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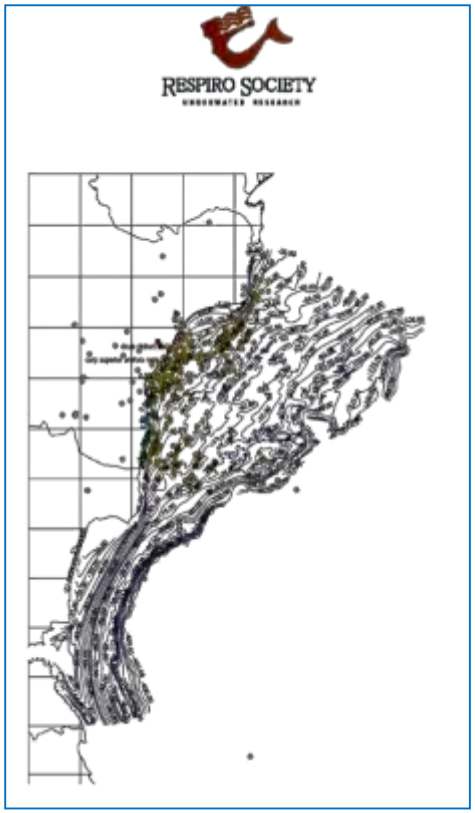
UNDERWATER CULTURAL HERITAGE (UCH)

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1Sub-activity 1.1.1



Map of the potential targets from the Romanian coast and shelf of the western Black Sea (Source: HERAS project)

Map produced by CCMS

- ✓ Protection of underwater cultural heritage might be an issue due to many existing and potential conflicts and synergies with other sea uses, including coastal and marine tourism.
- ✓ Within the HERAS Project (Romania-Bulgaria) an Underwater Heritage Tourism Management Plan was developed targeted to sustainable development of the border areas.

Knowledge gaps

- ✓ *The UCH in the cross-border area of Bulgaria and Romania still remains insufficiently explored and there is no map of the points, types and periods of underwater archaeological finds;*
- ✓ *- Lack of regulated zones for UCH sites exposure and monitoring, and information of the exact perimeter for underwater surveys;*
- ✓ *- Lack of information on identified zones for visiting UCH sites the exploitation of which will increase the tourist visits and pressure on the environment respectively.*

Wooden shipwreck
Photo source: HERAS project

Threats to UCH:
- events disturbing the seabed (e.g. earthquakes, storms, coastal erosion, etc.);
- physical threats (e.g. currents);
- biological threats (e.g. bacteria, fungi and wood-borers);
- chemical threats (e.g. corrosion);
- coastal and offshore infrastructure developments such as ports, coastal defence works, cables and pipelines, oil and gas platforms;
- other activities disturbing the seabed such as trawling, dredging or anchoring may also pose a threat to UCH.

MILITARY TRAININGS

- ✓ The EU MSP Directive (article 8) suggests that military training areas might be covered under the MSP planning process as one of the 14 sea uses listed in this article. However, enhancing national defence and security is not directly mentioned among the MSP objectives in article 5 of the Directive. Therefore, it is up to Member States to decide how to tackle national defence and security in maritime spatial plans (Source: www.msp-platform.eu).
- ✓ Zones of military trainings and warnings are publicly announced in Bulgaria and Romania before the trainings; however data on military trainings in maritime areas are not fully publicly available.

Knowledge gaps

✓ Spatial data on military trainings in maritime areas are not publicly available.

Conflicts:

- ✓ Conflicts between defence and other uses occur in all sea areas, including nearshore and offshore areas.
- ✓ An important driver of conflict is the secrecy that often surrounds military activities. Very often, the military cannot be explicit about its spatial needs.
- ✓ Coexistence is often possible with more fleeting uses that do not impede military activities in principle, such as tourism, fishing, or even shipping; in these cases, measures such as temporary closures can often be used.

