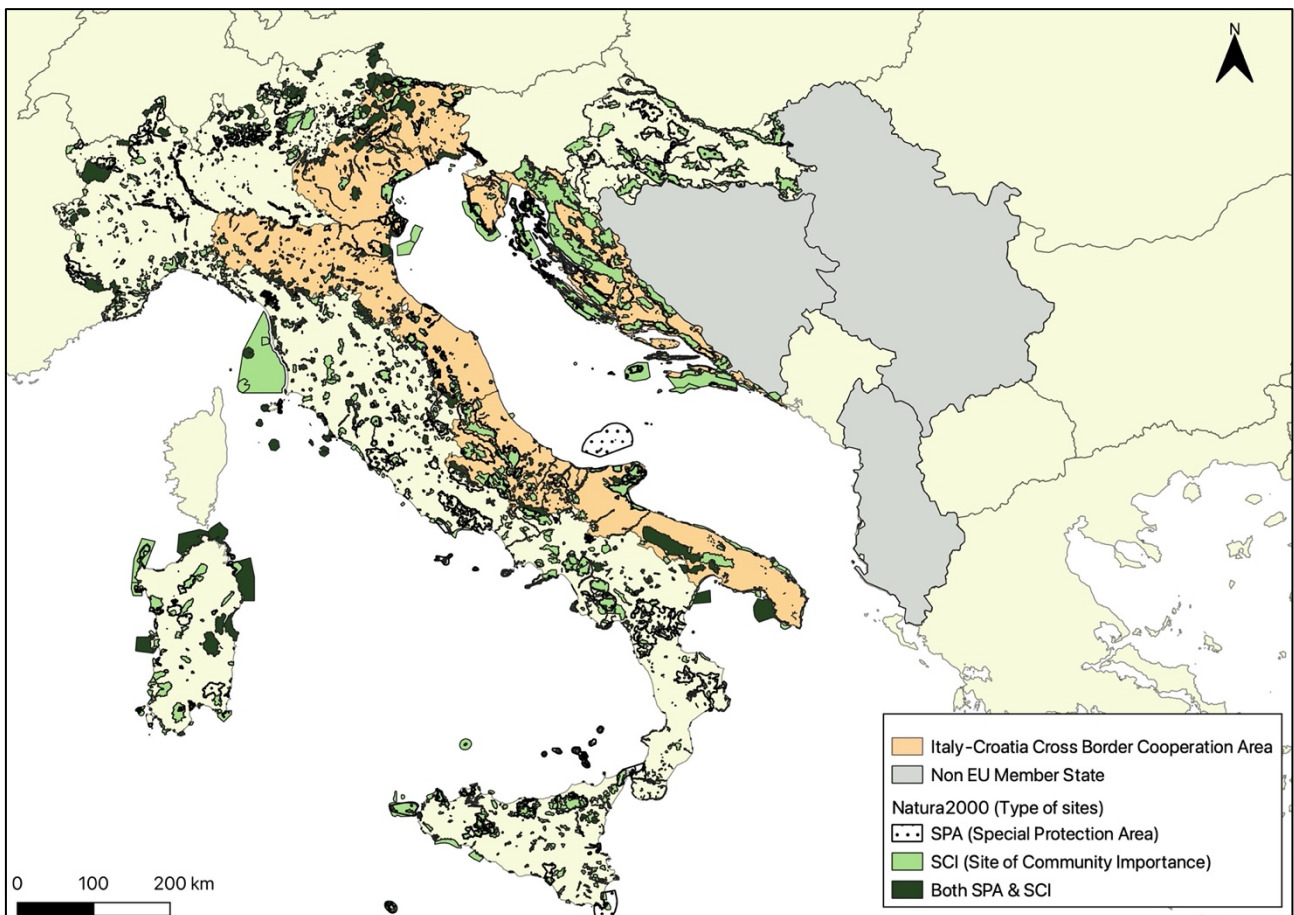


VII.3 ELEMENTS FOR THE APPROPRIATE ANALYSIS

According to Annex I(d) of the SEA Directive, the assessment should consider 'any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 147/2009/CE and 92/43/EEC'.

In the environmental report, there is a full description of the cooperation area's environmental resources, highlighting interactions between the environment and the Programme. Section 3.3 also describes natural resources protected by the Natura 2000 network. An overview of the Natura 2000 Network is presented in Figure 27.

