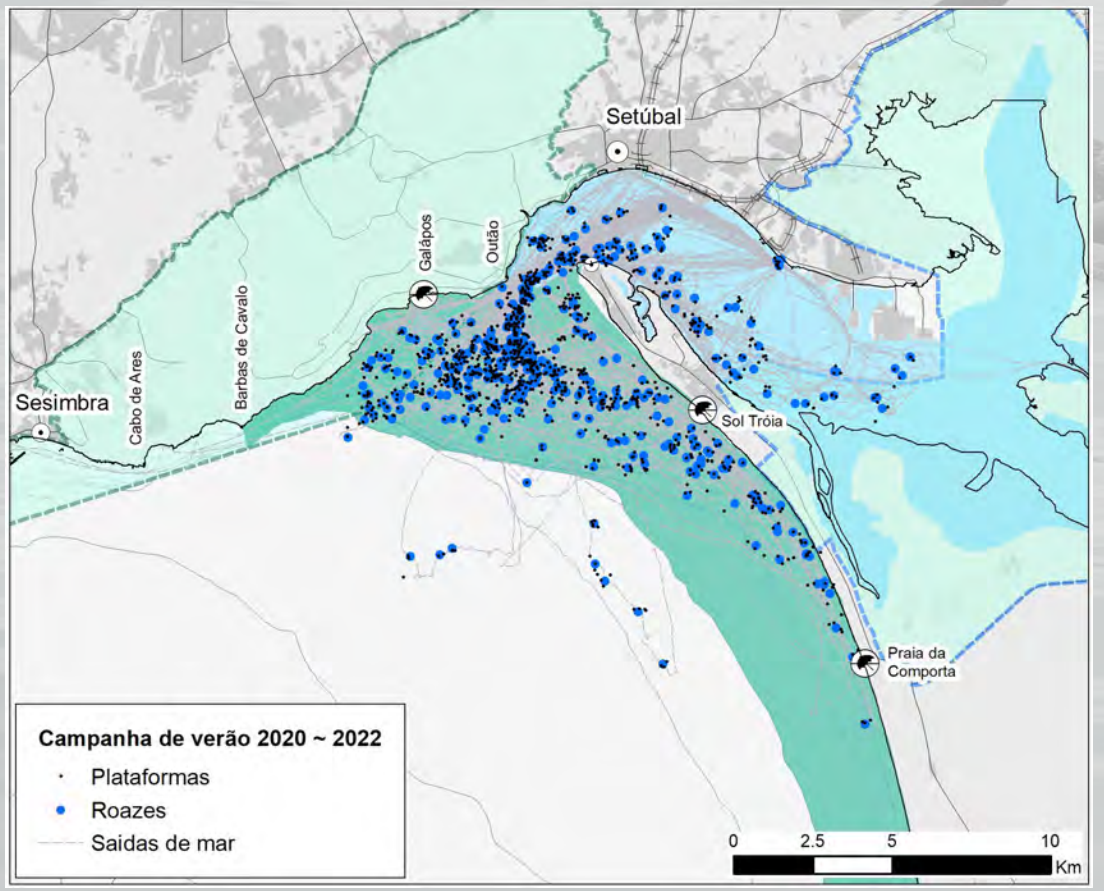
94 sea trips

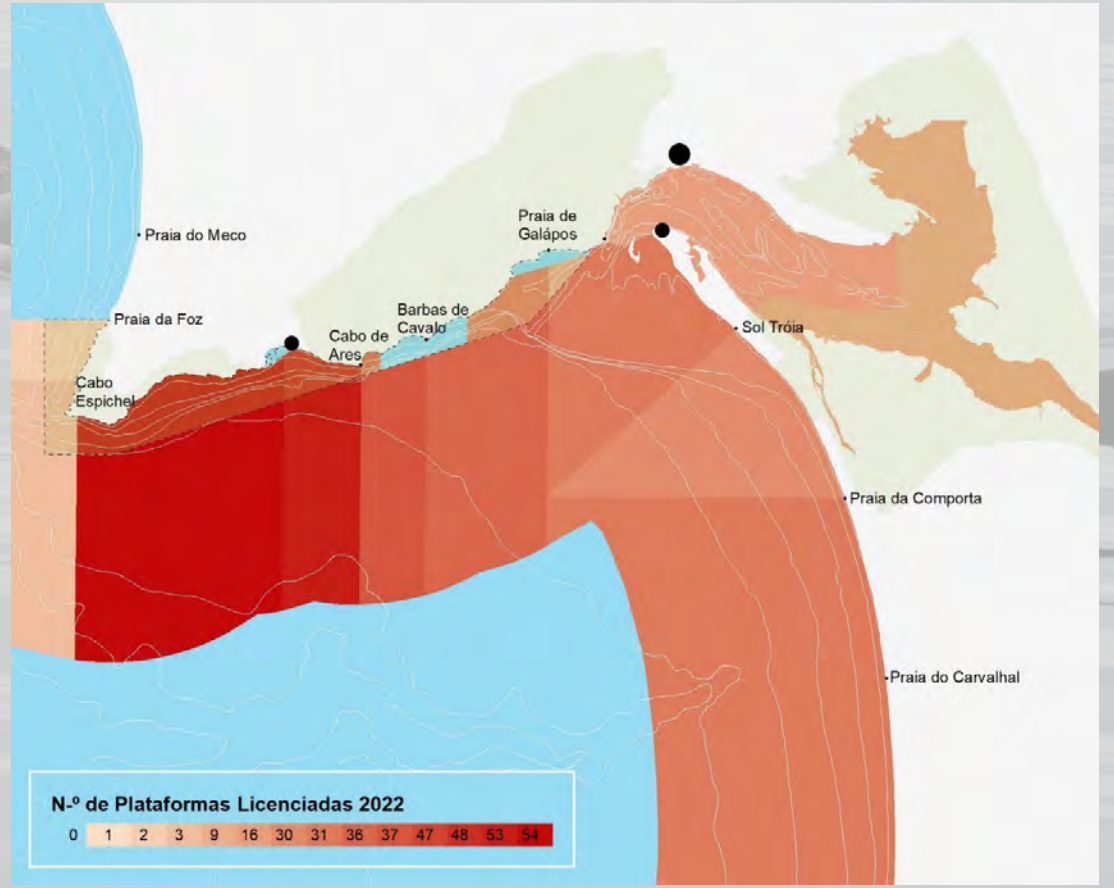
> 342 h / > 4002 Km

Records

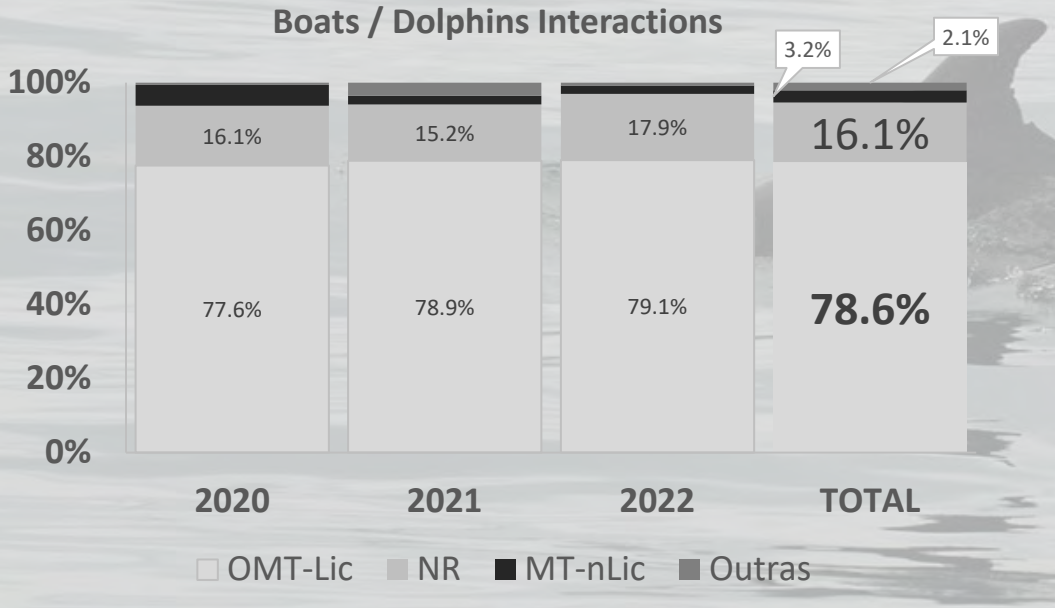
424 Samples

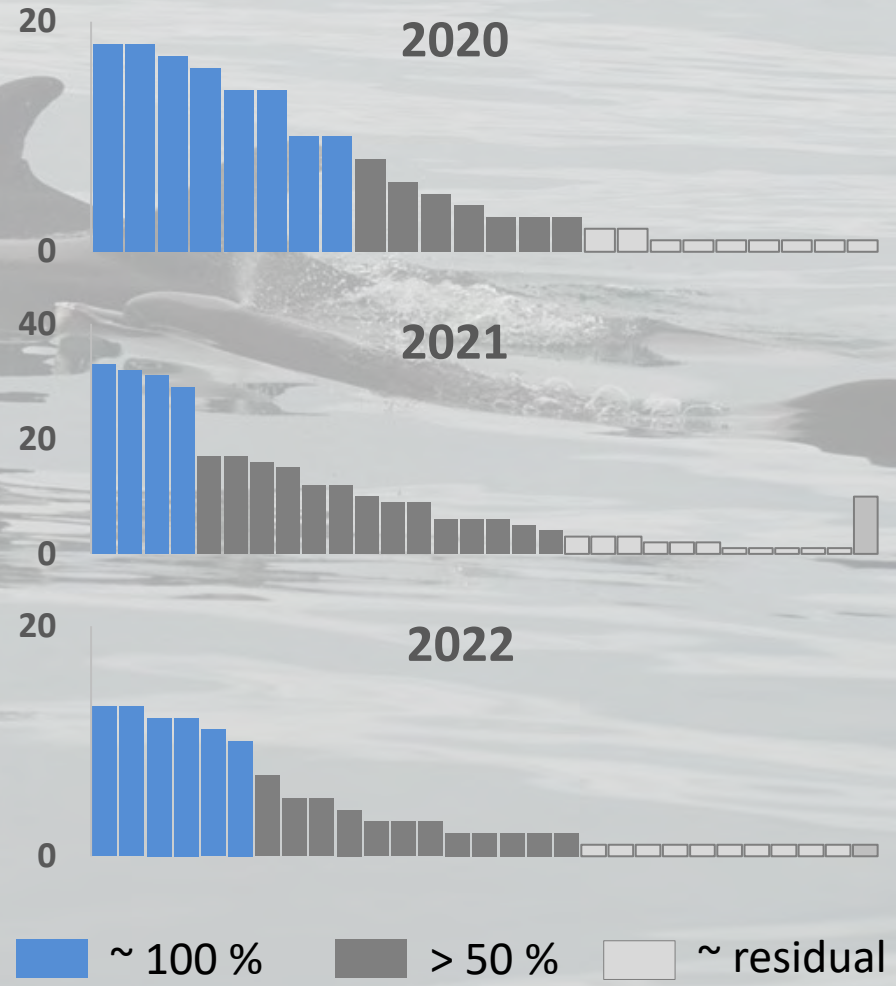
1150 Boat Interactions