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MARSPLAN-BS CASE STUDIES: GAPS OF KNOWLEDGE & LESSONS LEARNED

Case Study approach of the MARSPLAN-BS Project included five case studies on major challenges for three specific areas and for two specific domains. The case study approach was based on problem and contextual specificities, such as land-sea interactions for Burgas, coastal erosion for Eforie, stakeholder involvement in Sfante Gheorge, elaboration of a new ship routing system for Bulgaria and Romania, fishery and aquaculture issues:

- ✓ **Eforie area Case Study**
- ✓ **Sfantu Gheorghe Case Study**
- ✓ **Burgas Case Study: Land-Sea Interactions**
- ✓ **Elaboration of detailed study on the establishment of a new ship routing system in territorial seas Republic of Bulgaria**
- ✓ **Aquaculture and fisheries Case Study**

All case studies had a positive impact on the protection of the environment and maritime uses (identifying conflicts and synergies), key issues selection and adaptation of potential MSP solutions.

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EFORIE AREA CASE STUDY

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1, Sub-activity 1.1.1

ACHIEVEMENTS

The Eforie study discussed the influence of coastal erosion on the terrestrial and marine domain.

- ✓ Mapping of marine bio-geo-physical features and associated human activity
- ✓ Quantification of coastal and marine features, human activities, pressures and threats
- ✓ Identification of zonal conflicts, concentration of uses, priority conservation areas
- ✓ Stakeholder methods and also Functional - Spatial Zoning analyses have been some of methods applied.
- ✓ The study proved the existence of a significant pressures from the coastal erosion, and need for a proper beach/cliffs management.
- ✓ The influence of the coastal erosions on the socio-economic activities, is reflected in associated interactions, conflicts and controls between stakeholder's various activities in study area.

Shoreline changes in the last 10 years (Maps produced by NIMRD)

RECCOMENDATIONS

- The area remains under the risk of coastal erosion and the initiatives to identify ways and possibilities for coast consolidation need to be continued.
- Future coast-protection measures should consider mitigation of impact of existing hard and soft coastal protection, as sand nourishment and preservation of ecosystem and biodiversity.
- Coastal protection is highly cost consuming, planners and engineers should consider reshaping/naturalization and natural landscape promotion.

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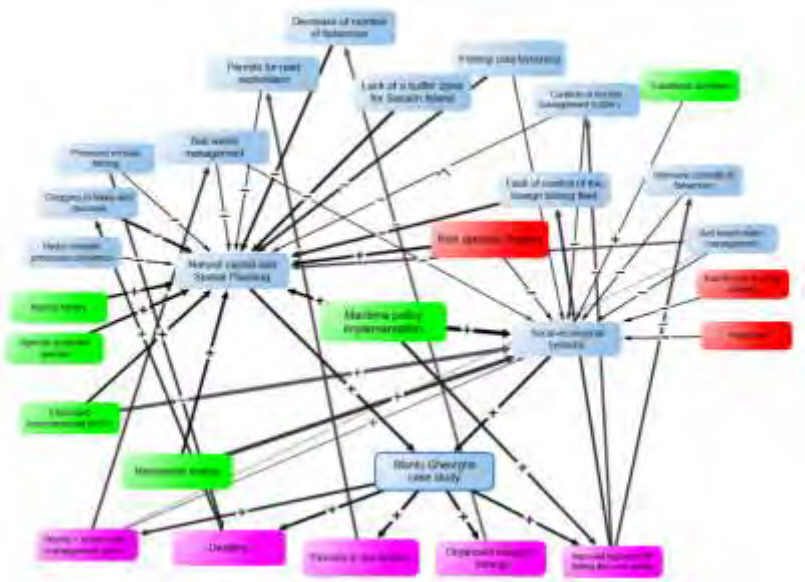
SFANTU GHEORGHE CASE STUDY

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1, Sub-activity 1.1.1

ACHIEVEMENTS

Sketch Match methodology for MSP implementation that frames:

- ✓ Reliable information on coastal area management, awareness of local community and stakeholders.
- ✓ Integration in Danube Delta Biosphere Reserve Management Plan, local regulations and National legislation.
- ✓ Practical solutions, lessons learned on how to implement solutions identified for Sfantu Gheorghe study area.
- ✓ Collaboration between institutions present at the session after the project end; institutional collaboration for maritime area clarifications.
- ✓ Involvement of local community in the study area.
- ✓ Scenarios and solutions for MSP.



Sfantu Gheorghe case study system analysis

Integrated Sketch for the natural capital and spatial planning group

IMPACT

The Sketch Match planning methodology proved to be a success for Sfantu Gheorghe Case Study, assuring a good cooperation process with different stakeholders and experts, raising awareness among stakeholders related to a sustainable use of their coastal and marine area.