Figure 1: Overview of the Natura 2000 Network in the CBC area year 2020 (Source: European Environment Agency. Elaboration: t33)



According to national legislation in the Member States involved in the Programme (such as Italian National Law 152/2006), this section underlines the absence of significant effects the Programme could have on Natura 2000 sites and on habitats and species protected under the Birds Directive and the Habitats Directive.

At this stage of programming, an in-depth assessment is not possible as the Programme covers a broad area and the localisation of its actions is not yet certain as this will be completed after financing

of the projects. However, the Programme could present some interactions with Natura 2000 areas, in particular protected habitats.

As a consequence, the analysis has been carried out according to the national guidelines for impact assessment (VInCA)¹:

1. Analysis of threats and pressures:
 - analysis of priority habitat in the cooperation area;
 - identification of the main threats, pressure and activities which can impact Natura 2000 network sites in the cooperation area;
 - check 'elements of influence' for the Continental and Mediterranean Regions;
 - analysis of species in the cooperation area that need more attention and identification of the main threats;
2. identification of Programme elements that could interact with Natura 2000 Network;
3. analysis of the interaction between habitat aggregations and animal groups and Programme SOs;
4. analysis of possible habitat deterioration and disturbance of species.

Analysis of threats and pressures

As a first step, we identified the protected habitat in the CBC area that could be considered more critical. In the seven Italian regions involved in the CP, there are 29 habitats of interest listed in Directive 93/42/CE². A priority is habitat types in danger of disappearance in the territory and the Community has particular responsibility for their conservation in view of their natural range which is within the territory. In the CBC area there are nine types of priority habitats.

Table 1: Priority habitat types in the CBC territory of Croatia and the seven Italian Regions in the Programme

Priority habitat types (Annex II habitat directive)	Friuli Venezia Giulia	Veneto	Emilia Romagna	Marche	Abruzzo	Molise	Puglia	Croatia
COASTAL AND HALOPHYTIC HABITATS								
11: Open sea and tidal areas								
1120*: Posidonia beds (Posidonion oceanicae)	x	.	.	.	.	.	x	x
1150*: Coastal lagoons	x	x	x	x	.	.	x	x
13 Atlantic and continental salt marshes and salt meadows								
1340*: Inland salt meadows	.	.	x	.	.	.	.	x
15: Salt and gypsum inland steppes								
1510*: Mediterranean salt steppes (Limonietalia)	.	.	.	.	x	x	x	x
COASTAL SAND DUNES AND INLAND DUNES								
21: Sea dunes of the Atlantic, North Sea and Baltic coasts								
2130*: Fixed coastal dunes with herbaceous vegetation ('grey dunes')	x	x	x	.	.	.	.	.
22: Sea dunes of the Mediterranean coast								

¹ Understanding, pursuant to article 8 (6), of Law 131, between the Government, the Regions and the Autonomous Provinces of Trento and Bolzano on the National Guidelines for the assessment of impact (VInCA) - Directive 92/43 / EEC 'HABITAT' article 6, paragraphs 3 and 4 (Rep. Acts 195 / CSR). (19A07968) (GU General Series n.303 of 28 December 2019).

² Manuale Italiano di interpretazione degli habitat della Direttiva 92/43/CEE (<http://vnr.unipg.it/habitat/index.jsp>).

