



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE



United Nations  
Educational, Scientific and  
Cultural Organization



Intergovernmental  
Oceanographic  
Commission



Sustainable  
Development  
Goals

marine  
spatial  
planning  
global



Co-funded by the  
European Maritime and  
Fisheries Fund  
of the European Union

# LINKING EcAp and MSP MONTENEGRO

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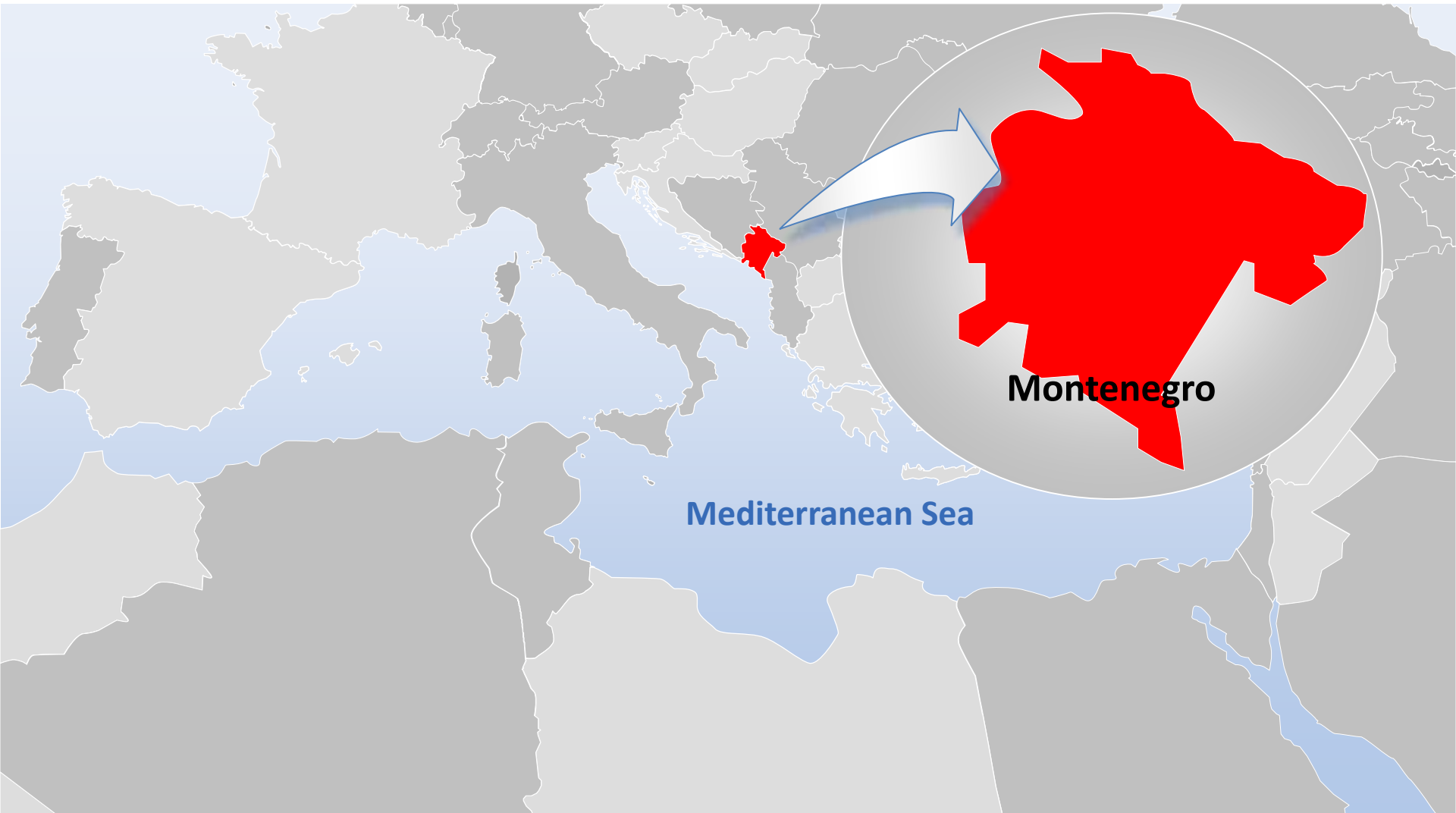
MSP as a tool for the implementation of ICZM  
Protocol in the Mediterranean

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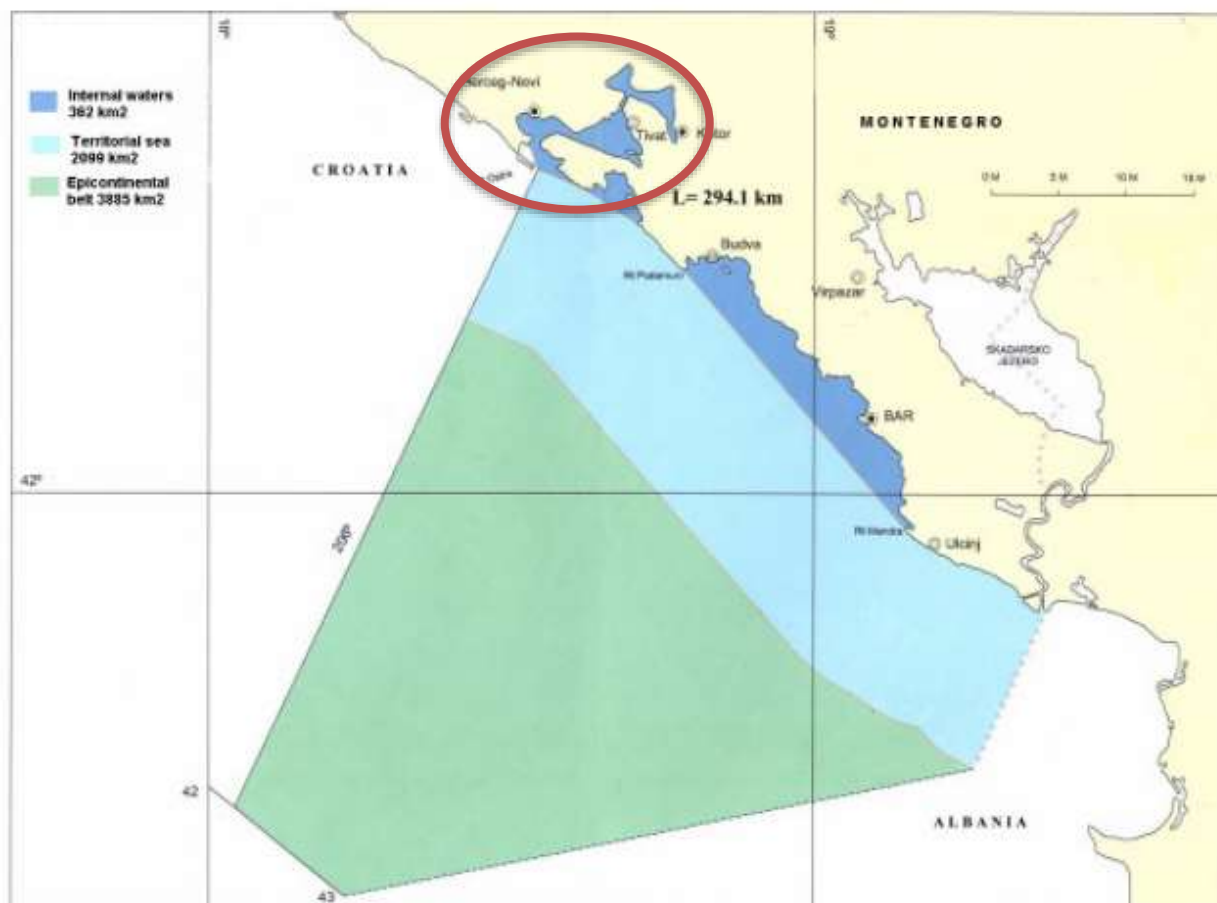
M.Marković, PAP/RAC, Zagreb, 9/10 April 2019