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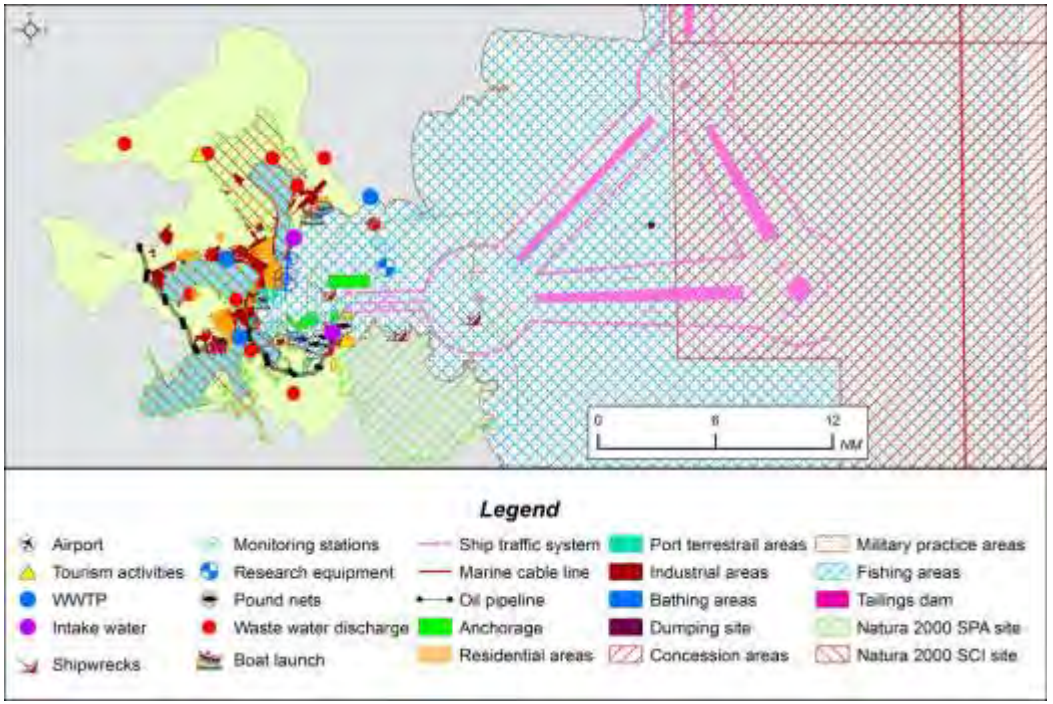
BURGAS CASE STUDY: LAND-SEA INTERACTIONS

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1, Sub-activity 1.1.1

ACHIEVEMENTS

- ✓ Interactions between land and sea based economic activities and spatial uses, and the environment were identified and analyzed.
- ✓ Conflict/synergy matrix of Land-Sea Interactions was developed.
- ✓ Impact of land infrastructure on wetlands and maritime space was identified and evaluated.
- ✓ Main conflicts of use and of environment in the maritime pilot area were identified and analyzed.
- ✓ Key stakeholders were identified and involved at the early stage of the study elaboration.
- ✓ Recommendations and solutions for identified case area issues were developed.



Map of current land/ sea uses and natural values

IMPACT

- ✓ **Positive impact on environment (both coastal zone and maritime space).**
- ✓ **Positive impact from identified conflicts and synergies of LSI (human uses and environment) and avoiding future conflicts.**
- ✓ **Impact on project level results and developed MSP policy recommendations.**

RECCOMENDATIONS

- ✓ **A dedicated maritime spatial planning is needed to reflect all complex LSI.**
- ✓ **Addressing properly LSI should also include a relationship with the terrestrial spatial plans.**
- ✓ **As coastal and marine research for LSI is time and costs consuming, relevant research and monitoring should be provided.**
- ✓ **Ways must be found to involve actively the key stakeholders, and much more cooperation is needed amongst them.**

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BURGAS CASE STUDY: LAND-SEA INTERACTIONS