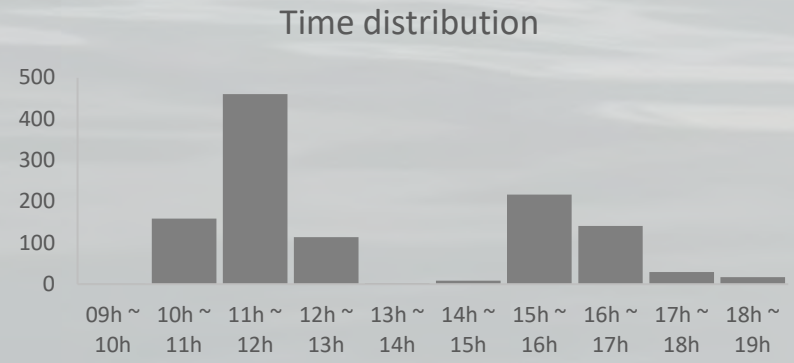


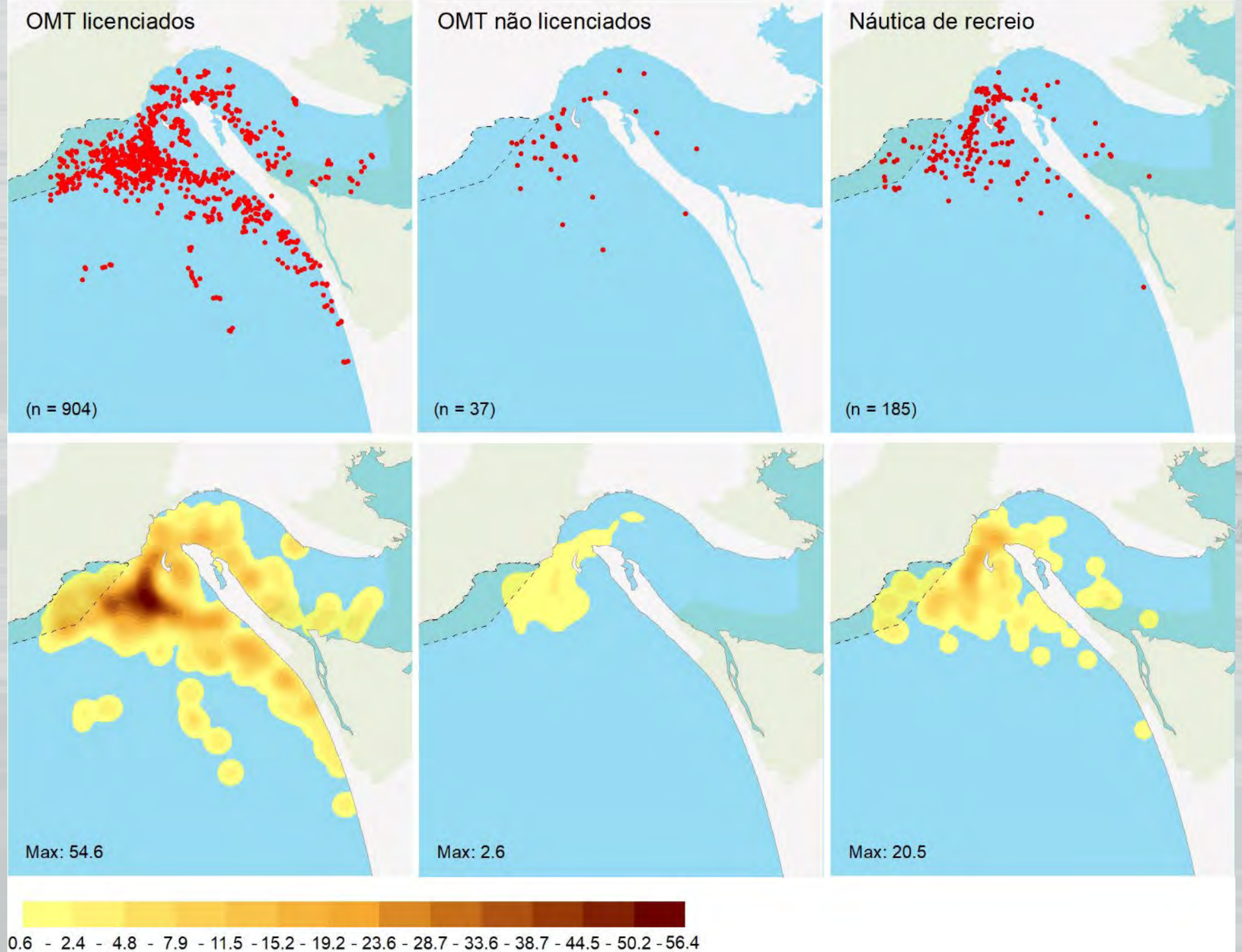


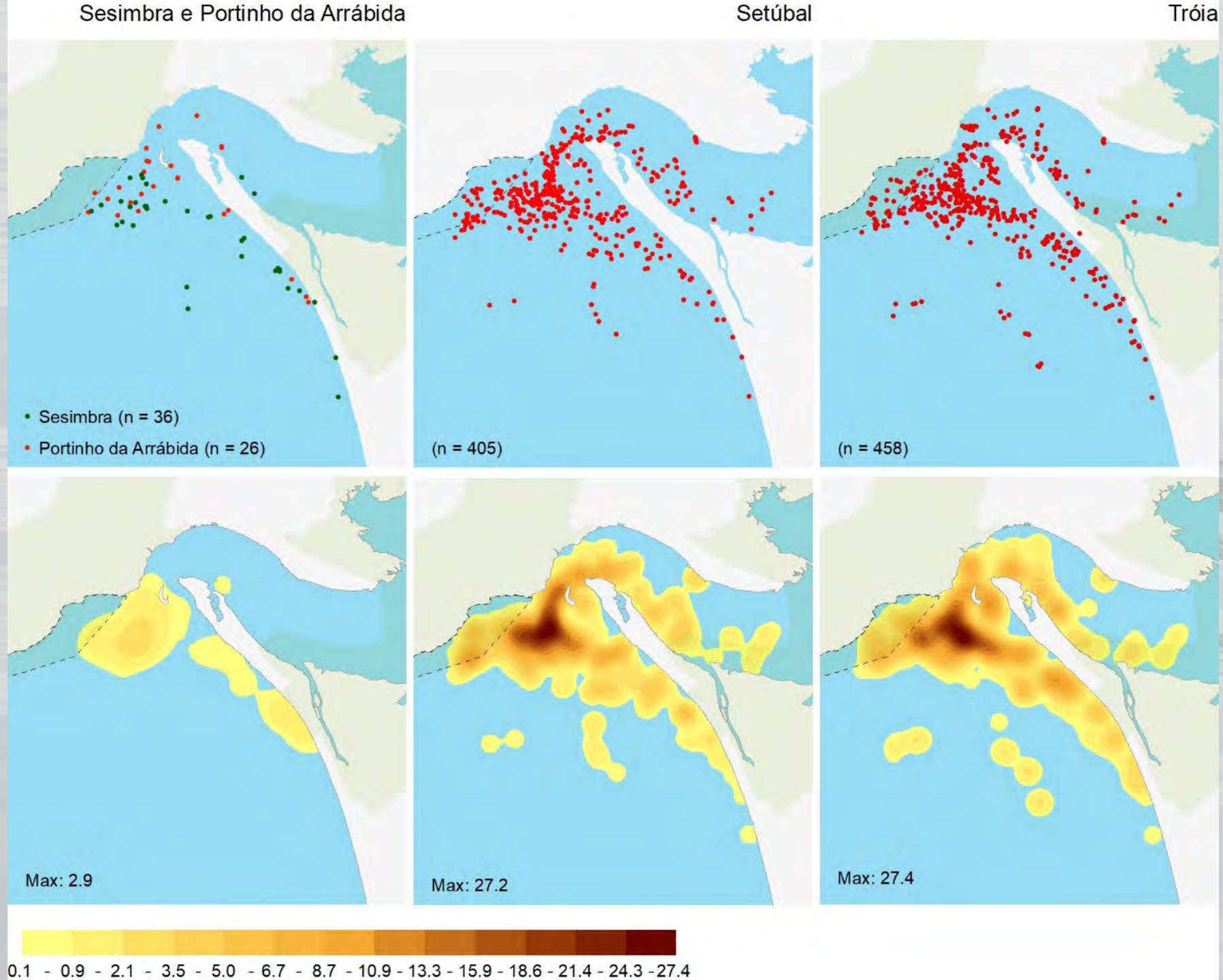
Boats/Dolphins interactions (global results)








OMT licenciados
OMT não licenciados
Náutica de recreio
(n = 904)
(n = 37)
(n = 185)
Max: 54.6
Max: 2.6
Max: 20.5
0.6 - 2.4 - 4.8 - 7.9 - 11.5 - 15.2 - 19.2 - 23.6 - 28.7 - 33.6 - 38.7 - 44.5 - 50.2 - 56.4


Sesimbra e Portinho da Arrábida
Setúbal
Tróia
Sesimbra (n = 36)
Portinho da Arrábida (n = 26)
(n = 405)
(n = 458)
Max: 2.9
Max: 27.2
Max: 27.4
0.1 - 0.9 - 2.1 - 3.5 - 5.0 - 6.7 - 8.7 - 10.9 - 13.3 - 15.9 - 18.6 - 21.4 - 24.3 - 27.4

KEY ASPECTS OF CARRYING CAPACITY

- Importance of local conditions and management options.
- Complexity of issues involved.
- The importance of Zoning
- Vital to define Infrastructures and accessibility.
- Individual values
- Should not be expressed as a rigid value
- Good Data

FINAL REMARKS

CHARACTERIZATION IS CRUCIAL

MONITORIZATION IS THE KEY

CC DEPENDS ON MANAGEMENT GOALS

IT'S AN INTERACTIVE PROCESS

IT'S NEVER A MAGIC NUMBER!