# MONTENEGRO

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# MONTENEGRO



Coastline - 293 km

Marine surface is 2461 km<sup>2</sup>

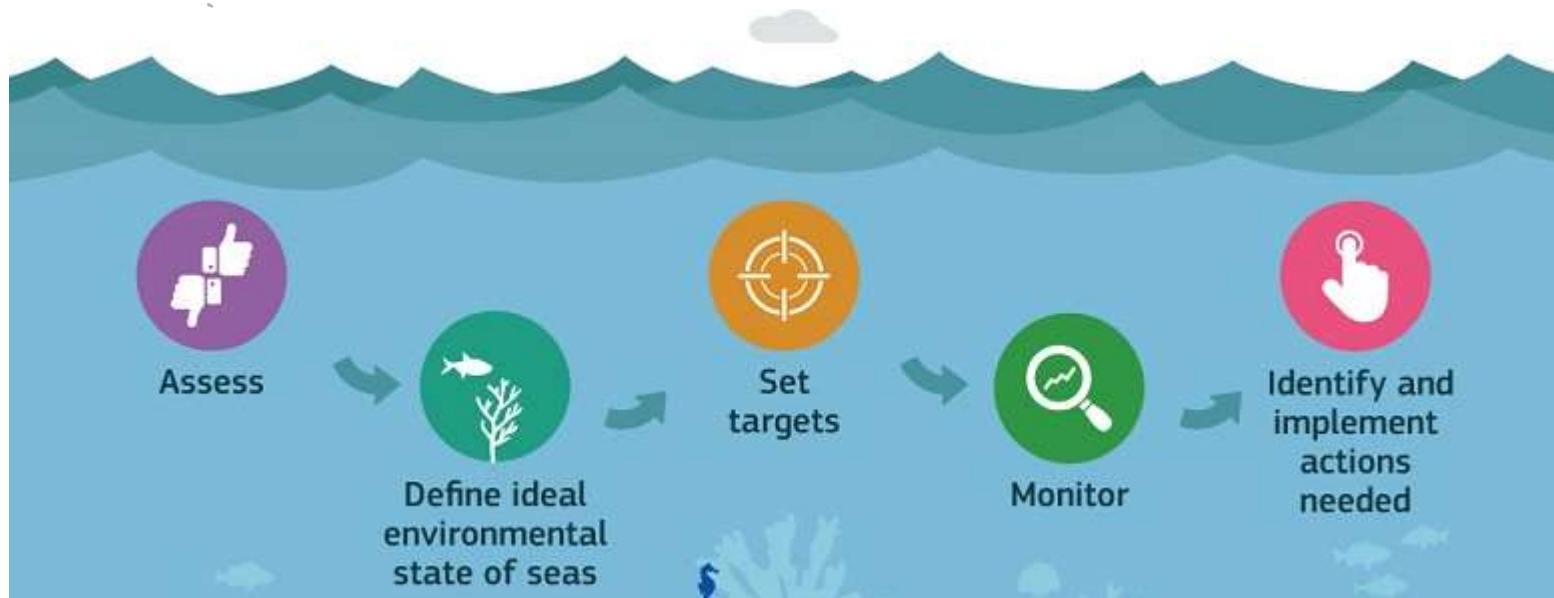
- territorial sea 2099 km<sup>2</sup>

- internal sea 362 km<sup>2</sup>

(*epic. belt* 3885 km<sup>2</sup>)