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1Sub-activity 1.1.1

Land-Sea Interaction matrix for Burgas study area

Coastal land uses	Sea spatial uses: Bathing waters	Coastal fishing	Open sea fishing	Pound nets	Underwater cables	Shipping routes and navigation	Dumping sites	Dredging	Anchorage sites	Yachting tourism	Water sports (windsurfing etc.)	Engine water sports	Diving	Underwater cultural heritage	Military practice areas	Intake waters	Waste water discharges	Bottom trawling	Protected areas	Concession areas	Research monitoring stations	Research hydrographic equipment
Beaches and dunes																						
Tourism activities																						
Residential areas																						
Industrial areas																						
Port terrestrial areas																						
Waste water discharges																						
Roads and railways																						
Electrical grid																						
Airport																						
Natural gas pipelines																						
Oil pipelines																						
Tailings dams																						

Coding of boxes:
- Green - interaction with synergy
- Yellow – interaction with weak conflict
- Red – interaction with conflict
- Empty – no interactions

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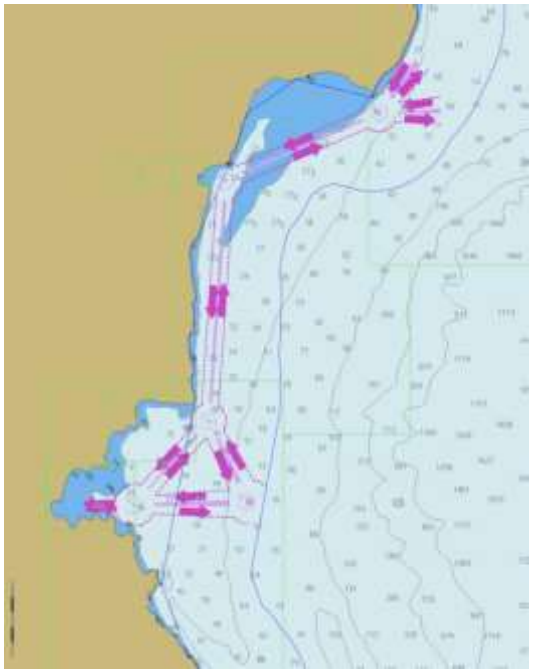
SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1, Sub-activity 1.1.1

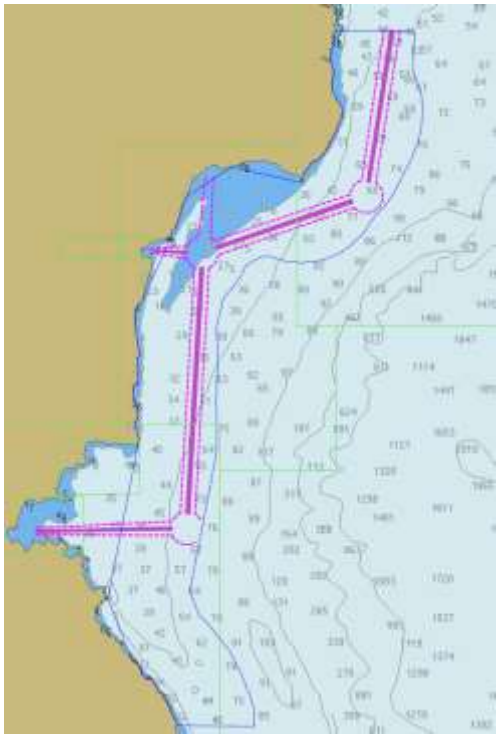
Elaboration of detailed study on the establishment of a new ship routing system in territorial seas of the Republic of Bulgaria

ACHIEVEMENTS

- On the basis of detailed analysis of the existing vessel traffic system, a new traffic separation system (TSS) was proposed.
- A comparative analysis between existing and proposed TSS was done.



Existing TSS in the Republic of Bulgaria



Proposed TSS for Republic of Bulgaria

IMPACT

The new vessel traffic system will significantly contribute to the enhancing of the safety of navigation due to division of cabotage shipping from classic maritime transport.

RECCOMENDATIONS

- ✓ Enactment of a new system by the Bulgarian government was recommended.
- ✓ The new maritime traffic system will be confronted with the polygons and areas, used for military training and exercise. Its introduction will require new zoning of military polygons and areas.

