



Krapanj - the lowest inhabited island in the Adriatic © Šibenik-Knin County

Coastal Plan for the Šibenik-Knin County:

A Road to Resilience



Together for the Mediterranean Sea



Šibenik-Knin County

The Šibenik-Knin County is situated in the central part of the Croatian Adriatic coast. Its coastal area is highly indented, with numerous islands, islets and rocks. There are two national parks, "Krka" and "Kornati", and "Kornati" is particularly valuable as the "densest" archipelago of the European Mediterranean.



Location of the Republic of Croatia
in the Mediterranean



Location of the County
in the Republic of Croatia



With nearly 250 islands and islets,
the County accounts for approximately 28%
of the Croatian nautical tourism revenues

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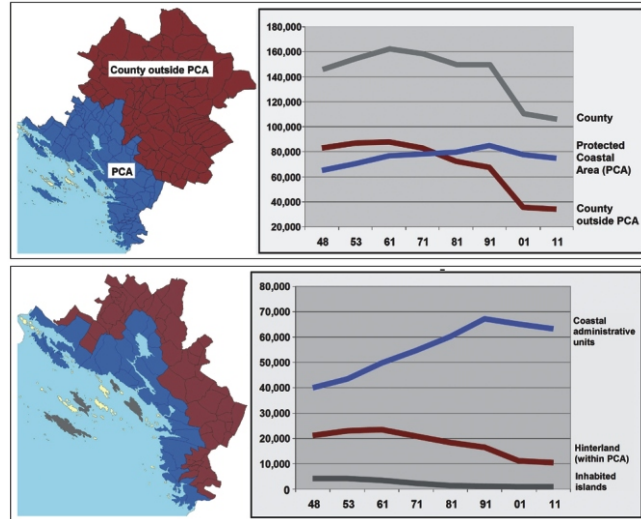
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Why a Coastal Plan?

Introduction

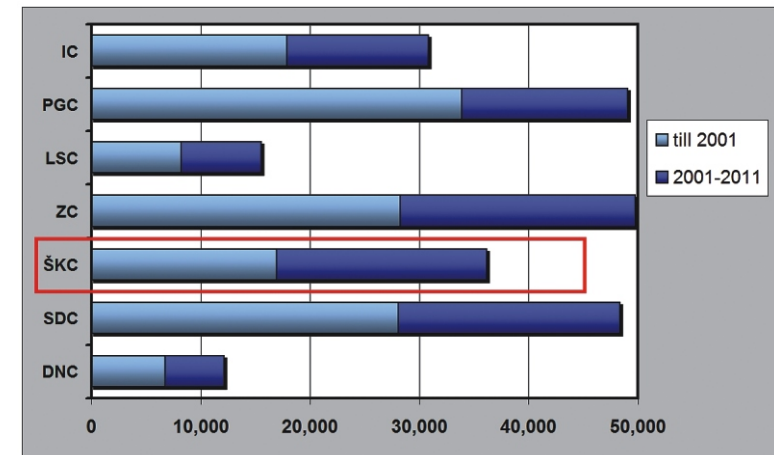
Over the past few decades, coastal urbanisation in the Šibenik-Knin County has resulted in pressures on space, water resources, and sustainable development in general. Growing urbanisation is typical of the Mediterranean countries where the coast attractiveness leads to increased construction for housing purposes, and particularly tourism. Housing, especially for tourism purposes, seeks to be as close to the sea as possible.

From the 1950s onwards there has been a constant drop in the number of the population living in the County's hinterland and the rise in the population of the coastal settlements, especially cities by the sea.



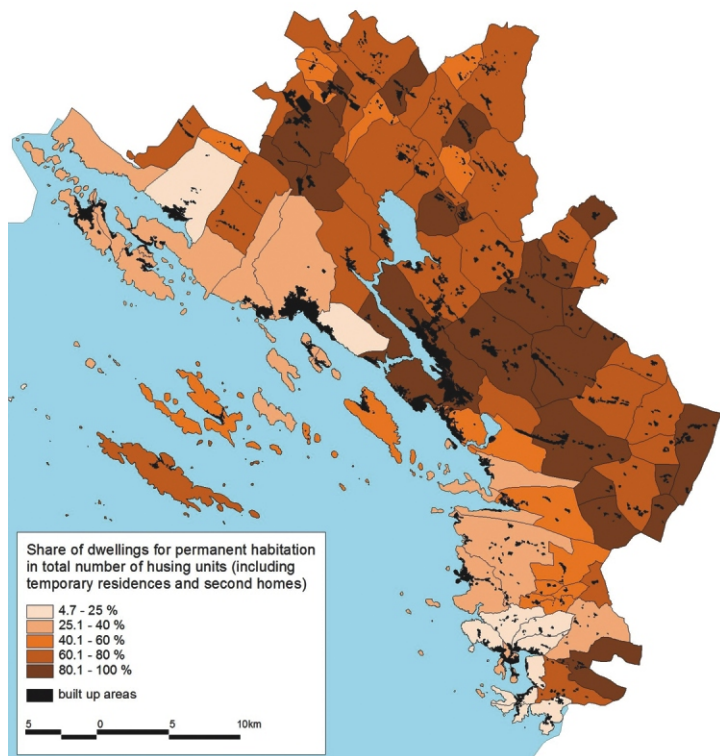
Population trends in the County and in the Protected Coastal Zone made up of coastal cities and municipalities) in the period 1948-2011

Extremely negative demographic trends have brought about a recent drop in population numbers in the entire County area. However, this has not resulted in reduced construction in the coastal settlements. In the 2001-2011 period all Croatian coastal counties show a significant increase in secondary housing. The Šibenik-Knin County had the highest relative rise.