Law of the sea (2011)  
envisages establishment  
of the EEZ

# THE CONTEXT



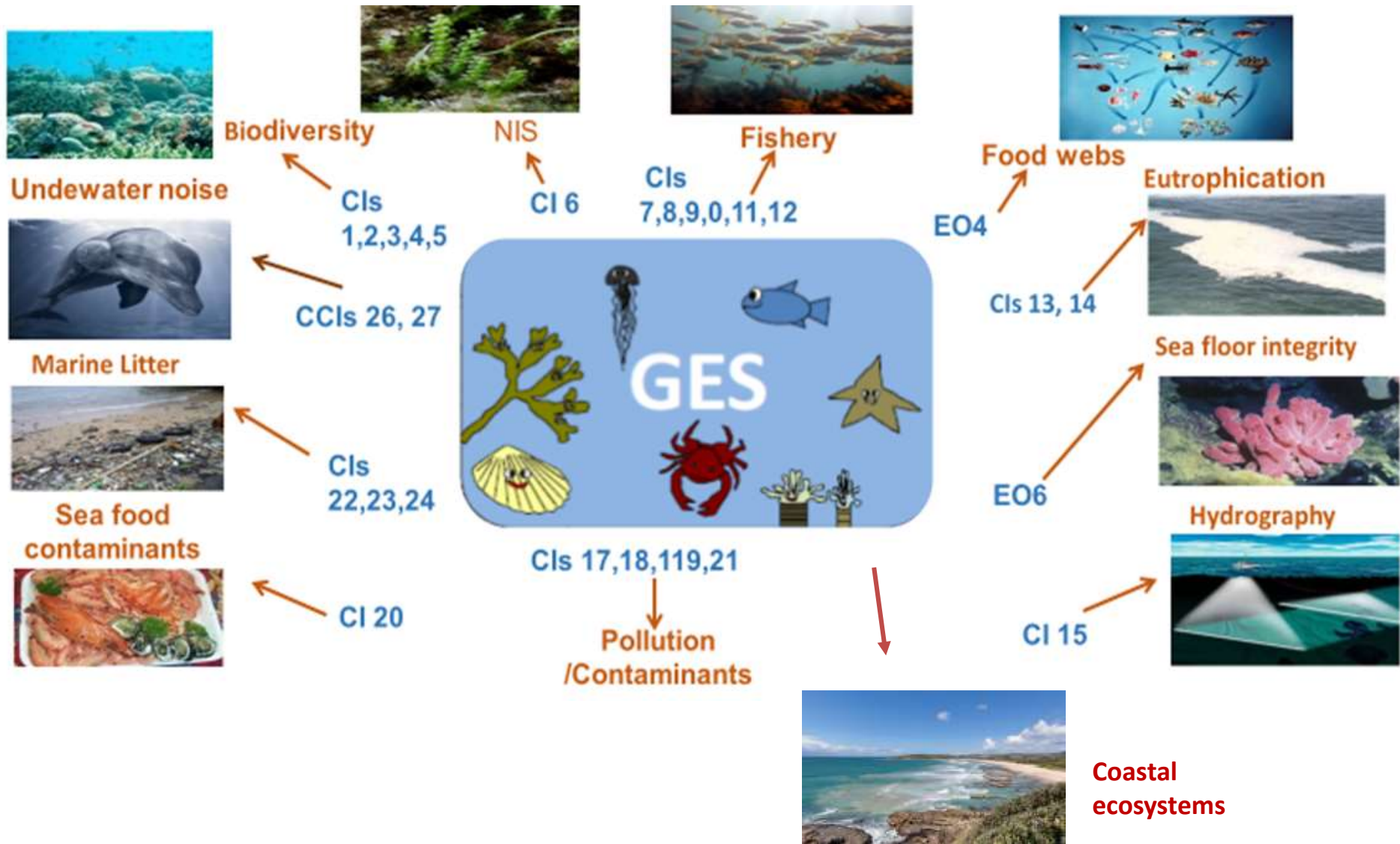
[www.ec.europa.eu](http://www.ec.europa.eu)



Integrated monitoring and assessment programme **IMAP**

Marine Strategy Framework Directive

# IMAP - EcAp



# INDICATORS

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## EO 1 Biodiveristy

1. Habitat distributional range/extent
2. Condition of habitat's typical species and communities
3. Species distributional range (seabirds, *mammals and reptiles*, fish – EO3)
4. Population abundance
5. Population demographic characteristics  
Biodiversity index

## EO 3 Comercial species

7. Spawning stock biomass
8. Total landings
9. Fishing mortality
10. Fishing effort
11. Catch per unit of effort...
12. Bycatch of vulnerable and non-targeted species  
Distribution of fish and shelfish farms

## EO 5 Eutrophication

13. Concentration of key nutrients in water column
14. Chlorophill-a concentration in water column  
Trix index

## EO 7 Hydrography

15. Location and extent of the habitats impacted...

## EO 8 Coastal ecosystems and landscapes

16. Lenght of coastline subject to phs. disturbance
25. Land use change  
Landscape quality

## EO 9 Contaminants

17. Concentration of key harmful contaminants
18. Level of pollution effects
19. Ocurrence...of acute pollution events
20. Level of contaminants in sea food
21. Percentage of intestinal enterococci

## EO 2 Invasive Species

## EO 10 Marine Litter

## EO 11 Noise from Human Activity

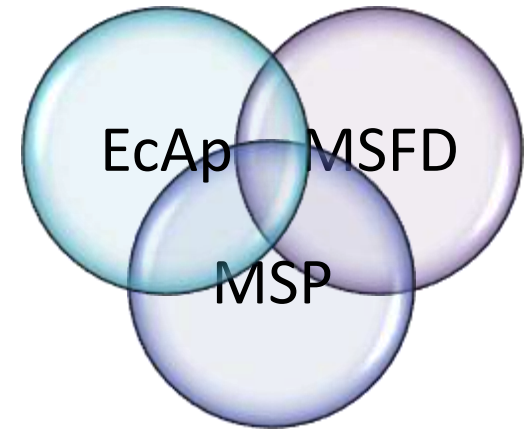
# THE APPROACH

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Two main orientations:

i) Utilisation of existing IMAP/EcAp processes and data for marine vulnerability assessment

ii) Utilisation of marine vulnerability for MSP



Ministry of sustainable development and tourism (Montenegro)

Methodology tested in Montenegro (Bokakotorska Bay)