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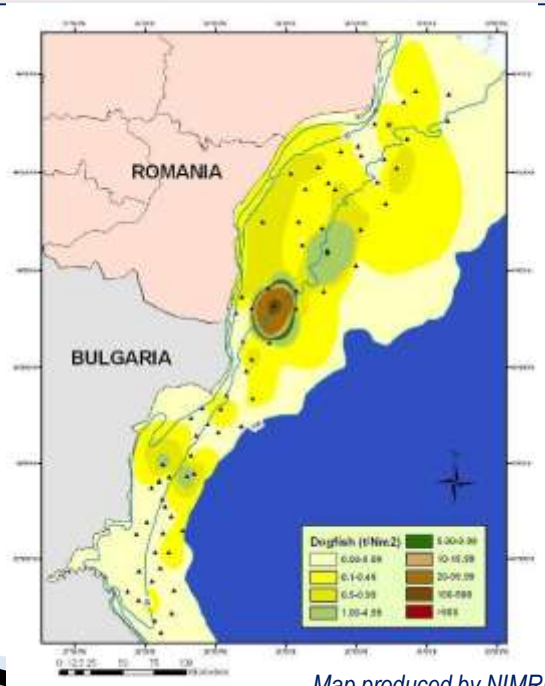
AQUACULTURE AND FISHERIES CASE STUDY

SYNTHESIS REPORT ON MARITIME USES
WP1, Activity 1.1, Sub-activity 1.1.1

ACHIEVEMENTS

Most significant threats are:

- ✓ Overfishing: the drastic drop of total landings during the past 5 years by over 40% may be a result of significant changes in the structure and functionality of the marine ecosystem, but to a similar extent, as result of an extremely high rate of fishing effort.
- ✓ Illegal and unregulated fisheries (IUU): It is a general issue in all Black Sea countries. A Roadmap for reducing IUU fisheries was elaborated.
- ✓ Despite benefits by marine aquaculture, the sector remains low undeveloped in the Black Sea (more developed in Bulgaria).
- ✓ Development of marine aquaculture can represent an important additional way to cover the increasing demand of fish market.
- ✓ Fisheries statistics, fish stock assessment and monitoring activities are fragmented and irregular at national level.



Map produced by NIMRD

RECCOMENDATIONS

- ✓ Undertake concerted actions to combat illegal fishing and to establish regional consultation mechanism between the Black Sea coastal states.
- ✓ Harmonize methodologies for assessments and establish well defined objectives for fishery sector.
- ✓ Elaborate criteria for selection and designating fishing free zones on the national and regional levels.
- ✓ Deepen cooperation among all stakeholders in fishery sector, including industry, experts, policy-makers.
- ✓ Conduct detailed, coordinated research for fishery management and possible impact of fishing methods (e.g. trawling on the seabed).