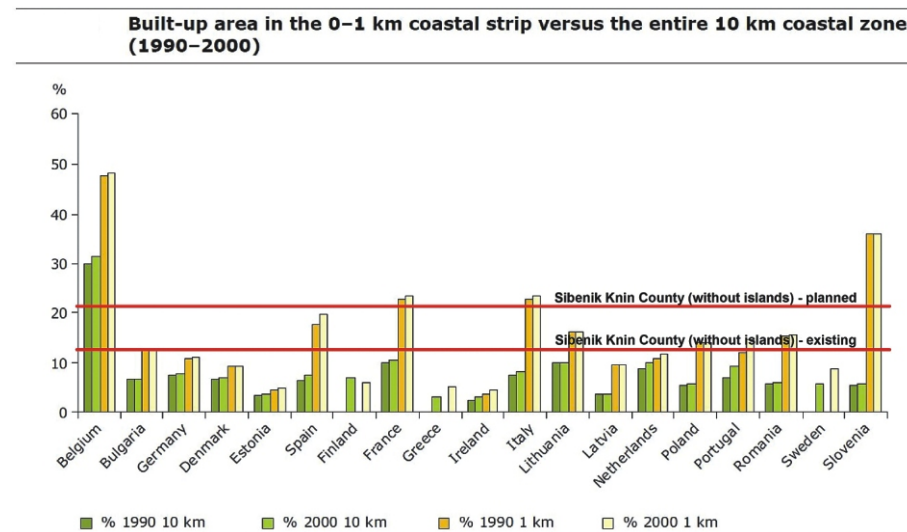
Secondary housing: in the Šibenik-Knin County the highest relative rise in the Republic of Croatia in the 2001-2011 period

Consequently, the coastal settlements experience a constant drop in the share of residential housing in the total housing number.



The share of residential housing per settlements in 2011

When the share of the built-up coast in the range of 1 km from the sea in the EU states is compared to the situation in the County, we can see that the planned construction within the first kilometre is on the level of existing construction of Spain, and close to the levels of France or Italy.



Built-up area in the 1st km from the sea line

If, for example, we compare the population density of our coast with the population density of the French coast, we can see that the County has 10 times less resident population.

CROATIA

Region	inhab./kn ²
Adriatic coast	57.15
Šibenik-Knin County's coast	36.65
Split-Dalmatia County's coast	100.18

FRANCE

Region	inhab./kn ²
French coast	285
French Mediterranean coast	366
Region Alpes-Côte d'Azur	729

Comparison of population density of the Croatian and French coastal regions

This problem has a new meaning seen in the context of climate variability and change, especially with regard to the strength and frequency of extreme weather events. Namely, long-shore construction is ever more exposed to the sea activity which is of great concern, especially regarding the sea-level rise due to climate change.

Dolac in Šibenik © Šibenik IN web portal



Viewed in the context of climate variability and change, another important issue for the future of this area is water resources and water infrastructure. This area, extremely rich in water during winter, becomes poor in water in summer. The need for water is greatest in summer, which is particularly caused by tourism. Climate change will bring an additional decrease in available supplies in summer. The existing conflicts in summer water usage, such as the one regarding the biological minimum needed for the river Krka, upstream from the famous Krka waterfalls in the National Park, will escalate in the future. On one hand, there will

be pressure on water sources exerted by the local population, tourists, agriculture, and especially hydro energy producers, and on the other the sheer survival of this natural phenomenon.



Krka Waterfalls
© Marko Prem

With the aim of alleviating such problems and building coastal resilience, the initiative was launched to prepare a Coastal Plan for the Šibenik-Knin County. Its goal is twofold: sustainable development and building resilience of the County's coastal area.

The Plan was drawn up in accordance with the Article 18 of the Protocol on Integrated Coastal Zone Management (ICZM) in the Mediterranean, which calls for creating such plans.

“Resilience” is the ability of a system to absorb a certain disorder, reorganise quickly and continue to provide services and maintain functions. Resilience is to be achieved for different challenges, such as climate change, extreme events, resource limitations, population changes, intensive urbanisation, financial insecurity and other.

This plan was drawn up as a part of the ClimVar & ICZM Project (see chapter Key

The Mediterranean Protocol on the ICZM was signed in Madrid in 2008 by the Contracting Parties to the Barcelona Convention, as the Convention's seventh Protocol. This Protocol is the first international legal document endorsing an obligation of integrated coastal zone management, which allows for the Mediterranean coast management improvements and offers additional tools to tackle new challenges. Until 2016 the Protocol has been ratified by nine countries and the European Union, which made its provisions international obligations for those countries.

partners), and this very coastal area was chosen for several reasons: readiness of the County administration to tackle these problems; highly indented coast facing a high level of urbanisation and the presence of negative development processes, the importance of the Krka river and the overall wealth of the County's water resources; and finally, the existence of valuable and

sensitive coastal ecosystems. As far as climate change aspects are concerned, it needs to be stressed that this County's coastal area, the wider area of the City of Šibenik in particular, belongs to the so-called "hot spots" of the Adriatic part of Croatia. Creating this plan is a new way of preparing for the adaptation to climate change, and an important contribution to the spatial and development planning practice in Croatia.

The advantage of integrated planning and management is that by using a holistic approach and in a participatory way it determines priority topics – those topics that present the greatest challenges for sustainable development. In this case the acknowledged topics are space, as a basis for the County's economic development; water as its fundamental natural resource; and climate change with consequences that can significantly affect the County's development in the future.