# METHODOLOGY

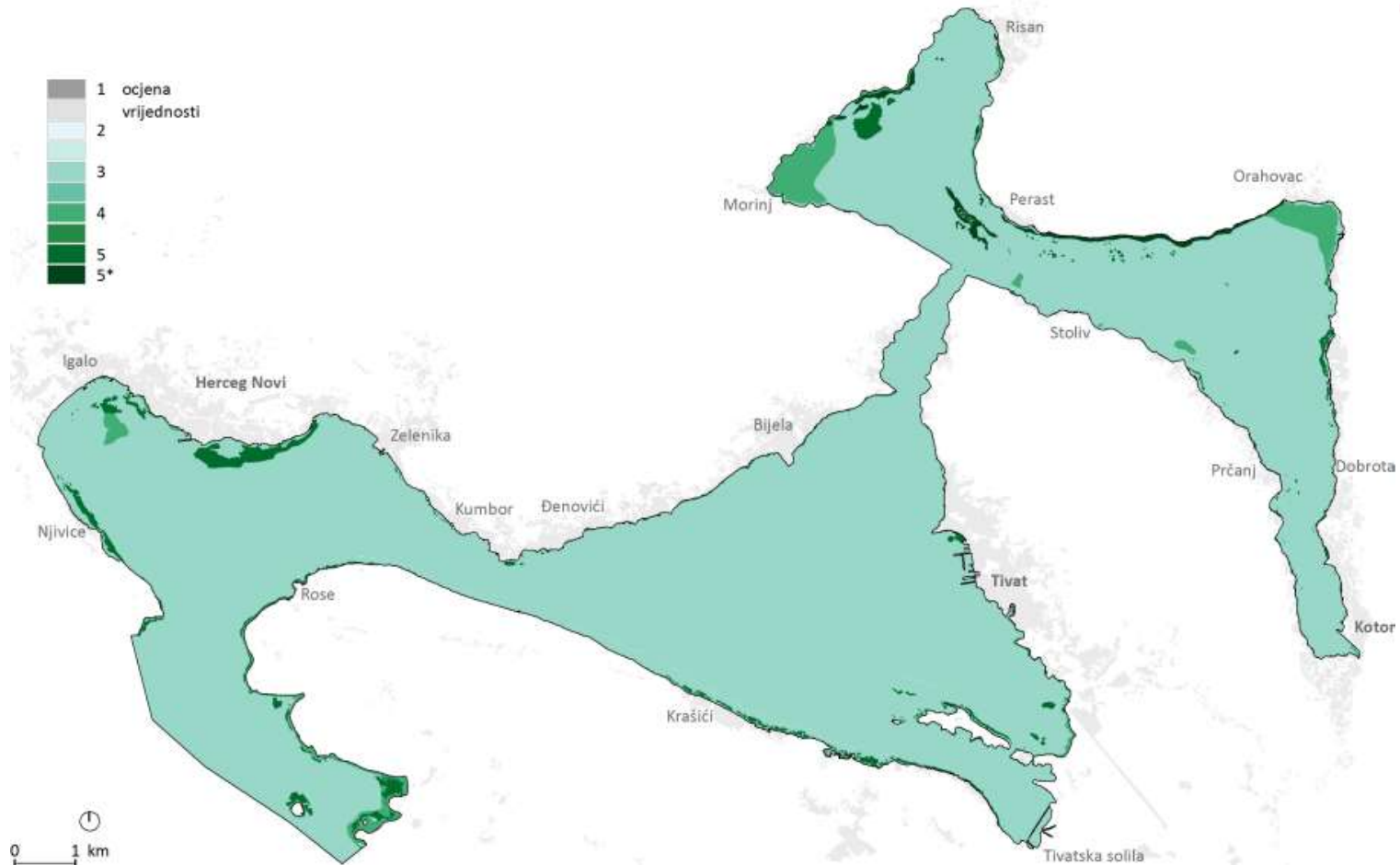




# 01 ASSESSING VALUES OF EACH ENV. COMPONENT



Value: very low – very high (to extremely important)  
Criteria: protection status, distribution/rareness, representativity,