2250*: Coastal dunes with <i>Juniperus</i> spp.	x	x	x	.	.	x	x	.
2270*: Wooded dunes with <i>Pinus pinea</i> and/or <i>Pinus pinaster</i>	x	x	x	x	x	x	x	.
FRESHWATER HABITATS								
31: Standing water								
3170*: Mediterranean temporary ponds	.	.	x	.	x	x	x	x
TEMPERATE HEATH AND SCRUB								
40: Temperate heath and scrub								
4070*: Bushes with <i>Pinus mugo</i> and <i>Rhododendron hirsutum</i> (<i>Mugo-Rhododendretum hirsuti</i>)	x	x	.	.	x	.	.	x
SCLEROPHYLLOUS SCRUB (MATORRAL)								
52: Mediterranean arborescent matorral								
5230*: Arborescent matorral with <i>Laurus nobilis</i>	.	.	.	x	x	.	x	.
NATURAL AND SEMI-NATURAL GRASSLAND FORMATIONS								
61: Natural grasslands								
6110*: Rupicolous calcareous or basophilic grasslands of the <i>Alyso-Sedionalbi</i>	x	x	x	x	x	x	.	x
62: Semi-natural dry grasslands and scrubland facies								
6210(*): Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)	.	x	x	x	x	x	x	x
6220*: Pseudo-steppe with grasses and annuals of the <i>Thero-Brachypodietea</i>	.	.	x	x	x	x	x	x
6230*: Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	x	x	x	x	x	.	.	x
RAISED BOGS AND MIRES AND FENS								
71: Sphagnum acid bogs								
7110*: Active raised bogs	x	x	x	.	.	.	.	.
72: Calcareous fens								
7210*: Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	x	x	x	x	x	.	x	x
7220*: Petrifying springs with tufa formation (<i>Cratoneurion</i>)	x	x	x	x	x	.	.	.
7240*: Alpine pioneer formations of the <i>Caricion bicoloris-atrofuscae</i>	.	x	.	.	.	.	.	.
ROCKY HABITATS AND CAVES								
8240*: Limestone pavements	x	x	x	.	x	.	.	.
FORESTS								
91: Forests of Temperate Europe								
9180*: <i>Tilio-Acerion</i> forests of slopes, screes and ravines	x	x	x	x	x	x	x	x
91AA*: Eastern white oak woods	.	x	x	x	x	x	x	.
91D0*: Bog woodland	P	x	.	.	.	.	.	.
91E0* : Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>AlnoPadion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	x	x	x	x	x	x	.	.
91H0*: Pannonian woods with <i>Quercus pubescens</i>	.	x	.	.	.	.	.	.
92: Mediterranean deciduous forests								

9210*: Apennine beech forests with Taxus and Ilex	.	.	x	x	x	x	x	.
9220*: Apennine beech forests with Abies alba and beech forests with Abiesnebrodensis	.	.	x	x	x	x	x	.
94: Temperate mountainous coniferous forest								
9430(*):Subalpine and montane Pinus uncinata forests (* if on gypsum orlimestone)	.	.	x	.	.	.	.	.
95: Mediterranean and Macaronesian mountainous coniferous forests								
9510*: Southern Apennine Abies alba forests	.	.	.	.	x	x	.	.
9530*: (Sub-) Mediterranean pine forests with endemic black pines	x	x	.	.	x	.	.	x
Total priority habitats	15 (+ 1)	19	20	14	19	13	14	13

Legend: 'x' habitats present; 'P' habitats probably present.

According to information supplied for Decision 2011/484/EU of the Commission, the main threats, pressure and activities which impact on the nine habitat types in the CBC region are³:

- Anthropic disturbance;
- Ecosystem modification;
- Urbanisation;
- Agriculture;
- Mining;
- Renewable energy.

In addition to these threats, literature⁴ details major influences on biodiversity for both Continental and Mediterranean Regions. The results are presented in Table 27, which also details the relevance of the element for the CBC area according to the following scale:

- Priority for the whole area: the context or coherence analysis have signalled the issues as relevant or critical for the whole CBC area;
- Priority for hotspots: even if previous analysis has not identified a broad criticality for the issues, there are hotspots in the CBC area where the influence is relevant;
- Not critical: influence is not a priority for the CBC area.

Table 2: Elements of influence for Continental and Mediterranean Regions

Element	Continental Region	Mediterranean Region	Existence for the CBC area
Main influences			
Climate change	X	X	Priority for the whole area
Urbanisation and tourism		X	Priority for hotspots
Economic use of species	X	X	Not critical

³ Genovesi P., Angelini P., Bianchi E., Duprè E., Ercole S., Giacanelli V., Ronchi F., Stoch F., (2014). Specie e habitat di interesse comunitario in Italia: distribuzione, stato di conservazione e trend. ISPRA, Serie Rapporti, 194/2014

⁴ Condé, Sophie, et al. (2002). The Continental biogeographical region. European Environment Agency, Copenhagen

Agriculture, including vineyards	X		Priority for hotspots
Agriculture, with irrigation, grazing and abandonment		X	Priority for hotspots
Forestry	X		Priority for hotspots
Freshwater fishing	X		Not critical
Hunting	X	X	Priority for hotspots
Other important influences			
Infrastructure	X		Priority for hotspots
Intensive use of river	X		Not critical
Contaminants	X	X	Priority for hotspots
Alien Species	X	X	Priority for hotspots
Deforestation, afforestation, forest fire		X	Priority for hotspots
Exploitation of wetlands		X	Not critical