What are the goals of the Coastal Plan?

- | define a management system for coastal areas which can ensure the building of resilience of coastal systems to the impacts of climate variability and change, and direct development towards sustainability;
- | identify particularly endangered areas with regard to coastal processes, especially areas vulnerable to the impacts of climate variability and change;
- | propose measures for the definition of a policy for the adaptation to the impacts of climate variability and change; and
- | provide assistance in the formulation of sectoral policies and plans, and their integration in the policy of the sustainable development of the coastal area.

The Coastal Plan for the Šibenik-Knin County is not a "normative" plan, that is, it has no legal power. It belongs to the group of "indicative" plans, plans providing

guidance for managing certain issues and defining solutions which are, in turn, incorporated into normative plans.

The Plan is primarily intended for the County Administration employees in charge of the County's coastal area, as well as city and municipality administrations, and subjects in institutions, firms and associations whose activities are in some way connected to the coast. On the other hand, the Plan is also intended for the general public, population living in the coastal area of the Šibenik-Knin County, or those who are there because of work related activities, investments, or leisure time and recreation.

What is, and why „Climagine“?

Parallel to the drawing of the Plan, a participative method "Climagine" was also implemented with the aim of recognising and questioning previous, present and future levels of sustainability of the project area, and monitoring the road of the system towards sustainability. In the course of four workshops, 50-odd local actors discussed critical issues of the Šibenik-Knin County coastal development, and jointly sought solutions to maintain sustainability and resilience of the coastal area.



„Climagine“ participatory workshops
© Sylvain Petit

Key partners

The Plan was prepared as a part of the project “Integration of climatic variability and change into national strategies to implement the ICZM Protocol in the Mediterranean” (ClimVar & ICZM), financed by the Global Environment Facility (GEF), and run by the United Nations Environment Programme (UNEP). The author of the plan is MAP’s Priority Actions Programme Regional Activity Centre (PAP/RAC), in cooperation with competent authorities of the Šibenik-Knin County, primarily the Administrative Department for the Environmental Protection and Municipal Affairs, Institute for Physical Planning, and Administrative Department for Fisheries, Traffic, Island and Regional Development.

Another MAP’s Centre, “Plan bleu” from France participated in the implementation of the “Climagine” activities, while the studies on the climate change cost evaluation were made by the experts from the “Basque Centre for Climate Change bc³”.

A question arises as to who should be in charge of the coastal management initiative. Experience has shown that this is primarily a coordination job. Departments of spatial planning, environmental protection, sustainable development, maritime affairs or regional development - any can be suitable. The lead should be taken by those with the necessary capacities, knowledge and abilities.

One of over thirty interviews during the the preparation of the Social actors' analysis
© Daria Povh Škugor



The process of preparation

The Coastal Plan for the Šibenik-Knin County was prepared following the planning stages suggested by the Integrative Methodological Framework (IMF)¹ guidelines, and by the Guidelines for Adapting to Climate Variability and Change along the Mediterranean Coast².

Projecting it onto the Coastal Plan, the “IMF phases” were transformed into three basic planning phases: introductory activities; state analysis, definition of the vision, goals and future scenarios; and the Coastal Plan itself. Following these phases when preparing the Plan, the following documents were produced, whose important findings and conclusions were included into the text of the Plan itself: Preparatory report, “Scoping” report, Social actors’ analysis, Diagnostic analysis and finally Coastal Plan.

The Preparation of the Coastal Plan followed the principles of **ecosystem approach**, the approach accepted as fundamental to environmental management in the European Union. This approach considers the complexity and interdependence of the ecosystem elements, and apart from the ecological ones, it considers also the social, economic and management goals. Following the Croatian Law on the ICZM Protocol ratification and the ecosystem approach, territorial coverage of the Plan is defined as follows:

- | on land it encompasses all local administrative units bordering the sea;
- | at sea it encompasses the area to the outer borders of the territorial sea (12 nautical miles from the shoreline); and
- | following the ecosystem approach, the plan encompasses the Krka river basin as well.

¹ [http://www.pap-thecoastcentre.org/pdfs/IMF Guidelines.pdf](http://www.pap-thecoastcentre.org/pdfs/IMF%20Guidelines.pdf)

² [http://pap-thecoastcentre.org/pdfs/CVC Guidelines.pdf](http://pap-thecoastcentre.org/pdfs/CVC%20Guidelines.pdf)

Synergies made by parallel activities

Apart from the previously mentioned applications of the "Climagine" method, the results of other parallel activities carried out as a part of the ClimVar and ICZM projects were used, which were directly relevant for the Plan itself. This primarily regards the **local assessment of climate variability and change impacts on the development of the Šibenik-Knin County**. This assessment represents the sectoral approach to the problem, that is, it deals with impacts on certain economic sectors important for the County, specifically tourism, agriculture, fisheries, mariculture, water management, maritime traffic, manufacturing and energy sector. Other impacts, such as impacts on forest fires, human health and cultural heritage, were also analysed in this report.