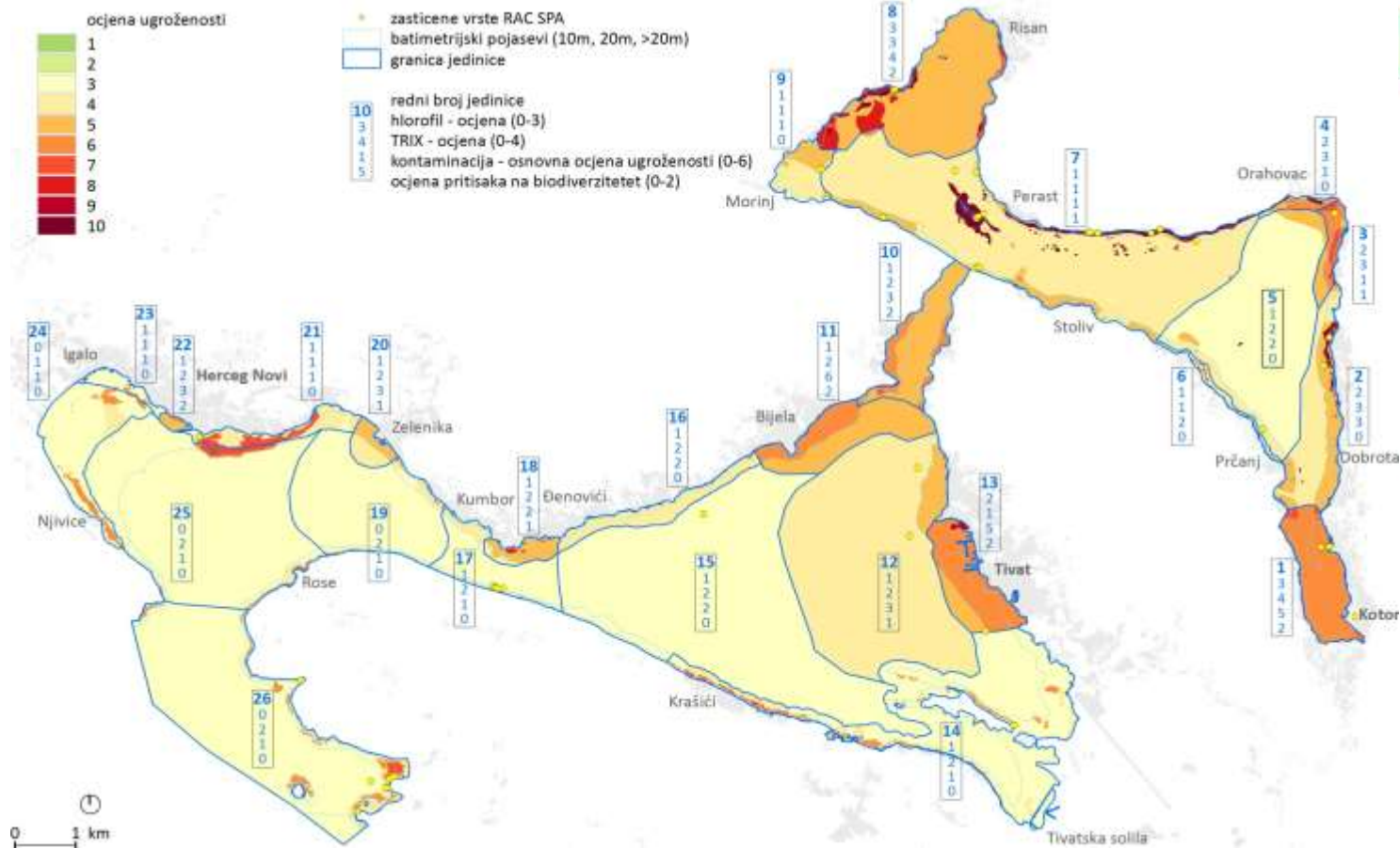


# 02 ASSESSING IMPACTS ON EACH ENV. COMPONENT



**Existing Impact:** very low – very high

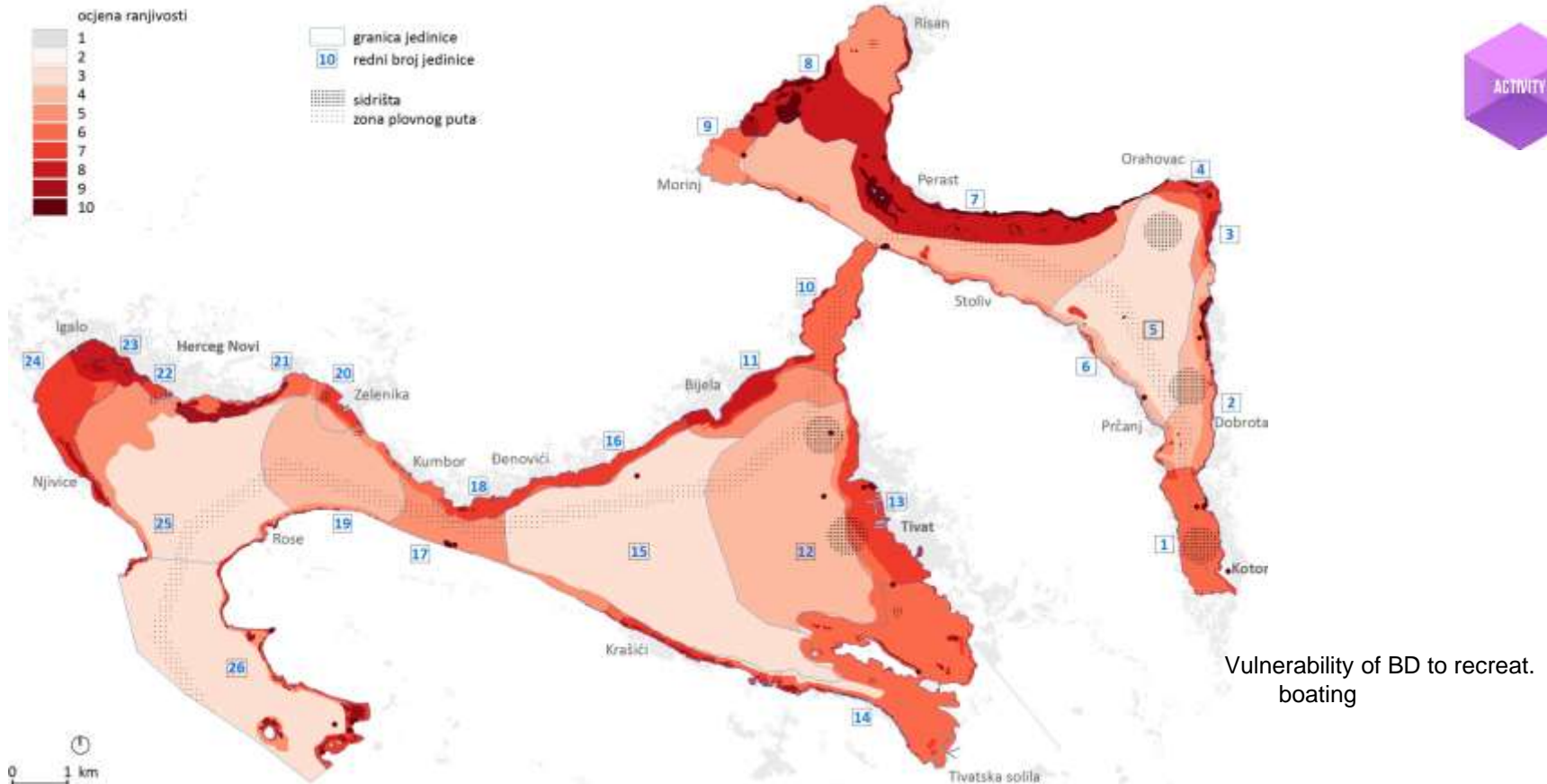
Criteria: initial value index with impacts based on **eutrophication** (trix), **contaminants**, built-up areas, maritime way