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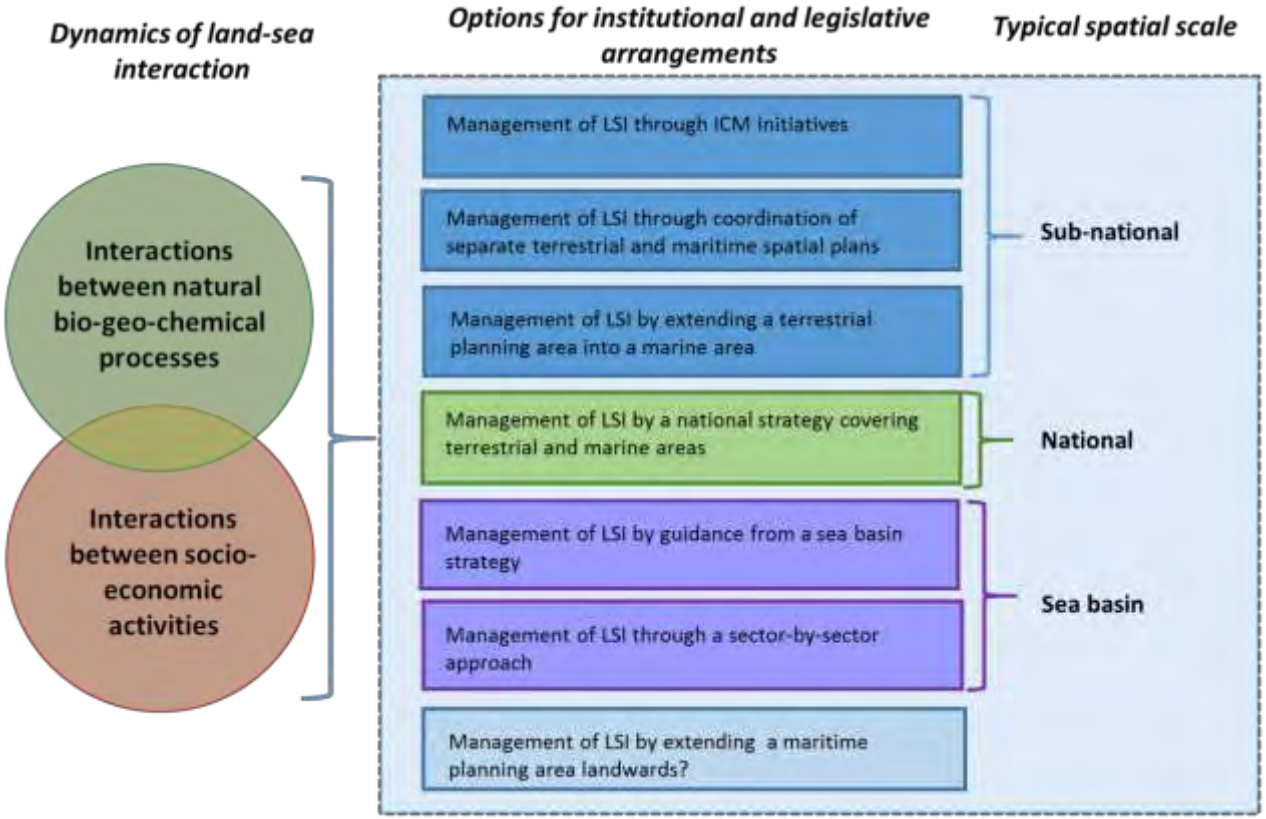
Integration of Land-Sea Interactions (LSI) in MSP for the Cross- Border Region (WP2, ACTIVITY 2.3)

- ✓ LSI is a complex phenomenon, involving both natural processes across the land-sea interface and the impact of human activities in this zone.
- ✓ To promote sustainable use of marine space, the LSI should be taken into account when preparing the maritime spatial plans as required by the MSP Directive.



Source: www.msp-platform.eu

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Integration of Land-Sea Interactions (LSI) in MSP for the Cross- Border Region (WP2, ACTIVITY 2.3)

Develop a methodology for analysis and integration of LSI in the MSP of the cross-border region – a guidance for further repetition models applicable to national MSPs of Bulgaria and Romania:

- a) Review on the EU/national legislation and institutional frameworks/practices in relation to LSI;
- b) Develop knowledge and methods for analysis of LSI in the cross-border region;
- c) Identify interactions, conflicts and compatibility between users, sectors and interests, both land-sea and sea-land, and provide practical solutions to identified issues and conflicts (in particular for coastal erosion);
- d) Identify important issues in integrating LSI into cross-border MSP with relation to available data, methods, plans and processes;
- e) Clarify the most important barriers to integrate the LSI and ways to overcome them;
- f) Best practices and recommendations for further work on integrating LSI into cross-border MSP.

The cross-border area faces significant current challenges such as one of the highest rates of coastal erosion, pollutions from the land based-activities, etc.

Erosion loess coast, Shabla Municipality
Photos credits: CCMS

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ADDRESSING MU CONCEPT WITH MSP IN THE CROSS-BORDER REGION
WP2, ACTIVITY 2.4

- **Multi-Use (MU)** means a joint use of resources in close geographic proximity. This can involve either a single user or multiple users (Angela Schultz-Zehden et al., 2018. Ocean Multi-Use Action Plan, MUSES project. Edinburgh).
- The Action Plan of the Horizon 2020 MUSES project was published in 2019.
- The MSP Directive is still the only one document to support MU and MSP provides the needed policy to overcome barriers for MU development

- For the Black Sea the MU concept is still novel and it must be supported by the commencing MSP.
- It is a ”win-win” situation as the MSP supports the MU implementation and the MU can ease the implementation of MSP.