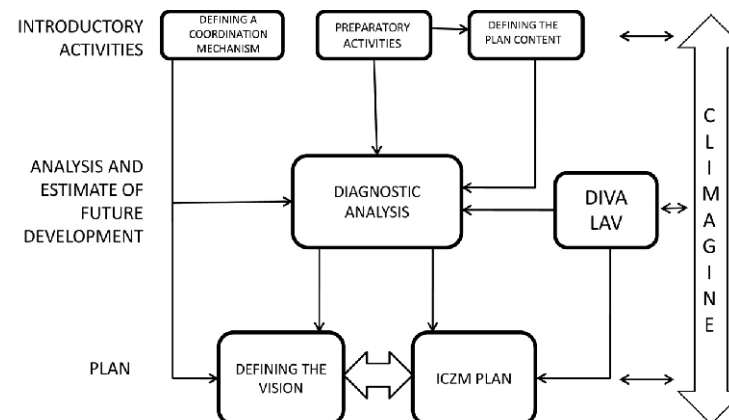
Apart from this Assessment targeting directly the Šibenik-Knin County, the preparation of the Plan itself was extremely helped by the findings of some project activities with the territorial coverage of the entire Croatian coast. That is, among other things, the **Assessment of potential damages by the sea-level rise for the Republic of Croatia, using the DIVA³ method**. This assessment, made on the level of Croatian coastal towns and municipalities, provided an interesting insight into the largest flood areas; the areas with most population endangered by sea floods; and the ones with the highest expected damages.

For the year 2100 the estimate is that the city of Šibenik will be the fifth Croatian town by the number of inhabitants endangered by sea floods, and second by the expected damage, while Vodice will be in the fifth place of all Croatian coastal towns and municipalities by the expected damage.

Furthermore, the **Economic and social analysis of the Croatian coastal area**, the document drawn up for the needs of the Croatian Marine and Coastal

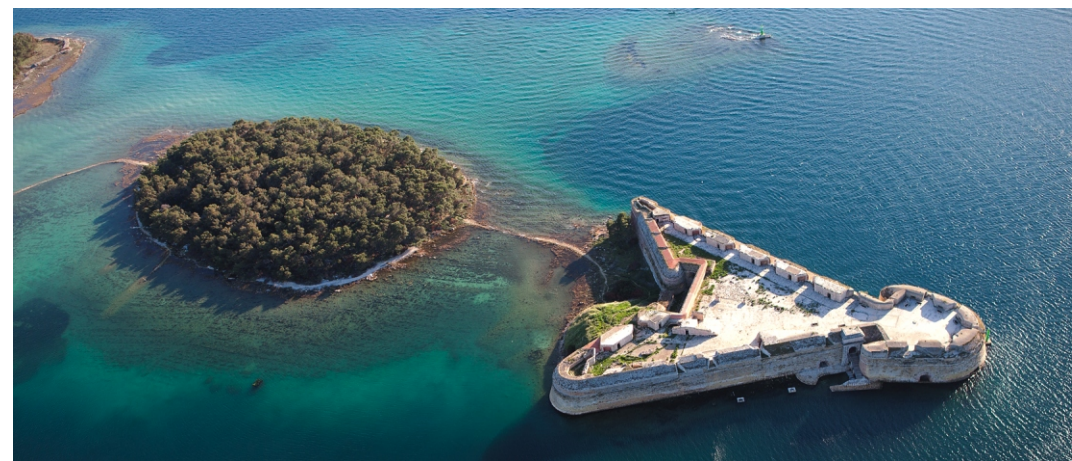
Strategy, contains a unique view of the effects of economic measures which were found extremely useful for the Plan preparation.

Finally it should be said that the tools of the Geographic Information System (GIS) were extensively used during the preparation of the Plan for spatial analysis and a more efficient display of results. A GIS course was also organised. A schematic display of the Coastal Plan preparation process, including all simultaneously



Schematic display of the preparation of the Šibenik-Knin Coastal Plan

St. Nicholas Fortress © Šibenik-Knin County



³ Dynamic and Interactive Vulnerability Assessment (<http://www.diva-model.net>)

Measures/ Solutions and Recommendations

On the basis of the diagnostic analysis, and during participatory workshops, a vision was defined of the desired future of the Šibenik-Knin County coast, as follows:

“Coastal area of the Šibenik-Knin County is an area inhabited by people aware of its uniqueness and the value of its natural resources, people who cherish the area they live in, draw their strength and inspiration from it, and develop in accordance. Their wellbeing relies on a reasonable and well planned use of resources via institutional mechanisms that ensure the balance and observe how the use or protection of one resource affects the other; on adjustment and further control of negative effects of climate change and variability; and on strengthening the coastal resilience against the consequences of natural hazards and anthropogenic impacts, all to secure a long-term life of quality and fulfilment.”

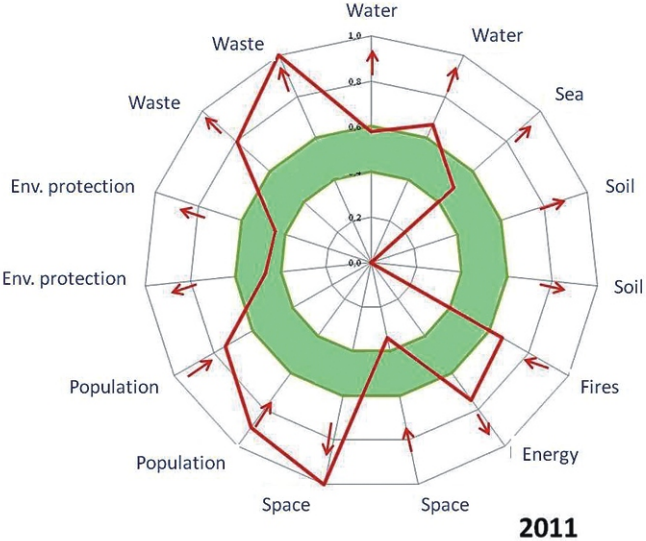
This vision was taken as the basis for the preparation of the coastal development scenarios. Scenarios, on one hand, rely on it as the goal to be reached in the future, but also consider the conditions needed for certain ideas to be realised. Several possible development scenarios have been evaluated for the coastal area of the Šibenik-Knin County: “Risk scenario”; “Cohesion by competitiveness” scenario; and the scenario “Sustainability by protection”. The recommended scenarios are the basis for suggesting solutions in the Plan. The “Cohesion by competitiveness” scenario was chosen as desirable for this development phase of the Šibenik-Knin County coastal area. In the following stage, when the development of coastal area reaches a certain level, this scenario should change to “Sustainability by protection”.