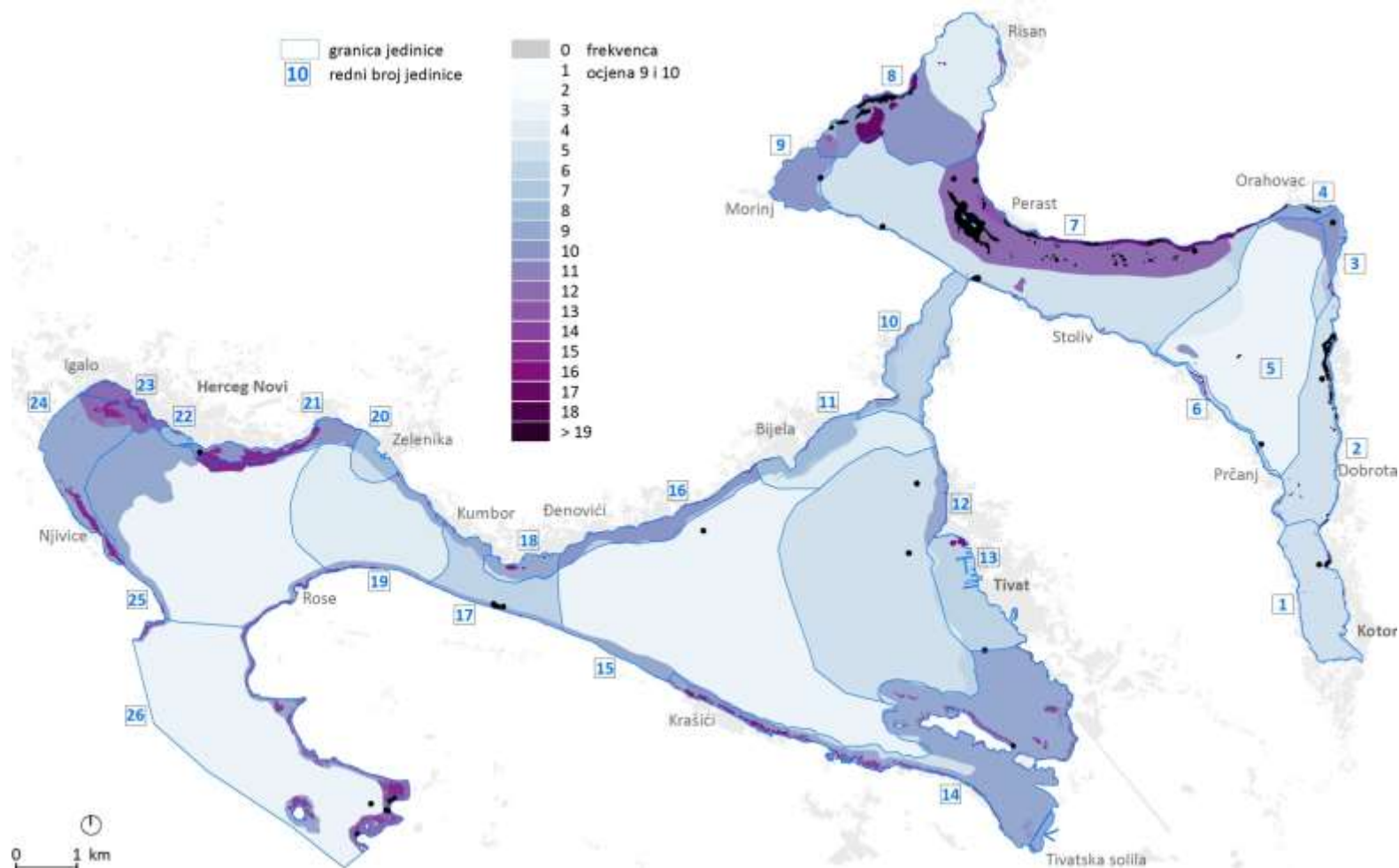
# 03 ASSESSING VULNERABILITY



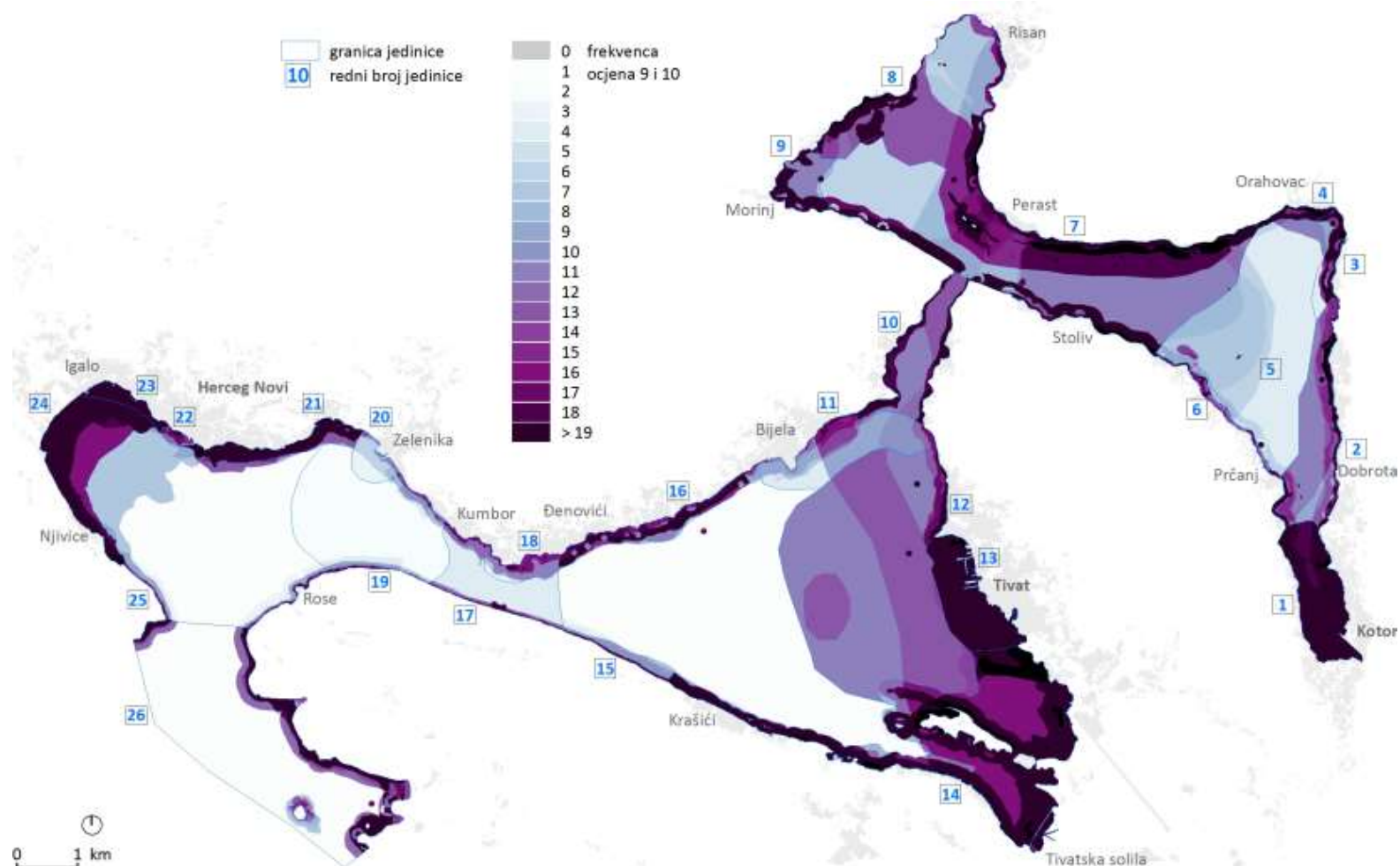
Vulnerability to **expected** impact from activities (20): very low – very high  
**Each individual activity to each component of the environment**  
 Criteria: extent of expected change, value/impact index, adaptive capacity