Climate change, as previously underlined, is a key element for the cooperation area, especially in terms of adaptation to its effects. The CP invests resources to contrast climate change effects. Land uses (urbanisation, infrastructure, agriculture, forestry) are distributed differently in the various CBC regions, so they are relevant only for hotspots. Tourism is currently not relevant in the same way for the entire CBC area however the CP includes tourism promotion actions. The same is for the intensive use of rivers (for example in the Po basin), contaminants (see Section **Errore. L'origine riferimento non è stata trovata.** relative to the marine environment) and other elements. The economic use of species, exploitation of wetlands and freshwater fishing do not seem as relevant for the area.

For the analysis of possible interference between the CP and protected fauna, we first identified the most vulnerable species in the CBC area. Between the species listed in the habitat directive and the birds directive, some are also in the IUCN red list (<http://www.iucnredlist.org/>) that assesses the conservation status of species and identifies the main threats. Species are also protected by legal instruments, such as international conventions. The international conventions and IUCN red lists for species are reported in annex 5. From the conservation status in the table in annex 5, even if 56% of the species are in the least concern (LC) IUCN category, and only 17% vulnerable (VU), the majority of the species (65%) shows an alarming decline in population, while only 9% are increasing and for 12% of the trend is unknown.

Programme elements that could interact with Natura 2000 Network

As described in section I, actions under the CBC Programme are mainly 'soft'. The following table summarises for each SO, actions and their characteristics (tangible or intangible). Potential negative interactions are in orange, while positive or neutral are in green.

Table 3: Programme interaction with Natura2000 network

Specific Objective	Characteristic*	Type of actions
1.1 - Developing and enhancing research and innovation capacities and the uptake of advanced technologies	I	Networking and knowledge transfer
1.4 - Developing skills for smart specialisation, industrial transition and entrepreneurship	I	Intangible (marked clustering, digitalisation); Networking and knowledge transfer, training
2.4 – Promoting climate change adaptation and disaster risk prevention and resilience, taking into account eco-system based approaches	I/T	Monitoring, networking and knowledge transfer; Planning with early warning and decision-making support systems, financing small scale infrastructure to face natural disasters and other hazards
2.7 – Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas and reducing all forms of pollution	I/T	Improving monitoring systems, awareness raising and reduction of environmental pollution, financing small scale infrastructure for biodiversity protection and habitats and coastal landscape preservation
3.2 – Developing and enhancing sustainable, climate resilient, intelligent and intermodal national, regional and local mobility, including improved access to TEN-T and cross-border mobility	I/T	Mainly action on sustainable ports and sustainable transport. Tangible actions possible as pilot action are local
4.6 – Enhancing the role of culture and sustainable tourism in economic development, social inclusion and social innovation	I/T	Mainly intangible. Transfer of knowledge, exchanges of experience. Tangible actions for sustainable tourism possible at local level

*Characteristic: T=Tangible; I=Intangible (with no expected material and energy flows)

Interaction between habitats, animal species and Programme SOs

A second step involved an analysis of the interaction between habitat aggregations and Programme SOs, with the results presented in Table 29.

Table 4: Programme interactions with habitats possibly involved in Natura 2000 networks

Habitat aggregation	Priority habitat types in the aggregation	Vulnerability/Threats	Programme interactions
COASTAL AND HALOPHYTIC HABITATS	1120*: Posidonia beds (Posidonion oceanicae) 1150*: Coastal lagoons 1340*: Inland salt meadows 1510*: Mediterranean salt steppes (Limonietalia)	Tourism, yachting, water pollution, water harvesting	SO1.1, SO2.7, SO3.2, SO4.6
COASTAL SAND DUNES AND INLAND DUNES	2130*: Fixed coastal dunes with herbaceous vegetation ('grey dunes')	Tourism, beach replenishment, anthropic disturbance, urbanisation	SO2.7, SO3.2, SO4.6