Results of the “Climagine” process

An interesting way to display the results of the „Climagine“ process is the so-called amoeba of sustainability. The chosen nine dimensions of sustainable development are presented by fifteen indicators. In the amoeba (the following figure) the red line marks the present values of the indicators, red arrows show the direction of movement towards/from sustainability, while the green circle represents the range of sustainability. For each dimension, policies, measures and actions should be created to enable the values of chosen indicators to enter the area of the green circle, that is, the area of sustainability.

Picturesque promenade in the St. Anthony's Channel, a multi-awarded project of tourist valorisation of a coastal area © Public Institution Nature of Šibenik – Knin County



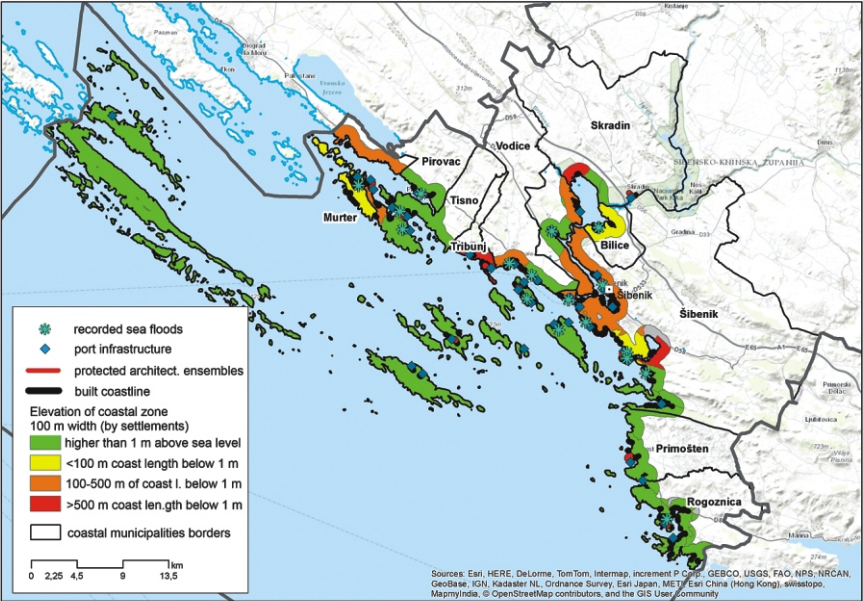


Dimension	Indicator
Water	1. Average level of usage of water resources per year (in %)
Water	2. Average level of usage of water resources in August (in %)
Sea	3. Share of beaches with "excellent" and "good" bathing water quality (in %)
Soil	4. Irrigated agricultural land (in ha)
Soil	5. Land used for ecological plant production (in ha)
Fires	6. Total area devastated by forest fires per year (in ha)
Energy	7. Immediate energy consumption (in PJ)
Space	8. Share of residential apartments in the total number of apartments in the protected coastal belt (in %)
Space	9. Population density in the protected coastal zone in relation to the one outside the protected coastal zone
Population	10. Share of the employed population in the total number of population of working age in the protected coastal zone in relation to the population outside of it
Population	11. Share of population with high school, grammar school and college education in the older than fifteen population in the protected coastal zone, in relation to the population outside of it
Environmental protection	12. Marine protected area in relation to the total marine area (%) (u %)
Environmental protection	13. Protected land area in relation to the total land area (%)
Waste	14. Kilos of waste per capita per year
Waste	15. Kilos of waste per capita in the protected coastal zone/ outside the protected coastal zone

Policies and management measures

The second part of the Coastal Plan deals with defining key management policies. Defining policies was particularly focused on the previously mentioned development scenarios. The proposed policies represent a set of goals and selected tools for the realisation of those goals. Accordingly, the Plan policies provide guidelines for the realisation of the mentioned priority issues (space, water resources, biodiversity and sustainable development) which, for the needs of the Plan, have been redefined into four policy groups, namely:

- | sustainable spatial development;
- | sustainable economic development;
- | water resources management; and
- | building resilience of the coastal area.



Display of the elevation of the 100 m wide Coastal Zone (per settlements)

All these policies have been elaborated through measures; namely:

- | general measures of building resilience referring to the area of the Šibenik-Knin County as a whole;
- | specific measures, defined on the coastal settlements' level, and
- | measures of management system implementation.