Photo credits: CCMS

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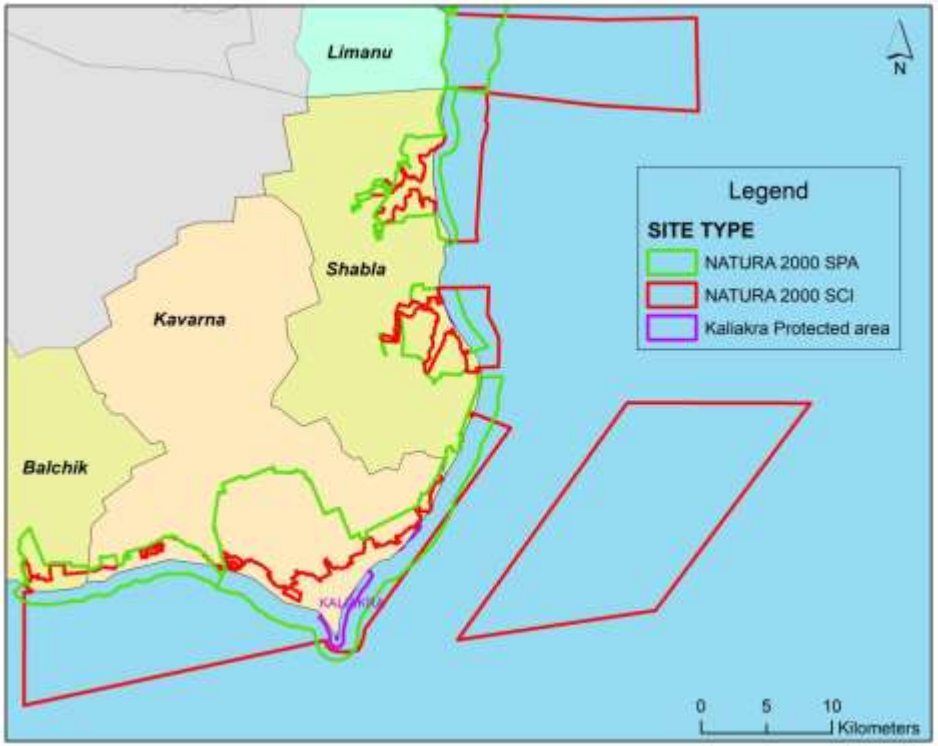
ADDRESSING MU CONCEPT WITH MSP IN THE CROSS-BORDER REGION WP2, ACTIVITY 2.4

- ✓ MUSES project findings: environment and tourism are the key drivers for MU combinations in the Black Sea.
- ✓ Adressing the MU concept with MSP in the cross-border area of Bulgaria and Romania following the MUSES Action Plan.
- ✓ MU Case Study of Tourism, Underwater Cultural Heritage (UCH) and Environmental Protection in cross-border area (Kaliakra Nature and Archaeological Reserve and Vama-Veche - 2 May Marine Reserve).



Map produced by CCMS


Photo credits: CCMS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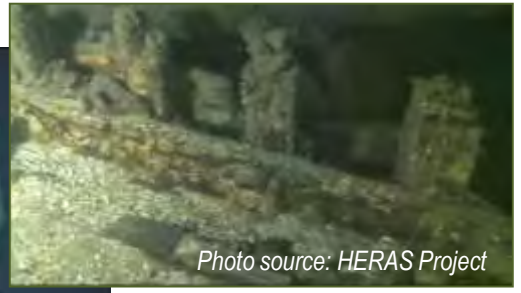
Photo source: HERAS Project

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STAKEHOLDER PARTICIPATION IS CRUCIAL FOR LSI and MU

- ✓ Promoting stakeholder participation and cooperation in the cross-border region for identifying the main coastal and maritime activities, sector interests and for support to practical solutions on the selected key issues (LSI and MU).
- ✓ Developing a stakeholder map for the cross-border region.
- ✓ Key stakeholders will be identified and involved at the early stage of the LSI and MU case study elaboration.
- ✓ Stakeholders will be one of the major source of information for drivers, added values, barriers and negative impacts (DABI) factors of MUSES methodology in MU Case study (mostly interviews and questioning, as well as during the joint stakeholder meetings).

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THANK YOU FOR YOUR ATTENTION

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