	2250*: Coastal dunes with <i>Juniperus</i> spp. 2270*: Wooded dunes with <i>Pinus pinea</i> and/or <i>Pinus pinaster</i>		
FRESHWATER HABITATS	3170*: Mediterranean temporary ponds	Water harvesting, nitrate pollution, intervention on riverbeds, dams	SO1.1, SO2.7
TEMPERATE HEATH AND SCRUB	4070*: Bushes with <i>Pinus mugo</i> and <i>Rhododendron hirsutum</i> (<i>Mugo-Rhododendretum hirsuti</i>)	Only edaphic- climatic factors	SO2.4
SCLEROPHYLLOUS SCRUB (MATORRAL)	5230*: Arborescent matorral with <i>Laurus nobilis</i>	Lacking appropriate management	SO2.4
NATURAL AND SEMI-NATURAL GRASSLAND FORMATIONS	6110*: Rupicolous calcareous or basophilic grasslands of the <i>Alyso-Sedionalbi</i> 6210(*):Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) 6220*: Pseudo-steppe with grasses and annuals of the <i>Thero-Brachypodietea</i> 6230*: Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	Lacking traditional use, alien species	SO2.4, SO2.7
RAISED BOGS AND MIRES AND FENS	7110*: Active raised bogs 7210*: Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> 7220*: Petrifying springs with tufa formation (<i>Cratoneurion</i>) 7240*: Alpine pioneer formations of the <i>Caricion bicoloris-atrofuscae</i>	Water harvesting, nitrate pollution, climate change	SO1.1, SO2.4, SO2.7
ROCKY HABITATS AND CAVES	8240*: Limestone pavements	Low vulnerability. Possible threats from tourism in caves	SO4.6
FORESTS	9180*: <i>Tilio-Acerion</i> forests of slopes, screes and ravine 91AA*: Eastern white oak woods 91D0*: Bog woodland 91E0*: Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>AlnoPadion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) 91H0*: Pannonian woods with <i>Quercus pubescens</i> 9210*: Apeninne beech forests with <i>Taxus</i> and <i>Ilex</i> 9220*: Apennine beech forests with <i>Abies alba</i> and beech forests with <i>Abiesnebrodensis</i> 9430(*): Subalpine and montane <i>Pinus uncinata</i>	Different threats for the different forest habitat, mainly tourism, water harvesting, new roads construction	SO1.1, SO4.6

	forests (* if on gypsum or limestone) 9510*: Southern Apennine Abies alba forests 9530*: (Sub-) Mediterranean pine forests with endemic black pines		
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The factors that most threaten animal species in the CBC area are the loss or degradation of habitat, mainly due to human disturbance (as direct or induced impacts from inappropriate agricultural and forestry, urbanisation, tourism, etc.).

Threats for group	Possible interaction with CP
<p>Insects</p> <p>Insects are threatened by habitat loss (for example floating vegetation loss or deterioration in the riparian vegetation) and human disturbance (tourism, burying wetlands, farming and grazing and coastal urbanisation). To a lesser extent they are also threatened by pollution and invasive alien species.</p>	SO1.1, SO2.7, SO4.6, SO3.2
<p>Fishes</p> <p>Lampetra zanandreae (lone species pertaining to jawless fishes) are threatened by: habitat alteration (hydro morphological alterations caused by pipes, dams and work in the river bed), water withdrawal, water pollution, illegal fishing, competition and predation by introduced species.</p> <p>Cartilaginous fishes are definitely endangered by direct or incidental capture (from both industrial and artisanal fishing) and by the human disturbance (including tourism). To a lesser extent they are affected by loss of habitat and pollution.</p> <p>Bony fishes are threatened by many adversities often anthropogenic, with disturbance and loss of habitat (infrastructure that changes hydro morphology, barriers which fragment species distribution, deterioration of water quality, water catchments, etc.). They are also subject to direct, illegal or accidental exploitation and strongly threatened by invasive alien species (competition or genetic pollution).</p>	SO1.1, SO2.4, SO2.7, SO3.2
<p>Amphibia</p> <p>Amphibia are mainly threatened by habitat loss (e.g., due to water abstraction for agriculture, climate change, forestry practices not taking into account the species), human disturbance and man-made obstacles (e.g. barriers restricting movement); another important threat is mortality due to road traffic but also to intrinsic factors (such as low genetic variability, disease, isolation of populations). To a lesser extent they are also endangered by introduced species, illegal taking for collectors, pollution and natural disasters such as floods.</p>	SO1.1, SO2.4, SO2.7
<p>Birds</p> <p>Bird are endangered by deterioration and loss of nesting, feeding and overwintering habitats, generally due to human activities (mechanised agriculture in nesting areas, changes in agricultural practices, land use changes, forestry practices not taking into account the species, coastal urbanisation, coastal erosion, reduction of sites for nesting in urban areas). Other important threats are exploitation (even illegal or incidental), hunting, pollution by heavy metals and pesticides / herbicides, tourist-recreational activities, predation or competition with other species, and, in some cases, genetic pollution from species introduced for hunting.</p>	SO2.7, SO3.2, SO4.6
<p>Mammals</p> <p>Mammals are primarily threatened by habitat loss or fragmentation (for example less food availability or new infrastructure) and by human disturbance. Other serious threats are poaching and illegal killing, hybridisation and loss of genetic identity (e.g. Wolves), incidental mortality (e.g. road traffic, fishing, collisions with boats), chemical pollution of water (e.g. otters, dolphins) and acoustic pollution (e.g. whales), intrinsic factors (e.g. isolation of</p>	SO2.7, SO3.2, SO4.6