General measures of building resilience for the Šibenik-Knin County

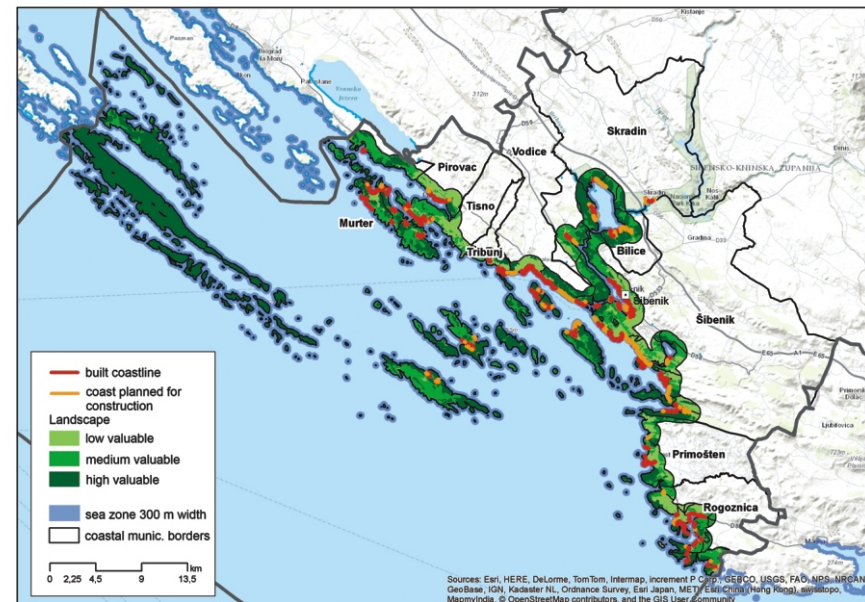
These measures are aimed at reaching a balanced, sustainable development, and building resilience of the coastal area. The measures are grouped into sectors and key topics:

Space

The proposed measures are aimed at preserving the remaining part of the natural coast, improving the quality of the built-up coast, concentrating the urban zones, and preventing scattered and linear shoreline construction. Due to extreme weather events caused by climate variability, and the sea-level rise, the advice is to avoid building in low coastal areas, as well as in the immediate vicinity of the sea.

Measures are proposed for:

- | preservation of integrated landscape values of the coastal area;
- | improvement of the built-up landscape quality;
- | securing a rational use of coastal land; and
- | improvement of capacities of the system of physical planning for the management of spatial development on a regional level



Area prioritisation with regard to landscape values

Water infrastructure

Measures are proposed to mitigate the effects of climate change and variability, that is, to improve the stability of the water infrastructure system. The main challenges here are the existing water resource scarcity during summer months, and flaws in dealing with precipitations and local surface waters which in extreme weather conditions result in flooding. The proposed measures should ensure that the climate change effects do not endanger the available quantity and

Ranking of coastal settlements with regard to the intensity of water resources management problem



The measures proposed are aimed at: adaptation of the existing coastal objects, waterfronts, jetties/breakwaters, marinas and entire coastal infrastructure, including beaches, promenades, etc. to the increased extreme weather events, as well as to the sea-level rise. It is extremely important to take these changes into consideration when planning and realising any coastal intervention. Measures with the purpose of protecting hydro-dynamic features of the coastal sea, biodiversity, including the natural processes of erosion and sediment transport, are also being proposed.

Climate variability and change will cause increase of dry periods, thus increasing the risk of forest fires. Strengthening the prevention measures and their integration into the policies of spatial and economic development are among the measures proposed by the Plan. Other measures encompass the integration and coordination of monitoring, inspection, and education on climate change, as well as of the proposed projects.

The Plan proposes measures that should ensure resilience of the coastal economy to the challenges brought by climate variability and change. Some economic sectors are extremely exposed to climate effects. The measures proposed can partly alleviate the negative effects, and partly need to ensure a balanced local economy resilient to the effects of climate change. An important contribution to the emissions reduction can be achieved by fostering local

Working boats for
mariculture produced
in the Repair Shipyard Šibenik
©CroNoMar



production, where such production does not entail high energy costs. Consuming local products reduces the distance crossed by consumer goods, along with traffic emissions. Furthermore, putting a price on CO² is only a matter of time. This variable needs to be included into future costs of energy and transport, more precisely, into the share these costs have in the price of all goods and services.

Accordingly, measures are proposed for **tourism** to increase good-quality, diversified and attractive tourist offer outside the high season. It is of extreme importance to include local actors from the entire County in the offer. Enriching the offer outside the “sun-sea” segment will eventually ease the pressure of building tourist facilities in the immediate vicinity of the sea. It is important to monitor, plan and dynamically manage all the resources used by tourism, primarily the supply of water, electricity and food, but also the other life-support

services that tourism relies on (health service, traffic, rescue service,...), as well as manage the expenses tourism should be accountable for (waste,



Ethno-land Pakovo selo (Pakovo village),
the winner of the Green Flower
of the Republic of Croatia
for the best tourist attraction of 2012
© Etnoland Dalmati

wastewater, the need for more complex fire protection, emergency health service...).

Building resilience to climate change is extremely important for **agriculture**. The measures proposed refer to securing irrigation infrastructure. In the conditions of protracted droughts caused by climate change there is no counting on agriculture without irrigation. The effects of increased extreme weather events can partly be mitigated by establishing an early warning system, using insurance in agriculture, exchanging experience. Building partnerships between scientists and farmers, networking, exchange, education, including the preparation of plans for the rotation of cultures, are of extreme importance for the success of agriculture in new conditions. Finally, by strengthening local agriculture, apart from reducing emissions, we are creating conditions for local food sovereignty.

The measures proposed for **aquaculture** include the promotion of the production of thermophilic species, and, through sea-use planning, a more careful allocation of sites for aquaculture with respect to the exchange of water masses, the existing ecosystem and the pressures it is exposed to.

Measures proposed for the **energy** sector also promote the importance of offer planning and management, but also the demand in the new conditions. Promoting local production of energy from renewable sources is suggested, as well as energy efficiency to reduce emissions. Production of hydro energy will be more difficult during summer months, and that is the period of greatest consumption as well. It is especially important to have plans for extreme weather events, and test and service the infrastructure of energy transfer to ensure its resilience to climate variability and change.