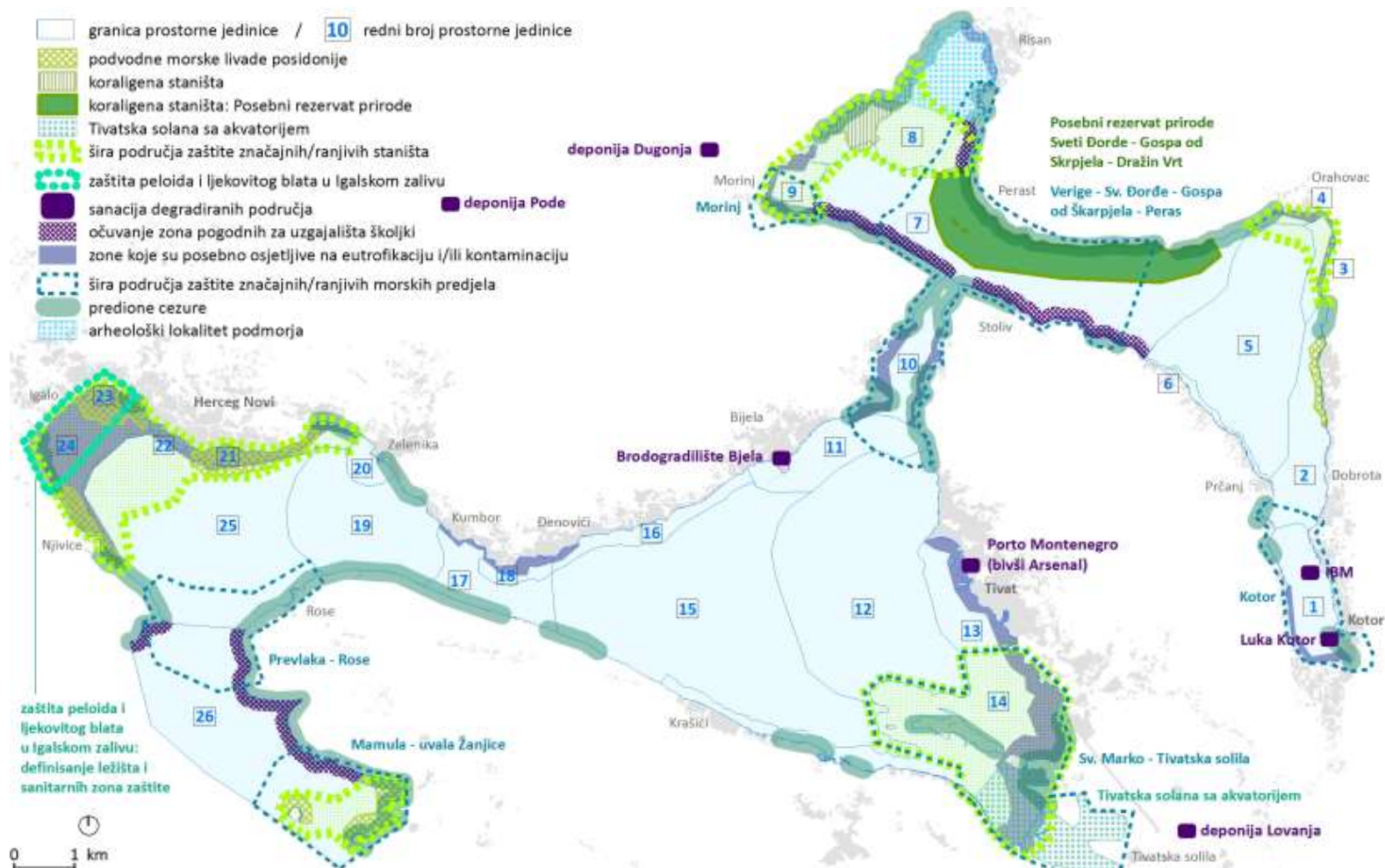
# 03 ASSESSING VULNERABILITY HABITATS



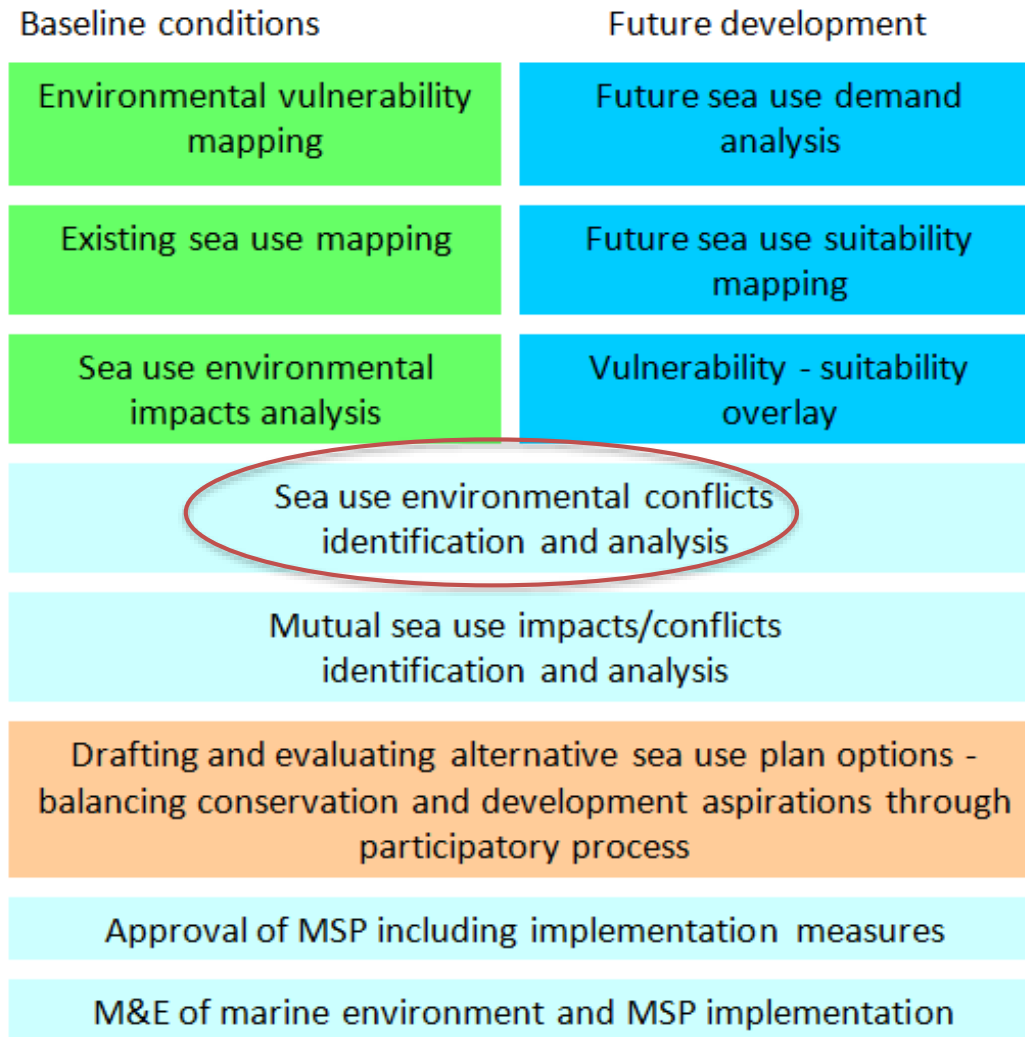
# 04 INTEGRATED VULNERABILITY



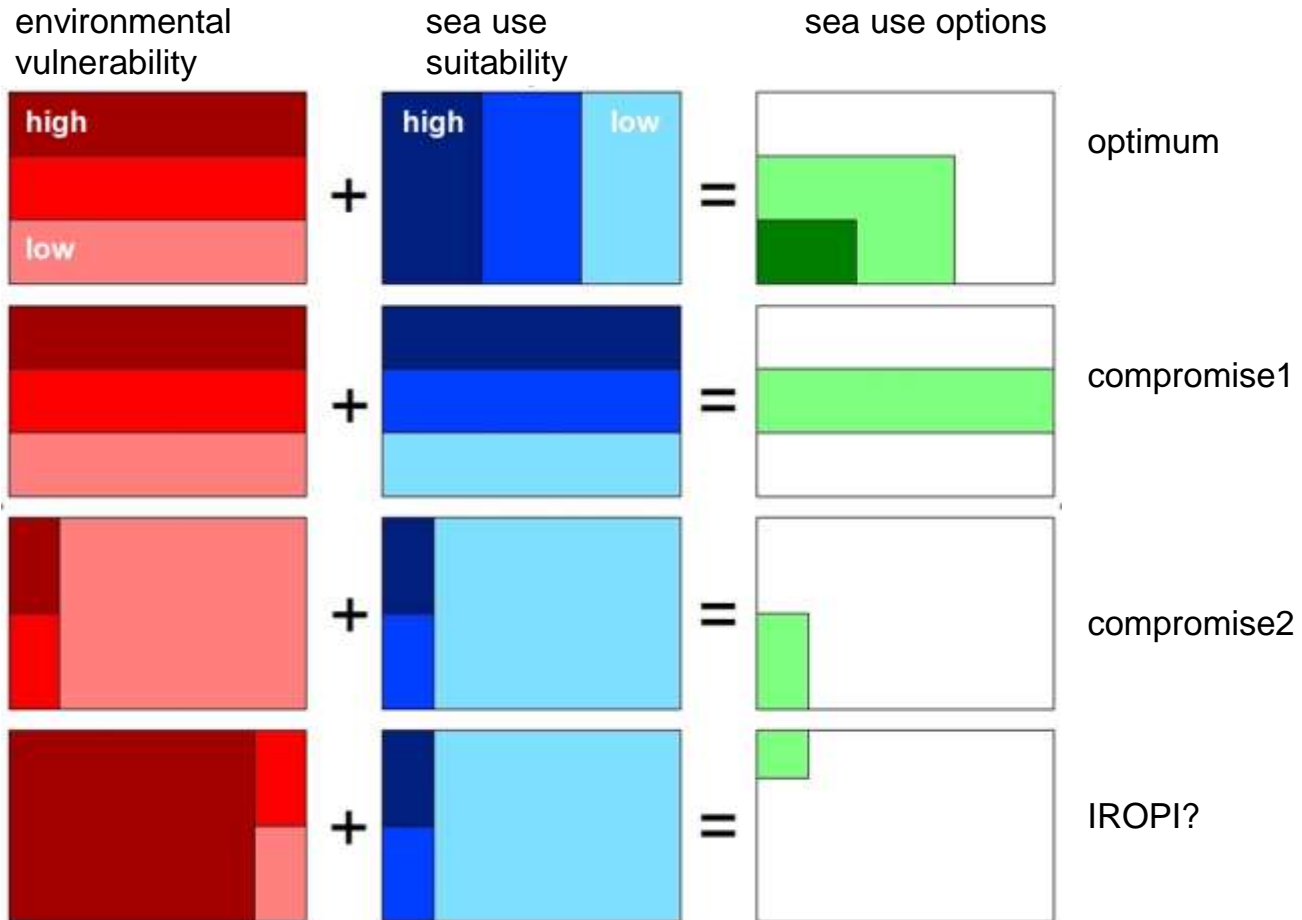
# PLANNING RECOMMENDATIONS ENVIRONMENTAL



# MSP PROCESS



# MSP PROCESS





# LIMITATIONS AND FUTURE

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- Not all indicators fully suitable/necessary for VA – review the list
- Complex
- Valuation based on expert opinion
  
- Further testing and upgrading the tool





## ***GEF funded: Adriatic project***

- **Albania & Montenegro**
- UNEP/MAP
- 2 years project; cca 2,000,000 Eur
- Approved
- MSP in Montenegro
- Cap.buil. For MSP in both countries



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# Thank you



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