populations, disease, demographic and genetic problems), predation and competition with other species, natural disaster, tourism and forestry do not taking into account the species.	
Reptiles Threats for reptiles are habitat loss or fragmentation (due to agricultural activities, water catchment, infrastructure, etc.), mortality, also accidental (e.g. road traffic), exploitation for collection or commercialisation, tourism, some natural disasters (e.g. fire), forestry practices that do not take into account the species, pollution and competition or hybridisation with other species, also alien.	SO2.7, SO3.2, SO4.6
Corals Corals are subject to exploitation for commercial purposes and disturbed by illegal or legal fishing practices (such as trawling). Other threats are climate change, competition with alien species and water acidification.	SO1.1, SO2.7

The main characteristics of interactions are as follows:

- SO1.1, as well as SO1.4, aim to enhance the conditions for innovation in the CBC area by supporting cooperation between research and business players in the blue economy and the circular economy, potentially contributing to reducing impacts on coastal and halophytic habitats, by improving coastal water quality, and reducing pressures on marine resources.
- SO2.4 concerns adaptation to climate change through improved resilience. Even if the actions do not directly address biodiversity management, they could contribute to less climate change impact on natural resources, including habitats and species of European interest.
- SO2.7 is devoted to biodiversity protection. It does not contain actions for the physical management of habitat or species, but through monitoring, knowledge and prevention, it should have positive consequences on habitat and species conservation by reducing pollution and increasing water quality in critical areas. Thus, a contribution to habitat conservation is expected for coastal and halophytic habitats, coastal sand dunes, inland dunes and fresh water habitats.
- SO3.2 covers intermodal mobility. There may be negative impacts on habitat or species. The SO aims to improve connections in the CBC area also in terms of sustainability, by improving multimodality, developing the circular economy, as well as promoting the use of alternative fuel in shipping.
- SO4.6 aims to implement sustainable tourism. Even if the actions develop slow mobility and experiential tourism as an alternative to mass tourism, there could be negative effects from tourist flows on protected habitats.

Conclusion

An accurate estimate of the Programme incidence on the Natura 2000 network is not straightforward without precise information on action implementation and project locations. The IP has mainly soft actions that do not interact directly with habitats or species. However, indirect interference cannot be excluded. Increased tourism in areas protected under the Natura 2000 network could be a disturbance for species. Moreover, there may be interference on habitats from the efficiency and quality of maritime transport. Thus, mitigation measures are needed to avoid negative impacts and reduce the use of resources. For small-scale infrastructure and investment, even for SOs in favour of the environment, the interventions must comply with the management plans of the sites potentially affected (according to regulations). Actions on monitoring and knowledge of natural resources could contribute to habitat and species conservation. Promotion of

transport connections for ports and maritime transport services must avoid Natura 2000 sites or should be accompanied by an appropriate and preventive assessment at project level. In addition, introducing specific criteria for sustainable tourism could help to avoid disturbance to protected species. This will require not promoting tourism in protected habitats for example, with particular attention to coastal habitats or habitats with high endemism. In general, any physical interventions (including renewable energy facilities) and small-scale infrastructure in Natura 2000 sites must be avoided, when not in line with the site management plans.

Under these conditions, the Programme will not bring additional damage to habitats and species of Community interest for which conservation objectives have been set and Natura 2000 sites created.