Wind farm Danilo,
currently the largest in Croatia © Wikipedia



Measures directed at **traffic** refer to the promotion of ecologically acceptable mobility concepts, which will contribute to the reduction of harmful emissions. Measures directed at traffic also refer to ensuring that the traffic infrastructure is more resilient to extreme weather events. Finally, such measures lead to traffic



solutions that enrich tourist offer, improve the health of the local population and environmental quality.

Šibenik – the first Dalmatian town with a public bicycle system
© Town of Šibenik

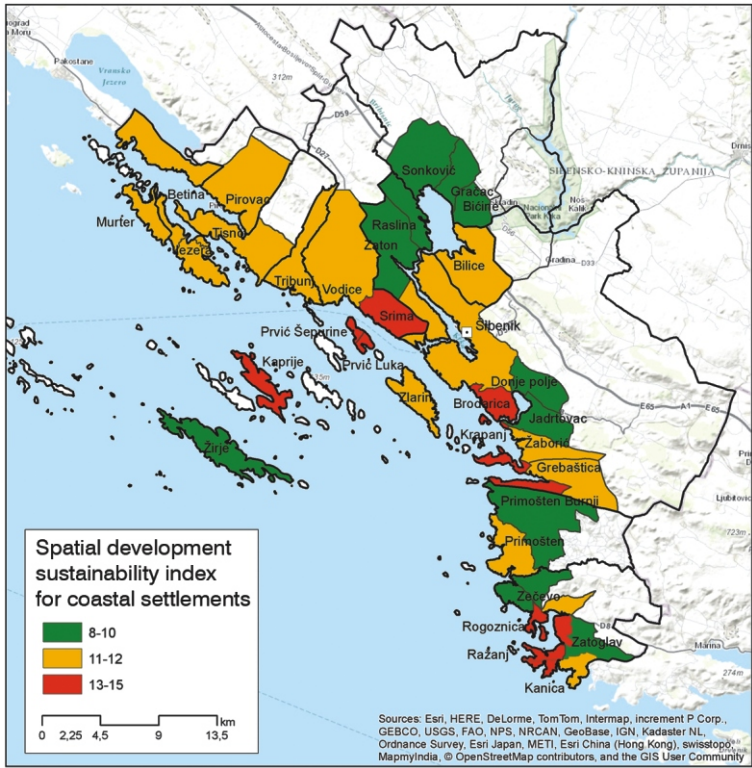
Other challenges

Climate variability and change also affect **biological diversity, health, cultural heritage** and other spheres of life. The measures proposed are focused on building resilience also in these dimensions, primarily monitoring the state, planning responses and managing in a way that adapts to the new, changed conditions. Her we would like to point out the need for an integrated approach to all waters of the Krka river basin and the coastal zone as it is a prerequisite for achieving the set goals.

Specific measures of building resilience for coastal settlements

As far as **specific** measures are concerned, these are defined on the coastal settlements level. For each coastal settlement, the importance of a particular

problem has been established within a specific thematic field and, accordingly, certain measures have been proposed with regard to natural, socio-economic, spatial and other features of a particular settlement. Ranking coastal settlements by challenges related to water infrastructure, and by the evaluation of spatial development resilience should be pointed out. Specific measures represent a certain “catalogue” which will serve the authors of physical plans when defining their proposals, but also the administrations of the county, towns and municipalities in the development of their investment plans, as well as sectoral plans and strategies.



Aggregated index of spatial development sustainability for 6 selected indicators of land take for coastal settlements



Island Krpanj © Šibenik-Knin County

Measures of introducing a coastal zone management system

Finally, the **measures of introducing a coastal zone management system** were proposed as well, with the aim of creating conditions and tools for managing coastal development and directing it towards sustainability. Their successful

implementation would significantly facilitate the implementation and monitoring of other measures proposed by the Coastal Plan.

Issue	Measures
Coordination mechanism	Establish a permanent coordination mechanism for managing the coastal and marine area of the Šibenik-Knin County Appoint members, define jurisdictions, assignments, and establish the process of vertical and horizontal integration Organise a work programme for the members of the coordination mechanism
Advisory body	Establish an advisory body for managing the coastal and marine area of the Šibenik-Knin County Appoint members, define jurisdictions and design a work programme of the advisory body
Databases	Create a data and information base needed for the planning and decision-making in the ICZM process, including a database on the maritime domain, and define jurisdictions and obligations for its managing and updating Create a multi-hazard platform for managing the risks on the County level
Monitoring system	Establish a coordinated monitoring system for the state of coastal and marine ecosystems and processes, and ensure the validation of improvement
Capacity building	Ensure capacity building for the management of the coastal and marine area of the Šibenik-Knin County, and for the adaptation to climate change
Marine spatial planning	Improve and update marine spatial planning, and create a marine spatial plan
Coordination	Improve coordination when creating strategic and planning documents of the County
Cooperation	Be a part of the ICZM activities of the Croatian coastal counties, and of international projects of marine and coastal zone management
Implementation	Improve the ICZM documents implementation using new and improving the existing tools, methods, systems, technologies, and especially by strengthening and coordinating inspections
Public involvement	Ensure the prerequisites for a good-quality and timely inclusion of the concerned public into decision making processes (transparency, internet usage, constant insight into strategic and planning documents of all County sectors, especially into drafts of new documents), and encouraging involvement
Education	Implement measures of education and awareness raising for the general public, relevant organisations and services in relation to climate change impacts, and present possible local solutions to building resilience to climate change
Raising awareness	Create and support awareness-raising activities, and make changes in behaviour necessary for achieving development resilience of the coastal area of the Šibenik-Knin County, and for adapting to climate change

Implementing recommendations and measures of the Coastal Plan will reduce damage caused by climate variability and change, help internalise the expenses for a better and more sustainable development, and open the door for a more resilient economy of the Šibenik-Knin County. Consequently, this area will become more desirable to live in.

The Coastal Plan was finished in December 2015, and in the beginning of 2016 it will be submitted for approval to the County Assembly. The approval will give the Plan a necessary importance and social, political and development influence. Through the mentioned policies and concrete measures of the Coastal Plan, a big

step forward was made towards the realisation of the vision of the Šibenik-Knin County coastal area. The final realisation of the Plan will be achieved by the formal establishment of the body for the ICZM to take the responsibility for coordination and integration, and implementation of the proposed policies and measures into physical plans, regional development strategies and other sectoral plans, programmes and policies.



The wealth of marine life
© Šibenik-Knin County

A way forward

Due to the challenges arising from uncertainty of climate change effects on one hand, and short decision cycles on the other, it is obvious that the public has an extremely important role in dealing with climate risks. The effect of the Plan on raising awareness of the far-reaching effects of climate change, and sustainability in general, is already visible. Stakeholders all over the Mediterranean were very interested during the presentation of the Plan in numerous national and international conferences and workshops. Furthermore, the Plan was presented to the members of Croatian Inter-ministerial committee for the preparation of the National Marine and Coastal Management Strategy.

Although the Plan made a significant step forward in raising awareness of the general public and decision makers, greater efforts are needed in the context of climate change and sustainable development. It is also important to warn all the interested parties about future uncertainties. Aside from offering numerous recommendations, the Plan raises a number of questions. Investments for adapting to the sea-level rise will have to be significant, which poses an important question: Who will bear the cost of these investments? In some settlements of the Šibenik-Knin County the share of housing for residential purposes in the total housing is less than 25%. Some studies show that there is a difference in the perception of climate risks between local population and the owners of real estate for secondary housing. This could make the difference in their readiness to bear the costs. In any case, all analysis and scenarios elaborated in this Plan point to the need to stop the further expansion of secondary home construction, especially in the immediate vicinity of the sea.

So far, the world practice has known very few coastal plans focusing on climate change. Therefore, a very innovative and creative effort has been made, and as of

2015 the Republic of Croatia is the first to have such a plan. It is also a strategic document necessary to draw funds from the EU.

The need for a systematic approach for the purpose of building resilience is becoming ever more recognised in numerous coastal areas, and this Plan sets an example to follow. To express the importance of this Plan for the Šibenik-Knin County, we will quote the County Director for Environment and Municipal Affairs: "We expected a lot from this Plan. We have received even more."

There are numerous examples in the Šibenik-Knin County leading the way to sustainable development, such as wind energy, hydro energy, tourist offer directed at extending the season and promoting the hinterland, small shipbuilding, island products, public bicycle system, etc. We believe that this County can be the leader in sustainable coastal development.



First underwater interpretive trail in the Croatian Adriatic, island of Murter
© Public Institution Nature of Šibenik – Knin County

NATIONAL COMMITTEE FOR INTEGRATED COASTAL AND MARINE MANAGEMENT

COUNTY COMMITTEE FOR INTEGRATED COASTAL AND MARINE MANAGEMENT:

COORDINATOR: COUNTY PREFECT

SECRETARY: ADMINISTRATIVE DEPARTMENT FOR ENVIRONMENTAL PROTECTION AND MUNICIPAL AFFAIRS

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PORT AUTHORITY

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About the project:

This document was prepared under the project "Integration of Climatic Variability and Change into National Strategies to Implement the ICZM Protocol in the Mediterranean", funded by the Global Environment Facility (GEF) and implemented by the United Nations Environment Programme (UNEP) and the World Bank, together with partnering institutions, including the Priority Actions Programme Regional Activity Centre (PAP/RAC) from Split, Croatia, in cooperation with the Ministry of Environmental and Nature Protection of the Republic of Croatia and the Blue Plan Regional Activity Centre (PB/RAC).

The aim of this project is to create favourable conditions for integrating the strategies for adaptation to climate variability and change into politics, plans and the ICZM programs of Mediterranean countries, in a way to:

- (i) foster understanding of the effect of the climate variability and change on the coastal areas of the Mediterranean, and
- (ii) establish exchange mechanisms for the necessary information, capacities and regional pilot experiences.

Celebration of the Coast Day in Šibenik © PAP/RAC archives





According to the Croatian Constitution, the Šibenik-Knin County was founded in 1993. The County conducts activities referring to education, culture, health, economic development, maritime affairs, traffic and traffic infrastructure, protection of environment, physical planning, and other. The making of this Plan was directed by the County Administrative Department for Environmental Protection and Municipal Affairs, in cooperation with other administration departments and bodies of the County, and supervised by the County Prefect.



Šibenik © Šibenik-Knin County

www.pap-thecoastcentre.org

PAP/RAC is established in 1977 in Split, Croatia, as a part of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP). PAP/RAC's mandate is to provide support to Mediterranean countries in the implementation of the Barcelona Convention and its Protocols, and in particular of the Protocol on Integrated Coastal Zone Management (ICZM Protocol). PAP/RAC is oriented towards carrying out of the activities contributing to sustainable development of coastal zones and strengthening capacities for their implementation. Thereby, it co-operates with the national, regional and local authorities, as well as with a large number of international organisations and institutions.



Together for the Mediterranean Sea

